



United States
Department of
Agriculture

Agricultural
Marketing
Service

1400 Independence Avenue, S.W.
STOP 0268, Room-2646S
Washington, D.C. 20250-0268

Notice of Noncompliance

(b)(5)

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Subject: NOPC-003-09

Dear (b)(5)

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If you have questions regarding this proposed action or how to file an appeal, you may contact Dr. Ruihong Guo at Ruihong.Guo@ams.usda.gov or by telephone at (202) 720-3252.

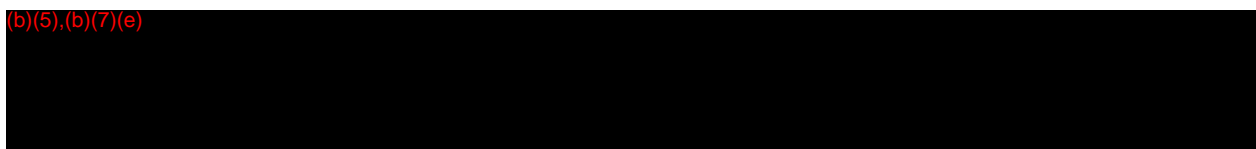
Sincerely,

Barbara C. Robinson, Ph.D.
Acting Director
National Organic Program

cc: Mark Bradley, Chief, Accreditation, Auditing, & Training Branch
(b)(5)
David W. Trykowski, Director, Compliance, Safety and Security

R. Guo_____ Barbara C. Robinson_____

(b)(5),(b)(7)(e)





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If you have questions regarding this notice of noncompliance or the suitability of proposed corrective actions, please contact me or Dr. Ruihong Guo, Director, Compliance & Enforcement Division at Ruihong.Guo@ams.usda.gov or by telephone at (202) 720-3252.

Sincerely,

Miles McEvoy
Deputy Administrator
National Organic Program

cc: Mark Bradley, Chief, Accreditation, International Activities Division
Samantha Simon, Auditing Review & Compliance Branch, Livestock & Seed Programs

R. Guo

Miles McEvoy



(b)(5),(b)(7)(e)



1400 Independence Avenue, S.W.
Room 2646-S, STOP 0268
Washington, D.C. 20250-0268

NOTICE OF NONCOMPLIANCE

(b)(5)

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Re: NOPC-003-09 Shamrock Farms Dairy

Dear (b)(5)

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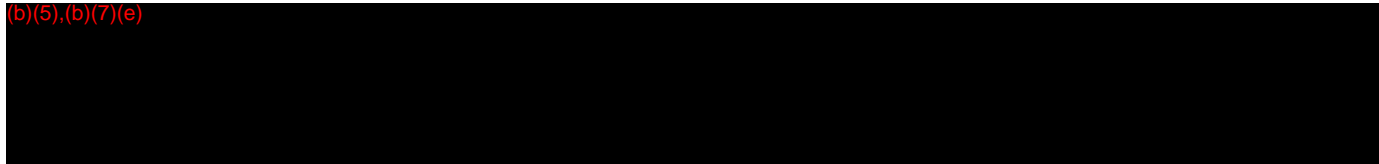
If you have any questions regarding this Notice of Noncompliance, please contact Lars Crail, Regional Accreditation Manager, Accreditation and International Activities Division, at (202) 205-5536 or at lars.crail@ams.usda.gov.

Sincerely,

Miles V. McEvoy
Deputy Director
National Organic Program

cc: NOP Compliance and Enforcement Division
ARC Branch
NOP Appeals

(b)(5),(b)(7)(e)

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ORGANIC INSPECTION REPORT / DAIRY WORK ORDER #8356 **299879**

This Organic Inspection Record and supporting documentation must be submitted to QAI by the inspector within 10 business days after the completion of the inspection.

| | | | |
|--|------------|---|--|
| Inspector name: | | (b)(6),(7)(c),(7)(d) | |
| CPM name: | | John Joseph-858-792-3531 x148 | |
| Work Order number: | | #8356 | |
| Name of Certified Entity: | | Shamrock Farms Co | New <input type="checkbox"/> Renewal <input checked="" type="checkbox"/> |
| Facility Name: | | Same | CE <input checked="" type="checkbox"/> AP <input type="checkbox"/> Location <input type="checkbox"/> |
| Date assigned: | | May 10, 2010 | A0028178 |
| Location (City, State): | | Stanfield, AZ | |
| Location(s) visited by inspector: | | 40034 W. Clayton Road Stanfield Arizona 85172 USA | |
| Preparation Time Total: | | 2 hours | Follow-up Time Total: 2 hours |
| Time arrived: | 08:30 | Time departed: | 16:00 |
| Date(s) | Inspected: | 12-May-2010 | |
| | Submitted: | 19-May-2010 | |
| Type of Compliance Plan: | | Dairy Producer | |
| Contact person: | | Mr. John Voss 480-988-1452 Email to be assigned jim.whitehurst@shamrockfoods.com | |
| Personnel (& titles) present: | | Mr. John Voss, Heard Supervisor Mr. James Whitehurst, V.P. Asst G.M. Mr. Frank Boyce, V.P. General Manager. | |
| Brief narrative of operation inspected (please be sure to detail number of fields or processing lines in production and observed during inspection, on-site / off-site warehouses, general & brief description of production activities, types of products grown or handled, etc): | | <u>NOP Crop Producer and Dairy Cattle Management for production of 100% ORG raw milk</u> Organic (ORG) crop production and dairy cattle operations located approx 50 miles south of Phoenix Arizona USA. All fields are contiguous and adjacent to Shamrock's conventional dairy. ORG operations are distinctly segregate: separate pasture fields, milk handling operations and load-out, separate housing area for ORG cattle. A 10-ft chain link fence divides the two operations, with one common cross-over point: the Shamrock Farms offices. | |

Section 1: SPECIFIC INSTRUCTIONS

Inspector: Please address each specific instruction appearing below. If the item has been addressed in any of the sections below, please just indicate the relevant section and number where that issue is addressed. If completing form by hand, please use extra sheets if required.

| SPECIFIC INSTRUCTIONS | <p>Has each specific instruction been adequately addressed / implemented / complied with? If no, please explain the discrepancy. If yes, please provide a brief statement (e.g., "no salt used", "verified", "advised applicant", etc); please also identify any documents or methods used to verify the SI.</p> |
|--|--|
| <p>NOP Dairy</p> <p>1. Please verify stocking rates for livestock and include specific information in your inspection report.</p> | <p>Stocking units per acre = 0.37 based on the following: Herd total (on the day of this audit) was 742:</p> <ul style="list-style-type: none"> • 626 milking cows • 66 dry cows • 6 springing heifers • 42 open heifers • 2 bulls <p>Herd Pasture Profile (line C) states a total of 334 acres, which includes RR 4, 5, and 6, along with Berl 320.</p> <ul style="list-style-type: none"> • Milk cows and bulls were on and had access to RR 5 (2/3rd of 71-ac), 6 (66-ac) and Berl 320 (120 acres of the 160 acres) for a total of 257-acres • Dry cows, bred heifers had access to RR 5 (1/3rd of 71-ac) for total of ~25 acres • Young heifers were on RR 4 (16 of 65 acres) <p>Total pasture available observed at the time of this audit was 273</p> |
| <p>2. Please ensure that the client has current NOP certificates and specification sheets for all purchased feed on file and return copies to QAI with your report.</p> | <p>Verified (see NOP certificate review in IVF)</p> |
| <p>3. Please note that due to directives received from the NOP, only verify pest control materials in use on or around the milking parlor.</p> | <p>Noted, this audit focused on two areas of pest control management:</p> <ul style="list-style-type: none"> • Milk Parlor for Shamrock ORG Dairy • Crop Production for Shamrock ORG Dairy |
| <p>4. Please verify that the information provided on the Herd Pasture Profile is correct. Please initial or check the Inspector Use Only Section on HHP for each point verified.</p> | <p>HPP (dated 19-Mar-2010)</p> |
| <p>5. Please verify that the information provided on the Individual Feed Ration(s) is correct. Please initial or check the Inspector Use Only Section on IFR(s) for each point verified. **** If the IFR's are revised and/or new IFR's submitted please provide a clean copy with the report for the client's file.</p> | <p>IFR (feed) dated 7-May-2010 plus attached lists are reviewed in Section 3C of this report.</p> |

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| 6. Please verify that a current organic certificate is on file for Lackawanna Products (Pro-Cert). | NOP-compliant cert + 2-page schedule for Lackawanna dated 2-Dec-2009 is attached to this report. |
| 7. Please obtain current documentation for Aspirin, Copper Sulfate, Isopropyl Alcohol, and Hydrogen Peroxide and include with your inspection report. | Copies of labels are attached to the OCP. All materials are used as medical inputs and are sourced from veterinary input supplier. |
| 8. Please verify if Calcium Gluconate from Durvet is in use. | Verified in usage by shamrock management for electrolyte treatment of cows with early onset of milk fever. Records show 1 case plus 1/3 rd case (total of 15 bottles) used in the last three (3) years. |
| 9. Please verify that the information provided on the Medical Input Profile(s) is correct. Please initial or check the Inspector Use Only Section on MIP(s) for each point verified. **** If the MIPs are revised and/or new MIPs submitted please provide a clean copy with the report for the client's file. | <p>MIP (dated 07-May-2010) for ORG Holstein milk cows and heifers, with attached list of medical inputs for 2010-2011 is current and accurate, based on audit observations.</p> <p>Noted:</p> <ul style="list-style-type: none"> Mineral oil only to be used as lubricant, according to Shamrock; earlier MIP listed mineral oil as potential internal drench material (<u>allowed under NOP 205.603 (b) 5 only for lubricant or topical treatments</u>) Material input changes noted in 7-May-10 MIP |
| 10. Please verify the information provided on the Annual Input Record is correct. Please initial or check the Inspector Use Only Section on Annual Input Record for each point verified. | <p>Verified AIR (completed 7-May-2010). Missing inputs: barley seed used to plant RR 4, 5, 6; and oat seed for Berl 320.</p> <p>Shamrock Response: You state that the inputs for barley seed and oats should be included in our 2010-2011 renewal packet. Those inputs were on the 2009-2010 application and are not planned for this coming period. QAI has stated they only want on this application what we are planning to do, not what we have already done that is covered on an existing AIR from the previous year.</p> |
| 11. Please review all seed purchase documents to verify organic status of the seeds. Perform an audit for seeds planted/ per acre against purchase invoices and seed tags to verify that enough seed was purchased to plant the numbers of acres. | <p>Confirmed: only NOG seed status found available; declarations or invoices on file for seeds list seeds as Non-GMO and not treated with fungicide(s). Audit exercises (<u>imbalance noted in Barley seed usage</u>):</p> <ul style="list-style-type: none"> <u>Barley</u>: 380, 50-lb bags of "Barley Nebula" from Helena Chemical Co. (invoice dated 20-Nov-09), and received on same date. <u>Shamrock's field record of planting date not completed</u>. However, fields RR 4, 5 and 6 were planted with barley seed (total acres: 194) at rate of 180-lb per acre (19,000-lb purchased; 25,220-lb needed; <u>6,220-lb discrepancy</u>) <u>Oats</u>: 360, 50-lb bags of "Oat Cayuse" from Helena Chemical Co. used Feb-10 (<u>exact date not confirmed in records</u>) to plant field "Berl |

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| | <p>320" 120-acres (invoice from Hart Brothers custom operator confirms number of acres planted, but <u>record by Shamrock not completed</u>) at rate of 150-lb per acre (18,000-lb purchased = 18,000-lb used)</p> <ul style="list-style-type: none"> <u>Sudan Grass</u>: 24,000-lb purchased from Tee Pee Seed Co (<u>date of purchase and receiving not recorded</u>). Field no. RR 4 (65 acres) planted in early May 2010 (<u>date not recorded</u>). <p>Copies of seed receipts attached to this report.</p> <p>Shamrock Response: Under barley you list the acreage from all 3 fields yet we specifically show on our IFP for RR4 that 15 acres were planted to oats the AIR also shows 130 LB. to the acre for planting. Your statement should be 179 at 130 lbs. to the acre. Under oats (Berl 320) you say oats were used Feb. 10. The oats were planted in Nov. 09 and were used for pasture Jan- May 2010. Sudan Grass RR3 71.5 acres was planted to in Sudan in May 2010. RR4 still has barley on the east 50 acres</p> |
| 12. If non-organic seeds have been used, please submit documents with your inspection report verifying that Non-GMO, Non-Treated seeds have been used. | Current Non-GMO and Non-Treated declarations from suppliers are either on suppliers' invoices or declarations (all are attached to the OCP received in the inspection documents). |
| 13. If non-organic seeds have been used, please verify that the producer has the Commercial Availability Worksheet retained in the audit trail records, and that there is clear documentation from suppliers of known organic seeds in the types and varieties grown by the producer verifying that organic seeds were not available. Include documentation that the producer is performing trials with organic seeds, if applicable, and include the producer's future plans to plant only organic seeds. | Commercial Availability Worksheets completed for barley, oats, Sudan grass and sorghum/milo seeds (copies observed attached to OCP reviewed in inspection documents). |
| 14. When going over the OSPS/LSPS with the client please advise them that the "category" distinction on the OSPS/LSPS is eventually going to be removed, and so, going forward, the term "various" will appear as the category so that all products will be displayed in alphabetical order. If the client still wishes to have all of their products sorted by the category (e.g., "Oils", or "Herbs & Spices") the category type can be included in the product name (e.g. "Oils - Flax Seed", "Herbs & Spices - Oregano"). Please advise QAI if the client still wishes to have their products organized on the OSPS/LSPS by category. | Client was informed of the protocol change in the "Category" class. Client stated acceptance of this change. |
| 15. Please verify that this is an optimal time of year to inspect this client. If not, please identify what time of the year would be best and why. | Client states that the preferred audit timing would be February or March, since this period would show the pasture with good growth and grazing potential. Periods when they believe the audit to not be conducive would be mid-summer (July-Sept), or mid-winter (late Nov through late Jan). |

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| <p>16. RENEWALS: Please verify information on the certificate and Organic System Plan Summary (OSPS) is correct. If applicable please note any changes. Both you and the applicant must sign and date.</p> | <p>Two certs / OSPSs (all issued 2-Jan-2009) reviewed in this audit and signed by Mr. John Voss and this Inspector:</p> <ul style="list-style-type: none"> • Livestock (Dairy) – cert no. 106121-A • Crop (Producer) – cert no. 106064-C <p>The following changes noted:</p> <ul style="list-style-type: none"> • Postal zip code change from 85272 to <u>85172</u> • Addition of Red River 1, 2, and 3 on Crop (Producer) OSPS • Increase if acreage from 354-ac to 513-ac <p>The following OSPS discrepancy noted:</p> <ul style="list-style-type: none"> • Dairy Cows (not eligible for slaughter) listed with 100% ORG classification. All dairy stock (cows and heifers) appear to be only eligible for ORG (95%+) due to non-organic (NOG) management prior to transition to ORG by Shamrock Farms. <p>Shamrock Response:</p> <p>We do not sell any organic animals for organic slaughter, all organic animals are sold as conventional beef. We cannot find anywhere within the NOP rules that state we are anything less than 100% Organic. We have converted the entire herd under the 100% organic feed conversion according NOP 205.236 (a) (2).</p> |
| <p>17. RENEWAL APs: Please verify information on the Limited Compliance Plan Summary is correct. If applicable please note any changes. Both you and the applicant must sign and date.</p> | <p>Not applicable</p> |
| <p>18. NEW CLIENTS: Please obtain the completed "Description of Certificate Information" form from the applicant and submit with your Inspection Report. Please verify the accuracy of all information on this form. Both you and the applicant must sign and date.</p> | <p>Not applicable</p> |
| <p>19. Please provide the total number of pasture acres provided and please provide the total number of animals that have access to that (those) pasture(s); if access to pasture is restricted at any time, please provide details regarding the applicant's justification for temporary confinement.</p> | <p>HPP lists the acreage available for pasture as observed in this inspection. Herd numbers are listed in SI no. 1.</p> <p>Pasture is available for 120+ days based on Shamrock's pasture plan:</p> <ul style="list-style-type: none"> • November through May, with removal of herd from pastures only for irrigation • Between May and November, heat stress of both dairy cattle and planted pasture crops prevent pasturing. • Temporary confinement noted in pasture logs was noted to be due to heat, irrigation, individual cow's freshening timing, or health condition. |

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| <p>20. Please conduct a complete audit of origin of livestock for all dairy livestock, as follows: a) If the dairy began operating as a 100% organic feed transitional dairy, please include with your inspection report a copy of the audit to verify that the all dairy replacement animals have completed a full one year of transitioning prior to selling, labeling, or otherwise representing the milk as 'organic'. b) If the dairy began operation under the former "80-20" feed exemption rule, please include a copy of the audit to verify that all replacement animals were from animals raised as organic from last 3rd of gestation. c) If the dairy began operating as an organic dairy after June 9, 2007, please include a copy of the audit which verifies that all replacement animals have been transitioned for one year prior to selling, labeling, or otherwise representing the milk as 'organic'.</p> | <p>All cows and heifers originated from Shamrock Farms' conventional dairy farm, with a 12 month transition with ORG management prior to becoming part of the ORG milk pool at Shamrock.</p> <p>The following was noted:</p> <ul style="list-style-type: none"> • June 2006 to Nov 2006: 572 cows transferred from Shamrock conventional dairy in multiple truck shipments on 4 dates - 09-June-2006, 18-July-2006, 01-Sept-2006, and 20-Nov-2006 • Shipment was to NOP-compliant certified ORG ranch operation <u>Keltic Pride</u> (OTCO-certified) in Oregon. • From April 2007 to July 2007, all cows moved from Oregon to Shamrock ORG Farm, with milking operations starting in June 2007 • 08-June-2007: first load of ORG milk shipped to Shamrock processing plant in Phoenix Arizona. <p>Other transfers:</p> <ul style="list-style-type: none"> • 120 heifers transferred from Shamrock conventional to Shamrock ORG on 02-Feb-2009 • 42 heifers transferred on 05-Jan-2010 • An additional transfer of 80 heifers is planned in Fall 2010. <p>Culls:</p> <ul style="list-style-type: none"> • Culling rate is ~20% mainly due to low production. Herd records show occasional culling based on cow health. <p>Breeding / source of cattle:</p> <ul style="list-style-type: none"> • All cattle are Holstein, with some Jersey cross • Breeding is through artificial insemination (AI) with Holstein bulls used for "clean-up" • Shamrock transfers to Shamrock ORG only NOG heifers from NOG dam cows from their conventional side of operations. <p>Shamrock Response:</p> <p>You state cows were transferred in June 2006 to Celtic Pride for 100 % organic feed conversion. We transferred 12 month old open heifers and have never transferred a cow from conventional to organic at any time. You also missed 123 heifers that were converted in Sept. of 2008. Lastly you state we have some Jersey crosses, this herd is 100 % Holstein and neither has ever housed a Jersey animal or been bred to a Jersey bull.</p> |
| <p>21. Please conduct a complete audit of milk records to verify that there are enough organic animals in production to justify the sale of the organic milk using a statistically accurate method for determining days of production. Please include the audit results with your inspection report.</p> | <p>Complete audit conducted, with justification of dairy cow numbers and milk production numbers. See Input/Output Balance exercise at the end of this report.</p> <p>The following was observed and verified:</p> <ul style="list-style-type: none"> • Shamrock has independent DHIA records for each cow showing specific milk qualities |

(butterfat, protein, etc.), as well as quantity (lb. per day). DHIA records are conducted annually, by third party.

- Shamrock's milk records begin with hand counts of the number of cows milked. Specific ID of cows milked is not recorded; however, cows that are milked are in the ORG herd only, with any quarantined ORG cow (due to health, colostrum milk, or dry) accountable in herd records. Noted: ORG cows and conventional cows at Shamrock do not have any common cross-over point where conventional cows could enter the ORG herd.
- Milk total per milking is hand recorded (slide ball tube on side of milk tank).
- Record of the number of cows milked and milk totals are transferred to Shamrock's office where entered onto electronic record.
- Electronic record show total number of cows milked, based on two milkings per cow per day, for each day by specific date, and
- Total milk (in pounds) obtained on a specific date, with the ID number (either bulk tank no. 1 or no. 2) of the specific bulk milk storage tank
- Total milk per day in pounds is divided by number of cows milked on a specific date for a daily average. A mean average is taken every seven (7) days, every half month, and also every month.

Audit conclusions:

- Total number of milking cows at Shamrock showed a range between 570 and 670 on any given date for the last year.
- Total milk (in pounds) per day ranged between 35,000-lb to 51,000-lb (production variation based on pasture availability, time of year, etc.)
- Average per cow per lactation per day is approximately 63-lb
- Shamrock records match DHIA records

Shamrock Response:

You say DHIA records are conducted annually, DHIA records are recorded daily and individual cow milk weights are recorded monthly by a third party. Milk total per milking is recorded by scale tickets from individual loads not by slide ball tube on side of milk tank.

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| <p>22. If any form or documentation is updated during your inspection, please include both your initials and the client's initials on the updated document. This process will allow QAI to update the documents on file at QAI. Please inform the client that initialed changes will be made to their Organic Plan on file at QAI for them. If the client would rather update their own documents, please include updates with your inspection report.</p> | <p>The following documents were signed/initialed:</p> <ul style="list-style-type: none"> • Certs and OSPS |
| <p>23. Please conduct a trace-back audit using the attached Sample Audit Worksheets. Return all calculations with your report.</p> | <p>Conducted: see completed trace-back audit exercise for ORG feeds at the conclusion of this report.</p> |
| <p>24. Please conduct an input / output balance using the attached Sample Audit Worksheets. Return all calculations with your report.</p> | <p>Conducted: see completed ORG milk production input/output balance audit exercise at the conclusion of this report.</p> |
| <p>25. Please verify that a complaint log is in place which has documented any incoming complaints regarding organic compliance, actions taken to correct any deficiencies with products or services of the relevant standard and that all complaints have been resolved.</p> | <p>Maintaining a complaint register for NOP-compliance complaints was discussed and explained to Mr. John Voss and Mr. Frank Boyce. Shamrock will document complaint handling procedures in the event of a NOP-compliance complaint.</p> <p>Shamrock Response: The only non compliance complaint we have ever received came from QAI and that complaint is registered and in our organic folder</p> |
| <p>26. As it is sometimes difficult to communicate a discrepancy or observation in written form, it may be helpful or necessary to photograph an area, or areas, of an operation for sight review at QAI. If the client will not allow you to take photographs, please make a note of this in your report, providing the client's explanation or reasoning for lack of permission. If pictures are not allowed, please do your best to fully explain the discrepancy or observation without a picture, and why you felt a picture would best assist QAI in the review."</p> | <p>Specific permission was not given to obtain photographs by Shamrock to this Inspector; however, Mr. Frank Boyce took requested photographs with his mobile phone during the audit tour of this inspection. Copies were forwarded to me and are included in this report.</p> |
| <p>27. Please provide photographs of pasture areas including animals, barns, etc. with descriptions of each photograph including the location of the photograph.</p> | <p>See photographs at the conclusion of this report.</p> |
| <p>NOP Producer</p> | |
| <p>28. Please verify if alkali-extracted humic acid or lignin sulfonate (as a floating aid) are being used.</p> | <p>Jenner 8 (alkali extracted humic acid) on field Red River 4, at rate of 5-gal per acre.</p> |
| <p>29. Red River 1-2: Please verify that the rotation plan of these pastures will be the same as the other pastures. If so, please have the client indicate as such on the IFP's, initial / date and return with your inspection report.</p> | <p>Client acknowledged that the crop rotation plan for RR 1, 2, and 3 will be similar to existing ORG pastures. Client has some concern that the existing milk parlor is too far away from RR1, 2, and 3 for milk cows to travel; they may utilize these pastures</p> |



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| | <p>for non-milking heifers and cows, or possibly hay crop. However perennial pasture is planned to be planted in year 2011.</p> <p>Shamrock Response: You say perennial pasture and all of our pastures are annual i.e. replanted each grazing season.</p> |
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| <p>30. Please verify that the information provided on the Individual Field Profile(s) is correct. <i>Please initial or check the Inspector Use Only Section on IFP(s) for each point verified. **** If the IFP's are revised and/or new IFP's submitted please provide a clean copy with the report for the client's file.</i></p> | <p>See Section 3C for specific field (IFP) review.</p> |
| <p>31. Please verify that organic certificates are on file for organic seed. If not on file, please verify the seeds are from the applicant's previous year's organically managed crops.</p> | <p>ORG seed not found available for the following crops: oats, barley and Sudan grass.</p> <p>Perennial pasture seed mix that is being planned is reported to be sourced as ORG from Lockwood Seed (ORG cert not yet on file).</p> <p>Shamrock Response: Again should be annual pasture</p> |
| <p>32. Please verify if any seed inoculants, treatments, coatings, pelletizing materials, etc. are being used by either the producer or the company manufacturing and/or supplying the seed. If so, please verify that the materials being used comply with the NOP. Please include any documentation that is available and which demonstrates compliance.</p> | <p>Client states no inoculants are used. I did not observe any evidence of seed inoculants or treatment. Seed labels do not list any coatings. Client's only other input applications have been Jenner 8, manure, and irrigation water.</p> |
| <p>33. Please verify the information provided on the Annual Input Record is correct. Please initial or check the Inspector Use Only Section on Annual Input Record for each point verified.</p> | <p>AIR (dated 07-May-2010) lists "Pasture Mix" from Lockwood Seed, which has not yet been procured. Barley and Oat seeds are not listed as seed inputs (planted in Dec 2009 and Feb 2010, respectively).</p> <p>Shamrock Response: Inputs for barley and oats are already listed on the 2009-2010 AIR which is on file and should have been part of your packet. QAI states that they want what is going in the field not what was listed on current AIR.</p> |
| <p>34. Please verify inputs are brand name OMRI listed or compliant with the NOP National List. If National List pesticides are used, please verify that inert ingredients appear on EPA list 4.</p> | <p>Besides seed and manure inputs, Jenner 8 (alkali extracted humic acid) has been applied. OMRI page not attached to OCP, but material appears compliant to NOP 205.601(j)2</p> |
| <p>35. Please verify and provide documentation that the client has followed the pest control hierarchy as set forth in NOP 205.206(a)-(d) before using approved pesticides.</p> | <p>No usage of synthetic pesticides for crop production was confirmed in this audit. Client stated they are aware of the NOP hierarchy (as listed in NOP 205.206).</p> |
| <p>36. Inspector/L1: Please note that you will find last year's IFPs with this report (in addition to this year's IFPs) for reference and/or comparison.</p> | <p>Noted</p> |
| <p>37. Please verify if there are any liquid fertilizers with a N of 3% or greater and that the following materials have not been in use: Agrolizer and Marzyme since February 17, 2009, Summit 7, 10, 14 since July 27,</p> | <p>Dairy manures (solid and liquid) from both the ORG and conventional Shamrock dairies are applied; no usage of other liquid fertilizers.</p> |

2009. Please verify that the client has received and understands the QAI notifications.

Section 2: PREVIOUS NON-COMPLIANCES

Inspector: Please address each previous noncompliance below and verify whether or not they have been mitigated. Please also include a description of the practices and documentation you observed in verifying their compliance. If the item has been addressed in another section above or below, please just indicate the relevant section and number where that issue was addressed. If completing form by hand, please use extra sheets if required.

NON-COMPLIANCE ISSUES

Has the resolution to the previous non-compliances been implemented effectively?

- If no, please explain the discrepancy.
- If yes, please provide a brief statement of how the client mitigated the noncompliance; please also identify any documents or methods used to verify the non-compliance was mitigated.

Within Thirty Days

1. Please forward organic certification documentation that was issued within the past 18 months for the following feed ingredients.
 - Barley and corn from Sierra Organics (CCOF). The certificate on file is dated 2/27/07
7 CFR Part 205.103(b)(4), 205.30

See certificate review for ORG suppliers in IVF.

2. It was noted that Heifer Y476 aborted a calf on 8/6/08, approximately 6 weeks prior to the end of the heifer's 12-month transition period, and contrary to your standard practice, this animal was placed into the organic milking string instead of being sent to the conventional dairy as directed by Shamrock's Standard Operating Procedures. While the inspector noted that this was an isolated event, please provide your updated procedures that will be implemented to ensure this error does not occur in future.
7 CFR Part 205.236(a)(2)

During this inspection, audit of records found this occurrence as an isolated incident, with no other occurrences of this type. Shamrock's SOPs are for any cow or springing heifer to be introduced into the milk pool only when confirmed as having fully completed the 12-month transition from NOG to ORG.

Audit results found all presently milked cows in Shamrock's ORG dairy pool to have effectively been transitioned 12 months prior to entering the ORG milk pool.

3. An audit trail must be in place to ensure that all activities and transactions are disclosed in sufficient detail as to be readily understood and audited. During your inspection, the following record keeping deficiencies were noted:
 - The sample audit conducted by the inspector revealed discrepancies between the Easy Feed reports and the calculated inventory. In addition, invoices from Grain Millers were difficult to match with the list of weight tickets. Containers and large trucks sometimes can't be weighted because the silage inoculant dispenser is in the way of the truck. Furthermore, the Grain Millers invoices are very late and then get filed away in other months. The inspector notes that Shamrock Farms plans to start using Feedwatch which will allow the feed truck scale to directly communicate with the computers in the office and allow the closer monitoring of actual amounts being



loaded. Please describe how the Feedwatch program will address record keeping deficiencies, and provide the timeframe for implementation.

- It was stated that the Pyganic is used as a paraciticide but documentation of treatment was not on file at inspection so its use could not be verified. Please provide a sample of records maintained to record the use of treatments.

7 CFR Part 205.103(b)(2)

Feedwatch software program has been installed and is currently operating. Audit exercises conducted on feed received and feed usage confirmed in the records (receipts, feed fed, etc.) traceability and mass balance.

4. The inspector noted that for the 2008 winter, the 140 acres of pasture on Beryl 320 was the extent of available land for pasture. Please provide your written plan to provide adequate pasture for your organic livestock. The plan must include acreage, forage description, the timing of the cropping cycles such that there will always be ground available for grazing, animal numbers, and the duration/frequency of their stay on the pasture as well as an assessment of the pasture's ability to provide substantive nutritive value to the animals pastured.
7 CFR Part 205.239(a)(2)

This audit confirmed expansion of pasturage to RR 4, 5 and 6, along with the proposed (in yr 2011) addition of RR 1, 2 and 3.
See stocking unit per acre review in SI no 1.

5. The inspector noted that prior to milking, the lines are flushed with water and a pH test is taken periodically to verify that the acid sanitizer was completely removed. However, the pH of the fresh water was measured at 8.2 and the well log originally shows 8.5 but the rinse water, following use of the acid sanitizer, is tested with a pH paper to verify the water at pH 6. This implies that the acid sanitizer is still present on equipment prior to handling organic milk. Please provide a written description of the measures in place to protect organic milk from contamination by Mandate Plus sanitizer. Please also provide samples of the documents (e.g. SSOPs, logs, checklists, etc.) kept to record these measures.
7 CFR Part 205.272(a)

SSOPs for milk pipelines, storage tanks, and milking equipment utilize sanitation chems specific for milk handling by Ecolab:

- "Conquest" (liquid caustic cleaner – sodium hydroxide)
- Sodium Hypochlorite (sanitizer) – added with Conquest during cleaning
- "Mandate Plus" (phosphoric acid, octanoic acid, propanoic acid)

Final step in SSOPs is flush with Mandate Plus solution (CIP) with equipment and lines drained, with eight hour standing prior to next milking period.

According to sanitation specification sheet for Mandate Plus, no residues remain after proscribed usage (spec sheets, 2 pages, attached to this report).

6. The inspector notes that there is no record maintained of the harvest equipment cleaning, including the silage chopper or balers. It is further noted that the baler generally contains a partial bale which needs to be ejected and the equipment blown out.
- a. Please provide a list of contracted equipment that is or will be used for the organic fields (including contracted equipment that will be used for the 2009 crop season).
 - b. Please explain your procedure for cleaning out equipment used for both organic and non-organic fields/crops and the cleaning materials used.
 - c. Provide a copy of the cleaning log that will be used to document the cleaning of equipment prior to use on organic fields/crops.
- 7 CFR Part 205.201(a)(5), 205.272(a)*

Clean down affidavits completed for equipment prior to usage by contracted operator on Shamrock ORG Farm. Noted were that some affidavits were missing, e.g. T & K Co for movement of manure to fields.

Prior to Annual Monitoring Date

7. Please be advised that your organic compliance plan must accurately describe the practices and materials used at your organic operation. The following discrepancies were noted with regards to your Organic Compliance Plans and the Addendum Materials List:
- Dairy Organic Compliance Plan:
 - a. During the tour of the heifer facility on the conventional dairy side, the inspector observed that several animals were seen with "Z" tags. These are calves that were born from organic mothers that will never be chosen for organic cows because that would constitute moving an animal out of organic and then back in. Please provide a brief description of this identification practice as an addendum to your organic compliance plan.

- b. The Daily Ration for Lactating Cows document lists Organic Rumolac. It was explained at inspection that this is actually the NRG Organic Feed additive. Please update the Daily Ration for Lactating Cows document and submit the update to QAI.
 - c. The IFRs for Milk Cow lists Biotol III however, this product is not approved by OMRI. At inspection, the inspector confirmed that this was a typo and is actually Biotol II. Please update the IFR and submit the update to QAI.
 - **Producer Organic Compliance Plan:**
 - a. The OCP states that inputs are not applied through the irrigation system. However, the inspector states that lagoon water from the non-organic dairy is pumped back to the conventional lagoons. From there it is pumped to the well and injected into the well's output and thereby distributed to all fields except for the center pivot as particulates in the lagoon water could clog irrigation nozzles. Please update section D6 of the Producer OCP and submit the update to QAI.
 - b. The inspector notes that only manure and seeds were applied to cropland this year. Please update the Annual Input Record accordingly.
 - **Addendum Materials List:** Please list your cleaners and sanitizers used in the dairy on this form, section 3, and submit it to QAI. Provide a product label for each cleaner/sanitizer in use.
- Please submit the updated pages of the Organic Compliance Plan and Addendum as referenced above. Alternatively, you may confirm in writing that the specific changes can be made by QAI staff as appropriate.
- 7 CFR Part 205.201

Shamrock Response: *This response is to the Audit*

Dairy OCP you say that all org calves go to conventional dairy or feedlot within 48 hrs. The accurate statement should be that all org calves go to the conventional calf operation within 2 hrs of calving. Also under Producer OCP you mention river water which should be well water. Under addendum materials they are in our book and we are fairly certain QAI has them on file.

The following were noted in this audit:

- **Dairy OCP:**
 - a. Shamrock stated that all ORG calf offspring go to the conventional dairy or Maricopa feed lot calf rearing operations within 48-hrs of birth. ORG calf heifers are not allowed to return as transitional heifers to Shamrock's ORG herd. This was confirmed in audited heifer transfers from Shamrock's conventional dairy and/or Maricopa feed lot (both under Shamrock management).
 - b. ORG daily ration for milk cows, dry cows, and heifers updated
 - c. Biotol II is no longer a supplement
- **Producer OCP:**
 - a. Flood irrigation water is a mixture of river water (Colorado River) and effluent from both Shamrock Dairies (ORG and NOG). Center pivot water is only river water as noted.
 - b. AIR confirmed updated
- **Addendum Materials List:** not completed for Dairy OCP

Client Advisory

8. Please note that the additional fields, Red River 1, 2, 3 mentioned by the inspector that will be eligible for organic use in Autumn of 2009 will need to be added to your certificate before they can be used for harvesting organic products. Please:
 - complete the attached Individual Field Profile sheet for each field,
 - include a complete plot map for QAI to review,
 - provide a complete 3-year land use history, and
 - complete the attached land use affidavit.

7CFR Part 205.201 (a)(6), 7 CFR Part 205.403 (b)

Audit observations found this advisory mitigated by the Client.

9. All materials used and practices employed on your organic operations must be included in your organic plan and



reviewed and agreed upon by QAI prior. It was noted that while you rely on the National List and the OMRI list, QAI has not been used as a resource for approving materials and treatment protocols. Please ensure to notify QAI of all materials you wish to use and practices that you plan to employ so that QAI can assess them according to the NOP and update your file.

7 CFR Part 205.400(f)(2)

Client observed to have acknowledged this advisory statement by QAI.

Section 3: ORGANIC SYSTEM PLAN

Inspector: Please indicate any discrepancies or relevant inspector observations pertinent to the Application, OCP(s) and Product Profile(s) by listing a reference number from the question then your description. If completing form by hand, please use extra sheets if required.

A: Application

| Ref # | Description of Discrepancy |
|-------------------|--|
| Application | <p>Two discrepancies:</p> <ul style="list-style-type: none"> • Change in postal zip code (see SI no. 16) • No email account for Mr. John Voss (primary contact for Shamrock Farms) <p>Shamrock Response: John Voss has a e-mail address it is john_voss@shamrockfoods.com there is an underscore between first and last name.</p> |
| Ref # | Relevant Observation |
| Client Contact | <p>Note the changes in the following personnel:</p> <ul style="list-style-type: none"> • Mr. John Voss (ORG milk operations manager) is the primary contact for Shamrock ORG Farms • Mr. Jim Whitehurst is the former primary contact, but remains as the crop production manager for Shamrock Farms. |
| B1 / Added Fields | <p>Observation: Shamrock Farms is requesting ORG certification for the following additional fields:</p> <ul style="list-style-type: none"> • Red River 1 (42.5-ac) • Red River 2 (45.0-ac) • Red River 3 (71.5-ac) <p>See review in section 3C of this report.</p> |

B: Compliance Plan

| Ref # | Description of Discrepancy |
|----------------------------|--|
| Producer OCP | Monitoring of OCP not detailed |
| A5 / OCP Monitoring | <p>Shamrock Response: Monitoring of OCP is done monthly and can be verified with John Joseph at QAI</p> |
| A6 / Record Keeping System | <p>Operational records for specific crop production activities for each field are not recorded and maintained. Reliance has been only on maintaining custom operator invoices as confirmation of field activities. Audit trail gaps:</p> <ul style="list-style-type: none"> • Dates and types of field activities performed by which operator, hired or custom. |
| F2 / Records | |
| F3 / Audit Trail Link | |



| | |
|--|--|
| <p>B4 / Clean Affidavits</p> | <p>Clean equipment affidavits observed missing:</p> <ul style="list-style-type: none"> • T & K Company trucks used to carry manure to fields in August 2009 <p>Shamrock Response: We agree we did not have the clean affidavit for T & K for movement of manure to fields, however your use the plural affidavits makes it sound like there are more affidavits missing. Which is not the case.</p> |
| <p>B7 / Aerial Applicator</p> | <p>Notification to aerial application companies has not occurred. Aerial applications were observed while traveling throughout the region.</p> <p>Shamrock Response: Notification to aerial applicators has occurred and has also been conveyed to neighboring farms regarding fly zones in and around Shamrock Farms. If necessary I can get notarized affidavits from all parties verifying these discussions</p> |

| | |
|--|--|
| F5 / Contracted operations | Shamrock contracts all farm production to custom operators. Client indicates no contracted handling operations for farm production. This is true only for offsite operations. Custom operators (crop producers) are both ORG and NOG producers. Shamrock's SOP is for all equipment to be cleaned prior to usage on the Shamrock ORG Farm, verified through operator providing clean equipment affidavits. |
| Dairy OCP | |
| A1 / Flow Chart | SSOPs for milk line are defined but not documented. |
| H1, 2 / Cleaning and Sanitation | <p>Shamrock Response: SSOP's are documented and were available but were never asked for. Also SSOP's do include rinse and purge</p> <p>Client indicates that residue testing, rinse and purge are routinely conducted. Sanitation has relied on following sanitation procedures as determined by sanitation chemical company professionals (Ecolab). SSOPs presently do not include rinse and purge, however, sanitation chemical residues are stated to not remain on product contact surfaces.</p> |
| A5 / OCP Monitoring | <p>Monitoring of OCP not detailed</p> <p>Shamrock Response: During discussion we told you that we monitor OCP monthly and contact John Joseph if needed with any changes or new certificates to remain compliant</p> |
| B7 / Parasiticides | "Not applicable" is listed; MIP and other documents list Pyganic 5.0 (OMRI listed) used as external parasiticide. |
| F2 / Buffer Zones | See observation listed for Producer OCP B5 below. |
| Ref # | Relevant Inspector Observation |
| Producer OCP | |
| B2 / ORG - NOG cropping | Shamrock ORG Farm production is ORG only; separate farm unit is NOG dairy feed yards contiguous to the ORG dairy but segregate. |
| B5 / Buffer zones | Buffer zones as noted on field maps were confirmed in this audit and appeared to effectively separate Shamrock's conventional livestock feed lot (south end adjoining RR 1, 2, and 3) and conventional dairy (north end adjoining RR 4 and 5) from Shamrock ORG Farm. |
| C4 / Manures | Poultry manure is listed, but has not occurred since yr 2006. Cattle manure from all three facilities is commingled and used for field fertility applications at this time. |
| F4 / SOPs | <p>Confirmed: attached SOPs to the Producer OCP:</p> <ul style="list-style-type: none"> • Organic Input • Farm Equipment • Pasture SOP |
| F8 / Complaint Procedures | Shamrock Farm was informed of the requirement of maintaining NOP-compliance complaint handling procedures and records. |
| Dairy OCP | |

| | |
|----------------------------|--|
| <p>A1 / Flow Chart</p> | <p>Verified as accurate, although the bottom part of the hand written flow chart was observed as missing part of the entry ("Where Shamrock Dairy..."). <u>SSOPs were noted as not detailed in the flow chart.</u></p> <p>Shamrock Response: Dairy OCP: Our copy sent to QAI is not missing any verbiage, must be problems with multiple faxes. Our copy finishes with where Shamrock Dairy takes custody of the organic milk.</p> |
|----------------------------|--|

| | |
|--|--|
| B / Origin of Livestock | <p>Verified that all heifers and cows on the ORG dairy farm are sourced from Shamrock's two adjacent NOG operations:</p> <ul style="list-style-type: none"> • Shamrock Farm (conventional dairy) • Maricopa Livestock Feedlot <p>Shamrock management strongly stated that all sourced replacement stock for their ORG dairy would come from either source as NOG heifer calves that would then transition for 12 months on ORG pastures at Shamrock Farms' ORG dairy farm. None of the replacement stock would be sourced with Shamrock's ORG calves moved to either NOG operations after birth.</p> <p>Shamrock Response: Do not like wording. The source of animals comes from Shamrock heifer operation by way of Shamrock's calf operation., not from either or.</p> |
| B4 / ORG and NOG Dairy Stock | <p>Shamrock maintains distinct separation between their ORG dairy operations and the two NOG operations:</p> <ul style="list-style-type: none"> • 10-ft high chain link fence • Drainage ditches (15-ft deep and 30-ft wide) • Additional fencing • Perimeter field roads <p>I saw no significant area where conventional and organic livestock could cross-over.</p> |
| D6 / Medicines | <p>Professional Veterinary services provided by Herd Health Management LP (DVM veterinarians) located in Gilbert Arizona USA.</p> <p>Reviewed vet invoices for Shamrock ORG Farm showed only preg checks and fertility exams. Vaccination recommendations initiated vaccine applications by Shamrock ORG dairy management. The following vaccination injection protocols observed:</p> <ul style="list-style-type: none"> • Bovishield Gold and TSV-5 vaccinations routinely administered 3 weeks after freshening • Leptoform 5 vaccination administered to pregnant heifers and cows <p>Only other medical inputs observed used:</p> <ul style="list-style-type: none"> • Aspirin, copper sulfate, and hydrogen peroxide (usages as listed in MIP) • Mineral oil used for bloat in yr 2008, but not since then (restricted usage as lubricant and topical only) • Isopropanol (IPA) not observed on hand, but listed as used as disinfectant of medical equipment <p>Shamrock Response: TSV-5 should be TSV-2 and is not used on the organic herd. It is used in our conventional calf operation only</p> |
| K6 / Feed Supplier ORG Certs | <p>Verified as current and NOP-compliant, with accurate listing for each ORG feed supplier to Shamrock Farm ORG dairy.</p> |
| C: Product Profile(s) | |
| Ref # | Description of Discrepancy |
| AIR / Crop | G) Barley and Oat seeds not listed; however, confirmed in this audit as NOG, untreated, and non-GMO. |
| Ref # | Relevant Inspector Observation |

| | |
|-----------------------------|--|
| IFPs (fields) RR 1, 2, 3 | <p>Observed:</p> <ul style="list-style-type: none"> Fields RR 1 and 2, showed very thin planting remaining of ORG alfalfa crop due to cover crop reduction. based on reduced water and inputs. Shamrock manages these fields under fallow management (water usage under strict control by regulatory agency). Fallow management to continue into year 2011, with projected planting of perennial pastures in all three fields. No significant inputs since manure applications in Sept 2005, with seeding to alfalfa (NOG, untreated, Non-GMO) in Nov 2005, according to reviewed field records. Field RR 3 planted with NOG untreated Sudan grass in early May 2010 (<u>observed record was only the custom operator planting invoice</u>). <p>Shamrock Response: Again use of perennial should be annual.</p> |
| IFP (field) / RR 4 | <p>Observed:</p> <ul style="list-style-type: none"> L) ORG crops: barley crop planted in Dec 2009 in all acres; ORG transitional heifers observed pasturing in western 15 acres; remainder of acres (~ 50-acres, eastern 2/3rds) in barley with grain harvest expected within 2 weeks (yield approx. 1.5-tons per acre); future plan is to plant to Sudan grass in June 2010 Both seed plantings visually confirmed and observed in custom operator invoices, <u>field records not completed</u>). P) Seeds: NOG barley seed, untreated listed on seed receipt from Helena Chemical Co. P) Seeds: NOG Sudan seed, untreated + Non-GMO declaration on seed receipt from Tee Pee Seed Co (<u>seed receipt copy attached to report</u>) <p>Shamrock Response: Oats were planted in the western 15 acres and that is what was used for heifer grazing, the remaining 50 acres were planted to barley.</p> |
| IFP (field) / RR 5 | <p>Observed:</p> <ul style="list-style-type: none"> L) ORG crop: barley crop used for pasture, with approx. 8-acres to be harvested as grain (yield appears to be about 1.5-tons per acre); future management plan is to cultivate and plant Sudan grass in June 2010, followed by Org pasture mix in Nov 2010 <p>Shamrock Response: <i>This response goes with IFP Berl 320</i> Under L, oat crop was planted in Nov. of 2009, sudan was planted in April on the western side of the Berl 320 to be used for late season grazing and for harvesting in Aug. 2010. Also IFP for 2008-2009 clearly states that we would plant either sudan, bmr sorghum, or sorghum., which is exactly what we did.</p> <ul style="list-style-type: none"> O), P), Q): Seeds: NOG barley seed, untreated listed on seed receipt from Helena Chemical Co. NOG untreated Sudan grass from Tee Pee Seeds |
| IFP (field) / RR 6 | <p>Observed:</p> <ul style="list-style-type: none"> Evidence of field grazed by cattle, with barley grass pasture almost depleted (end of season). Shamrock plans to fallow this field through the end of summer 2010, and plant to an ORG pasture mix in Nov 2010. |
| AIR | Applications of manure on RR 4, 5, and 6 (records noted as only the invoice by T & |

| | |
|----------------------------|--|
| | <p>K Feeds of Stanfield Arizona; also missing were the clean down affidavits for equipment). Applications as follows:</p> <ul style="list-style-type: none"> • 9, 10-Aug-2009: 55, 15-ton loads on RR 4 • 20, 21-Aug-2009: 65, 20-ton loads on RR 5 • 21, 22-Aug-2009: 66, 20-t loads on RR 6 |
| IFP (field) / Berl 320 | <p>Observed:</p> <ul style="list-style-type: none"> • L) Crops: oat crop planted in Feb 2010 (according to custom operator invoice record, <u>copy attached to report</u>) for pasture observed; management plan is to plant to cultivate and plant Sudan grass in June 2010, followed by plow down and plant to pasture mix in Nov 2010 (as stated in IFP) • O), P), Q): Seeds: NOG cayuse oats, untreated and Non-GMO (Nov 2009 declaration from Helena Chemical Co, copy attached to OCP) <p>NOTE: yr 2008-2009 IFP for Berl 320 shows incorrect cropping dates</p> |
| IFP (feed) / Lactating Cow | <p>IFP specifics confirmed in feed ration analysis performed by nutritional consultant Mr. Theo Lykos. Ration sheet shows dry matter content exceeding 30%, when cattle are on pasture. Also, in review of Shamrock's pasture logs, I calculated that milk cows had access to pasture for 123 days between January 1 and May 12. <u>Copy attached to this report of ORG ration sheet for lactating cow with 20%+ pasture in ration</u></p> <p>Shamrock Response: Calculation for pasture logs were at 109 days as of May 12th. 120 days were reached on May 23. Also do not know what you are referring to when you say organic ration sheet, when we could not give you a copy due to a confidentiality agreement with our nutritionist.</p> |

Section 4: ATTACHMENTS

Please list attachments to your report below.

- A. Copy of Tee Pee Seed Co invoice for untreated Sudan Grass seed
- B. Copy of Helena Chem Co invoice for Nebula Barley seed
- C. Copy of Hart Brothers (custom operator) invoice for planting of oats and barley
- D. Copy of R&D Farms (custom operator) invoice for planting of barley
- E. Copy of lactating cow ration sheet
- F. Copy of receive record of 42 heifers from Shamrock conventional (Maricopa) to organic
- G. Copy of transfer record of 42 cows with birthdates and date of transition to ORG Shamrock Farm ORG dairy
- H. Copy of Mandate Plus spec sheet
- I. Copy of March 2010 Shamrock Farms Daily Organic Milk Production record
- J. Copy of Milk Samplers Checklist

Addendum To Exit Interview, Notarized Affidavits

#11 Although we have misplaced the clean out affidavits for the manure trucks we do have a notarized statement from the manure hauling company stating the trucks were cleaned and that at the time he did fill out the affidavits. Statement attached

#15 Notification to the aerial applicator in Stanfield was not in our file but the notice they have posted in their office has been added, signed and notarized by the manager. Statement attached

T & K Feeds, Inc.
P.O. BOX 189
Stanfield, AZ 85172
Ph. 520-424-3622 Fax 520-424-3090

June 1, 2010

Mr. Frank Boyce
Shamrock Farms Company
P.O. Box 280
Stanfield, AZ 85172

Dear Frank,

Apparently affidavits we had completed prior for the dates August 8th – 10th, 2009 and August 20th – 24th, 2009 have been misplaced.

I, Tom Dugan, Jr., state that the trucks we used in hauling manure to Shamrock's organic fields on the above referenced dates were indeed washed out prior to loading manure and entering the organic fields.

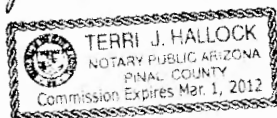
If I can be of further service to you in this matter, please do not hesitate to contact me.

Sincerely,

(b)(6)

Tom Dugan, Jr.

Terri J. Hallock, Notary
My Commission Expires March 1, 2012





Real Farm. Real Fresh.

January 24, 2007

Custom Farm Services
36311 W Hwy 84
PO Box 338
Stanfield, AZ 85272

Legal Descriptions: All of section 14
East half of 23

65 3 E

To Whom It May Concern:

Shamrock Farms Company the agent for property owner Maricopa Farms, LLC is hereby notifying Custom Farm Services that the above entitled properties are being certified Organic. Please be aware that any leaking nozzles or chemical discharge from an aerial applicator would jeopardize the certification and cause economic harm to the farm. Please be aware of this and avoid flying of the property when ever possible.

Sincerely,

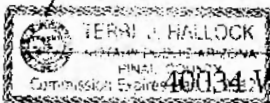
(b)(6)

James Whitchurst
Vice President

*This has been posted in office
of Custom Farm Service since
received 1/24/07*

(b)(6)

*Terri J. Hallock, Notary
My Commission Expires March 1, 2012*



40034 W. Clayton Rd. / P.O. Box 280, Stanfield, Arizona 85272
Phone: (480) 988-1452 Fax: (480) 988-1634

*Manager
Custom Farm Service*

Section 5: Applicant Authorization: NOP 205.403(a)(2)

I, the client, hereby acknowledge that I have reviewed and accept these observations of the Inspector and that all information is true and correct to the best of my knowledge. I understand that additional unannounced visits by QAI may be required, for which I hereby give my permission. **I hereby acknowledge that all corrective actions noted by the inspector are recommendations only and may be overturned or added to by QAI, and that I will implement corrective actions only after receiving formal notification from QAI.**

(b)(6)

APPLICANT SIGNATURE

06/09/2010
DATE**Section 6: Inspector Authorization:**

Under penalty of perjury, I swear that I have reviewed the application and its supporting documents; and that all of the information I have collected and submitted with this inspection package is true to the best of my knowledge. I understand that if I fraudulently misrepresent information, or violate the terms and conditions of the Inspection Agreement, I am liable for all damages rendered by a court of law. I further indemnify and hold harmless Quality Assurance International, its agents and all others from liability for mistakes I knowingly commit. In addition, I attest to the following (*please initial*):

1. (b)(6),(7)(c),(7)(d) I understand that neither I nor an immediate family member are currently providing consulting or in any way involved commercially with this operation. Furthermore, I understand that neither I nor an immediate family member may engage in such activities within the next 12 months without first informing QAI.
2. (b)(6),(7)(c),(7)(d) I attest that I have not accepted payment, gifts, or favors of any kind from the operation inspected.
3. (b)(6),(7)(c),(7)(d) I understand that I am required to submit my inspection report to QAI within 10 days of inspection. If I am not able to submit my report in the allotted time frame it must be approved by QAI or my inspection fee will be subject to a delayed payment penalty of 30 days.

For IFOAM inspections only:

4. (b)(6),(7)(c),(7)(d) I attest that I am an active member of a recognized auditor/inspector training organization IOIA.
5. (b)(6),(7)(c),(7)(d) I attest that I have not inspected this operation for more than four consecutive years.
6. (b)(6),(7)(c),(7)(d) I attest that neither I nor an immediate family member have provided consulting services for, or had a commercial interest in, the applicant/operation (within the last (24) twenty-four months).

(b)(6),(7)(c),(7)(d)

17-May-2010

INSPECTOR SIGNATURE

DATE

Section 7: Report Copy:

A copy of this completed report will be provided to you by QAI per NOP 205.403(e)(2)

I. Trace-back Audit Worksheet: Randomly choose a finished organic product either on site or sold and trace it back to the supplier(s) and date(s) of delivery of raw materials. List all documents that allow the finished product to be traced back to the incoming raw materials

| | |
|--|--|
| 1. State product chosen | ORG Dairy Cattle feed ingredients: <ul style="list-style-type: none"> • ORG yellow corn • ORG canola meal • ORG barley |
| 2. Lot #, Date Code, or product tracking system code for the above product | Track of above inputs between 10-Feb and 10-April-2010 |
| 3. Describe the trail of documents | Documents: <ul style="list-style-type: none"> • ORG certs from suppliers: <ul style="list-style-type: none"> ◦ Corn: Lackawanna in two shipments during this period, with earlier shipments from other suppliers (certs observed on hand) ◦ Canola meal: Wilbur Ellis in two shipments ◦ Barley: Wilbur Ellis and Saddlehorn Ranches • Incoming Bills of Lading / Invoices from suppliers (lot numbers and amounts accurately recorded) • Shamrock Farm records: <ul style="list-style-type: none"> ◦ Inventory records (amounts on hand before/after feeding) ◦ Consumption records (amount fed) ◦ Monthly tie out |
| 4. Does the trace-back audit confirm that the facility has an accurate tracking system for organic products? | Yes, effectively |
| 5. Does the trace-back audit verify the accuracy of the IFP(s) for the product chosen? | Yes; feed is adjusted for protein and other nutritional needs based on availability of feed stuffs. |

II. Input/Output Balance

Choose a product or ingredient for a particular period of time or identity preserved lot which includes receipt, processing, sales and/or storage.

| | |
|---|--|
| 1. State product or ingredient, | 100% ORG raw milk produced on Shamrock Farm ORG dairy, and shipped to Shamrock Processing in Phoenix Arizona |
| 2. State the relevant lot or period of time | March 2010 (31 days of production) |
| 3. Calculate the conversion factor or recovery rate of the product or ingredient chosen | 100% milk produced transferred to storage tank and to outbound tanker trailer |
| 4. Calculate the quantity of the organic raw material in inventory at the beginning of the period of time selected | 0-lb (milk from last days of Feb milk shipped out prior to March 1) |
| 5. State the quantity of raw materials processed | 1,268,760-lb milk produced from average of 643 cows (average production of 63.64-lb / day) |
| 6. State the quantity of the product/ingredient in finished product | Same |
| 7. Calculate the quantity of finished product carried over from previous batches | 0 |
| 8. Taking into account raw and finished product carried over from previous batches, waste, water additions, purges, etc, compare product/ingredient in vs. product/ingredient out | Multiple load outs into Shamrock Processing fleet of 6 dedicated to ORG tankers verified by: <ul style="list-style-type: none"> o Milk Producers Receipt (wash ticket) o Weigh Scale Ticket o Milk Samplers Checklist (record of quality checks, silo loaded from, <u>red-colored seals</u> for ORG, and tanker ID) Checklist is signed by Shamrock Farm ORG dairy operator |
| 7. Comment on results and note any discrepancies | Review of milk production records and load out reports for the last twelve months showed no anomalies in volume of milk produced, no. of ORG cows milked, or shipment destination. |

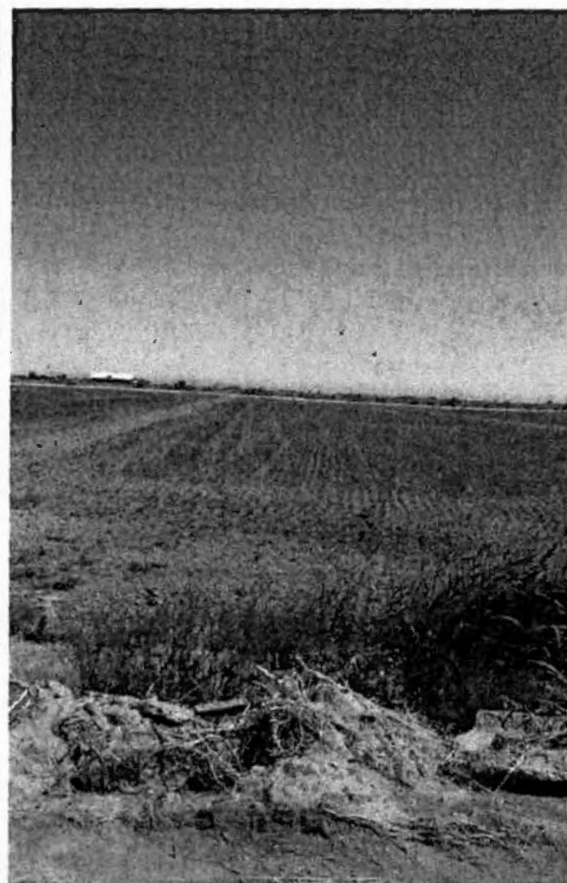
(b)(6),(7)(c),(7)(d)

Signed _____

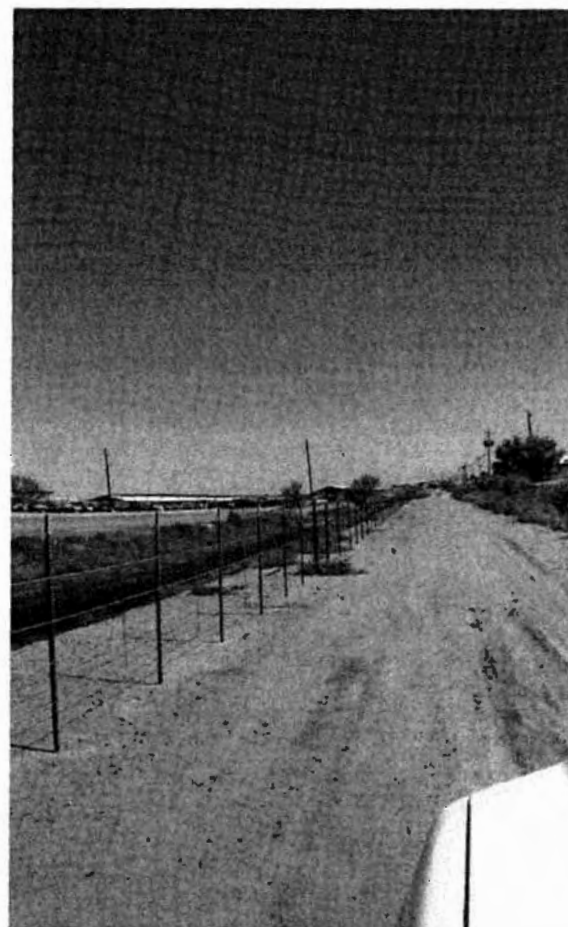
Date **17-May-2010**



Left (L) pic. no. 1 (1) Shamrock Farms - field RR1 - view from north border looking southwest



Right (R) pic. no. 2 (2) Shamrock Farms - field RR2 - view from south border looking north - main office in upper left corner



L (3) - Shamrock Farms - field RR2 south border looking northwest - view of main office and conventional dairy shed in upper left corner

R (4) - Shamrock Farms - field RR3 west border - view to the north with west border, fence, and conventional dairy from right to left



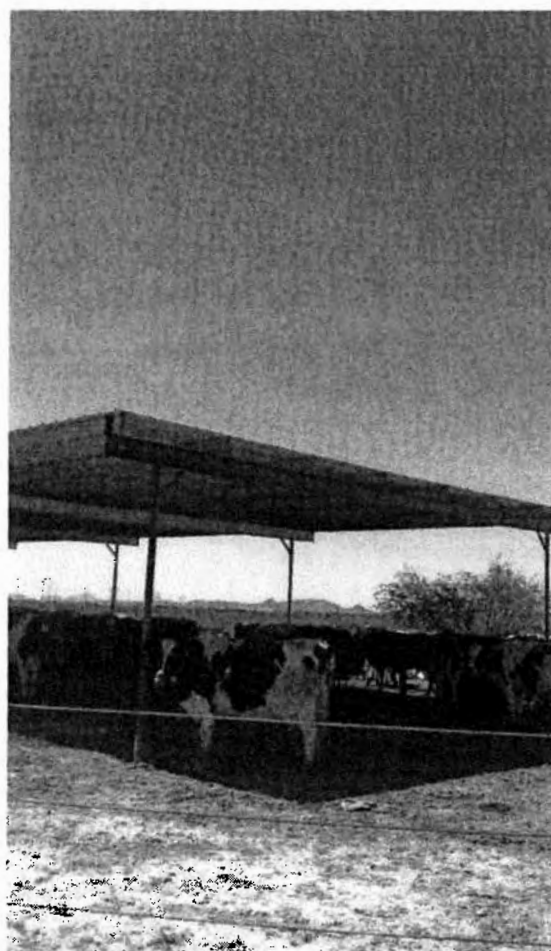
L (5) - Shamrock Farms - field RR4 - east end of south border, view to north with barley crop in view

R (6) - Shamrock Farms - field RR4 - west end of south border, view to north, fenceline between pasture on left and barley crop on right



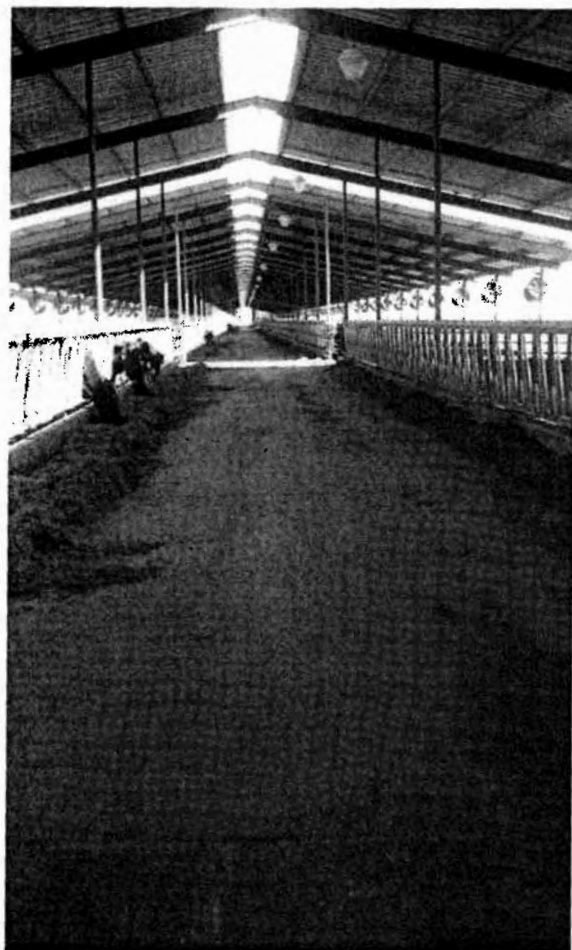
L (7) - Shamrock Farms - field RR5 - south border looking north, water trough in foreground, portable shade canopies in distance, pasture near end of season

R (8) - Shamrock Farms - field Berl 320 - north point of crop circle, about 300-degree mark, view of irrigation pivot and fencelines for rotational grazing



L (9) - Shamrock Farms - field Berl 320 - at 45-degree mark view of cattle on pasture

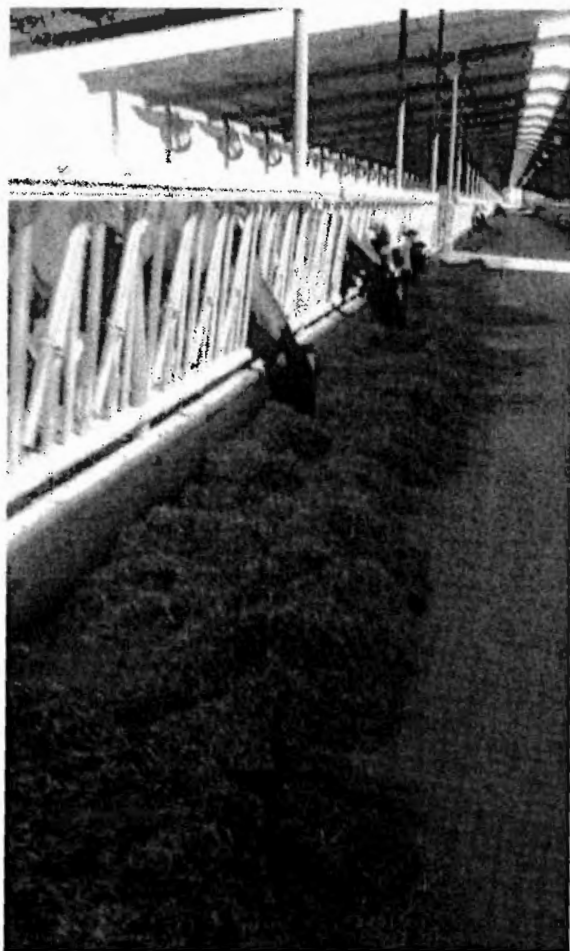
R (10) - Shamrock Farms - field Berl 320 - view of cattle in shade



L (11) - Shamrock Farms - dairy cow loafing shed and feed bunk



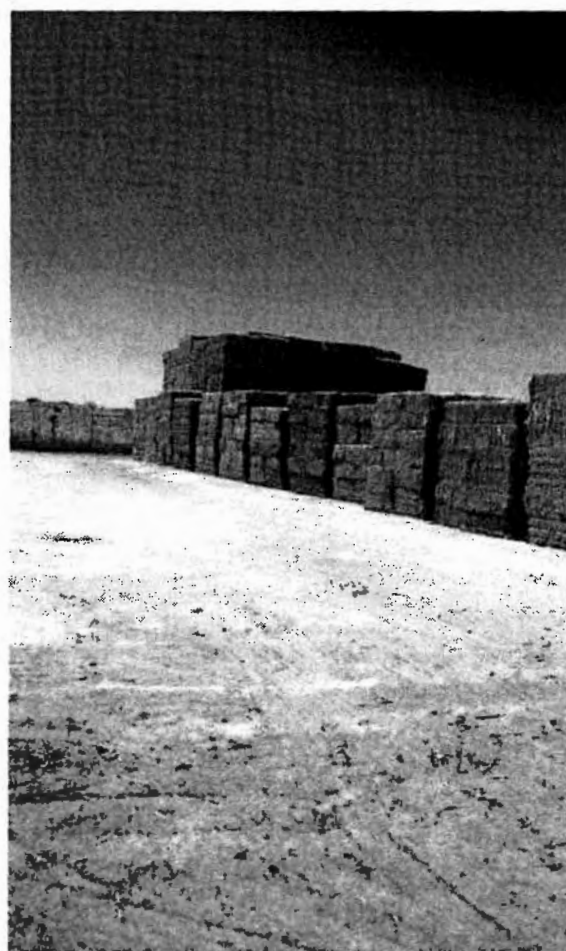
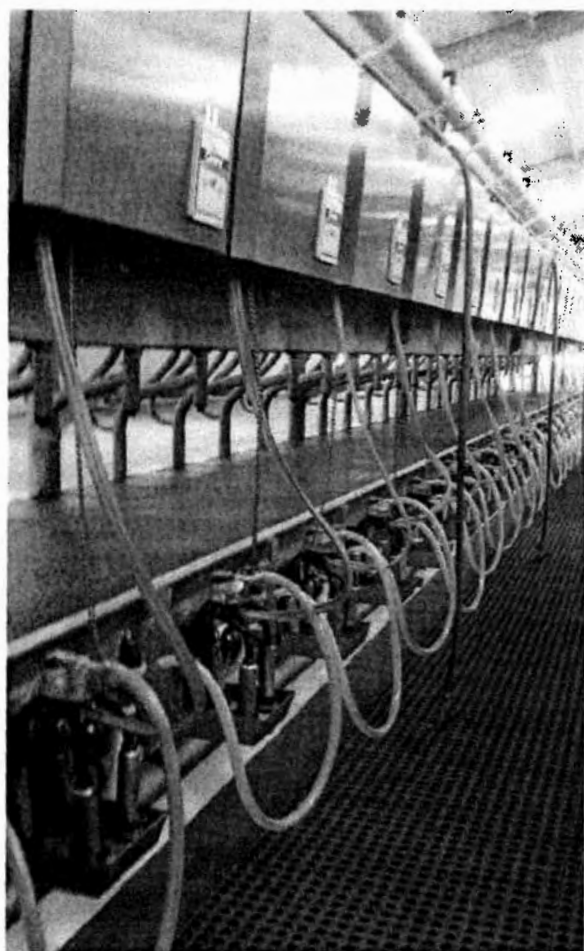
R (12) - Shamrock Farms - dairy cow loafing shed, from center looking out towards east



L (13) - Shamrock Farms - dairy cows in loafing shed, cows are in close-to-freshening management



R (14) - Shamrock Farms - close up view of ventilating fan with mister



L (15) - Shamrock Farms - milk parlor

R (16) - Shamrock Farms - stocked hay west and south of milk parlor



17 - Shamrock Farms - feed + hay mixing equipment with side chute delivery, stored on west side of milk parlor



PLEASE PLACE ALL
NEW DOCUMENTATION
RECEIVED AT
INSPECTION BEHIND
THIS SHEET



DISPOSABLE

RESCUE

FLY TRAP

TRAMPA PARA MOSCAS

Protect your outdoor living space
from nuisance and fith flies

Non-toxic mode of action

Made in Mexico

- Effective and long-lasting - Complete with attractant
- Bait with water and honey - Catches up to 100 flies
- No killing agents - Safe for use around children and pets
- No need to dispose of the trap - Simply replace



John Voss

From: Bruce Tonkin [Btonkin@UDAZ.ORG]
Sent: Thursday, June 09, 2011 10:23 AM
To: John Voss
Subject: Hills Bros.

Chlorine is 12.5 percent active ingredient by weight. Inclusion rate is 1 ounce to 5-6 gallons of water to sanitize equipment on the dairy.

Bruce Tonkin
United Dairymen of Arizona
Quality Assurance
Tempe, AZ
602-721-2288

*mixed w/ castic
gal of water*

John Voss

From: Bruce Tonkin [Btonkin@UDAZ.ORG]
Sent: Thursday, June 09, 2011 10:53 AM
To: John Voss

The chlorine is mixed with Conquest (alkaline soap) to break down proteins in the pipeline and milk tanks. The wash system uses 175 gallons of water roughly thru each step of the wash cycle.

PASTURE LOG

[illegible]

PASTURE LOG

| DATE | PEN | PADDOCK | TIME IN | TIME OUT | SIGNATURE |
|---------|-----------------|-------------------|---------|----------|-----------|
| 5/18/11 | 9 | RR5-8 | | | MB |
| | 8 | RR6-8 | | | ↓ |
| | 7 | RR5 | | | ↓ |
| | 5 JV | RR4 JV | | | ↓ |
| | 14/2 | RR4 | | | ↓ |
| 5/19/11 | 9 | RR5-8 | | | MB |
| | 8 | RR6-8 | | | ↓ |
| | 7 | RR5-14/2 | | | ↓ |
| | 14/2 | RR4 | | | ↓ |
| 5/20/11 | 9 | RR5-5-8 | | | JV |
| | 8 | RR6 | | | ↓ |
| | 7 | RR5-14/2 | | | ↓ |
| | 14/2 | RR4 | | | ↓ |
| 5/21/11 | 9 | RR5-7 | | | MB |
| | 8 | RR6 | | | ↓ |
| | 7 | RR5-3 | | | ↓ |
| | 14/2 | RR4 | | | ↓ |
| 5/22/11 | 9 | RR5-6 | | | JV |
| | 8 | RR6 | | | ↓ |
| | 7 | RR5-4 | | | ↓ |
| | 14/2 | RR4 | | | ↓ |
| 5/23/11 | 9 | RR5-6 | | | JV |
| | 8 | RR6 | | | ↓ |
| | 7 | RR5-4 | | | ↓ |
| | 14/2 | RR4 | | | ↓ |
| 5/24/11 | 7 | RR5 | | | JV |
| | 14/2 | RR4 | | | ↓ |
| 5/25/11 | 7 | RR5 | | | JV |
| | 14/2 | RR3 | | | ↓ |
| 5/26/11 | 7 | RR5 | | | MB |
| | 14/2 | RR3 | | | MB |
| 5/27/11 | 7 | RR5 | | | JV |
| | 14/2 | RR3 | | | JV |

PASTURE LOG

| DATE | PEN | PADDOCK | TIME IN | TIME OUT | SIGNATURE |
|---------|------|---------|---------|----------|-----------|
| 5/12/11 | 9 | RR 6-14 | | | MB |
| | 8 | RR 5-15 | | | |
| | 7 | B-5 | | | |
| | 5 | B-4 | | | |
| | 14/2 | RR 3 | | | |
| 5/13/11 | 9 | RR 6-11 | | | |
| | 8 | RR 5-14 | | | |
| | 7 | B-5 | | | |
| | 5 | B-4 | | | |
| | 14/2 | RR 3 | | | |
| 5/14/11 | 9 | RR 6-10 | | | |
| | 8 | RR 5-13 | | | |
| | 7 | B-5 | | | |
| | 5 | B-4 | | | |
| | 14/2 | RR 4 | | | |
| 5/15/11 | 9 | RR 6-12 | | | |
| | 8 | RR 5-10 | | | |
| | 7 | B-1 | | | |
| | 5 | B-4 | | | |
| | 14/2 | RR-4 | | | |
| 5/16/11 | 9 | RR 6-8 | | | |
| | 8 | RR 5-9 | | | |
| | 7 | B-5 | | | |
| | 5 | B-4 | | | |
| | 14/2 | RR 4 | | | |
| 5/17/11 | 9 | RR 6-7 | | | |
| | 8 | RR 5-9 | | | |
| | 7 | B-5 | | | |
| | 5 | B-4 | | | |
| | 14/2 | RR 4 | | | |

PASTURE LOG

| DATE | PEN | PADDOCK | TIME IN | TIME OUT | SIGNATURE |
|---------|------|---------|---------|----------|-----------|
| 5/6/11 | 9 | RR6-15 | | | MB |
| | 8 | RR5-2 | | | |
| | 7 | B-1 | | | |
| | 5 | B-4 | | | |
| 5/7/11 | 14/2 | RR3 | | | |
| | 9 | RR6-15 | | | |
| | 8 | RR5-3 | | | |
| | 7 | B-1 | | | |
| | 5 | B-4 | | | |
| 5/8/11 | 14/2 | RR3 | | | |
| | 9 | RR6-14 | | | |
| | 8 | RR5-4 | | | |
| | 7 | B-1 | | | |
| | 5 | B-4 | | | |
| 5/9 | 14/2 | RR3 | | | |
| | 9 | RR6-13 | | | |
| | 8 | RR5-5 | | | |
| | 7 | B-5 | | | |
| | 14/2 | RR3 | | | |
| 5/10/11 | 5 | B-4 | | | |
| | 9 | RR6-13 | | | |
| | 8 | RR5-6 | | | |
| | 7 | B-1 | | | |
| | 5 | B-4 | | | |
| | 14/2 | RR3 | | | |
| 5/11/11 | 9 | RR6-13 | | | |
| | 8 | RR5-15 | | | |
| | 7 | B-1 | | | |
| | 5 | B-4 | | | |
| | 14/2 | RR3 | | | |

PASTURE LOG

| DATE | PEN | PADDOCK | TIME IN | TIME OUT | SIGNATURE |
|---------|--------|---------|---------|----------|-----------|
| 4/29/11 | 9 | 6-4 | | | JV |
| | 8 | 5-4 | | | ↓ |
| | 7 | B-4 | | | ↓ |
| | 5 | B-2 | | | ↓ |
| | 14 & 2 | 4-1 | | | ↓ |
| 4/30/11 | 9 | RR6-2 | | | JV |
| | 8 | RR5-4 | | | ↓ |
| | 7 | B-4 | | | ↓ |
| | 5 | B-2 | | | ↓ |
| | 14 & 2 | RR3 | | | ↓ |
| 5/1/11 | 9 | RR6-2 | | | MB |
| | 8 | RR5-4 | | | ↓ |
| | 7 | B-4 | | | ↓ |
| | 5 | B-2 | | | ↓ |
| | 14/2 | RR3 | | | ↓ |
| 5/2/11 | 9 | RR6-1 | | | JV |
| | 8 | RR5-3 | | | ↓ |
| | 7 | B-3 | | | ↓ |
| | 5 | B-2 | | | ↓ |
| | 14/2 | RR3 | | | ↓ |
| 5/3/11 | 9 | RR6-1 | | | JV |
| | 8 | RR5-2 | | | ↓ |
| | 7 | B-3 | | | ↓ |
| | 5 | B-2 | | | ↓ |
| | 14/2 | RR3 | | | ↓ |
| 5/4/11 | 9 | RR6-12 | | | JV |
| | 8 | RR5-1 | | | ↓ |
| | 7 | B-3 | | | ↓ |
| | 5 | B-2 | | | ↓ |
| | 14/2 | RR3 | | | ↓ |
| 5/5/11 | 9 | RR5-1 | | | MB |
| | 8 | RR5-1 | | | ↓ |
| | 7 | B-4 | | | ↓ |
| | 14/2 | RR3 | | | ↓ |
| | 5 | B-2 | | | ↓ |

PASTURE LOG

| DATE | PEN | PADDOCK | TIME IN | TIME OUT | SIGNATURE |
|---------|------|---------|---------|----------|-----------|
| 4/22/11 | 9 | 6-6 | | | MB |
| | 8 | 5-9 | | | |
| | 7 | B-4 | | | |
| | 5 | B-2 | | | |
| | 14/2 | 4-3 | | | |
| 4/23/11 | 9 | 6-7 | | | |
| | 8 | 5-8 | | | |
| | 7 | B-4 | | | |
| | 5 | B-2 | | | |
| | 14/2 | 4-3 | | | |
| 4/24/11 | 9 | 6-5 | | | MB |
| | 8 | 5-7 | | | MB |
| | 7 | B-4 | | | MB |
| | 5 | B-2 | | | MB |
| | 14/2 | 4-3 | | | MB |
| 4/25/11 | 9 | 6-5 | | | |
| | 8 | 5-6 | | | |
| | 7 | B-4 | | | |
| | 5 | B-2 | | | |
| | 14/2 | 4-3-4-4 | | | |
| 4/26/11 | 9 | 6-4 | | | MB |
| | 8 | 5-5 | | | |
| | 7 | B-4 | | | |
| | 5 | B-2 | | | |
| | 14/2 | 4-3-4-4 | | | |
| 4/27/11 | 9 | 6-4 | | | MB |
| | 8 | 5-5 | | | |
| | 7 | B-4 | | | |
| | 5 | B-2 | | | |
| | 14/2 | 4-3/4-4 | | | |
| 4/28/11 | 9 | 6-5 | | | |
| | 8 | 5-4 | | | |
| | 7 | B-4 | | | |
| | 5 | B-2 | | | |
| | 14/2 | 4-3/4-4 | | | |

PASTURE LOG

| DATE | PEN | PADDOCK | TIME IN | TIME OUT | SIGNATURE |
|---------|--------------------|---------|---------|----------|-----------|
| 4/15/11 | 9 | 5-13 | | | LV |
| | 8 | B-5 | | | |
| | 7 | 6-10 | | | |
| | 5/14/11 | 4-4 | | | |
| 4/16/11 | 9 | 5-12 | | | MB |
| | 8 | 6-9 | | | MB |
| | 7 | B-5 | | | MB |
| | 5/14/11 | 4-4 | | | MB |
| 4/17/11 | 9 | 6-9 | | | MB |
| | 8 | 5-12 | | | MB |
| | 7 | B-5 | | | MB |
| | 14/2 | 4-3 | | | MB |
| | 5 | B-2 | | | MB |
| 4/18/11 | 9 | 6-8 | | | MB |
| | 8 | 5-11 | | | |
| | 7 | B-5 | | | |
| | 14/2 | 4-3 | | | |
| | 5 | B-2 | | | |
| 4/19/11 | 9 | 6-8 | | | MB |
| | 8 | 5-11 | | | MB |
| | 7 | B-5 | | | MB |
| | 14/2 | 4-3 | | | MB |
| | 5 | B-2 | | | MB |
| 4/20/11 | 9 | 6-7 | | | MB |
| | 8 | 5-10 | | | MB |
| | 7 | B-5 | | | MB |
| | 14/2 | 4-3 | | | MB |
| | 5 | B-2 | | | MB |
| 4/21/11 | 9 | 6-8 | | | MB |
| | 8 | 5-9 | | | MB |
| | 7 | B-5 | | | MB |
| | 14/2 | 4-3 | | | MB |
| | 5 | B-2 | | | MB |

PASTURE LOG

| DATE | PEN | PADDOCK | TIME IN | TIME OUT | SIGNATURE |
|---------|--------|----------------|---------|----------|-----------|
| 4/7/11 | 9 | 5-1 | | | W |
| | 8 | B-2 | | | W |
| | 7 | 6-13 | | | W |
| | 5/14/2 | 4-4 | | | W |
| 4/8/11 | 9 | 5-1 | | | W |
| | 8 | B-2 | | | W |
| | 7 | 6-13 | | | W |
| | 5/14/2 | 4-12 | | | W |
| 4/9/11 | 9 | 5-1 | | | W |
| | 8 | B-2 | | | MB |
| | 7 | 6-12 | | | MB |
| | 5/14/2 | 4-12 | | | MB |
| 4/10/11 | 9 | 5-15 | | | MB |
| | 8 | B-2 | | | MB |
| | 7 | 6-12 | | | MB |
| | 5/14/2 | 4-12 | | | MB |
| 4/11/11 | 9 | 5-15 | | | MB |
| | 8 | B-2 | | | MB |
| | 7 | B-1 | | | MB |
| | 5/14/2 | 4-12 | | | MB |
| 4/12/11 | 9 | 5-14 | | | MB |
| | 8 | B-1 | | | MB |
| | 7 | 6-11 | | | MB |
| | 5/14/2 | 4-12 | | | MB |
| 4/13/11 | 9 | 5-14 | | | MB |
| | 8 | B-1 | | | MB |
| | 7 | 6-10 | | | MB |
| | 5/14/2 | 4-4 | | | MB |
| 4/14/11 | 9 | 5-13 | | | MB |
| | 8 | B-1 | | | MB |
| | 7 | 6-10 | | | MB |
| | 5/14/2 | 4-4 | | | MB |
| | | | | | |
| | | | | | |

PASTURE LOG

| DATE | PEN | PADDOCK | TIME IN | TIME OUT | SIGNATURE |
|---------|--------|---------|---------|----------|-----------|
| 3/29/11 | 9 | 5-9 | | | (b)(6) |
| | 8 | 5-2 | | | |
| | 7 | — | | | |
| 3/30/11 | 5/14/2 | 4-6 | | | (b)(6) |
| | 9 | 5-9 | | | |
| | 8 | 5-2 | | | |
| | 7 | — | | | |
| 4/1/11 | 5/14/2 | 4-6 | | | (b)(6) |
| | 9 | 5-9 | | | |
| | 8 | B-3 | | | |
| | 7 | — | | | |
| 4/2/11 | 5/14/2 | 4-6 | | | (b)(6) |
| | 9 | 5-9 | | | |
| | 8 | B-3 | | | |
| | 7 | — | | | |
| 4/3/11 | 5/14/2 | 4-5 | | | (b)(6) |
| | 9 | 5-8 | | | |
| | 8 | B-3 | | | |
| | 7 | 6-15 | | | |
| 4/4/11 | 5/14/2 | 4-5 | | | (b)(6) |
| | 9 | 5-7 | | | |
| | 8 | B-3 | | | |
| | 7 | B-4 | | | |
| 4/5/11 | 5/14/2 | 4-5 | | | (b)(6) |
| | 9 | 5-7 | | | |
| | 8 | B-3 | | | |
| | 7 | 6-15 | | | |
| 4/6/11 | 5/14/2 | 4-5 | | | |
| | 9 | 5-7 | | | ✓✓ |
| | 8 | B-3 | | | ✓✓ |
| | 7 | 6-14 | | | ✓✓ |
| | 5/14/2 | 4-4 | | | ✓✓ |

PASTURE LOG

| DATE | PEN | PADDOCK | TIME IN | TIME OUT | SIGNATURE |
|---------|--------|---------|---------|----------|-----------|
| 3/22/11 | 9 | 5-4 | | | (b)(6) |
| | 8 | B-3 | | | |
| | 7 | B-1 | | | |
| 3/23/11 | 5/14 | 4-8 | | | (b)(6) |
| | 9 | 5-11 | | | |
| | 8 | B-3 | | | |
| | 7 | B-1 | | | |
| 3/24/11 | 5/14 | 4-8 | | | (b)(6) |
| | 9 | 5-11 | | | |
| | 8 | 5-5 | | | |
| | 7 | B-4 | | | |
| | 5/14 | 4-8 | | | |
| 3/25/11 | 9 | 5-11 | | | (b)(6) |
| | 8 | 5-5 | | | |
| | 7 | B-4 | | | |
| | 5/14 | 4-8 | | | |
| 3/26/11 | 9 | 5-10 | | | (b)(6) |
| | 8 | 5-4 | | | |
| | 7 | — | | | |
| 3/27/11 | 5/14/2 | 4-7 | | | (b)(6) |
| | 9 | 5-10 | | | |
| | 8 | 5-4 | | | |
| | 7 | — | | | |
| 3/28/11 | 5/14/2 | 4-7 | | | (b)(6) |
| | 9 | 5-10 | | | |
| | 8 | 5-3 | | | |
| | 7 | — | | | |
| 3/29/11 | 5/14/2 | 4-6 | | | (b)(6) |
| | 9 | 5-90 | | | |
| | 8 | 5-3 | | | |
| | 7 | — | | | |
| | 5/14/2 | 4-6 | | | |

PASTURE LOG

| DATE | PEN | PADDOCK | TIME IN | TIME OUT | SIGNATURE |
|---------|------|---------|---------|----------|-----------|
| 3/14/11 | 9 | 5-1 | | | (b)(6) |
| | 8 | B-1 | | | |
| | 7 | B-3 | | | |
| | 5/14 | 3-1 | | | |
| 3/15/11 | 9 | 5-2 | | | (b)(6) |
| | 8 | B-1 | | | |
| | 7 | B-3 | | | |
| | 5/14 | 3-1 | | | |
| 3/16/11 | 9 | B-1 | | | (b)(6) |
| | 8 | B-4 | | | |
| | 7 | B-3 | | | |
| | 5/14 | 3-1 | | | |
| | 2 | B-3 | | | |
| 3/17/11 | 9 | 5-3 | | | (b)(6) |
| | 8 | B-5 | | | |
| | 7 | B-1 | | | |
| | 5/14 | B-3 | | | |
| 3/18/11 | 9 | 5-3 | | | (b)(6) |
| | 8 | B-5 | | | |
| | 7 | B-1 | | | |
| | 5/14 | 4-1 | | | |
| 3/19/11 | 9 | 5-3 | | | (b)(6) |
| | 8 | B-5 | | | |
| | 7 | B-1 | | | |
| | 5/14 | 4-1 & 2 | | | |
| 3/20/11 | 9 | 5-4 | | | (b)(6) |
| | 8 | B-5 | | | |
| | 7 | B-1 | | | |
| | 5/14 | 4-8 | | | |
| 3/21/11 | 9 | 5-4 | | | (b)(6) |
| | 8 | B-5 | | | |
| | 7 | B-1 | | | |
| | 5/14 | 4-8 | | | |

PASTURE LOG

| DATE | PEN | PADDOCK | TIME IN | TIME OUT | SIGNATURE |
|---------|------|---------|---------|----------|-----------|
| 3/6/11 | 9 | 5-13 | | | (b)(6) |
| | 8 | B-2 | | | |
| | 7 | B-3 | | | |
| | 5/14 | 4-1 | | | |
| 3/07/11 | 9 | 5-13 | | | (b)(6) |
| | 8 | B-2 | | | |
| | 7 | B-3 | | | |
| | 5/14 | 4-1 | | | |
| 3/8/11 | 9 | 5-15 | | | (b)(6) |
| | 8 | B-2 | | | |
| | 7 | B-3 | | | |
| | 5/14 | 4-1 | | | |
| 3/9/11 | 9 | 5-15 | | | (b)(6) |
| | 8 | B-2 | | | |
| | 7 | B-3 | | | |
| | 5/14 | 4-2 | | | |
| 3/10/11 | 9 | 5-15 | | | (b)(6) |
| | 8 | B-1 | | | |
| | 7 | B-3 | | | |
| | 5/14 | 4-2 | | | |
| 3/11/11 | 9 | 5-14 | | | (b)(6) |
| | 8 | B-1 | | | |
| | 7 | B-3 | | | |
| | 5/14 | 4-2 | | | |
| 3/12/11 | 9 | 5-1 | | | (b)(6) |
| | 8 | B-1 | | | |
| | 7 | B-3 | | | |
| | 5/14 | 3-1 | | | |
| 3/13/11 | 9 | 5-1 | | | (b)(6) |
| | 8 | B-1 | | | |
| | 7 | B-3 | | | |
| | 5/14 | 3-1 | | | |


YTD
 MC 40 D 14 H-5 30 H-14 52

Feb. MC 9
 Dry 0
 Heif 5
 Heif 14 5

PASTURE LOG

| DATE | PEN | PADDOCK | TIME IN | TIME OUT | SIGNATURE |
|-------------------|------|---------|---------|----------|-----------|
| | 2 | | | | |
| | 5/14 | | | | |
| 2/28/11 | 9 | | | | |
| | 8 | | | | |
| | 7 | | | | |
| | 2 | | | | |
| | 5/14 | | | | |
| 3-1-11 | 9 | | | | |
| | 8 | | | | |
| | 7 | | | | |
| | 2 | | | | |
| 3/1/11 | 5/14 | | | | |
| 3/2/11 | 9 | | | | |
| | 8 | | | | |
| | 7 | | | | |
| | 2 | | | | |
| | 5/14 | | | | |
| 3/3/11 | 9 | | | | (b)(6) |
| | 8 | | | | |
| | 7 | | | | |
| | 2 | | | | |
| | 5/14 | | | | |
| 3/4/11 | 9 | 5-12 | | | (b)(6) |
| | 8 | B-2 | | | |
| | 7 | B-3 | | | |
| | 2 | — | | | |
| | 5/14 | H-1 | | | |
| 3/5/11 | 9 | 5-12 | | | (b)(6) |
| | 8 | B-2 | | | |
| | 7 | B-3 | | | |
| | 5/14 | H-1 | | | |
| | | | | | |
| | | | | | |
| | | | | | |

PASTURE LOG

| DATE | PEN | PADDOCK | TIME IN | TIME OUT | SIGNATURE |
|--------------------|------|---------|----------------------------|----------|--|
| 2/21/11 | 9 | — | } IRRIGATION FIELDS wet | | <div>(b)(6)</div>  ↓ |
| | 8 | — | | | |
| | 7 | — | | | |
| | 2 | — | | | |
| | 5/14 | — | | | |
| 2/22/11 | 9 | | | | |
| | 8 | | | | |
| | 7 | | | | |
| | 2 | | | | |
| 2/23/11 | 5/14 | | | | |
| 2/23/11 | 9 | | | | |
| | 8 | | | | |
| | 7 | | | | |
| | 2 | | | | |
| | 5/14 | | | | |
| 2/24/11 | 9 | | | | |
| | 8 | | | | |
| | 7 | | | | |
| | 2 | | | | |
| | 5/14 | | | | |
| 2/25/11 | 9 | | | | |
| | 8 | | | | |
| | 7 | | | | |
| | 2 | | | | |
| | 5/14 | | | | |
| 2/26/11 | 9 | | | | |
| | 8 | | | | |
| | 7 | | | | |
| | 2 | | | | |
| | 5/14 | | | | |
| 2/27/11 | 9 | | | | |
| | 8 | | | | |
| | 7 | | | | |

PASTURE LOG

| DATE | PEN | PADDOCK | TIME IN | TIME OUT | SIGNATURE |
|---------|--------|---------|-------------------------------------|----------|-----------|
| 2/15/11 | 9 | — | } PASTURE Development IRRIGATION | | (b)(6) |
| | 8 | — | | | |
| | 7 | — | | | |
| | 2 | — | | | |
| | 5 & 14 | — | | | |
| 2/16/11 | 9 | — | } PASTURE Development IRRIGATION | | (b)(6) |
| | 8 | — | | | |
| | 7 | — | | | |
| | 2 | — | | | |
| | 5 & 14 | — | | | |
| 2/17/11 | 9 | — | } PASTURE Development IRRIGATION | | (b)(6) |
| | 8 | — | | | |
| | 7 | — | | | |
| | 2 | — | | | |
| | 5 & 14 | — | | | |
| 2/18/11 | 9 | — | } IRRIGATION | | (b)(6) |
| | 8 | — | | | |
| | 7 | — | | | |
| | 2 | — | | | |
| | 5 & 14 | — | | | |
| 2/19/11 | 9 | — | } IRRIGATION RAIN | | (b)(6) |
| | 8 | — | | | |
| | 7 | — | | | |
| | 2 | — | | | |
| | 5 & 14 | — | | | |
| 2/20/11 | 9 | — | } IRRIGATION & RAIN | | (b)(6) |
| | 8 | — | | | |
| | 7 | — | | | |
| | 2 | — | | | |
| | 5 & 14 | — | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

PASTURE LOG

| DATE | PEN | PADDOCK | TIME IN | TIME OUT | SIGNATURE |
|--------------------|--------|---------|--|----------|-----------|
| 2-9-11 | 9 | 5-12 | 5 | | (b)(6) |
| | 8 | B-3 | | | |
| | 7 | B-4 | | | |
| | 2 | — | } PASTURE Development IRRIGATION | | |
| | 14 & 5 | — | | | (b)(6) |
| 2/10/11 | 9 | 5-11 | | | |
| | 8 | B-3 | | | |
| | 7 | B-5 | | | |
| | 2 | — | } Pasture Development IRRIGATION | | |
| | 14 & 5 | — | | | (b)(6) |
| 2/11/11 | 9 | 5-11 | | | |
| | 8 | B-3 | | | |
| | 7 | B-5 | | | |
| | 2 | — | } PASTURE Development IRRIGATION | | |
| | 14 & 5 | — | | | (b)(6) |
| 2/12/11 | 9 | — | } IRRIGATION PASTURE Development | | |
| | 8 | — | | | |
| | 7 | — | | | |
| | 2 | — | | | |
| | 5 & 14 | — | | | (b)(6) |
| 2/13/11 | 9 | — | } PASTURE Development IRRIGATION | | |
| | 8 | — | | | |
| | 7 | — | | | |
| | 2 | — | | | |
| 2/14/11 | 5 & 14 | — | | | (b)(6) |
| 2/14/11 | 9 | — | } PASTURE Development IRRIGATION | | |
| | 8 | — | | | |
| | 7 | — | | | |
| | 2 | — | | | |
| | 5 & 14 | — | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

PASTURE LOG

| DATE | PEN | PADDOCK | TIME IN | TIME OUT | SIGNATURE |
|----------------|---------|---------|------------------------------|----------|-----------|
| 2/3/11 | 9 | — | } Pasture Development Frozen | | (b)(6) |
| Cold front 11° | 8 | — | | | (b)(6) |
| | 7 | — | | | |
| | 2 | — | | | |
| | 5 & 14 | — | | | |
| 2/4/11 | 9 | — | } Pasture Development Frozen | | (b)(6) |
| Cold front 16° | 8 | — | | | (b)(6) |
| | 7 | — | | | |
| | 2 | — | | | |
| | 5 & 14 | — | | | |
| 2/5/11 | 9 | 5-4 | } Pasture Development Frozen | | (b)(6) |
| | 8 | B-2 | | | (b)(6) |
| | 7 | B-4 | | | |
| | 14 & 15 | 4-6 | | | |
| | 2 | — | Pasture Development | | |
| 2/6/11 | 9 | 5-13 | | | (b)(6) |
| | 8 | B-2 | | | (b)(6) |
| | 7 | B-4 | | | |
| | 2 | — | Pasture Development | | |
| | 14 & 15 | 4-6 | | | |
| 2/7/11 | 9 | 5-13 | | | (b)(6) |
| | 8 | B-3 | | | (b)(6) |
| | 7 | B-4 | | | |
| | 2 | — | Pasture Development | | |
| | 14 & 15 | 4-6 | | | |
| 2/8/11 | 9 | 5-12 | | | (b)(6) |
| | 8 | B-3 | | | (b)(6) |
| | 7 | B-4 | | | |
| | 2 | — | Pasture Development | | |
| | 14 & 15 | — | IRRIGATION | | |
| | | | | | |
| | | | | | |
| | | | | | |

PASTURE LOG

Split at
H com
L com

Jan

milk cow 16 days
Dra cow 0 days
Pen 5 11 days
Pen 14 31 days

| DATE | PEN | PADDOCK | TIME IN | TIME OUT | SIGNATURE |
|-----------------------|--------|----------------|---|----------|-----------|
| 1/28/11 | 9 | - | } PASTURE develop Pasture with irrigation | | (b)(6) |
| 23 ⁰ frost | 8 | - | | | (b)(6) |
| | 7 | - | | | |
| | 2 | - | | | |
| | 5 & 14 | 4-4 | | | |
| 1/29/11 | 9 | - | } PASTURE with irrigation | | (b)(6) |
| 24 ⁰ frost | 8 | - | | | (b)(6) |
| | 7 | - | | | |
| | 2 | - | | | |
| | 5 & 14 | 4-4 | | | |
| 1/30/11 | 9 | - | } PASTURE development wet ground | | (b)(6) |
| | 8 | - | | | (b)(6) |
| | 7 | - | | | |
| | 2 | - | | | |
| | 5 & 14 | 4-4 | | | |
| 1/31/11 | 9 | - | } Pasture development wet ground | | (b)(6) |
| | 8 | - | | | (b)(6) |
| | 7 | - | | | |
| | 2 | - | | | |
| | 14 & 5 | 4-5 | | | |
| 2/1/11 | 9 | 5 - 14 | } Frost ground wet | | (b)(6) |
| | 8 | B-2 | | | |
| | 7 | B-4 | | | |
| | 2 | - | | | |
| | 5 & 14 | 4-5 | Pasture development ground for Pen 14 only | | (b)(6) |
| 2/2/11 | 9 | 5-14 | } Pasture development Pen 14 only | | |
| | 8 | B-2 | | | |
| | 7 | B-4 | | | |
| | 2 | - | | | |
| | 5 & 14 | 4-5 | | | |

PASTURE LOG

| DATE | PEN | PADDOCK | TIME IN | TIME OUT | SIGNATURE |
|---------|--------|---------|-----------------------|----------|-----------|
| 1/22/11 | 9 | 5-9 | | | (b)(6) |
| | 8 | 6-14 | | | |
| | 7 | 6-10 | | | |
| | 2 | — | } PASTURE Development | | |
| | 5 & 14 | 4-3 | | | |
| 1/23/11 | 9 | 5-10 | | | (b)(6) |
| | 8 | 6-13 | | | |
| | 7 | 6-9 | | | |
| | 2 | — | } Pasture Development | | |
| | 5 & 14 | 4-3 | | | |
| 1/24/11 | 9 | 5-15 | | | (b)(6) |
| | 8 | 6-15 | | | |
| | 7 | 6-6 | | | |
| | 2 | — | } PASTURE Development | | |
| | 5 & 14 | 4-3 | | | |
| 1/25/11 | 9 | 5-15 | | | (b)(6) |
| | 8 | 6-15 | | | |
| | 7 | 6-6 | | | |
| | 2 | — | } Pasture Development | | |
| | 5 & 14 | 4-4 | | | |
| 1/26/11 | 9 | — | } PASTURE Development | | (b)(6) |
| | 8 | — | | | |
| | 7 | — | | | |
| | 2 | — | | | |
| | 5 & 14 | 4-4 | | | (b)(6) |
| 1/27/11 | 9 | — | } PASTURE Development | | |
| | 8 | — | | | |
| | 7 | — | | | |
| | 2 | — | | | |
| | 5 & 14 | 4-4 | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

PASTURE LOG

| DATE | PEN | PADDOCK | TIME IN | TIME OUT | SIGNATURE |
|---------|-----------------------|---------|-----------------------|----------|-----------|
| 1/16/11 | 5 | — | } PASTURE Development | | (b)(6) |
| old | 2 | — | | | |
| | 14 | 4-2 | | | |
| 1/17/11 | 9 | — | } PASTURE Development | | (b)(6) |
| | 8 | — | | | |
| old | 7 | — | | | |
| | 5 | — | | | |
| | 2 | — | | | |
| | 14 | 4-2 | | | |
| 1/18/11 | 9 | — | } PASTURE Development | | (b)(6) |
| | 8 | — | | | |
| old | 7 | — | | | |
| | 5 | — | | | |
| | 2 | — | | | |
| | 14 | 4-2 | | | |
| 1/19/11 | 9 | — | } PASTURE Development | | (b)(6) |
| | 8 | — | | | |
| | 7 | — | | | |
| | 5 ^{combined} | — | | | |
| | 2 | — | | | |
| | 14 | 4-3 | | | |
| 1/20/11 | 9 | 5-6 | } PASTURE Development | | (b)(6) |
| | 8 | 6-15 | | | |
| | 7 | 6-11 | | | |
| | 5 | — | | | |
| | 2 | — | | | |
| | 14 | 4-3 | | | |
| 1/21/11 | 9 | 5-8 | } PASTURE Development | | (b)(6) |
| | 8 | 6-15 | | | |
| | 7 | 6-12 | | | |
| | 2 | — | | | |
| | 5 & 14 | 4-3 | | | |

PASTURE LOG

| DATE | PEN | PADDOCK | TIME IN | TIME OUT | SIGNATURE |
|---------|-----|---------|---------|--|-----------|
| 1/11/11 | 9 | 5-2 | | | (b)(6) |
| cold | 8 | — | } | PASTURE Development | (b)(6) |
| | 7 | — | | " " | |
| | 5 | — | | " " | |
| | 2 | — | | " " | |
| | 14 | 4-2 | | | |
| 1/12/11 | 9 | — | } | Due to grazing frosted ground we overseeded All of 6 | (b)(6) |
| cold | 8 | — | | A major part of 5 (1/2) | |
| | 7 | — | | PASTURE Development | |
| | 5 | — | | " " | |
| | 2 | — | | | |
| | 14 | 4-2 | | | |
| 1/13/11 | 9 | — | } | PASTURE Development | (b)(6) |
| cold | 8 | — | | | |
| | 7 | — | | | |
| | 5 | — | | | |
| | 2 | — | | | |
| | 14 | 4-2 | | | |
| 1/14/11 | 9 | — | } | PASTURE Development | (b)(6) |
| cold | 8 | — | | | |
| | 7 | — | | | |
| | 5 | — | | | |
| | 2 | — | | | |
| | 14 | 4-2 | | | |
| 1/15/11 | 9 | — | } | PASTURE Development | (b)(6) |
| cold | 8 | — | | | |
| | 7 | — | | | |
| | 5 | — | | | |
| | 2 | — | | | |
| | 14 | 4-2 | | | |
| 1/16/11 | 9 | — | } | PASTURE Development | (b)(6) |
| cold | 8 | — | | | |
| | 7 | — | | | |

PASTURE LOG

Fields are
frost bitten / Killed
& laid over, some browsing
since 12/31/10

| DATE | PEN | PADDOCK | TIME IN | TIME OUT | SIGNATURE |
|------------------------------|-----|----------------|--------------------------|-----------|-----------|
| 1/5/11 | 2 | — | } not enough regrowth | PASTURE | (b)(6) |
| 25 ⁰ frost | 541 | — | | Developed | (b)(6) |
| | 14 | 4-2 | | | |
| 1/6/11 | 9 | 5-4 | | | (b)(6) |
| | 8 | 6-3 | | | |
| 28 ⁰ frost | 7 | 6-6 | | | |
| | 2 | — | } PASTURE Developed | | |
| | 541 | — | | | |
| | 14 | 4-2 | | | |
| 1/7/11 | 9 | 5-4 | | | (b)(6) |
| | 8 | 6-5 | | | |
| 28 ⁰ frost | 7 | 6-3 | | | |
| | 5 | — | } PASTURE Developed | | |
| | 2 | — | | | |
| | 14 | 4-2 | | | (b)(6) |
| 1/8/11 | 9 | 5-3 | | | |
| | 8 | 6-5 | | | |
| 29 ⁰ frost | 7 | 6-3 | | | |
| | 5 | — | } PASTURE Developed | | |
| | 2 | — | | | |
| | 14 | 4-2 | | | (b)(6) |
| 1/9/11 | 9 | 5-3 | | | |
| | 8 | 6-4 | | | |
| 29 ⁰ frost | 7 | 6-5 | Pasture Developed | | |
| | 5 | — | | " " | |
| | 2 | — | " " | | |
| | 14 | 4-2 | | | (b)(6) |
| 1/10/11 | 9 | 5-2 | Last Paddock on RR 5 | | |
| | 8 | 6-4 | | | |
| 30 ⁰ slight frost | 7 | — | } PASTURE Developed | | |
| | 5 | — | | " " | |
| | 2 | — | | | |
| | 14 | 4-2 | | | |

PASTURE LOG

| DATE | PEN | PADDOCK | TIME IN | TIME OUT | SIGNATURE |
|----------|-------|---------|---------------------------------|----------|-----------|
| 12/31/10 | 9 | 5-7 | | | (b)(6) |
| | 8 | 6-10 | | | |
| Frost 20 | 7 | 6-1 | | | |
| | 2 | - | IRRIGATION | | |
| | 5 & 1 | - | IRRIGATION | | |
| | 14 | 4-1 | | | (b)(6) |
| 1/1/11 | 9 | 5-6 | | | |
| | 8 | 6-9 | | | |
| Frost 23 | 7 | 6-2 | | | |
| | 2 | - | IRRIGATION | | |
| | 5 & 1 | - | IRRIGATION | | |
| | 14 | 4-1 | | | (b)(6) |
| 1/2/11 | 9 | 5-6 | | | |
| | 8 | 6-9 | | | |
| Frost 25 | 7 | 6-2 | | | |
| | 2 | - | IRRIGATION | | |
| | 5 & 1 | - | IRRIGATION | | |
| | 14 | 4-1 | | | (b)(6) |
| 1/3/11 | 9 | 5-1 | | | |
| | 8 | 6-9 | | | |
| Frost 26 | 7 | 5-6 | | | |
| | 2 | - | PASTURE Development no regrowth | | |
| | 5 & 1 | - | " " | | |
| | 14 | 4-1 | | | (b)(6) |
| 1/4/11 | 9 | 5-1 | | | |
| | 8 | 6-5 | | | |
| Frost 25 | 7 | 5-6 | | | |
| | 2 | - | PASTURE Development | | |
| | 5 & 1 | - | " " | | |
| | 14 | 4-1 | | | (b)(6) |
| 1/5/11 | 9 | 5-15 | | | |
| Frost 25 | 8 | 6-5 | | | |
| | 7 | 5-1 | | | |

December Totals

Pen 5 heifers 14 days
 Pen 14 heifers 16 days
 Dry 14 days
 Milk cow 17 days

PASTURE LOG

| DATE | PEN | PADDOCK | TIME IN | TIME OUT | SIGNATURE |
|----------|-------|---------------------------|--------------------------|----------|-----------|
| | 2 | B-4 | | | (b)(6) |
| | 5 & 1 | B-1 | | | |
| | 14 | 4-1 | | | |
| 12/26/10 | 9 | 5-9 | | | (b)(6) |
| | 8 | 6-12 | | | |
| | 7 | B-2 | | | |
| | 2 | B-3 | | | |
| | 5 & 1 | B-1 | | | |
| | 14 | 4-1 | | | (b)(6) |
| 12/27/10 | 9 | 5-9 | | | |
| | 8 | 6-11 | | | |
| | 7 | B-5 | | | |
| | 2 | B-4 | | | |
| | 5 & 1 | B-1 | | | |
| | 14 | 4-1 | | | (b)(6) |
| 12/28/10 | 9 | 5-8 | | | |
| | 8 | 6-11 | | | |
| | 7 | 6-1 | | | |
| | 2 | — | | | |
| | 5 & 1 | — | IRRIGATION | | |
| | 14 | 4-1 | IRRIGATION VU | | |
| 12/29/10 | 9 | 5-8 | | | (b)(6) |
| | 8 | 6-11 | RAIN started | | |
| | 7 | 6-1 | Afternoon | | |
| | 2 | — | IRRIGATION | | |
| | 5 & 1 | — | IRRIGATION | | |
| | 14 | 4-1 | | | (b)(6) |
| 12/30/10 | 9 | } 3/4" RAIN Not grazed | | | |
| | 8 | | | | |
| | 7 | | | | |
| | 2 | | | | |
| | 5 & 1 | | | | |
| | 14 | 4-1 | | | |

PASTURE LOG

| DATE | PEN | PADDOCK | TIME IN | TIME OUT | SIGNATURE |
|----------|-----------------|---------|---------|----------|-----------|
| 12/20/10 | 9 | 5-12 | | | (b)(6) |
| | 8 | 6-14/15 | | | |
| | 7 | B-3 | | | |
| | 2 | B-5 | | | |
| | 5 & 1 | B-1 | | | |
| 12/21/10 | 14 OFFICE HOURS | 4-1 | | | (b)(6) |
| | 9 | 5-12 | | | |
| | 8 | 6-13 | | | |
| | 7 | B-3 | | | |
| | 2 | B-4 | | | |
| | 5 & 1 | B-1 | | | |
| | 14 OPEN HOURS | 4-1 | | | (b)(6) |
| 12/22/10 | 9 | 5-11 | | | |
| | 8 | 6-13 | | | |
| | 7 | 6-1 | | | |
| | 2 | B-4 | | | |
| | 5 & 1 | B-1 | | | |
| | 14 OPEN HOURS | 4-1 | | | (b)(6) |
| 12/23/10 | 9 | 5-11 | | | |
| | 8 | 6-12 | | | |
| | 7 | B-2 | | | |
| | 2 | B-4 | | | |
| | 5 & 1 | B-1 | | | |
| | 14 OPEN HOURS | 4-1 | | | (b)(6) |
| 12/24/10 | 9 | 5-10 | | | |
| | 8 | 6-12 | | | |
| | 7 | B-2 | | | |
| | 2 | B-4 | | | |
| | 5 & 1 | B-1 | | | |
| | 14 OPEN HOURS | 4-1 | | | (b)(6) |
| 12/25/10 | 9 | 5-10 | | | |
| | 8 | 6-12 | | | |
| | 7 | B-2 | | | |

PASTURE LOG

START OF
GRAZING
2010-2011 season
12-14-10

| DATE | PEN | PADDOCK | TIME IN | TIME OUT | SIGNATURE |
|----------|-----------------|-----------|---------|----------|-----------|
| 12/14/10 | 7 | B-5 | | | (b)(6) |
| | 4 | B-4 | | | |
| | 2 Dry | B-3 | | | |
| | 9 | B-2 | | | |
| | 5 & 1 combined | B-1 | | | |
| | 8 | B-15 | | | (b)(6) |
| 12/15/10 | 5 & 1 | B-1 | | | |
| | 9 | B-3 | | | |
| | 2 Dry | B-4 | | | |
| | 7 | B-5 | | | |
| | 8 | B-15 | | | (b)(6) |
| 12/16/10 | 9 | 6-15 | | | |
| | 8 | 5-14 | | | |
| | 7 | B-4 | | | |
| | 2 Dry | B-3 | | | |
| | 5 & 1 | B-1 | | | (b)(6) |
| | 1/4 Off in Half | 4-1 | | | |
| 12/17/10 | 9 | 6-15 | | | |
| | 8 | 5-14 | | | |
| | 7 | B-4 | | | |
| | 2 Dry | B-3 | | | (b)(6) |
| | 5 & 1 | B-1 | | | |
| | 1/4 Off in Half | 4-1 | | | |
| 12/18/10 | 9 | 6-14 & 15 | | | |
| | 8 | 5-13 | | | |
| | 7 | B-3 | | | (b)(6) |
| | 2 | B-4 | | | |
| | 5 & 1 | B-1 | | | |
| | 1/4 Off in Half | 4-1 | | | |
| 12/19/10 | 9 | 6-14 & 15 | | | |
| | 8 | 5-13 | | | (b)(6) |
| | 7 | B-3 | | | |
| | 2 | B-4 | | | |
| | 5 & 1 | B-1 | | | |
| | 1/4 Off in Half | 4-1 | | | |

TOTAL DRY MATTER INTAKE FROM PASTURE 2010-2011

(AS OF 5/31/2011)

| MONTH | GROUP | BUDGET DMI | ACTUAL FED | PASTURE DMI | % | DAYS ON PASTURE |
|--------|-------------------------------|------------|------------|-------------|---------|-----------------|
| Dec-10 | HIGH MILK COWS 849 | 1764.60 | 1308.64 | 455.96 | 0.26 | 17 ✓ |
| | LOW MILK COWS | 861.98 | 617.63 | 244.35 | 0.28 | 17 |
| | DRY COWS | 420 | 265.04 | 154.96 | 0.37 | 14 |
| | HEIFERS | 382.81 | 347.99 | 34.82 | 0.09 | 18 |
| 11-Jan | HIGH MIK COWS | 1660.8 | 1294.09 | 366.71 | 0.22 | 16 ✓ |
| | LOW MILK COWS | 670.18 | 533.32 | 136.86 | 0.20 | 14 |
| | DRY COWS | 0 | 0 | 0.00 | #DIV/0! | 0 |
| | HEIFERS | 617.49 | 426.51 | 190.98 | 0.31 | 31 |
| 11-Feb | HIGH MIK COWS | 934.20 | 833.43 | 100.77 | 0.11 | 9 ✓ |
| | LOW MILK COWS | 430.83 | 318.77 | 112.06 | 0.26 | 9 |
| | DRY COWS | 0 | 0 | 0.00 | #DIV/0! | 0 |
| | HEIFERS | 64.03 | 44.15 | 19.88 | 0.31 | 3 |
| 11-Mar | HIGH MIK COWS | 2906.40 | 2217.08 | 689.32 | 0.24 | 28 ✓ |
| | LOW MILK COWS | 1053.14 | 828.18 | 224.96 | 0.21 | 22 |
| | DRY COWS | 209.98 | 36.66 | 173.32 | 0.83 | 7 |
| | HEIFERS | 641.76 | 210.56 | 431.20 | 0.67 | 29 |
| 11-Apr | HIGH MILK COWS | 3114 | 2147.23 | 966.77 | 0.31 | 30 ✓ |
| | LOW MILK COWS | 1340.36 | 942.23 | 398.13 | 0.30 | 28 |
| | DRY COWS | 900 | 307.89 | 592.11 | 0.66 | 30 |
| | HEIFERS | 678.08 | 324.25 | 353.83 | 0.52 | 30 |
| 11-May | HIGH MILK COWS | 2387.4 | 1652.86 | 734.54 | 0.31 | 23 ✓ |
| | LOW MILK COWS | 1483.97 | 1009.38 | 474.59 | 0.32 | 31 |
| | DRY COWS | 930 | 296.93 | 633.07 | 0.68 | 31 |
| | HEIFERS | 674.98 | 372.92 | 302.06 | 0.45 | 31 |

SEASON TO DATE

| | | | | | |
|---------------|----------|---------|---------|------|-----|
| HIGH MIK COWS | 12767.40 | 9453.33 | 3314.07 | 0.26 | 123 |
| LOW MILK COWS | 5840.46 | 4249.51 | 1590.95 | 0.27 | 121 |
| DRY COWS | 2459.98 | 906.52 | 1553.46 | 0.63 | 82 |
| HEIFERS | 3059.15 | 1726.38 | 1332.77 | 0.44 | 142 |

| 120 DAY MINIMUM | DAYS ON PASTURE | PERCENTAGE DMI FROM PASTURE |
|-----------------|-----------------|-----------------------------|
| HIGH MIK COWS | 123 | 26% |
| LOW MILK COWS | 121 | 27% |
| DRY COWS | 82 | 63% |
| HEIFERS | 142 | 44% |

Organic Hay 2010

| | | | | | | | |
|--------|--------------|-----------|----------|---|---------|----------|-------------|
| Feb-11 | Southwest Ag | 47,560 | 23.78 | | 0.13750 | 275.00 | 6,539.50 |
| | Toby Farrow | | - | | #DIV/0! | #DIV/0! | - |
| | Tuscany | | - | | #DIV/0! | #DIV/0! | - |
| | Oasis | | - | | #DIV/0! | #DIV/0! | - |
| | Rock River | | | | | | |
| | Purchase | 47,560 | 23.78 | | 0.13750 | 275.00 | 6,539.50 |
| | Sham Hauling | | | | | | |
| | Available | 2,602,295 | 1,301.15 | 0 | 0.10650 | 213.00 | 277,139.28 |
| | Wet | (412,808) | | | | | (43,963.24) |
| | Heifer | | | | | | - |
| | dry | | | | | | - |
| | Available | 2,189,487 | 1,301.15 | 0 | 0 | 213.00 | 233,176.04 |
| | | | | | | | |
| Mar-11 | Southwest Ag | 91,840 | 45.92 | | 0.13747 | 274.94 | 12,625.25 |
| | Toby Farrow | | - | | #DIV/0! | #DIV/0! | - |
| | Tuscany | | - | | #DIV/0! | #DIV/0! | - |
| | Oasis | | - | | #DIV/0! | #DIV/0! | - |
| | Rock River | | | | #DIV/0! | #DIV/0! | 61,038.80 |
| | Purchase | 91,840 | 45.92 | | 0.80209 | 1604.18 | 73,664.05 |
| | Sham Hauling | | | | | | |
| | Available | 2,281,327 | 1,140.66 | 0 | 0.13450 | 269.00 | 306,840.09 |
| | Wet | <334,276> | | | | <44,960> | - |
| | Heifer | | | | | | - |
| | dry | | | | | | - |
| | Available | 2,281,327 | 1,140.66 | 0 | 0 | 269.00 | 306,840.09 |

Organic Hay 2010

| | | | | | | |
|--------|--------------|-----------|----------|---------|---------|-------------|
| Mar-11 | Southwest Ag | 91,840 | 45.92 | 0.13747 | 274.94 | 12,625.25 |
| | Toby Farrow | - | - | #DIV/0! | #DIV/0! | - |
| | Tuscany | - | - | #DIV/0! | #DIV/0! | - |
| | Oasis | - | - | #DIV/0! | #DIV/0! | - |
| | Rock River | - | - | #DIV/0! | #DIV/0! | 61,038.80 |
| | Purchase | 91,840 | 45.92 | 0.80209 | 1604.18 | 73,664.05 |
| | Sham Hauling | - | - | - | - | - |
| | Available | 2,281,327 | 1,140.66 | 0 | 0.13450 | 269.00 |
| | Wet | (334,276) | - | - | - | (44,960.36) |
| | Heifer | - | - | - | - | - |
| | dry | - | - | - | - | - |
| | Available | 1,947,051 | 1,140.66 | 0 | 0 | 269.00 |
| | | | | | | 261,879.74 |
| Apr-11 | Southwest Ag | 49,800 | 24.90 | 0.13750 | 275.00 | 6,847.50 |
| | Toby Farrow | - | - | #DIV/0! | #DIV/0! | - |
| | Tuscany | - | - | #DIV/0! | #DIV/0! | - |
| | Oasis | - | - | #DIV/0! | #DIV/0! | - |
| | Rock River | - | - | #DIV/0! | #DIV/0! | - |
| | Purchase | 49,800 | 24.90 | 0.13750 | 275.00 | 6,847.50 |
| | Sham Hauling | - | - | - | - | - |
| | Available | 1,996,851 | 998.43 | 0 | 0.13458 | 269.15 |
| | Wet | (271,595) | - | - | - | (36,550.03) |
| | Heifer | - | - | - | - | - |
| | dry | - | - | - | - | - |
| | Available | 1,725,256 | 998.43 | 0 | 0 | 269.15 |
| | | | | | | 232,177.20 |

SPARTAN DAIRY RATION EVALUATOR
MICHIGAN STATE UNIVERSITY
COOPERATIVE EXTENSION SERVICE
DEPARTMENT OF ANIMAL SCIENCE
Theo Lykos

HOLSTEIN Heifer

Age: 19 months
Body wt: 1075 lbs Avg gain: 1.8 lbs/day
Target mature wt: 1300 lbs

Condition Score: Temperature: 70F

ORGANIC Shamrock Heifers PREGNANT 2-14-11

DAIRY VISIONS, LLC.

File: C:\SPARTD2\DRT\ORGSHAM\HEPR0214.DRT 2/13/11

| Mix | Feed | AsFed | LbsDM | DM | NEm | NEg | CP | NDF | ADF | Ca |
|------------------|-------------------|-------|-------|------|---------|---------|------|------|------|------|
| | | | | % | Mcal/lb | Mcal/lb | %DM | %DM | %DM | %DM |
| | Pasture OAT\WHE\V | 47.00 | 7.05 | 15.0 | 0.64 | 0.38 | 27.0 | 40.0 | 23.0 | 0.40 |
| | Sorghum Silage | 0.00 | 0.00 | 27.0 | 0.57 | 0.29 | 11.0 | 58.0 | 37.0 | 0.34 |
| | Sudan\Wheat Sil | 18.50 | 8.14 | 44.0 | 0.52 | 0.25 | 14.0 | 60.0 | 40.0 | 0.46 |
| | Alfalfa Hay DRY | 7.15 | 6.36 | 89.0 | 0.61 | 0.38 | 18.0 | 44.0 | 32.0 | 1.50 |
| | Water | 0.00 | 0.00 | 1.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 |
| | Cottonseed w lint | 0.00 | 0.00 | 92.0 | 1.10 | 0.77 | 22.0 | 44.0 | 34.0 | 0.21 |
| | Sudan hay mature | 0.00 | 0.00 | 89.0 | 0.52 | 0.25 | 7.0 | 72.0 | 42.0 | 0.30 |
| | Corn grn ground | 2.00 | 1.76 | 88.0 | 0.95 | 0.65 | 9.5 | 9.0 | 3.0 | 0.03 |
| | Corn Flaked 85% | 0.00 | 0.00 | 85.0 | 0.99 | 0.68 | 9.5 | 9.0 | 3.0 | 0.03 |
| | Soybean Meal 47.5 | 0.00 | 0.00 | 90.0 | 0.94 | 0.67 | 52.2 | 8.1 | 6.1 | 0.29 |
| | Canola Meal | 0.00 | 0.00 | 92.0 | 0.81 | 0.53 | 38.5 | 36.0 | 18.0 | 0.73 |
| 9 | Shamrock ORG DRY | 0.00 | 0.00 | 93.1 | 0.51 | 0.35 | 6.6 | 16.8 | 6.2 | 5.39 |
| Totals by weight | | 74.65 | 23.31 | 31.2 | 8.92 | 3.11 | 4.4 | 10.7 | 7.0 | 0.16 |
| Requirements | | | 23.35 | 0.0 | 8.92 | 3.82 | 3.5 | 7.5 | 4.9 | 0.14 |
| --differences-- | | 74.65 | -0.04 | 31.2 | 0.00 | -0.71 | 0.9 | 3.2 | 2.1 | 0.02 |

| DIET SUMMARY | | | | | |
|-----------------|-------|--------|----------------|--------|---------|
| Nutrient(unit) | Total | Reqd | Nutrient(unit) | Total | Reqd |
| CP(%DM) | 18.68 | 15.00* | Veg(%Lipid) | 100.00 | 0.00 |
| UndegP(%CP) | 24.21 | 6.63 | Inert(%Lipid) | 0.00 | 0.00 |
| DegP(%CP) | 75.79 | 37.11 | Ash(%DM) | 10.67 | 0.00 |
| AbsP(%DM) | 9.23 | 6.59 | Ca(%DM) | 0.69 | 0.60* |
| SoIP(%CP) | 39.27 | 28.55 | P(%DM) | 0.36 | 0.30* |
| BndP(%CP) | 7.21 | | Mg(%DM) | 0.27 | 0.20* |
| NEl(Mcal/lb) | 0.63 | | K(%DM) | 2.72 | 0.65 |
| NEm(Mcal/lb) | 0.61 | 0.66 | Na(%DM) | 0.08 | 0.10 |
| NEg(Mcal/lb) | 0.35 | 0.39 | Cl(%DM) | 0.22 | 0.20 |
| TDN(%DM) | 62.77 | 0.00 | S(%DM) | 0.26 | 0.20* |
| ADF(%DM) | 29.88 | 21.00* | Co(ppm) | 0.00 | 0.30* |
| NDF(%DM) | 45.73 | 32.00* | Cu(ppm) | 0.00 | 10.00 |
| EFNDF(%NDF) | 89.99 | 77.00* | Fe(ppm) | 0.00 | 50.00 |
| NFC(%DM) | 22.51 | 0.00 | I(ppm) | 0.00 | 0.25 |
| Starch(%DM) | 8.33 | 0.00 | Mn(ppm) | 0.00 | 40.00 |
| FermSt(%Starch) | 66.54 | 0.00 | Se(ppm) | 0.00 | 0.30 |
| Lipid(%DM) | 2.40 | 0.00 | Zn(ppm) | 0.00 | 40.00 |
| Animal(%Lipid) | 0.00 | 0.00 | VitA(KIU/lb) | 0.00 | 2.14* |
| VitD(KIU/lb) | 0.00 | 0.30* | | | |
| VitE(IU/lb) | 0.00 | 12.85* | Cost(\$/day) | | |
| Cost(\$/lbDM) | | | AbsP(lb/d) | 2.15 | 1.54 |
| Se(mg/d) | 0.00 | 3.18 | VitA(KIU/d) | 0.00 | 50.00* |
| VitD(KIU/d) | 0.00 | 7.00* | VitE(IU/d) | 0.00 | 300.00* |

| RATIOS & RELATIONSHIPS | | | |
|----------------------------|---------|---------------------------|----------|
| % Forage in diet DM | : 92.5% | DMI / Body Weight | : 2.2% |
| Intake NDF / Body Weight | : 1.0% | Forage NDF / Required NDF | : 140.6% |
| Cation-Anion (meq/100g DM) | : 66.5 | Ca / P | : 1.94 |

These two rations need to be avg'd due to the fact that both groups were on pasture together at the same time. Using one ration by itself will skew #s either pos. or neg.

SPARTAN DAIRY RATION EVALUATOR
MICHIGAN STATE UNIVERSITY
COOPERATIVE EXTENSION SERVICE
DEPARTMENT OF ANIMAL SCIENCE
Theo Lykos

HOLSTEIN Heifer

Age: 19 months
Body wt: 1075 lbs Avg gain: 1.8 lbs/day
Target mature wt: 1350 lbs

Condition Score: Temperature: 60F

ORGANIC Shamrock Heifers PREGNANT 1-25-11

DAIRY VISIONS, LLC

File: C:\SPARTD2\ORT\ORSHAM\HEPR0125.DRT 1/20/11

| Mix | Feed | AsFed | LbsDM | DM | NEm | NEg | CP | NDF | ADF | Ca |
|-----|-------------------|-------|-------|------|---------|---------|------|------|------|------|
| | | | | % | Mcal/lb | Mcal/lb | %DM | %DM | %DM | %DM |
| | Pasture OAT\WHE\V | 47.00 | 7.05 | 15.0 | 0.64 | 0.38 | 32.0 | 33.0 | 20.0 | 0.30 |
| | Sudan\Wheat Sil | 17.00 | 7.48 | 44.0 | 0.52 | 0.25 | 14.0 | 60.0 | 40.0 | 0.46 |
| | Alfalfa Hay DRY | 7.90 | 7.03 | 89.0 | 0.61 | 0.38 | 18.0 | 44.0 | 32.0 | 1.50 |
| | Flaxseed meal | 0.00 | 0.00 | 93.0 | 0.71 | 0.46 | 35.0 | 35.0 | 22.0 | 0.44 |
| | Water | 0.00 | 0.00 | 1.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 |
| | Almond Hulls | 0.00 | 0.00 | 90.0 | 0.58 | 0.38 | 5.0 | 35.0 | 24.0 | 0.23 |
| | Corn grn ground | 2.00 | 1.76 | 88.0 | 0.95 | 0.65 | 9.5 | 9.0 | 3.0 | 0.03 |
| | Wheat Grain Groun | 0.00 | 0.00 | 90.0 | 1.00 | 0.69 | 11.3 | 14.0 | 4.0 | 0.07 |
| | Milo Ground | 0.00 | 0.00 | 90.0 | 0.88 | 0.60 | 11.5 | 20.0 | 6.0 | 0.04 |
| | Barley Ground | 0.00 | 0.00 | 92.0 | 0.91 | 0.64 | 12.9 | 19.0 | 7.0 | 0.05 |
| | Corn Flaked 85% | 0.00 | 0.00 | 85.0 | 0.99 | 0.68 | 9.5 | 9.0 | 3.0 | 0.03 |
| | Canola Meal | 0.00 | 0.00 | 92.0 | 0.81 | 0.53 | 38.5 | 36.0 | 18.0 | 0.73 |
| 9 | Shamrock ORG Supl | 0.00 | 0.00 | 93.1 | 0.51 | 0.35 | 6.6 | 16.8 | 6.2 | 5.39 |

| | --lbs-- | lbs-- | % | Mcal/d | Mcal/d | lb/d | lb/d | lb/d | lb/d |
|------------------|---------|-------|------|--------|--------|------|------|------|------|
| Totals by weight | 73.90 | 23.32 | 31.6 | 8.92 | 3.17 | 4.7 | 10.1 | 6.7 | 0.16 |
| Requirements | | 23.35 | 0.0 | 8.92 | 3.82 | 3.5 | 7.5 | 4.9 | 0.14 |
| --differences-- | 73.90 | -0.03 | 31.6 | 0.00 | -0.65 | 1.2 | 2.6 | 1.8 | 0.02 |

DIET SUMMARY

| Nutrient(unit) | Total | Reqd | Nutrient(unit) | Total | Reqd |
|-----------------|-------|--------|----------------|--------|---------|
| CP(%DM) | 20.31 | 15.00* | Veg(%Lipid) | 100.00 | 0.00 |
| UndegP(%CP) | 23.33 | 6.03 | Inert(%Lipid) | 0.00 | 0.00 |
| DegP(%CP) | 76.67 | 33.02 | Ash(%DM) | 10.61 | 0.00 |
| AbsP(%DM) | 9.41 | 6.59 | Ca(%DM) | 0.69 | 0.60* |
| SolP(%CP) | 39.70 | 30.51 | P(%DM) | 0.35 | 0.30* |
| BndP(%CP) | 7.01 | | Mg(%DM) | 0.27 | 0.20* |
| NEl(Mcal/lb) | 0.63 | | K(%DM) | 2.63 | 0.65 |
| NEm(Mcal/lb) | 0.62 | 0.66 | Na(%DM) | 0.08 | 0.10 |
| NEg(Mcal/lb) | 0.36 | 0.39 | Cl(%DM) | 0.23 | 0.20 |
| TDN(%DM) | 63.00 | 0.00 | S(%DM) | 0.23 | 0.20* |
| ADF(%DM) | 28.75 | 21.00* | Co(ppm) | 0.00 | 0.30* |
| NDF(%DM) | 43.17 | 32.00* | Cu(ppm) | 0.00 | 10.00 |
| EfNDF(%NDF) | 91.59 | 77.00* | Fe(ppm) | 0.00 | 50.00 |
| NFC(%DM) | 23.52 | 0.00 | I(ppm) | 0.00 | 0.25 |
| Starch(%DM) | 8.25 | 0.00 | Mn(ppm) | 0.00 | 40.00 |
| FermSt(%Starch) | 66.84 | 0.00 | Se(ppm) | 0.00 | 0.30 |
| Lipid(%DM) | 2.39 | 0.00 | Zn(ppm) | 0.00 | 40.00 |
| Animal(%Lipid) | 0.00 | 0.00 | VitA(KIU/lb) | 0.00 | 2.14* |
| VitD(KIU/lb) | 0.00 | 0.30* | | | |
| Cost(\$/day) | 2.16 | | VitE(IU/lb) | 0.00 | 12.85* |
| Cost(\$/lbDM) | 0.09 | | AbsP(lb/d) | 2.19 | 1.54 |
| VitA(KIU/d) | 0.00 | 50.00* | | | |
| VitD(KIU/d) | 0.00 | 7.00* | VitE(IU/d) | 0.00 | 300.00* |

RATIOS & RELATIONSHIPS

| | | | |
|----------------------------|---------|---------------------------|----------|
| % Forage in diet DM | : 92.5% | DMI / Body Weight | : 2.2% |
| Intake NDF / Body Weight | : 0.9% | Forage NDF / Required NDF | : 132.6% |
| Cation-Anion (meq/100g DM) | : 64.4 | Ca / P | : 1.96 |

No PASTURE
Add to HAY

Pen 5 was
fed full
Ration
smaller heifers
(Pen 14) was
fed 75%.

SPARTAN DAIRY RATION EVALUATOR
MICHIGAN STATE UNIVERSITY
COOPERATIVE EXTENSION SERVICE
DEPARTMENT OF ANIMAL SCIENCE
Theo Lykos

Dry HOLSTEIN cow
Age: 60 months
Body wt: 1500 lbs Avg gain: 0.9 lbs/day
Days Till Freshening: 40 days

Condition Score: 3.4 Temperature: 70F

ORGANIC Shamrock FAR-OFF DRY 4-07-11

DAIRY VISIONS, LLC.

File: C:\SPARTD2\DRT\ORGSHAM\F00406NP.DRT 4/02/11

| Mix | Feed | AsFed | LbsDM | DM | NEl | CP | UndegP | NDF | EfNDF | ADF |
|-----|-------------------|-------|-------|------|---------|------|--------|------|-------|------|
| | | | | % | Mcal/lb | %DM | %CP | %DM | %DM | %DM |
| | Pasture OAT\WHE\V | 0.00 | 0.00 | 15.0 | 0.67 | 27.0 | 15.0 | 40.0 | 32.0 | 23.0 |
| | Sorghum Silage | 22.00 | 5.94 | 27.0 | 0.61 | 11.0 | 25.0 | 58.0 | 58.0 | 37.0 |
| | Sudan\Wheat Sil | 0.00 | 0.00 | 44.0 | 0.56 | 14.0 | 35.0 | 60.0 | 54.0 | 40.0 |
| | Alfalfa Hay DRY | 15.00 | 13.35 | 89.0 | 0.60 | 18.0 | 25.0 | 44.0 | 41.8 | 32.0 |
| | Water | 5.00 | 0.05 | 1.0 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Almond Hulls | 0.00 | 0.00 | 90.0 | 0.60 | 5.0 | 5.0 | 35.0 | 35.0 | 24.0 |
| | Sudan hay mature | 9.50 | 8.46 | 89.0 | 0.52 | 7.0 | 30.0 | 65.0 | 65.0 | 42.0 |
| | Corn grn ground | 2.50 | 2.20 | 88.0 | 0.91 | 9.5 | 50.0 | 9.0 | 2.3 | 3.0 |
| | Wheat Grain Groun | 0.00 | 0.00 | 90.0 | 0.95 | 11.3 | 20.0 | 14.0 | 3.5 | 4.0 |
| | Milo Ground | 0.00 | 0.00 | 90.0 | 0.88 | 11.5 | 58.0 | 20.0 | 5.0 | 6.0 |
| | Barley Ground | 0.00 | 0.00 | 92.0 | 0.84 | 12.9 | 25.0 | 19.0 | 4.8 | 7.0 |
| | Corn Flaked 85% | 0.00 | 0.00 | 85.0 | 0.93 | 9.5 | 55.0 | 9.0 | 2.3 | 3.0 |
| 9 | Shamrock ORG DRY | 0.00 | 0.00 | 93.1 | 0.49 | 6.6 | 55.0 | 16.8 | 4.2 | 6.2 |

| | --lbs-- | ---lbs--- | %--- | Mcal/d-- | lb/d-- | lb/d-- | lb/d-- | lb/d-- | lb/d-- |
|------------------|---------|-----------|------|----------|--------|--------|--------|--------|--------|
| Totals by weight | 54.00 | 30.00 | 55.5 | 18.03 | 3.9 | 1.0 | 15.0 | 14.6 | 10.1 |
| Requirements | | 28.39 | 0.0 | 16.11 | 4.0 | 0.9 | 8.5 | 6.8 | 5.7 |
| --differences-- | 54.00 | 1.61 | 55.5 | 1.92 | -0.1 | 0.1 | 6.5 | 7.8 | 4.4 |

| DIET SUMMARY | | | | | |
|-----------------|-------|--------|----------------|--------|----------|
| Nutrient(unit) | Total | Reqt | Nutrient(unit) | Total | Reqt |
| CP(%DM) | 12.96 | 14.00* | Veg(%Lipid) | 100.00 | 0.00 |
| UndegP(%CP) | 27.12 | 23.96 | Inert(%Lipid) | 0.00 | 0.00 |
| DegP(%CP) | 72.88 | 56.20 | Ash(%DM) | 8.19 | 0.00 |
| AbsP(%DM) | 8.06 | 8.18 | Ca(%DM) | 0.82 | 0.70* |
| SoIP(%CP) | 28.42 | 28.10 | P(%DM) | 0.25 | 0.25* |
| BndP(%CP) | 7.88 | | Mg(%DM) | 0.24 | 0.16 |
| NEl(Mcal/lb) | 0.60 | 0.57 | K(%DM) | 2.17 | 0.65 |
| NEm(Mcal/lb) | 0.60 | | Na(%DM) | 0.14 | 0.10 |
| NEg(Mcal/lb) | 0.34 | | Cl(%DM) | 0.30 | 0.20 |
| TDN(%DM) | 59.15 | 0.00 | S(%DM) | 0.27 | 0.16 |
| ADF(%DM) | 33.63 | 20.00* | Co(ppm) | 0.00 | 0.10 |
| NDF(%DM) | 50.05 | 30.00* | Cu(ppm) | 0.00 | 10.00 |
| EfNDF(%NDF) | 97.05 | 80.00 | Fe(ppm) | 0.00 | 50.00 |
| NFC(%DM) | 26.24 | 0.00 | I(ppm) | 0.00 | 0.25 |
| Starch(%DM) | 8.43 | 0.00 | Mn(ppm) | 0.00 | 40.00 |
| FermSt(%Starch) | 67.65 | 0.00 | Se(ppm) | 0.00 | 0.30 |
| Lipid(%DM) | 2.66 | 0.00 | Zn(ppm) | 0.00 | 40.00 |
| Animal(%Lipid) | 0.00 | 0.00 | VitA(KIU/lb) | 0.00 | 1.76* |
| VitD(KIU/lb) | 0.00 | 0.70* | | | |
| VitE(IU/lb) | 0.00 | 35.23* | Cost(\$/day) | 3.07 | |
| AbsP(lb/d) | 2.42 | 2.32 | Cost(\$/lbDM) | 0.10 | |
| VitA(KIU/d) | 0.00 | 50.00* | | | |
| VitD(KIU/d) | 0.00 | 20.00* | VitE(IU/d) | 0.00 | 1000.00* |

| RATIOS & RELATIONSHIPS | | | |
|----------------------------|---------|---------------------------|----------|
| % Forage in diet DM | : 92.5% | DMI / Body Weight | : 2.0% |
| Intake NDF / Body Weight | : 1.0% | Forage NDF / Required NDF | : 174.0% |
| Cation-Anion (meq/100g DM) | : 53.3 | Ca / P | : 3.34 |

when heifers
were not on
PASTURE they
were fed:
Pen 5 75% of
this Dry Cow Ration
Pen 14 60% of
this Dry Cow
Ration

SPARTAN DAIRY RATION EVALUATOR
MICHIGAN STATE UNIVERSITY
COOPERATIVE EXTENSION SERVICE
DEPARTMENT OF ANIMAL SCIENCE
Theo Lykos

HOLSTEIN Heifer
Age: 12 months
Body wt: 750 lbs Avg gain: 1.8 lbs/day
Target mature wt: 1300 lbs

Condition Score: Temperature: 70F

ORGANIC Shamrock Heifers GROWING 2-14-11

DAIRY VISIONS, LLC.

File: C:\SPARTD2\DR0\ORGSHAM\HEGR0214.DRT 2/13/11

| Mix | Feed | AsFed | LbsDM | DM | NEm | NEg | CP | NDF | ADF | Ca |
|-----|-------------------|-------|-------|------|---------|---------|------|------|------|------|
| | | | | % | Mcal/lb | Mcal/lb | %DM | %DM | %DM | %DM |
| | Pasture OAT\WHE\V | 33.30 | 5.00 | 15.0 | 0.64 | 0.38 | 27.0 | 40.0 | 23.0 | 0.40 |
| | Sorghum Silage | 0.00 | 0.00 | 27.0 | 0.57 | 0.29 | 11.0 | 58.0 | 37.0 | 0.34 |
| | Sudan\Wheat Sil | 12.00 | 5.28 | 44.0 | 0.52 | 0.25 | 14.0 | 60.0 | 40.0 | 0.46 |
| | Alfalfa Hay DRY | 5.10 | 4.54 | 89.0 | 0.61 | 0.38 | 18.0 | 44.0 | 32.0 | 1.50 |
| | Water | 0.00 | 0.00 | 1.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 |
| | Cottonseed w lint | 0.00 | 0.00 | 92.0 | 1.10 | 0.77 | 22.0 | 44.0 | 34.0 | 0.21 |
| | Sudan hay mature | 0.00 | 0.00 | 89.0 | 0.52 | 0.25 | 7.0 | 72.0 | 42.0 | 0.30 |
| | Corn grn ground | 2.00 | 1.76 | 88.0 | 0.95 | 0.65 | 9.5 | 9.0 | 3.0 | 0.03 |
| | Corn Flaked 85% | 0.00 | 0.00 | 85.0 | 0.99 | 0.68 | 9.5 | 9.0 | 3.0 | 0.03 |
| | Soybean Meal 47.5 | 0.00 | 0.00 | 90.0 | 0.94 | 0.67 | 52.2 | 8.1 | 6.1 | 0.29 |
| | Canola Meal | 0.00 | 0.00 | 92.0 | 0.81 | 0.53 | 38.5 | 36.0 | 18.0 | 0.73 |
| 9 | Shamrock ORG DRY | 0.00 | 0.00 | 93.1 | 0.51 | 0.35 | 6.6 | 16.8 | 6.2 | 5.39 |

| | --lbs-- | lbs-- | %-- | Mcal/d | Mcal/d | lb/d | lb/d | lb/d | lb/d |
|------------------|---------|-------|------|--------|--------|------|------|------|------|
| Totals by weight | 52.40 | 16.57 | 31.6 | 6.81 | 2.09 | 3.1 | 7.3 | 4.8 | 0.11 |
| Requirements | | 16.64 | 0.0 | 6.81 | 2.74 | 2.5 | 5.0 | 3.3 | 0.08 |
| --differences-- | 52.40 | -0.07 | 31.6 | 0.00 | -0.65 | 0.6 | 2.3 | 1.4 | 0.03 |

| DIET SUMMARY | | | | | |
|-----------------|-------|--------|----------------|--------|---------|
| Nutrient(unit) | Total | Reqd | Nutrient(unit) | Total | Reqd |
| CP(%DM) | 18.54 | 15.00* | Veg(%Lipid) | 100.00 | 0.00 |
| UndegP(%CP) | 24.38 | 9.57 | Inert(%Lipid) | 0.00 | 0.00 |
| DegP(%CP) | 75.62 | 41.28 | Ash(%DM) | 9.41 | 0.00 |
| AbsP(%DM) | 9.62 | 7.40 | Ca(%DM) | 0.68 | 0.50* |
| SoIP(%CP) | 42.17 | 30.64 | P(%DM) | 0.35 | 0.30 |
| BndP(%CP) | 7.16 | | Mg(%DM) | 0.26 | 0.16 |
| NEl(Mcal/lb) | 0.64 | | K(%DM) | 2.64 | 0.65 |
| NEm(Mcal/lb) | 0.63 | 0.68 | Na(%DM) | 0.08 | 0.10 |
| NEg(Mcal/lb) | 0.37 | 0.41 | Cl(%DM) | 0.22 | 0.20 |
| TDN(%DM) | 63.69 | 0.00 | S(%DM) | 0.23 | 0.16 |
| ADF(%DM) | 28.76 | 20.00* | Co(ppm) | 0.00 | 0.10 |
| NDF(%DM) | 44.17 | 30.00* | Cu(ppm) | 0.00 | 10.00 |
| EfNDF(%NDF) | 87.23 | 75.00* | Fe(ppm) | 0.00 | 50.00 |
| NFC(%DM) | 25.37 | 0.00 | I(ppm) | 0.00 | 0.25 |
| Starch(%DM) | 10.39 | 0.00 | Mn(ppm) | 0.00 | 40.00 |
| FermSt(%Starch) | 67.51 | 0.00 | Se(ppm) | 0.00 | 0.30 |
| Lipid(%DM) | 2.51 | 0.00 | Zn(ppm) | 0.00 | 40.00 |
| Animal(%Lipid) | 0.00 | 0.00 | VitA(KIU/lb) | 0.00 | 3.00* |
| VitD(KIU/lb) | 0.00 | 0.60* | | | |
| VitE(IU/lb) | 0.00 | 15.02* | Cost(\$/day) | | |
| Cost(\$/lbDM) | | | AbsP(lb/d) | 1.59 | 1.23 |
| Se(mg/d) | 0.00 | 2.26 | VitA(KIU/d) | 0.00 | 50.00* |
| VitD(KIU/d) | 0.00 | 10.00* | VitE(IU/d) | 0.00 | 250.00* |

| RATIOS & RELATIONSHIPS | | | |
|----------------------------|---------|---------------------------|----------|
| % Forage in diet DM | : 89.4% | DMI / Body Weight | : 2.2% |
| Intake NDF / Body Weight | : 1.0% | Forage NDF / Required NDF | : 143.5% |
| Cation-Anion (meq/100g DM) | : 64.8 | Ca / P | : 1.93 |

MONTHLY PASTURE DRY MATTER INTAKE

MONTH 11-Mar
DAY 29
TOT DAYS 31

MONTHLY AVG

Heifers 102
DM BUDGET 21.47
DM ACTUAL 6.00
DM FROM PAST 15.47
% DM FROM PAST 0.72

| DATE | COWS | BUD. DMI | DMI FED | PAST. DMI | % DM FROM PAST | 3 DAY AVG | 7 DAY AVG |
|----------|------|----------|---------|-----------|----------------|-----------|-----------|
| 03/01/11 | 107 | 22.79 | 22.79 | 0 | 0.00 | | |
| 03/02/11 | 107 | 21.71 | 21.71 | 0 | 0.00 | | |
| 03/03/11 | 107 | 23.77 | 23.77 | 0 | 0.00 | 0.00 | |
| 03/04/11 | 101 | 21.38 | 21.38 | 0.00 | 0.00 | 0.00 | |
| 03/05/11 | 101 | 21.38 | 0.00 | 21.38 | 1.00 | 0.33 | |
| 03/06/11 | 101 | 21.38 | 21.38 | 0.00 | 0.00 | 0.33 | |
| 03/07/11 | 101 | 21.38 | 0.00 | 21.38 | 1.00 | 0.67 | 0.29 |
| 03/08/11 | 101 | 21.38 | 14.08 | 7.30 | 0.34 | 0.45 | 0.33 |
| 03/09/11 | 101 | 21.38 | 0.00 | 21.38 | 1.00 | 0.78 | 0.48 |
| 03/10/11 | 101 | 21.38 | 0.00 | 21.38 | 1.00 | 0.78 | 0.62 |
| 03/11/11 | 101 | 21.38 | 0.00 | 21.38 | 1.00 | 1.00 | 0.76 |
| 03/12/11 | 101 | 21.38 | 13.72 | 7.66 | 0.36 | 0.79 | 0.67 |
| 03/13/11 | 101 | 21.38 | 14.61 | 6.77 | 0.32 | 0.56 | 0.72 |
| 03/14/11 | 101 | 21.38 | 14.61 | 6.77 | 0.32 | 0.33 | 0.62 |
| 03/15/11 | 101 | 21.38 | 14.26 | 7.12 | 0.33 | 0.32 | 0.62 |
| 03/16/11 | 101 | 21.38 | 13.01 | 8.37 | 0.39 | 0.35 | 0.53 |
| 03/17/11 | 101 | 21.38 | 0.00 | 21.38 | 1.00 | 0.57 | 0.53 |
| 03/18/11 | 101 | 21.38 | 0.00 | 21.38 | 1.00 | 0.80 | 0.53 |
| 03/19/11 | 101 | 21.38 | 0.00 | 21.38 | 1.00 | 1.00 | 0.62 |
| 03/20/11 | 101 | 21.38 | 0.00 | 21.38 | 1.00 | 1.00 | 0.72 |
| 03/21/11 | 101 | 21.38 | 0.00 | 21.38 | 1.00 | 1.00 | 0.82 |
| 03/22/11 | 101 | 21.38 | 0.00 | 21.38 | 1.00 | 1.00 | 0.91 |
| 03/23/11 | 101 | 21.38 | 0.00 | 21.38 | 1.00 | 1.00 | 1.00 |
| 03/24/11 | 101 | 21.38 | 0.00 | 21.38 | 1.00 | 1.00 | 1.00 |
| 03/25/11 | 101 | 21.38 | 0.00 | 21.38 | 1.00 | 1.00 | 1.00 |
| 03/26/11 | 101 | 21.38 | 0.00 | 21.38 | 1.00 | 1.00 | 1.00 |
| 03/27/11 | 101 | 21.38 | 0.00 | 21.38 | 1.00 | 1.00 | 1.00 |
| 03/28/11 | 101 | 21.38 | 0.00 | 21.38 | 1.00 | 1.00 | 1.00 |
| 03/29/11 | 101 | 21.38 | 0.00 | 21.38 | 1.00 | 1.00 | 1.00 |
| 03/30/11 | 101 | 21.38 | 11.50 | 9.88 | 0.46 | 0.82 | 0.92 |
| 03/31/11 | 101 | 21.38 | 11.55 | 9.83 | 0.46 | 0.64 | 0.85 |

0.72

MONTHLY PASTURE DRY MATTER INTAKE PEN 14 HEIFERS

MONTH 11-Apr
 DAY 30
 TOT DAYS 30

MONTHLY AVG

HEIFERS 118
 DM BUDGET 22.60
 DM ACTUAL 10.81
 DM FROM PAST 11.79
 % DM FROM PAST 0.52

| DATE | COWS | BUD. DMI | DMI FED | PAST. DMI | % DM FROM PAST | 3 DAY AVG | 7 DAY AVG |
|----------|------|----------|---------|-----------|----------------|-----------|-----------|
| 04/01/11 | 101 | 23.32 | 10.48 | 12.84 | 0.55 | | |
| 04/02/11 | 101 | 23.32 | 10.21 | 13.11 | 0.56 | | |
| 04/03/11 | 101 | 23.32 | 9.40 | 13.92 | 0.60 | 0.57 | |
| 04/04/11 | 101 | 18.73 | 10.48 | 8.25 | 0.44 | 0.53 | |
| 04/05/11 | 101 | 23.32 | 11.69 | 11.63 | 0.50 | 0.51 | |
| 04/06/11 | 101 | 23.32 | 9.67 | 13.65 | 0.59 | 0.51 | |
| 04/07/11 | 101 | 23.32 | 11.07 | 12.25 | 0.53 | 0.54 | 0.54 |
| 04/08/11 | 101 | 23.32 | 0.00 | 23.32 | 1.00 | 0.70 | 0.60 |
| 04/09/11 | 101 | 23.32 | 11.73 | 11.59 | 0.50 | 0.67 | 0.59 |
| 04/10/11 | 101 | 23.32 | 0.00 | 23.32 | 1.00 | 0.83 | 0.65 |
| 04/11/11 | 101 | 23.32 | 11.87 | 11.45 | 0.49 | 0.66 | 0.66 |
| 04/12/11 | 101 | 23.32 | 12.23 | 11.09 | 0.48 | 0.66 | 0.65 |
| 04/13/11 | 101 | 23.32 | 12.80 | 10.52 | 0.45 | 0.47 | 0.63 |
| 04/14/11 | 101 | 23.32 | 12.80 | 10.52 | 0.45 | 0.46 | 0.62 |
| 04/15/11 | 101 | 23.32 | 11.53 | 11.79 | 0.51 | 0.47 | 0.55 |
| 04/16/11 | 101 | 23.32 | 12.60 | 10.72 | 0.46 | 0.47 | 0.55 |
| 04/17/11 | 101 | 23.32 | 0.00 | 23.32 | 1.00 | 0.66 | 0.55 |
| 04/18/11 | 141 | 22.02 | 12.20 | 9.82 | 0.45 | 0.64 | 0.54 |
| 04/19/11 | 141 | 22.02 | 11.78 | 10.24 | 0.46 | 0.64 | 0.54 |
| 04/20/11 | 141 | 22.02 | 11.38 | 10.64 | 0.48 | 0.46 | 0.54 |
| 04/21/11 | 141 | 22.02 | 11.93 | 10.09 | 0.46 | 0.47 | 0.55 |
| 04/22/11 | 141 | 22.02 | 11.39 | 10.62 | 0.48 | 0.47 | 0.54 |
| 04/23/11 | 141 | 22.02 | 15.16 | 6.86 | 0.31 | 0.42 | 0.52 |
| 04/24/11 | 141 | 22.02 | 15.75 | 6.27 | 0.28 | 0.36 | 0.42 |
| 04/25/11 | 141 | 22.02 | 15.64 | 6.37 | 0.29 | 0.30 | 0.40 |
| 04/26/11 | 141 | 22.02 | 14.70 | 7.32 | 0.33 | 0.30 | 0.38 |
| 04/27/11 | 141 | 22.02 | 13.30 | 8.72 | 0.40 | 0.34 | 0.36 |
| 04/28/11 | 141 | 22.02 | 14.22 | 7.80 | 0.35 | 0.36 | 0.35 |
| 04/29/11 | 141 | 22.02 | 13.90 | 8.12 | 0.37 | 0.37 | 0.33 |
| 04/30/11 | 141 | 22.02 | 4.34 | 17.68 | 0.80 | 0.51 | 0.40 |

0.38

MONTHLY PASTURE DRY MATTER INTAKE

MONTH 11-May
DAY 31
TOT DAYS 31

MONTHLY AVG

Heifers 111
DM BUDGET 21.77
DM ACTUAL 12.03
DM FROM PAST 9.74
% DM FROM PAST 0.45

| DATE | COWS | BUD. DMI | DMI FED | PAST. DMI | % DM FROM PAST | 3 DAY AVG | 7 DAY AVG |
|----------|------|----------|---------|-----------|----------------|-----------|-----------|
| 05/01/11 | 141 | 22.02 | 4.46 | 17.56 | 0.80 | | |
| 05/02/11 | 141 | 22.02 | 4.07 | 17.95 | 0.82 | | |
| 05/03/11 | 141 | 22.02 | 4.43 | 17.59 | 0.80 | 0.80 | |
| 05/04/11 | 141 | 22.02 | 4.19 | 17.82 | 0.81 | 0.81 | |
| 05/05/11 | 141 | 22.02 | 5.07 | 16.95 | 0.77 | 0.79 | |
| 05/06/11 | 141 | 22.02 | 6.17 | 15.85 | 0.72 | 0.77 | |
| 05/07/11 | 141 | 22.02 | 6.62 | 15.40 | 0.70 | 0.73 | 0.77 |
| 05/08/11 | 101 | 22.02 | 7.42 | 14.60 | 0.66 | 0.69 | 0.75 |
| 05/09/11 | 101 | 22.02 | 6.23 | 15.79 | 0.72 | 0.69 | 0.74 |
| 05/10/11 | 141 | 22.02 | 5.44 | 16.58 | 0.75 | 0.71 | 0.73 |
| 05/11/11 | 141 | 22.02 | 5.44 | 16.58 | 0.75 | 0.74 | 0.72 |
| 05/12/11 | 133 | 22.05 | 5.99 | 16.06 | 0.73 | 0.74 | 0.72 |
| 05/13/11 | 133 | 22.05 | 13.90 | 8.15 | 0.37 | 0.62 | 0.67 |
| 05/14/11 | 133 | 22.05 | 14.01 | 8.04 | 0.36 | 0.49 | 0.62 |
| 05/15/11 | 133 | 22.05 | 15.64 | 6.41 | 0.29 | 0.34 | 0.57 |
| 05/16/11 | 93 | 22.05 | 13.47 | 8.58 | 0.39 | 0.35 | 0.52 |
| 05/17/11 | 93 | 21.50 | 12.23 | 9.27 | 0.43 | 0.37 | 0.48 |
| 05/18/11 | 92 | 21.50 | 12.61 | 8.89 | 0.41 | 0.41 | 0.43 |
| 05/19/11 | 89 | 21.50 | 12.20 | 9.30 | 0.43 | 0.43 | 0.38 |
| 05/20/11 | 89 | 21.50 | 11.16 | 10.34 | 0.48 | 0.44 | 0.40 |
| 05/21/11 | 89 | 21.50 | 13.39 | 8.11 | 0.38 | 0.43 | 0.40 |
| 05/22/11 | 89 | 21.50 | 13.09 | 8.41 | 0.39 | 0.42 | 0.42 |
| 05/23/11 | 89 | 21.50 | 12.50 | 9.00 | 0.42 | 0.40 | 0.42 |
| 05/24/11 | 89 | 21.50 | 12.05 | 9.45 | 0.44 | 0.42 | 0.42 |
| 05/25/11 | 89 | 21.50 | 11.70 | 9.80 | 0.46 | 0.44 | 0.43 |
| 05/26/11 | 89 | 21.50 | 13.80 | 7.70 | 0.36 | 0.42 | 0.42 |
| 05/27/11 | 89 | 21.50 | 23.85 | -2.35 | -0.11 | 0.23 | 0.33 |
| 05/28/11 | 89 | 21.50 | 28.50 | -7.00 | -0.33 | -0.03 | 0.23 |
| 05/29/11 | 89 | 21.50 | 24.40 | -2.90 | -0.13 | -0.19 | 0.16 |
| 05/30/11 | 89 | 21.50 | 24.15 | -2.65 | -0.12 | -0.19 | 0.08 |
| 05/31/11 | 89 | 21.50 | 24.75 | -3.25 | -0.15 | -0.14 | 0.00 |
| | | | | | 0.44 | | |

SPARTAN DAIRY RATION EVALUATOR
MICHIGAN STATE UNIVERSITY
COOPERATIVE EXTENSION SERVICE
DEPARTMENT OF ANIMAL SCIENCE
Theo Lykos

Dry HOLSTEIN cow
Age: 60 months
Body wt: 1500 lbs Avg gain: 0.9 lbs/day
Days Till Freshening: 40 days
Condition Score: 3.4 Temperature: 70F

ORGANIC Shamrock FAR-OFF DRY (30% PAST) 2-14-11

DAIRY VISIONS, LLC.

File: C:\SPARTD2\DRT\ORGSHAM\F0021430.DRT 2/13/11

| Mix | Feed | AsFed | LbsDM | DM | NEl | CP | UndegP | NDF | EfNDF | ADF |
|-----|-------------------|-------|-------|------|-------------|------|--------|------|-------|------|
| | | | | % | Mcal/lb-%DM | %CP | %DM | %DM | %DM | %DM |
| | Pasture OAT\WHE\V | 60.00 | 9.00 | 15.0 | 0.67 | 27.0 | 15.0 | 40.0 | 32.0 | 23.0 |
| | Sorghum Silage | 0.00 | 0.00 | 27.0 | 0.61 | 11.0 | 25.0 | 58.0 | 58.0 | 37.0 |
| | Sudan\Wheat Sil | 23.00 | 10.12 | 44.0 | 0.56 | 14.0 | 35.0 | 60.0 | 54.0 | 40.0 |
| | Alfalfa Hay DRY | 10.25 | 9.12 | 89.0 | 0.60 | 18.0 | 25.0 | 44.0 | 41.8 | 32.0 |
| | Water | 0.00 | 0.00 | 1.0 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Cottonseed w lint | 0.00 | 0.00 | 92.0 | 0.90 | 22.0 | 45.0 | 44.0 | 22.0 | 34.0 |
| | Sudan hay mature | 0.00 | 0.00 | 89.0 | 0.52 | 7.0 | 30.0 | 72.0 | 72.0 | 42.0 |
| | Corn grn ground | 2.00 | 1.76 | 88.0 | 0.91 | 9.5 | 50.0 | 9.0 | 2.3 | 3.0 |
| | Corn Flaked 85% | 0.00 | 0.00 | 85.0 | 0.93 | 9.5 | 55.0 | 9.0 | 2.3 | 3.0 |
| | Soybean Meal 47.5 | 0.00 | 0.00 | 90.0 | 0.92 | 52.2 | 37.0 | 8.1 | 2.0 | 6.1 |
| | Canola Meal | 0.00 | 0.00 | 92.0 | 0.80 | 38.5 | 34.0 | 36.0 | 9.0 | 18.0 |
| 9 | Shamrock ORG DRY | 0.00 | 0.00 | 93.1 | 0.49 | 6.6 | 55.0 | 16.8 | 4.2 | 6.2 |

| | --lbs-- | ---lbs--- | %--- | Mcal/d-- | lb/d-- | lb/d-- | lb/d-- | lb/d-- | lb/d-- |
|------------------|---------|-----------|------|----------|--------|--------|--------|--------|--------|
| Totals by weight | 95.25 | 30.00 | 31.5 | 18.77 | 5.7 | 1.4 | 13.8 | 12.2 | 9.1 |
| Requirements | | 28.39 | 0.0 | 16.11 | 4.0 | 0.8 | 8.5 | 6.8 | 5.7 |
| --differences-- | 95.25 | 1.62 | 31.5 | 2.66 | 1.7 | 0.5 | 5.3 | 5.4 | 3.4 |

| DIET SUMMARY | | | | | |
|-----------------|-------|--------|----------------|--------|----------|
| Nutrient(unit) | Total | Reqd | Nutrient(unit) | Total | Reqd |
| CP(%DM) | 18.85 | 14.00* | Veg(%Lipid) | 100.00 | 0.00 |
| UndegP(%CP) | 23.95 | 14.42 | Inert(%Lipid) | 0.00 | 0.00 |
| DegP(%CP) | 76.05 | 36.21 | Ash(%DM) | 10.48 | 0.00 |
| AbsP(%DM) | 9.17 | 8.18 | Ca(%DM) | 0.73 | 0.70* |
| SolP(%CP) | 39.05 | 28.10 | P(%DM) | 0.35 | 0.25* |
| BndP(%CP) | 7.21 | | Mg(%DM) | 0.27 | 0.16 |
| NEl(Mcal/lb) | 0.63 | 0.57 | K(%DM) | 2.74 | 0.65 |
| NEm(Mcal/lb) | 0.61 | | Na(%DM) | 0.08 | 0.10 |
| NEg(Mcal/lb) | 0.35 | | Cl(%DM) | 0.23 | 0.20 |
| TDN(%DM) | 62.49 | 0.00 | S(%DM) | 0.26 | 0.16 |
| ADF(%DM) | 30.30 | 20.00* | Co(ppm) | 0.00 | 0.10 |
| NDF(%DM) | 46.14 | 30.00* | Cu(ppm) | 0.00 | 10.00 |
| EfNDF(%NDF) | 88.11 | 80.00 | Fe(ppm) | 0.00 | 50.00 |
| NFC(%DM) | 22.16 | 0.00 | I(ppm) | 0.00 | 0.25 |
| Starch(%DM) | 7.12 | 0.00 | Mn(ppm) | 0.00 | 40.00 |
| FermSt(%Starch) | 66.10 | 0.00 | Se(ppm) | 0.00 | 0.30 |
| Lipid(%DM) | 2.36 | 0.00 | Zn(ppm) | 0.00 | 40.00 |
| Animal(%Lipid) | 0.00 | 0.00 | VitA(KIU/lb) | 0.00 | 1.76* |
| VitD(KIU/lb) | 0.00 | 0.70* | | | |
| VitE(IU/lb) | 0.00 | 35.23* | Cost(\$/day) | | |
| Cost(\$/lbDM) | | | AbsP(lb/d) | 2.75 | 2.32 |
| Se(mg/d) | 0.00 | 3.86 | VitA(KIU/d) | 0.00 | 50.00* |
| VitD(KIU/d) | 0.00 | 20.00* | VitE(IU/d) | 0.00 | 1000.00* |

| RATIOS & RELATIONSHIPS | | | |
|----------------------------|---------|---------------------------|----------|
| % Forage in diet DM | : 94.1% | DMI / Body Weight | : 2.0% |
| Intake NDF / Body Weight | : 0.9% | Forage NDF / Required NDF | : 160.7% |
| Cation-Anion (meq/100g DM) | : 67.3 | Ca / P | : 2.07 |

MONTHLY PASTURE DRY MATTER INTAKE

MONTH 11-Mar
 DAY 7
 TOT DAYS 31

| MONTHLY AVG | | |
|----------------|-------|--------|
| DRY COW | 48 | |
| DM BUDGET | 30.00 | 209.98 |
| DM ACTUAL | 5.24 | 36.66 |
| DM FROM PAST | 24.76 | 173.32 |
| % DM FROM PAST | 0.83 | 0.83 |

| DATE | COWS | BUD. DMI | DMI FED | PAST. DMI | % DM FROM PAST | 3 DAY AVG | 7 DAY AVG |
|----------|------|----------|---------|-----------|----------------|-----------|-----------|
| 03/01/11 | 57 | 25.28 | 25.28 | 0.00 | 0.00 | | |
| 03/02/11 | 42 | 27.70 | 27.70 | 0.00 | 0.00 | | |
| 03/03/11 | 50 | 25.85 | 25.85 | 0.00 | 0.00 | 0.00 | |
| 03/04/11 | 55 | 26.50 | 26.50 | 0.00 | 0.00 | 0.00 | |
| 03/05/11 | 55 | 28.45 | 28.45 | 0.00 | 0.00 | 0.00 | |
| 03/06/11 | 55 | 27.75 | 27.75 | 0.00 | 0.00 | 0.00 | |
| 03/07/11 | 55 | 29.51 | 29.51 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03/08/11 | 55 | 27.55 | 27.55 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03/09/11 | 47 | 26.55 | 26.55 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03/10/11 | 52 | 27.26 | 27.26 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03/11/11 | 52 | 29.54 | 29.54 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03/12/11 | 52 | 28.58 | 28.58 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03/13/11 | 52 | 28.19 | 28.19 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03/14/11 | 52 | 29.02 | 29.02 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03/15/11 | 52 | 31.73 | 31.73 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03/16/11 | 43 | 28.26 | 28.26 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03/17/11 | 41 | 29.98 | 0.00 | 29.98 | 1.00 | 0.33 | 0.14 |
| 03/18/11 | 52 | 29.92 | 29.92 | 0.00 | 0.00 | 0.33 | 0.14 |
| 03/19/11 | 52 | 35.52 | 35.52 | 0.00 | 0.00 | 0.33 | 0.14 |
| 03/20/11 | 52 | 29.52 | 29.52 | 0.00 | 0.00 | 0.00 | 0.14 |
| 03/21/11 | 52 | 32.87 | 32.87 | 0.00 | 0.00 | 0.00 | 0.14 |
| 03/22/11 | 52 | 27.65 | 27.65 | 0.00 | 0.00 | 0.00 | 0.14 |
| 03/23/11 | 52 | 26.65 | 26.65 | 0.00 | 0.00 | 0.00 | 0.14 |
| 03/24/11 | 42 | 27.21 | 27.21 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03/25/11 | 42 | 28.31 | 28.31 | 0.00 | 0.00 | 0.00 | 0.00 |
| 03/26/11 | 42 | 30.00 | 13.38 | 16.62 | 0.55 | 0.18 | 0.08 |
| 03/27/11 | 42 | 30.00 | 0.00 | 30.00 | 1.00 | 0.52 | 0.22 |
| 03/28/11 | 42 | 30.00 | 0.00 | 30.00 | 1.00 | 0.85 | 0.36 |
| 03/29/11 | 42 | 30.00 | 0.00 | 30.00 | 1.00 | 1.00 | 0.51 |
| 03/30/11 | 33 | 30.00 | 11.73 | 18.27 | 0.61 | 0.87 | 0.59 |
| 03/31/11 | 33 | 30.00 | 11.55 | 18.45 | 0.62 | 0.74 | 0.68 |

0.65

MONTHLY PASTURE DRY MATTER INTAKE

MONTH 11-Apr
DAY 30
TOT DAYS 30

MONTHLY AVG
DRY COW 30
DM BUDGET 30.00
DM ACTUAL 10.26
DM FROM PAST 19.74
% DM FROM PAST 0.66

| DATE | COWS | BUD. DMI | DMI FED | PAST. DMI | % DM FROM PAST | 3 DAY AVG | 7 DAY AVG |
|----------|------|----------|---------|-----------|----------------|-----------|-----------|
| 04/01/11 | 33 | 30.00 | 10.48 | 19.52 | 0.65 | | |
| 04/02/11 | 33 | 30.00 | 10.21 | 19.79 | 0.66 | | |
| 04/03/11 | 33 | 30.00 | 9.40 | 20.60 | 0.69 | 0.67 | |
| 04/04/11 | 33 | 30.00 | 10.48 | 19.52 | 0.65 | 0.67 | |
| 04/05/11 | 33 | 30.00 | 11.69 | 18.31 | 0.61 | 0.65 | |
| 04/06/11 | 34 | 30.00 | 9.67 | 20.33 | 0.68 | 0.65 | |
| 04/07/11 | 34 | 30.00 | 11.07 | 18.93 | 0.63 | 0.64 | 0.65 |
| 04/08/11 | 34 | 30.00 | 0.00 | 30.00 | 1.00 | 0.77 | 0.70 |
| 04/09/11 | 34 | 30.00 | 11.73 | 18.27 | 0.61 | 0.75 | 0.70 |
| 04/10/11 | 34 | 30.00 | 0.00 | 30.00 | 1.00 | 0.87 | 0.74 |
| 04/11/11 | 34 | 30.00 | 11.87 | 18.13 | 0.60 | 0.74 | 0.73 |
| 04/12/11 | 27 | 30.00 | 12.23 | 17.77 | 0.59 | 0.73 | 0.73 |
| 04/13/11 | 27 | 30.00 | 12.80 | 17.20 | 0.57 | 0.59 | 0.72 |
| 04/14/11 | 27 | 30.00 | 12.80 | 17.20 | 0.00 | 0.39 | 0.63 |
| 04/15/11 | 27 | 30.00 | 11.53 | 18.47 | 0.62 | 0.40 | 0.57 |
| 04/16/11 | 29 | 30.00 | 12.60 | 17.40 | 0.58 | 0.40 | 0.57 |
| 04/17/11 | 29 | 30.00 | 0.00 | 30.00 | 1.00 | 0.73 | 0.57 |
| 04/18/11 | 29 | 30.00 | 12.67 | 17.33 | 0.58 | 0.72 | 0.56 |
| 04/19/11 | 29 | 30.00 | 13.15 | 16.85 | 0.56 | 0.71 | 0.56 |
| 04/20/11 | 29 | 30.00 | 12.60 | 17.40 | 0.58 | 0.57 | 0.56 |
| 04/21/11 | 29 | 30.00 | 12.18 | 17.82 | 0.59 | 0.58 | 0.64 |
| 04/22/11 | 29 | 30.00 | 12.46 | 17.54 | 0.58 | 0.59 | 0.64 |
| 04/23/11 | 29 | 30.00 | 12.05 | 17.95 | 0.60 | 0.59 | 0.64 |
| 04/24/11 | 29 | 30.00 | 12.88 | 17.12 | 0.57 | 0.58 | 0.58 |
| 04/25/11 | 29 | 30.00 | 12.88 | 17.12 | 0.57 | 0.58 | 0.58 |
| 04/26/11 | 29 | 30.00 | 12.60 | 17.40 | 0.58 | 0.57 | 0.58 |
| 04/27/11 | 29 | 30.00 | 10.94 | 19.06 | 0.64 | 0.60 | 0.59 |
| 04/28/11 | 29 | 30.00 | 12.60 | 17.40 | 0.58 | 0.60 | 0.59 |
| 04/29/11 | 29 | 30.00 | 12.32 | 17.68 | 0.59 | 0.60 | 0.59 |
| 04/30/11 | 29 | 30.00 | 0.00 | 30.00 | 1.00 | 0.72 | 0.65 |

MONTHLY PASTURE DRY MATTER INTAKE

MONTH 11-May
DAY 31
TOT DAYS 31

MONTHLY AVG
DRY COW 32
DM BUDGET 30.00
DM ACTUAL 9.58
DM FROM PAST 20.42
% DM FROM PAST 0.68

| DATE | COWS | BUD. DMI | DMI FED | PAST. DMI | % DM FROM PAST | 3 DAY AVG | 7 DAY AVG |
|----------|------|----------|---------|-----------|----------------|-----------|-----------|
| 05/01/11 | 29 | 30.00 | 0.00 | 30.00 | 1.00 | | |
| 05/02/11 | 29 | 30.00 | 0.00 | 30.00 | 1.00 | | |
| 05/03/11 | 29 | 30.00 | 0.00 | 30.00 | 1.00 | 1.00 | |
| 05/04/11 | 31 | 30.00 | 0.00 | 30.00 | 1.00 | 1.00 | |
| 05/05/11 | 32 | 30.00 | 0.00 | 30.00 | 1.00 | 1.00 | |
| 05/06/11 | 32 | 30.00 | 0.00 | 30.00 | 1.00 | 1.00 | |
| 05/07/11 | 32 | 30.00 | 0.00 | 30.00 | 1.00 | 1.00 | 1.00 |
| 05/08/11 | 32 | 30.00 | 0.00 | 30.00 | 1.00 | 1.00 | 1.00 |
| 05/09/11 | 32 | 30.00 | 0.00 | 30.00 | 1.00 | 1.00 | 1.00 |
| 05/10/11 | 32 | 30.00 | 0.00 | 30.00 | 1.00 | 1.00 | 1.00 |
| 05/11/11 | 32 | 30.00 | 0.00 | 30.00 | 1.00 | 1.00 | 1.00 |
| 05/12/11 | 35 | 30.00 | 0.00 | 30.00 | 1.00 | 1.00 | 1.00 |
| 05/13/11 | 35 | 30.00 | 10.69 | 19.31 | 0.64 | 0.88 | 0.95 |
| 05/14/11 | 35 | 30.00 | 11.11 | 18.89 | 0.63 | 0.76 | 0.90 |
| 05/15/11 | 35 | 30.00 | 12.94 | 17.06 | 0.57 | 0.61 | 0.83 |
| 05/16/11 | 35 | 30.00 | 11.81 | 18.19 | 0.61 | 0.60 | 0.78 |
| 05/17/11 | 35 | 30.00 | 12.23 | 17.77 | 0.59 | 0.59 | 0.72 |
| 05/18/11 | 35 | 30.00 | 12.61 | 17.39 | 0.58 | 0.59 | 0.66 |
| 05/19/11 | 32 | 30.00 | 12.20 | 17.80 | 0.59 | 0.59 | 0.60 |
| 05/20/11 | 32 | 30.00 | 11.16 | 18.84 | 0.63 | 0.60 | 0.60 |
| 05/21/11 | 32 | 30.00 | 13.39 | 16.61 | 0.55 | 0.59 | 0.59 |
| 05/22/11 | 41 | 30.00 | 13.09 | 16.91 | 0.56 | 0.58 | 0.59 |
| 05/23/11 | 32 | 30.00 | 12.50 | 17.50 | 0.58 | 0.57 | 0.58 |
| 05/24/11 | 32 | 30.00 | 12.05 | 17.95 | 0.60 | 0.58 | 0.59 |
| 05/25/11 | 31 | 30.00 | 11.70 | 18.30 | 0.61 | 0.60 | 0.59 |
| 05/26/11 | 31 | 30.00 | 13.80 | 16.20 | 0.54 | 0.58 | 0.58 |
| 05/27/11 | 31 | 30.00 | 23.85 | 6.15 | 0.21 | 0.45 | 0.52 |
| 05/28/11 | 31 | 30.00 | 28.50 | 1.50 | 0.05 | 0.27 | 0.45 |
| 05/29/11 | 31 | 30.00 | 24.40 | 5.60 | 0.19 | 0.15 | 0.40 |
| 05/30/11 | 31 | 30.00 | 24.15 | 5.85 | 0.20 | 0.14 | 0.34 |
| 05/31/11 | 31 | 30.00 | 24.75 | 5.25 | 0.18 | 0.19 | 0.28 |

0.68

SPARTAN DAIRY RATION EVALUATOR
MICHIGAN STATE UNIVERSITY
COOPERATIVE EXTENSION SERVICE
DEPARTMENT OF ANIMAL SCIENCE
Theo Lykos

Lactating HOLSTEIN cow
Age: 41 months Lactation #: 3
Body wt: 1500 lbs Avg gain: 0.7 lbs/day
Milk prod: 75 lbs/day DIM: 120 days
Milk Fat: 3.6% Milk Protein: 3.2%
Condition Score: 2.8 Temperature: 75F

High 30P.

ORGANIC Shamrock HIGH (30% Past) 3-18-11

DAIRY VISIONS, LLC.

File: C:\SPARTD2\DR\ORGSHAM\HI031930.DRT 3/13/11

5/24/11
OAT Sol.

| Mix | Feed | AsFed | LbsDM | DM | NE1 | CP | UndegP | NDF | EfNDF | ADF |
|-----|-------------------|--------|-------|------|---------|------|--------|------|-------|------|
| | | | | % | Mcal/lb | %DM | %CP | %DM | %DM | %DM |
| | Sorghum Silage | 17.00 | 4.93 | 29.0 | 0.57 | 7.0 | 25.0 | 57.0 | 48.5 | 35.0 |
| | Sudan Sil EARLY | 0.00 | 0.00 | 44.0 | 0.58 | 11.0 | 28.0 | 60.0 | 51.0 | 40.0 |
| | Pasture OAT\WHE\V | 104.00 | 15.60 | 15.0 | 0.67 | 27.0 | 28.0 | 40.0 | 32.0 | 23.0 |
| | Alfalfa Hay 180 | 8.00 | 7.04 | 88.0 | 0.64 | 22.5 | 25.0 | 36.0 | 32.4 | 28.0 |
| | Water | 10.00 | 0.10 | 1.0 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Soybeans, ROASTED | 2.50 | 2.28 | 91.0 | 0.99 | 42.1 | 55.0 | 15.0 | 3.8 | 10.0 |
| | Cottonseed w lint | 0.00 | 0.00 | 92.0 | 0.90 | 22.0 | 45.0 | 44.0 | 22.0 | 34.0 |
| | Almond Hulls | 0.00 | 0.00 | 90.0 | 0.60 | 5.0 | 5.0 | 35.0 | 35.0 | 24.0 |
| | Sudan Hay | 0.00 | 0.00 | 92.0 | 0.50 | 4.4 | 30.0 | 70.0 | 70.0 | 47.0 |
| | Alfalfa DRY cow | 5.75 | 5.18 | 90.0 | 0.61 | 18.0 | 28.0 | 42.0 | 37.8 | 31.0 |
| | Corn grn ground | 16.00 | 14.08 | 88.0 | 0.91 | 9.5 | 50.0 | 9.0 | 2.3 | 3.0 |
| | Barley Ground | 0.00 | 0.00 | 88.0 | 0.83 | 12.5 | 25.0 | 25.0 | 6.3 | 7.0 |
| | Corn Flaked 85% | 0.00 | 0.00 | 85.0 | 0.93 | 9.5 | 55.0 | 9.0 | 2.3 | 3.0 |
| | Canola Meal | 0.00 | 0.00 | 92.0 | 0.80 | 38.5 | 34.0 | 36.0 | 9.0 | 18.0 |
| | Shamr ORG Mineral | 3.00 | 2.80 | 93.2 | 0.47 | 4.7 | 48.6 | 4.5 | 1.2 | 1.5 |

| | --lbs-- | lbs-- | %-- | Mcal/d | lb/d | lb/d | lb/d | lb/d | lb/d |
|------------------|---------|-------|------|--------|------|------|------|------|------|
| Totals by weight | 166.25 | 52.00 | 31.3 | 37.32 | 9.5 | 3.2 | 15.5 | 12.1 | 9.6 |
| Requirements | | 51.90 | 0.0 | 36.13 | 8.8 | 2.5 | 15.6 | 11.7 | 10.4 |
| --differences-- | 166.25 | 0.10 | 31.3 | 1.19 | 0.7 | 0.7 | -0.1 | 0.4 | -0.8 |

| DIET SUMMARY | | | | | |
|----------------|-------|--------|-----------------|--------|---------|
| Nutrient(unit) | Total | Reqd | Nutrient(unit) | Total | Reqd |
| CP(%DM) | 18.27 | 18.00* | NFC(%DM) | 38.41 | 0.00 |
| UndegP(%CP) | 33.49 | 25.92 | Starch(%DM) | 24.71 | 0.00 |
| DegP(%CP) | 66.47 | 48.56 | FermSt(%Starch) | 69.26 | 0.00 |
| AbsP(%DM) | 11.58 | 10.50 | Lipid(%DM) | 3.75 | 0.00 |
| SoIP(%CP) | 31.42 | 29.28 | Animal(%Lipid) | 0.00 | 0.00 |
| BndP(%CP) | 6.73 | | Veg(%Lipid) | 100.00 | 0.00 |
| NE1(Mcal/lb) | 0.72 | 0.70 | Inert(%Lipid) | 0.00 | 0.00 |
| NEm(Mcal/lb) | 0.76 | | Ash(%DM) | 9.70 | 0.00 |
| NEg(Mcal/lb) | 0.49 | | Ca(%DM) | 0.89 | 1.00* |
| TDN(%DM) | 71.20 | 0.00 | P(%DM) | 0.41 | 0.38* |
| ADF(%DM) | 18.43 | 20.00* | Mg(%DM) | 0.37 | 0.25* |
| NDF(%DM) | 29.79 | 30.00 | K(%DM) | 2.08 | 1.50* |
| EfNDF(%NDF) | 77.81 | 75.00* | Na(%DM) | 0.40 | 0.18 |
| Cl(%DM) | 0.40 | 0.25 | VitE(IU/lb) | 13.75 | 14.45* |
| S(%DM) | 0.25 | 0.25* | | | |
| Co(ppm) | 1.07 | 0.40* | Cost(\$/day) | 7.76 | |
| Cu(ppm) | 17.35 | 15.00* | Cost(\$/lbDM) | 0.15 | |
| Fe(ppm) | 54.69 | 50.00 | AbsP(lb/d) | 6.02 | 5.45 |
| I(ppm) | 0.75 | 0.60 | | | |
| Mn(ppm) | 66.75 | 60.00* | VitA(KIU/d) | 145.21 | 130.00* |
| Se(ppm) | 0.30 | 0.30 | VitD(KIU/d) | 29.04 | 28.00* |
| Zn(ppm) | 73.12 | 60.00* | VitE(IU/d) | 714.87 | 750.00* |
| VitA(KIU/lb) | 2.79 | 2.50* | | | |
| VitD(KIU/lb) | 0.56 | 0.54* | | | |

| RATIOS & RELATIONSHIPS | | | |
|----------------------------|---------|---------------------------|---------|
| % Forage in diet DM | : 63.0% | DMI / Body Weight | : 3.5% |
| Intake NDF / Body Weight | : 1.0% | Forage NDF / Required NDF | : 88.4% |
| Cation-Anion (meq/100g DM) | : 59.3 | Ca / P | : 2.17 |

SPARTAN DAIRY RATION EVALUATOR
MICHIGAN STATE UNIVERSITY
COOPERATIVE EXTENSION SERVICE
DEPARTMENT OF ANIMAL SCIENCE
Theo Lykos

Lactating HOLSTEIN cow
Age: 41 months Lactation #: 3
Body wt: 1500 lbs Avg gain: 0.7 lbs/day
Milk prod: 75 lbs/day DIM: 120 days
Milk Fat: 3.6% Milk Protein: 3.2%
Condition Score: 2.8 Temperature: 70F

ORGANIC Shamrock HIGH (NO Past) 2-14-11

DAIRY VISIONS, LLC.

File: C:\SPARTD2\DRT\ORGSAM\HI0214NP.DRT 2/13/11

| Mix | Feed | AsFed | LbsDM | DM | NE1 | CP | UndegP | NDF | EfNDF | ADF |
|-------------------|------|-------|-------|------|-------------|------|--------|------|-------|------|
| | | | | % | Mcal/lb-%DM | %CP | %DM | %DM | %DM | %DM |
| Sorghum Silage | | 17.00 | 4.93 | 29.0 | 0.57 | 7.0 | 25.0 | 57.0 | 48.5 | 35.0 |
| Sudan Sil EARLY | | 0.00 | 0.00 | 44.0 | 0.58 | 11.0 | 28.0 | 60.0 | 51.0 | 40.0 |
| Pasture OAT\WHE\V | | 0.00 | 0.00 | 15.0 | 0.67 | 27.0 | 28.0 | 40.0 | 32.0 | 23.0 |
| Alfalfa Hay 180 | | 20.00 | 17.60 | 88.0 | 0.64 | 22.5 | 25.0 | 36.0 | 32.4 | 28.0 |
| Water | | 10.00 | 0.10 | 1.0 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Soybeans, ROASTED | | 2.90 | 2.64 | 91.0 | 0.99 | 42.1 | 55.0 | 15.0 | 3.8 | 10.0 |
| Cottonseed w lint | | 0.00 | 0.00 | 92.0 | 0.90 | 22.0 | 45.0 | 44.0 | 22.0 | 34.0 |
| Sudan Hay | | 0.00 | 0.00 | 92.0 | 0.50 | 4.4 | 30.0 | 70.0 | 70.0 | 47.0 |
| Alfalfa DRY cow | | 9.25 | 8.32 | 90.0 | 0.61 | 18.0 | 28.0 | 42.0 | 37.8 | 31.0 |
| Corn grn ground | | 17.75 | 15.62 | 88.0 | 0.91 | 9.5 | 50.0 | 9.0 | 2.3 | 3.0 |
| Corn Flaked 85% | | 0.00 | 0.00 | 85.0 | 0.93 | 9.5 | 55.0 | 9.0 | 2.3 | 3.0 |
| Soybean Meal 47.5 | | 0.00 | 0.00 | 92.0 | 0.92 | 51.0 | 40.0 | 8.1 | 2.0 | 6.1 |
| Canola Meal | | 0.00 | 0.00 | 92.0 | 0.80 | 38.5 | 34.0 | 36.0 | 9.0 | 18.0 |
| Shamr ORG Mineral | | 3.00 | 2.80 | 93.2 | 0.47 | 4.7 | 48.6 | 4.5 | 1.2 | 1.5 |

| | --lbs-- | lbs--- | %--- | Mcal/d-- | lb/d-- | lb/d-- | lb/d-- | lb/d-- | lb/d-- |
|------------------|---------|--------|------|----------|--------|--------|--------|--------|--------|
| Totals by weight | 79.90 | 52.01 | 65.1 | 37.31 | 8.5 | 2.9 | 14.6 | 11.7 | 10.0 |
| Requirements | | 51.90 | 0.0 | 36.13 | 8.8 | 2.5 | 15.6 | 11.7 | 10.4 |
| --differences-- | 79.90 | 0.11 | 65.1 | 1.18 | -0.3 | 0.5 | -1.0 | 0.0 | -0.4 |

| =====Diet SUMMARY===== | | | | | |
|------------------------|-------|--------|-----------------|--------|---------|
| Nutrient(unit) | Total | Reqd | Nutrient(unit) | Total | Reqd |
| CP(%DM) | 16.40 | 17.00* | NFC(%DM) | 42.73 | 0.00 |
| UndegP(%CP) | 34.15 | 28.81 | Starch(%DM) | 27.52 | 0.00 |
| DegP(%CP) | 65.82 | 55.86 | FermSt(%Starch) | 69.29 | 0.00 |
| AbsP(%DM) | 11.17 | 10.50 | Lipid(%DM) | 3.69 | 0.00 |
| SolP(%CP) | 23.14 | 27.93 | Animal(%Lipid) | 0.00 | 0.00 |
| BndP(%CP) | 8.21 | | Veg(%Lipid) | 100.00 | 0.00 |
| NE1(Mcal/lb) | 0.72 | 0.70 | Inert(%Lipid) | 0.00 | 0.00 |
| NEm(Mcal/lb) | 0.73 | | Ash(%DM) | 9.09 | 0.00 |
| NEg(Mcal/lb) | 0.46 | | Ca(%DM) | 1.16 | 1.00* |
| TDN(%DM) | 68.59 | 0.00 | P(%DM) | 0.37 | 0.38* |
| ADF(%DM) | 19.25 | 20.00* | Mg(%DM) | 0.38 | 0.25* |
| NDF(%DM) | 28.01 | 30.00 | K(%DM) | 1.71 | 1.50* |
| EfNDF(%NDF) | 80.46 | 75.00* | Na(%DM) | 0.41 | 0.18 |
| Cl(%DM) | 0.41 | 0.25 | VitE(IU/lb) | 13.74 | 14.45* |
| S(%DM) | 0.25 | 0.25* | | | |
| Co(ppm) | 1.07 | 0.40* | Cost(\$/day) | | |
| Cu(ppm) | 17.35 | 15.00* | Cost(\$/lbDM) | | |
| Fe(ppm) | 54.67 | 50.00 | AbsP(lb/d) | 5.81 | 5.45 |
| I(ppm) | 0.75 | 0.60 | | | |
| Mn(ppm) | 66.73 | 60.00* | VitA(KIU/d) | 145.21 | 130.00* |
| Se(ppm) | 0.30 | 0.30 | VitD(KIU/d) | 79.04 | 28.00* |
| Zn(ppm) | 73.10 | 60.00* | VitE(IU/d) | 714.87 | 750.00* |
| VitA(KIU/lb) | 2.79 | 2.50* | | | |
| VitD(KIU/lb) | 0.56 | 0.54* | | | |

| =====RATIOS & RELATIONSHIPS===== | | | | | |
|----------------------------------|---------|---------------------------|---------|--|--|
| % Forage in diet DM | : 59.3% | DMI / Body Weight | : 3.5% | | |
| Intake NDF / Body Weight | : 1.0% | Forage NDF / Required NDF | : 81.2% | | |
| Cation-Anion (meq/100g DM) | : 49.9 | Ca / P | : 3.12 | | |

START
2/24/11

FRESH
also

17.60
8.32
25.92

49.8% hay

49,8356989

MONTHLY PASTURE DRY MATTER INTAKE

MONTH 11-Mar
DAY 28
TOT DAYS 31

MONTHLY AVG
HIGH MILK COW 438
DM BUDGET 103.80
DM ACTUAL 79.18
DM FROM PAST 24.62
% DM FROM PAST 0.24

Doubled for 8 pens.

2906.40
2217.08
689.32
0.24

| DATE | COWS | BUD. DMI | DMI FED | PAST. DMI | % DM FROM PAST | 3 DAY AVG | 7 DAY AVG |
|----------|------|----------|---------|-----------|----------------|-----------|-----------|
| 03/01/11 | 432 | 109.54 | 109.54 | 0 | 0.00 | | |
| 03/02/11 | 434 | 107.42 | 107.42 | 0 | 0.00 | | |
| 03/03/11 | 437 | 108.87 | 108.87 | 0 | 0.00 | 0.00 | |
| 03/04/11 | 438 | 103.80 | 101.40 | 2.4 | 0.02 | 0.01 | |
| 03/05/11 | 441 | 103.80 | 89.04 | 14.76 | 0.14 | 0.06 | |
| 03/06/11 | 443 | 103.80 | 87.50 | 16.3 | 0.16 | 0.11 | |
| 03/07/11 | 446 | 103.80 | 90.14 | 13.66 | 0.13 | 0.14 | 0.06 |
| 03/08/11 | 453 | 103.80 | 87.73 | 16.07 | 0.15 | 0.15 | 0.09 |
| 03/09/11 | 456 | 103.80 | 84.95 | 18.85 | 0.18 | 0.16 | 0.11 |
| 03/10/11 | 426 | 103.80 | 84.65 | 19.15 | 0.18 | 0.17 | 0.14 |
| 03/11/11 | 426 | 103.80 | 87.13 | 16.67 | 0.16 | 0.18 | 0.16 |
| 03/12/11 | 426 | 103.80 | 87.95 | 15.85 | 0.15 | 0.17 | 0.16 |
| 03/13/11 | 427 | 103.80 | 88.28 | 15.52 | 0.15 | 0.15 | 0.16 |
| 03/14/11 | 432 | 103.80 | 89.39 | 14.41 | 0.14 | 0.15 | 0.16 |
| 03/15/11 | 431 | 103.80 | 91.74 | 12.06 | 0.12 | 0.13 | 0.15 |
| 03/16/11 | 431 | 103.80 | 84.19 | 19.61 | 0.19 | 0.15 | 0.16 |
| 03/17/11 | 431 | 103.80 | 70.31 | 33.49 | 0.32 | 0.21 | 0.18 |
| 03/18/11 | 437 | 103.80 | 72.90 | 30.9 | 0.30 | 0.27 | 0.20 |
| 03/19/11 | 443 | 103.80 | 70.96 | 32.84 | 0.32 | 0.31 | 0.22 |
| 03/20/11 | 439 | 103.80 | 62.66 | 41.14 | 0.40 | 0.34 | 0.25 |
| 03/21/11 | 441 | 103.80 | 72.23 | 31.57 | 0.30 | 0.34 | 0.28 |
| 03/22/11 | 442 | 103.80 | 73.81 | 29.99 | 0.29 | 0.33 | 0.30 |
| 03/23/11 | 442 | 103.80 | 70.27 | 33.53 | 0.32 | 0.31 | 0.32 |
| 03/24/11 | 444 | 103.80 | 71.64 | 32.16 | 0.31 | 0.31 | 0.32 |
| 03/25/11 | 446 | 103.80 | 72.42 | 31.38 | 0.30 | 0.31 | 0.32 |
| 03/26/11 | 445 | 103.80 | 71.45 | 32.35 | 0.31 | 0.31 | 0.32 |
| 03/27/11 | 445 | 103.80 | 70.92 | 32.88 | 0.32 | 0.31 | 0.31 |
| 03/28/11 | 445 | 103.80 | 72.17 | 31.63 | 0.30 | 0.31 | 0.31 |
| 03/29/11 | 433 | 103.80 | 70.75 | 33.05 | 0.32 | 0.31 | 0.31 |
| 03/30/11 | 428 | 103.80 | 69.89 | 33.91 | 0.33 | 0.32 | 0.31 |
| 03/31/11 | 430 | 103.80 | 70.61 | 33.19 | 0.32 | 0.32 | 0.31 |

MONTHLY PASTURE DRY MATTER INTAKE

MONTH 11-Apr
 DAY 30
 TOT DAYS 30

MONTHLY AVG
 HIGH COWS 438
 DM BUDGET 103.80 2906.40
 DM ACTUAL 71.57 2002.76
 DM FROM PAST 32.23
 % DM FROM PAST 0.31

| DATE | COWS | BUD. DMI | DMI FED | PAST. DMI | % DM FROM PAST | 3 DAY AVG | 7 DAY AVG |
|----------------|------|----------|---------|-----------|----------------|-----------|-----------|
| April 1, 2011 | 432 | 103.8 | 73.73 | 30.07 | 0.29 | | |
| April 2, 2011 | 432 | 103.8 | 70.65 | 33.15 | 0.32 | | |
| April 3, 2011 | 436 | 103.8 | 71.61 | 32.19 | 0.31 | 0.31 | |
| April 4, 2011 | 440 | 103.8 | 71.91 | 31.89 | 0.31 | 0.31 | |
| April 5, 2011 | 444 | 103.8 | 71.92 | 31.88 | 0.31 | 0.31 | |
| April 6, 2011 | 443 | 103.8 | 68.56 | 35.24 | 0.34 | 0.32 | |
| April 7, 2011 | 444 | 103.8 | 69.46 | 34.34 | 0.33 | 0.33 | 0.31 |
| April 8, 2011 | 439 | 103.8 | 73.51 | 30.29 | 0.29 | 0.32 | 0.32 |
| April 9, 2011 | 443 | 103.8 | 71.57 | 32.23 | 0.31 | 0.31 | 0.31 |
| April 10, 2011 | 443 | 103.8 | 72.28 | 31.52 | 0.30 | 0.30 | 0.31 |
| April 11, 2011 | 439 | 103.8 | 70.79 | 33.01 | 0.32 | 0.31 | 0.31 |
| April 12, 2011 | 451 | 103.80 | 68.94 | 34.86 | 0.34 | 0.32 | 0.32 |
| April 13, 2011 | 448 | 103.80 | 70.40 | 33.40 | 0.32 | 0.33 | 0.32 |
| April 14, 2011 | 451 | 103.80 | 70.97 | 32.83 | 0.32 | 0.32 | 0.31 |
| April 15, 2011 | 451 | 103.80 | 74.52 | 29.28 | 0.28 | 0.31 | 0.31 |
| April 16, 2011 | 425 | 103.80 | 70.30 | 33.50 | 0.32 | 0.31 | 0.31 |
| April 17, 2011 | 427 | 103.80 | 72.78 | 31.02 | 0.30 | 0.30 | 0.31 |
| April 18, 2011 | 429 | 103.80 | 73.23 | 30.57 | 0.29 | 0.31 | 0.31 |
| April 19, 2011 | 429 | 103.80 | 70.75 | 33.05 | 0.32 | 0.30 | 0.31 |
| April 20, 2011 | 435 | 103.80 | 69.89 | 33.91 | 0.33 | 0.31 | 0.31 |
| April 21, 2011 | 432 | 103.80 | 70.42 | 33.38 | 0.32 | 0.32 | 0.31 |
| April 22, 2011 | 432 | 103.80 | 71.91 | 31.89 | 0.31 | 0.32 | 0.31 |
| April 23, 2011 | 432 | 103.80 | 71.87 | 31.93 | 0.31 | 0.31 | 0.31 |
| April 24, 2011 | 432 | 103.80 | 72.90 | 30.90 | 0.30 | 0.30 | 0.31 |
| April 25, 2011 | 438 | 103.80 | 73.40 | 30.40 | 0.29 | 0.30 | 0.31 |
| April 26, 2011 | 437 | 103.80 | 72.32 | 31.48 | 0.30 | 0.30 | 0.31 |
| April 27, 2011 | 438 | 103.80 | 70.05 | 33.75 | 0.33 | 0.31 | 0.31 |
| April 28, 2011 | 435 | 103.80 | 72.12 | 31.68 | 0.31 | 0.31 | 0.31 |
| April 29, 2011 | 435 | 103.80 | 71.08 | 32.72 | 0.32 | 0.32 | 0.31 |
| April 30, 2011 | 440 | 103.80 | 73.39 | 30.41 | 0.29 | 0.30 | 0.30 |

0.27

MONTHLY PASTURE DRY MATTER INTAKE

MONTH 11-May
 DAY 23
 TOT DAYS 31

MONTHLY AVG
 HIGH MILK COW 420
 DM BUDGET 103.80
 DM ACTUAL 71.86
 DM FROM PAST 31.94
 % DM FROM PAST 0.31

| DATE | COWS | BUD. DMI | DMI FED | PAST. DMI | % DM FROM PAST | 3 DAY AVG | 7 DAY AVG |
|----------|------|----------|---------|-----------|----------------|-----------|-----------|
| 05/01/11 | 441 | 103.80 | 66.79 | 37.01 | 0.36 | | |
| 05/02/11 | 440 | 103.80 | 71.46 | 32.34 | 0.31 | | |
| 05/03/11 | 438 | 103.80 | 71.86 | 31.94 | 0.31 | 0.33 | |
| 05/04/11 | 419 | 103.80 | 70.27 | 33.53 | 0.32 | 0.31 | |
| 05/05/11 | 418 | 103.80 | 70.17 | 33.63 | 0.32 | 0.32 | |
| 05/06/11 | 419 | 103.80 | 72.70 | 31.1 | 0.30 | 0.32 | |
| 05/07/11 | 419 | 103.80 | 74.29 | 29.51 | 0.28 | 0.30 | 0.32 |
| 05/08/11 | 419 | 103.80 | 70.88 | 32.92 | 0.32 | 0.30 | 0.31 |
| 05/09/11 | 421 | 103.80 | 71.27 | 32.53 | 0.31 | 0.30 | 0.31 |
| 05/10/11 | 423 | 103.80 | 70.88 | 32.92 | 0.32 | 0.32 | 0.31 |
| 05/11/11 | 423 | 103.80 | 77.80 | 26 | 0.25 | 0.29 | 0.30 |
| 05/12/11 | 423 | 103.80 | 78.88 | 24.92 | 0.24 | 0.27 | 0.29 |
| 05/13/11 | 423 | 103.80 | 70.70 | 33.1 | 0.32 | 0.27 | 0.29 |
| 05/14/11 | 422 | 103.80 | 70.43 | 33.37 | 0.32 | 0.29 | 0.30 |
| 05/15/11 | 423 | 103.80 | 74.92 | 28.88 | 0.28 | 0.31 | 0.29 |
| 05/16/11 | 424 | 103.80 | 70.34 | 33.46 | 0.32 | 0.31 | 0.29 |
| 05/17/11 | 423 | 103.80 | 70.98 | 32.82 | 0.32 | 0.31 | 0.29 |
| 05/18/11 | 423 | 103.80 | 70.98 | 32.82 | 0.32 | 0.32 | 0.30 |
| 05/19/11 | 421 | 103.80 | 70.99 | 32.81 | 0.32 | 0.32 | 0.31 |
| 05/20/11 | 424 | 103.80 | 69.45 | 34.35 | 0.33 | 0.32 | 0.31 |
| 05/21/11 | 424 | 103.80 | 72.41 | 31.39 | 0.30 | 0.32 | 0.31 |
| 05/22/11 | 316 | 103.80 | 72.14 | 31.66 | 0.31 | 0.31 | 0.32 |
| 05/23/11 | 428 | 103.80 | 72.27 | 31.53 | 0.30 | 0.30 | 0.31 |
| 05/24/11 | 432 | 0.00 | 0.00 | 0 | #DIV/0! | #DIV/0! | #DIV/0! |
| 05/25/11 | 431 | 0.00 | 0.00 | 0 | #DIV/0! | #DIV/0! | #DIV/0! |
| 05/26/11 | 428 | 0.00 | 0.00 | 0 | #DIV/0! | #DIV/0! | #DIV/0! |
| 05/27/11 | 431 | 0.00 | 0.00 | 0 | #DIV/0! | #DIV/0! | #DIV/0! |
| 05/28/11 | 429 | 0.00 | 0.00 | 0 | #DIV/0! | #DIV/0! | #DIV/0! |
| 05/29/11 | 430 | 0.00 | 0.00 | 0 | #DIV/0! | #DIV/0! | #DIV/0! |
| 05/30/11 | 428 | 0.00 | 0.00 | 0 | #DIV/0! | #DIV/0! | #DIV/0! |
| 05/31/11 | 427 | 0.00 | 0.00 | 0 | #DIV/0! | #DIV/0! | #DIV/0! |

SPARTAN DAIRY RATION EVALUATOR
MICHIGAN STATE UNIVERSITY
COOPERATIVE EXTENSION SERVICE
DEPARTMENT OF ANIMAL SCIENCE
Theo Lykos

Lactating HOLSTEIN cow
Age: 41 months Lactation #: 3
Body wt: 1550 lbs Avg gain: 0.9 lbs/day
Milk prod: 55 lbs/day DIM: 220 days
Milk Fat: 3.8% Milk Protein: 3.4%
Condition Score: 3.0 Temperature: 70F

ORGANIC Shamrock LOW (30% Past) 2-14-11

DAIRY VISIONS, LLC.

File: C:\SPARTD2\DRT\ORGSHAM\LO021430.DRT 2/13/11

| Mix | Feed | AsFed | LbsDM | DM | NEI | CP | UndegP | NDF | EFNDF | ADF |
|-----|-------------------|-------|-------|------|-------------|------|--------|------|-------|------|
| | | | | % | Mcal/lb-%DM | %CP | %DM | %DM | %DM | %DM |
| | Sorghum Silage | 20.00 | 5.80 | 29.0 | 0.57 | 7.0 | 25.0 | 57.0 | 48.5 | 35.0 |
| | Sudan Sil EARLY | 0.00 | 0.00 | 44.0 | 0.58 | 11.0 | 28.0 | 60.0 | 51.0 | 40.0 |
| | Pasture OAT\WHE\V | 96.00 | 14.40 | 15.0 | 0.67 | 27.0 | 28.0 | 40.0 | 34.0 | 23.0 |
| | Alfalfa Hay 180 | 10.60 | 9.33 | 88.0 | 0.64 | 22.5 | 25.0 | 36.0 | 32.4 | 28.0 |
| | Water | 9.00 | 0.09 | 1.0 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Cottonseed w lint | 0.00 | 0.00 | 92.0 | 0.90 | 22.0 | 45.0 | 44.0 | 22.0 | 34.0 |
| | Sudan Hay | 0.00 | 0.00 | 92.0 | 0.50 | 4.4 | 30.0 | 70.0 | 70.0 | 47.0 |
| | Alfalfa DRY Cow | 6.00 | 5.40 | 90.0 | 0.61 | 18.0 | 28.0 | 42.0 | 37.8 | 31.0 |
| | Corn grn ground | 12.90 | 11.35 | 88.0 | 0.91 | 9.5 | 50.0 | 9.0 | 2.3 | 3.0 |
| | Corn Flaked 85% | 0.00 | 0.00 | 85.0 | 0.93 | 9.5 | 55.0 | 9.0 | 2.3 | 3.0 |
| | Soybean Meal 47.5 | 0.00 | 0.00 | 92.0 | 0.92 | 51.0 | 40.0 | 8.1 | 2.0 | 6.1 |
| | Sesame meal | 0.00 | 0.00 | 92.0 | 0.77 | 41.0 | 34.0 | 28.0 | 7.0 | 18.0 |
| | Canola Meal | 0.00 | 0.00 | 92.0 | 0.80 | 38.5 | 34.0 | 36.0 | 9.0 | 18.0 |
| | Shamr ORG Mineral | 1.65 | 1.54 | 93.2 | 0.47 | 4.7 | 48.6 | 4.5 | 1.2 | 1.5 |

9.33
5.40
14.73

| | --lbs-- | lbs-- | %-- | Mcal/d-- | lb/d-- | lb/d-- | lb/d-- | lb/d-- | lb/d-- |
|------------------|---------|-------|------|----------|--------|--------|--------|--------|--------|
| Totals by weight | 156.15 | 47.91 | 30.7 | 33.28 | 8.5 | 2.6 | 15.8 | 13.0 | 10.0 |
| Requirements | | 47.88 | 0.0 | 33.99 | 7.2 | 1.9 | 14.4 | 10.8 | 9.6 |
| --differences-- | 156.15 | 0.03 | 30.7 | -0.71 | 1.3 | 0.7 | 1.4 | 2.3 | 0.4 |

| DIET SUMMARY | | | | | |
|----------------|-------|--------|-----------------|--------|---------|
| Nutrient(unit) | Total | Reqd | Nutrient(unit) | Total | Reqd |
| CP(%DM) | 17.77 | 15.25* | Starch(%DM) | 21.68 | 0.00 |
| UndegP(%CP) | 30.08 | 21.82 | FermSt(%Starch) | 69.44 | 0.00 |
| DegP(%CP) | 69.90 | 48.90 | Lipid(%DM) | 2.77 | 0.00 |
| AbsP(%DM) | 10.82 | 9.65 | Animal(%Lipid) | 0.00 | 0.00 |
| SoLP(%CP) | 36.10 | 28.45 | Veg(%Lipid) | 100.00 | 0.00 |
| BndP(%CP) | 7.07 | | Inert(%Lipid) | 0.00 | 0.00 |
| NEI(Mcal/lb) | 0.69 | 0.71* | Ash(%DM) | 9.27 | 0.00 |
| NEM(Mcal/lb) | 0.73 | | Ca(%DM) | 0.84 | 0.80* |
| NEG(Mcal/lb) | 0.47 | | P(%DM) | 0.36 | 0.31 |
| TDN(%DM) | 69.23 | 0.00 | Mg(%DM) | 0.33 | 0.25* |
| ADF(%DM) | 20.86 | 20.00* | K(%DM) | 2.24 | 0.90 |
| NDF(%DM) | 32.94 | 30.00 | Na(%DM) | 0.29 | 0.18 |
| EFNDF(%NDF) | 82.65 | 75.00* | Cl(%DM) | 0.40 | 0.25 |
| NFC(%DM) | 37.22 | 0.00 | S(%DM) | 0.25 | 0.20 |
| Co(ppm) | 0.64 | 0.30* | | | |
| Cu(ppm) | 10.36 | 10.00 | Cost(\$/day) | | |
| Fe(ppm) | 32.65 | 50.00 | Cost(\$/lbDM) | | |
| I(ppm) | 0.45 | 0.60 | AbsP(lb/d) | 5.18 | 4.62 |
| Mn(ppm) | 39.85 | 40.00 | | | |
| Se(ppm) | 0.19 | 0.30 | VitA(KIU/d) | 79.87 | 100.00* |
| Zn(ppm) | 43.65 | 40.00 | VitD(KIU/d) | 15.97 | 25.00* |
| VitA(KIU/lb) | 1.67 | 2.09* | VitE(IU/d) | 393.22 | 400.00* |
| VitD(KIU/lb) | 0.33 | 0.52* | | | |
| VitE(IU/lb) | 8.21 | 8.36* | | | |

| RATIOS & RELATIONSHIPS | | | |
|----------------------------|---------|---------------------------|----------|
| % Forage in diet DM | : 72.9% | DMI / Body Weight | : 3.1% |
| Intake NDF / Body Weight | : 1.0% | Forage NDF / Required NDF | : 102.3% |
| Cation-Anion (meq/100g DM) | : 58.6 | Ca / P | : 2.33 |

SPARTAN DAIRY RATION EVALUATOR
MICHIGAN STATE UNIVERSITY
COOPERATIVE EXTENSION SERVICE
DEPARTMENT OF ANIMAL SCIENCE
Theo Lykos

Lactating HOLSTEIN cow
Age: 41 months Lactation #: 3
Body wt: 1550 lbs Avg gain: 0.9 lbs/day
Milk prod: 55 lbs/day DIM: 220 days
Milk Fat: 3.8% Milk Protein: 3.4%
Condition Score: 3.0 Temperature: 70F

ORGANIC Shamrock LOW (NO Past) 2-14-11

DAIRY VISIONS, LLC.

File: C:\SPARTD2\DR\ORGSAM\LO0214NP.DRT 2/13/11

| Mix | Feed | AsFed | LbsDM | DM | NE1 | CP | UndegP | NDF | EfNDF | ADF |
|-------------------|------|-------|-------|------|-------------|------|--------|------|-------|------|
| | | | | % | Mcal/lb-%DM | %CP | %DM | %DM | %DM | %DM |
| Sorghum Silage | | 20.00 | 5.80 | 29.0 | 0.57 | 7.0 | 25.0 | 57.0 | 48.5 | 35.0 |
| Sudan Sil EARLY | | 0.00 | 0.00 | 44.0 | 0.58 | 11.0 | 28.0 | 60.0 | 51.0 | 40.0 |
| Pasture OAT\WHE\V | | 0.00 | 0.00 | 15.0 | 0.67 | 27.0 | 28.0 | 40.0 | 34.0 | 23.0 |
| Alfalfa Hay 180 | | 21.00 | 18.48 | 88.0 | 0.64 | 22.5 | 25.0 | 36.0 | 32.4 | 28.0 |
| Sunflower meal | | 0.00 | 0.00 | 92.0 | 0.67 | 49.0 | 27.0 | 15.0 | 3.8 | 10.0 |
| Water | | 9.00 | 0.09 | 1.0 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Cottonseed w lint | | 0.00 | 0.00 | 92.0 | 0.90 | 22.0 | 45.0 | 44.0 | 22.0 | 34.0 |
| Sudan Hay | | 0.00 | 0.00 | 92.0 | 0.50 | 4.4 | 30.0 | 70.0 | 70.0 | 47.0 |
| Alfalfa DRY Cow | | 10.50 | 9.45 | 90.0 | 0.61 | 18.0 | 28.0 | 42.0 | 37.8 | 31.0 |
| Corn grn ground | | 14.25 | 12.54 | 88.0 | 0.91 | 9.5 | 50.0 | 9.0 | 2.3 | 3.0 |
| Corn Flaked 85% | | 0.00 | 0.00 | 85.0 | 0.93 | 9.5 | 55.0 | 9.0 | 2.3 | 3.0 |
| Soybean Meal 47.5 | | 0.00 | 0.00 | 92.0 | 0.92 | 51.0 | 40.0 | 8.1 | 2.0 | 6.1 |
| Canola Meal | | 0.00 | 0.00 | 92.0 | 0.80 | 38.5 | 34.0 | 36.0 | 9.0 | 18.0 |
| Shamr ORG Mineral | | 1.65 | 1.54 | 93.2 | 0.47 | 4.7 | 48.6 | 4.5 | 1.2 | 1.5 |

| | --lbs-- | lbs-- | %-- | Mcal/d-- | lb/d-- | lb/d-- | lb/d-- | lb/d-- | lb/d-- |
|------------------|---------|-------|------|----------|--------|--------|--------|--------|--------|
| Totals by weight | 76.40 | 47.90 | 62.7 | 33.04 | 7.5 | 2.2 | 15.1 | 12.7 | 10.5 |
| Requirements | | 47.88 | 0.0 | 33.99 | 7.2 | 1.9 | 14.4 | 10.8 | 9.6 |
| --differences-- | 76.40 | 0.02 | 62.7 | -0.95 | 0.3 | 0.4 | 0.8 | 1.9 | 1.0 |

=====DIET SUMMARY=====

| Nutrient(unit) | Total | Reqd | Nutrient(unit) | Total | Reqd |
|----------------|-------|--------|-----------------|--------|---------|
| CP(%DM) | 15.72 | 15.25* | Starch(%DM) | 24.28 | 0.00 |
| UndegP(%CP) | 29.86 | 25.06 | FermSt(%Starch) | 69.50 | 0.00 |
| DegP(%CP) | 70.12 | 56.75 | Lipid(%DM) | 2.75 | 0.00 |
| AbsP(%DM) | 10.25 | 9.65 | Animal(%Lipid) | 0.00 | 0.00 |
| SolP(%CP) | 25.78 | 28.38 | Veg(%Lipid) | 100.00 | 0.00 |
| BndP(%CP) | 8.78 | | Inert(%Lipid) | 0.00 | 0.00 |
| NE1(Mcal/lb) | 0.69 | 0.71* | Ash(%DM) | 8.73 | 0.00 |
| NEm(Mcal/lb) | 0.69 | | Ca(%DM) | 1.13 | 0.80* |
| NEg(Mcal/lb) | 0.43 | | P(%DM) | 0.32 | 0.31 |
| TDN(%DM) | 66.22 | 0.00 | Mg(%DM) | 0.34 | 0.25* |
| ADF(%DM) | 21.99 | 20.00* | K(%DM) | 1.88 | 0.90 |
| NDF(%DM) | 31.58 | 30.00 | Na(%DM) | 0.30 | 0.18 |
| EfNDF(%NDF) | 83.77 | 75.00* | Cl(%DM) | 0.41 | 0.25 |
| NFC(%DM) | 41.20 | 0.00 | S(%DM) | 0.25 | 0.20 |
| Co(ppm) | 0.64 | 0.30* | | | |
| Cu(ppm) | 10.36 | 10.00 | Cost(\$/day) | | |
| Fe(ppm) | 32.66 | 50.00 | Cost(\$/lbDM) | | |
| I(ppm) | 0.45 | 0.60 | AbsP(lb/d) | 4.91 | 4.62 |
| Mn(ppm) | 39.86 | 40.00 | | | |
| Se(ppm) | 0.19 | 0.30 | VitA(KIU/d) | 79.87 | 100.00* |
| Zn(ppm) | 43.66 | 40.00 | VitD(KIU/d) | 15.97 | 25.00* |
| VitA(KIU/lb) | 1.67 | 2.09* | VitE(IU/d) | 393.22 | 400.00* |
| VitD(KIU/lb) | 0.33 | 0.52* | | | |
| VitE(IU/lb) | 8.21 | 8.36* | | | |

=====RATIOS & RELATIONSHIPS=====

| | | | |
|----------------------------|---------|---------------------------|---------|
| % Forage in diet DM | : 70.4% | DMI / Body Weight | : 3.1% |
| Intake NDF / Body Weight | : 1.0% | Forage NDF / Required NDF | : 97.0% |
| Cation-Anion (meq/100g DM) | : 49.5 | Ca / P | : 3.54 |

START
2/24/11

18.48
9.45
27.93

58.3%
Ref

MONTHLY PASTURE DRY MATTER INTAKE PEN 7

MONTH 11-Mar
DAY 22
TOT DAYS 31

MONTHLY AVG
LOW COW 96
DM BUDGET 47.87 1053.14
DM ACTUAL 37.64 828.18
DM FROM PAST 10.23 224.96
% DM FROM PAST 0.21 0.21

| DATE | COWS | BUD. DMI | DMI FED | PAST. DMI | % DM FROM PAST | 3 DAY AVG | 7 DAY AVG |
|----------|------|----------|---------|-----------|----------------|-----------|-----------|
| 03/01/11 | 87 | 23.00 | 23.00 | 0 | 0.00 | | |
| 03/02/11 | 87 | 50.71 | 50.71 | 0 | 0.00 | | |
| 03/03/11 | 79 | 48.26 | 48.26 | 0 | 0.00 | 0.00 | |
| 03/04/11 | 79 | 47.87 | 50.20 | -2.33 | -0.05 | -0.02 | |
| 03/05/11 | 79 | 47.87 | 43.30 | 4.57 | 0.10 | 0.02 | |
| 03/06/11 | 79 | 47.87 | 40.37 | 7.5 | 0.16 | 0.07 | |
| 03/07/11 | 79 | 47.87 | 39.23 | 8.64 | 0.18 | 0.14 | 0.05 |
| 03/08/11 | 79 | 47.87 | 34.44 | 13.43 | 0.28 | 0.21 | 0.09 |
| 03/09/11 | 79 | 47.87 | 31.99 | 15.88 | 0.33 | 0.26 | 0.14 |
| 03/10/11 | 107 | 47.87 | 41.62 | 6.25 | 0.13 | 0.25 | 0.16 |
| 03/11/11 | 106 | 47.87 | 39.57 | 8.3 | 0.17 | 0.21 | 0.19 |
| 03/12/11 | 106 | 47.87 | 41.84 | 6.03 | 0.13 | 0.14 | 0.20 |
| 03/13/11 | 105 | 47.87 | 40.58 | 7.29 | 0.15 | 0.15 | 0.20 |
| 03/14/11 | 105 | 47.87 | 41.27 | 6.6 | 0.14 | 0.14 | 0.19 |
| 03/15/11 | 104 | 47.87 | 39.62 | 8.25 | 0.17 | 0.15 | 0.17 |
| 03/16/11 | 104 | 47.87 | 43.52 | 4.35 | 0.09 | 0.13 | 0.14 |
| 03/17/11 | 104 | 47.87 | 33.74 | 14.13 | 0.30 | 0.19 | 0.16 |
| 03/18/11 | 96 | 47.87 | 33.78 | 14.09 | 0.29 | 0.23 | 0.18 |
| 03/19/11 | 95 | 47.87 | 32.12 | 15.75 | 0.33 | 0.31 | 0.21 |
| 03/20/11 | 95 | 47.87 | 28.83 | 19.04 | 0.40 | 0.34 | 0.25 |
| 03/21/11 | 95 | 47.87 | 35.16 | 12.71 | 0.27 | 0.33 | 0.26 |
| 03/22/11 | 95 | 47.87 | 33.08 | 14.79 | 0.31 | 0.32 | 0.28 |
| 03/23/11 | 94 | 47.87 | 32.39 | 15.48 | 0.32 | 0.30 | 0.32 |
| 03/24/11 | 93 | 47.87 | 33.52 | 14.35 | 0.30 | 0.31 | 0.32 |
| 03/25/11 | 94 | 47.87 | 38.01 | 9.86 | 0.21 | 0.28 | 0.30 |
| 03/26/11 | 94 | 47.04 | 47.04 | 0 | 0.00 | 0.17 | 0.26 |
| 03/27/11 | 94 | 47.63 | 47.63 | 0 | 0.00 | 0.07 | 0.20 |
| 03/28/11 | 94 | 48.97 | 48.97 | 0 | 0.00 | 0.00 | 0.16 |
| 03/29/11 | 121 | 48.64 | 48.64 | 0 | 0.00 | 0.00 | 0.12 |
| 03/30/11 | 121 | 48.00 | 48.00 | 0 | 0.00 | 0.00 | 0.07 |
| 03/31/11 | 121 | 46.34 | 46.34 | 0 | 0.00 | 0.00 | 0.03 |
| | | | | | 0.21 | | |

MONTHLY PASTURE DRY MATTER INTAKE PEN 7 LOW COWS

MONTH 11-Apr
 DAY 28
 TOT DAYS 30

MONTHLY AVG
 LOW COWS 110
 DM BUDGET 47.95
 DM ACTUAL 31.41
 DM FROM PAST 16.55
 % DM FROM PAST 0.35

| DATE | COWS | BUD. DMI | DMI FED | PAST. DMI | % DM FROM PAST | 3 DAY AVG | 7 DAY AVG |
|----------|------|----------|---------|-----------|----------------|-----------|-----------|
| 04/01/11 | 119 | 47.90 | 47.90 | 0.00 | 0.00 | | |
| 04/02/11 | 119 | 50.35 | 50.35 | 0.00 | 0.00 | | |
| 04/03/11 | 119 | 47.87 | 33.56 | 14.31 | 0.30 | 0.10 | |
| 04/04/11 | 119 | 47.87 | 34.20 | 13.67 | 0.29 | 0.19 | |
| 04/05/11 | 119 | 47.87 | 34.34 | 13.53 | 0.28 | 0.29 | |
| 04/06/11 | 119 | 47.87 | 31.74 | 16.13 | 0.34 | 0.30 | |
| 04/07/11 | 109 | 47.87 | 32.79 | 15.08 | 0.32 | 0.31 | 0.22 |
| 04/08/11 | 108 | 47.87 | 35.02 | 12.85 | 0.27 | 0.31 | 0.26 |
| 04/09/11 | 108 | 47.87 | 33.23 | 14.64 | 0.31 | 0.30 | 0.30 |
| 04/10/11 | 108 | 47.87 | 33.08 | 14.79 | 0.31 | 0.29 | 0.30 |
| 04/11/11 | 107 | 47.87 | 33.06 | 14.81 | 0.31 | 0.31 | 0.30 |
| 04/12/11 | 107 | 47.87 | 33.77 | 14.10 | 0.29 | 0.30 | 0.31 |
| 04/13/11 | 107 | 47.87 | 33.62 | 14.25 | 0.30 | 0.30 | 0.30 |
| 04/14/11 | 94 | 47.87 | 34.16 | 13.71 | 0.29 | 0.29 | 0.30 |
| 04/15/11 | 94 | 47.87 | 33.61 | 14.26 | 0.30 | 0.29 | 0.30 |
| 04/16/11 | 131 | 47.87 | 32.94 | 14.93 | 0.31 | 0.30 | 0.30 |
| 04/17/11 | 131 | 47.87 | 32.00 | 15.87 | 0.33 | 0.31 | 0.30 |
| 04/18/11 | 130 | 47.87 | 33.47 | 14.40 | 0.30 | 0.31 | 0.30 |
| 04/19/11 | 130 | 47.87 | 33.43 | 14.44 | 0.30 | 0.31 | 0.30 |
| 04/20/11 | 130 | 47.87 | 32.48 | 15.39 | 0.32 | 0.31 | 0.31 |
| 04/21/11 | 123 | 47.87 | 33.58 | 14.29 | 0.30 | 0.31 | 0.31 |
| 04/22/11 | 123 | 47.87 | 33.54 | 14.33 | 0.30 | 0.31 | 0.31 |
| 04/23/11 | 123 | 47.87 | 32.15 | 15.72 | 0.33 | 0.31 | 0.31 |
| 04/24/11 | 123 | 47.87 | 34.36 | 13.51 | 0.28 | 0.30 | 0.30 |
| 04/25/11 | 124 | 47.87 | 35.43 | 12.44 | 0.26 | 0.29 | 0.30 |
| 04/26/11 | 124 | 47.87 | 34.32 | 13.55 | 0.28 | 0.28 | 0.30 |
| 04/27/11 | 124 | 47.87 | 34.07 | 13.80 | 0.29 | 0.28 | 0.29 |
| 04/28/11 | 119 | 47.87 | 34.63 | 13.24 | 0.28 | 0.28 | 0.29 |
| 04/29/11 | 119 | 47.87 | 34.48 | 13.39 | 0.28 | 0.28 | 0.29 |
| 04/30/11 | 118 | 47.87 | 35.17 | 12.70 | 0.27 | 0.27 | 0.28 |

0.29

MONTHLY PASTURE DRY MATTER INTAKE PEN 7

MONTH 11-May
DAY 31
TOT DAYS 31

MONTHLY AVG
LOW COW 123
DM BUDGET 47.87
DM ACTUAL 33.11
DM FROM PAST 14.76
% DM FROM PAST 0.31

| DATE | COWS | BUD. DMI | DMI FED | PAST. DMI | % DM FROM PAST | 3 DAY AVG | 7 DAY AVG |
|----------|------|----------|---------|-----------|----------------|-----------|-----------|
| 05/01/11 | 118 | 47.87 | 35.31 | 12.56 | 0.26 | | |
| 05/02/11 | 116 | 47.87 | 34.52 | 13.35 | 0.28 | | |
| 05/03/11 | 116 | 47.87 | 34.83 | 13.04 | 0.27 | 0.27 | |
| 05/04/11 | 141 | 47.87 | 32.55 | 15.32 | 0.32 | 0.29 | |
| 05/05/11 | 141 | 47.87 | 32.64 | 15.23 | 0.32 | 0.30 | |
| 05/06/11 | 131 | 47.87 | 33.59 | 14.28 | 0.30 | 0.31 | |
| 05/07/11 | 131 | 47.87 | 35.86 | 12.01 | 0.25 | 0.29 | 0.29 |
| 05/08/11 | 131 | 47.87 | 33.16 | 14.71 | 0.31 | 0.29 | 0.29 |
| 05/09/11 | 130 | 47.87 | 32.34 | 15.53 | 0.32 | 0.29 | 0.30 |
| 05/10/11 | 130 | 47.87 | 33.24 | 14.63 | 0.31 | 0.31 | 0.30 |
| 05/11/11 | 130 | 47.87 | 32.49 | 15.38 | 0.32 | 0.32 | 0.30 |
| 05/12/11 | 126 | 47.87 | 34.40 | 13.47 | 0.28 | 0.30 | 0.30 |
| 05/13/11 | 126 | 47.87 | 32.46 | 15.41 | 0.32 | 0.31 | 0.30 |
| 05/14/11 | 126 | 47.87 | 35.05 | 12.82 | 0.27 | 0.29 | 0.30 |
| 05/15/11 | 126 | 47.87 | 33.11 | 14.76 | 0.31 | 0.30 | 0.30 |
| 05/16/11 | 126 | 47.87 | 32.37 | 15.5 | 0.32 | 0.30 | 0.30 |
| 05/17/11 | 126 | 47.87 | 31.02 | 16.85 | 0.35 | 0.33 | 0.31 |
| 05/18/11 | 126 | 47.87 | 31.02 | 16.85 | 0.35 | 0.34 | 0.32 |
| 05/19/11 | 119 | 47.87 | 32.73 | 15.14 | 0.32 | 0.34 | 0.32 |
| 05/20/11 | 119 | 47.87 | 32.25 | 15.62 | 0.33 | 0.33 | 0.32 |
| 05/21/11 | 119 | 47.87 | 31.66 | 16.21 | 0.34 | 0.33 | 0.33 |
| 05/22/11 | 113 | 47.87 | 32.43 | 15.44 | 0.32 | 0.33 | 0.33 |
| 05/23/11 | 119 | 47.87 | 32.89 | 14.98 | 0.31 | 0.32 | 0.33 |
| 05/24/11 | 119 | 47.87 | 32.86 | 15.01 | 0.31 | 0.32 | 0.33 |
| 05/25/11 | 119 | 47.87 | 33.71 | 14.16 | 0.30 | 0.31 | 0.32 |
| 05/26/11 | 113 | 47.87 | 34.63 | 13.24 | 0.28 | 0.30 | 0.31 |
| 05/27/11 | 113 | 47.87 | 35.50 | 12.37 | 0.26 | 0.28 | 0.30 |
| 05/28/11 | 113 | 47.87 | 35.93 | 11.94 | 0.25 | 0.26 | 0.29 |
| 05/29/11 | 113 | 47.87 | 35.93 | 11.94 | 0.25 | 0.25 | 0.28 |
| 05/30/11 | 113 | 47.87 | 32.90 | 14.97 | 0.31 | 0.27 | 0.28 |
| 05/31/11 | 113 | 47.87 | 22.97 | 24.9 | 0.52 | 0.36 | 0.31 |

0.31

FRESH / SICK / LAME COWS

SPARTAN DAIRY RATION EVALUATOR
MICHIGAN STATE UNIVERSITY
COOPERATIVE EXTENSION SERVICE
DEPARTMENT OF ANIMAL SCIENCE
Theo Lykos

Lactating HOLSTEIN cow
Age: 41 months Lactation #: 3
Body wt: 1500 lbs Avg gain: 0.7 lbs/day
Milk prod: 75 lbs/day DIM: 120 days
Milk Fat: 3.6% Milk Protein: 3.2%
Condition Score: 2.8 Temperature: 70F

ORGANIC Shamrock HIGH (NO Past) 2-14-11

DAIRY VISIONS, LLC.

File: C:\SPARTD2\DRT\ORGSHAM\HI0214NP.DRT 2/13/11

| Mix | Feed | AsFed | LbsDM | DM | NEL | CP | UndegP | NDF | EfNDF | ADF |
|-----|-------------------|-------|-------|------|---------|------|--------|------|-------|------|
| | | | | % | Mcal/lb | %DM | %CP | %DM | %DM | %DM |
| | Sorghum Silage | 17.00 | 4.93 | 29.0 | 0.57 | 7.0 | 25.0 | 57.0 | 48.5 | 35.0 |
| | Sudan Sil EARLY | 0.00 | 0.00 | 44.0 | 0.58 | 11.0 | 28.0 | 60.0 | 51.0 | 40.0 |
| | Pasture OAT\WHE\V | 0.00 | 0.00 | 15.0 | 0.67 | 27.0 | 28.0 | 40.0 | 32.0 | 23.0 |
| | Alfalfa Hay 180 | 20.00 | 17.60 | 88.0 | 0.64 | 22.5 | 25.0 | 36.0 | 32.4 | 28.0 |
| | Water | 10.00 | 0.10 | 1.0 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Soybeans, ROASTED | 2.90 | 2.64 | 91.0 | 0.99 | 42.1 | 55.0 | 15.0 | 3.8 | 10.0 |
| | Cottonseed w lint | 0.00 | 0.00 | 92.0 | 0.90 | 22.0 | 45.0 | 44.0 | 22.0 | 34.0 |
| | Sudan Hay | 0.00 | 0.00 | 92.0 | 0.50 | 4.4 | 30.0 | 70.0 | 70.0 | 47.0 |
| | Alfalfa DRY cow | 9.25 | 8.32 | 90.0 | 0.61 | 18.0 | 28.0 | 42.0 | 37.8 | 31.0 |
| | Corn grn ground | 17.75 | 15.62 | 88.0 | 0.91 | 9.5 | 50.0 | 9.0 | 2.3 | 3.0 |
| | Corn Flaked 85% | 0.00 | 0.00 | 85.0 | 0.93 | 9.5 | 55.0 | 9.0 | 2.3 | 3.0 |
| | Soybean Meal 47.5 | 0.00 | 0.00 | 92.0 | 0.92 | 51.0 | 40.0 | 8.1 | 2.0 | 6.1 |
| | Canola Meal | 0.00 | 0.00 | 92.0 | 0.80 | 38.5 | 34.0 | 36.0 | 9.0 | 18.0 |
| | Shamr ORG Mineral | 3.00 | 2.80 | 93.2 | 0.47 | 4.7 | 48.6 | 4.5 | 1.2 | 1.5 |

| | --lbs-- | lbs-- | %-- | Mcal/d | lb/d | lb/d | lb/d | lb/d | lb/d |
|------------------|---------|-------|------|--------|------|------|------|------|------|
| Totals by weight | 79.90 | 52.01 | 65.1 | 37.31 | 8.5 | 2.9 | 14.6 | 11.7 | 10.0 |
| Requirements | | 51.90 | 0.0 | 36.13 | 8.8 | 2.5 | 15.6 | 11.7 | 10.4 |
| --differences-- | 79.90 | 0.11 | 65.1 | 1.18 | -0.3 | 0.5 | -1.0 | 0.0 | -0.4 |

| =====DIEI===== | | | =====SUMMARY===== | | |
|----------------|-------|--------|-------------------|--------|---------|
| Nutrient(unit) | Total | Reqt | Nutrient(unit) | Total | Reqt |
| CP(%DM) | 16.40 | 17.00* | NFC(%DM) | 42.73 | 0.00 |
| UndegP(%CP) | 34.15 | 28.81 | Starch(%DM) | 27.52 | 0.00 |
| DegP(%CP) | 65.82 | 55.86 | FermSt(%Starch) | 69.29 | 0.00 |
| AbsP(%DM) | 11.17 | 10.50 | Lipid(%DM) | 3.69 | 0.00 |
| SolP(%CP) | 23.14 | 27.93 | Animal(%Lipid) | 0.00 | 0.00 |
| BndP(%CP) | 8.21 | | Veg(%Lipid) | 100.00 | 0.00 |
| NEL(Mcal/lb) | 0.72 | 0.70 | Inert(%Lipid) | 0.00 | 0.00 |
| NEM(Mcal/lb) | 0.73 | | Ash(%DM) | 9.09 | 0.00 |
| NEg(Mcal/lb) | 0.46 | | Ca(%DM) | 1.16 | 1.00* |
| TDN(%DM) | 68.59 | 0.00 | P(%DM) | 0.37 | 0.38* |
| ADF(%DM) | 19.25 | 20.00* | Mg(%DM) | 0.38 | 0.25* |
| NDF(%DM) | 28.01 | 30.00 | K(%DM) | 1.71 | 1.50* |
| EfNDF(%NDF) | 80.46 | 75.00* | Na(%DM) | 0.41 | 0.18 |
| Cl(%DM) | 0.41 | 0.25 | VitE(IU/lb) | 13.74 | 14.45* |
| S(%DM) | 0.25 | 0.25* | | | |
| Co(ppm) | 1.07 | 0.40* | Cost(\$/day) | | |
| Cu(ppm) | 17.35 | 15.00* | Cost(\$/lbDM) | | |
| Fe(ppm) | 54.67 | 50.00 | AbsP(lb/d) | 5.81 | 5.45 |
| I(ppm) | 0.75 | 0.60 | | | |
| Mn(ppm) | 66.73 | 60.00* | VitA(KIU/d) | 145.21 | 130.00* |
| Se(ppm) | 0.30 | 0.30 | VitD(KIU/d) | 79.04 | 28.00* |
| Zn(ppm) | 73.10 | 60.00* | VitE(IU/d) | 714.87 | 750.00* |
| VitA(KIU/lb) | 2.79 | 2.50* | | | |
| VitD(KIU/lb) | 0.56 | 0.54* | | | |

| =====RATIOS & RELATIONSHIPS===== | | | | | |
|----------------------------------|---|-------|---------------------------|---|-------|
| % Forage in diet DM | : | 59.3% | DMI / Body Weight | : | 3.5% |
| Intake NDF / Body Weight | : | 1.0% | Forage NDF / Required NDF | : | 81.2% |
| Cation-Anion (meq/100g DM) | : | 49.9 | Ca / P | : | 3.12 |

START
2/24/11

FRESH
also

17.60
8.32

25.92

49.8 lb kg

49,8356489

I am including the March inspection report because the re-inspection was very much a confirmation of this report



INSPECTION WORK ORDER #9362
367184

This Organic Inspection Record and supporting documentation must be submitted to QAI by the inspector within 10 business days after the completion of the inspection.

| | | | |
|--|-----------------|---|--|
| Auditor name: | | (b)(6),(b)(7)(C),(b)(7)(D) | |
| CPM name: | | John Joseph 858-792-3531 x148 | |
| Work Order number: | | #9362 | |
| Name of Certified Entity: | | Shamrock Farms Co. | New <input type="checkbox"/> Renewal <input checked="" type="checkbox"/> |
| Facility Name: | | Same | CE <input checked="" type="checkbox"/> AP <input type="checkbox"/> Location <input type="checkbox"/> |
| Date assigned: | | February 15, 2011 | Application #A0034710 |
| To be completed by QAI: | | | |
| Location (City, State): | | Stanfield, AZ | |
| To be completed by auditor: | | | |
| Location(s) visited by auditor: | | Stanfield, AZ | |
| Preparation Time Total: | | 4.5 Hours | Follow-up Time Total: |
| Time arrived: | 8:30 AM/8:00 AM | Time departed: | 8:30 PM/ |
| Date(s) | Audited: | 5/19/11 | Total: |
| | Submitted: | 3/21/11 | |
| Type of Compliance Plan: (Producer, Processor, etc.) | | Dairy | |
| Contact person: | | John Voss, 480-988-1452; john_voss@shamrockfoods.com Cell Phone is (b)(6) | |
| Personnel (& titles) present: | | John Voss (Organic Dairy Herd Supervisor), Frank Boyce (General Manager), Jim Whitehurst (Farming and Procurement) | |
| Brief narrative of operation inspected (please be sure to detail number of fields or processing lines in production and observed during audit, on-site / off-site warehouses, general & brief description of production activities, types of products grown or handled, etc): | | <p>Shamrock dairy is a vertically integrated company with a conventional and an organic dairy farm, processing facility (in Phoenix) and distribution network. The conventional dairy includes about 9,600 milk cows and the organic dairy includes about 600. The operation has been working towards implementing a grazing system for the organic herd, and have installed water lines and shade structures to accommodate the cows needs.</p> <p>Similarly, it was noted that the operation has focused on improving forage production, which utilizes annual crops. The pasture season started 46 days late, on December 14th due to planting and irrigation delays. Also, the grazing season was interrupted due to a historic period of low temperatures (down to 16 degrees F) in December greatly impacted the state's crop production. By this time of the year, the applicant stated that they normally would have already had 1 hay cutting but the new crop was just coming in at the time of inspection. The applicant provided pictures of the frost damage to the annual pasture mix of oats, vetch and beardless wheat that was damaged by the frost (see attached). These fields had recovered at the time of inspection and were providing good forage for the cattle. Up until the time of inspection, average DMI from pasture is below the 30% with about 58 days of access. With another 60 days of the grazing season, the challenge will be to have enough forage to exceed 30% pasture DMI so that on average the operation can be in</p> | |

CE Name: **Shamrock Farms Co**

compliance. The applicant is aware of the June 2011 deadline and preparing a strategy for coming into compliance for the next grazing season start in fall 2011.
All facilities were visited.

Section 1: SPECIFIC INSTRUCTIONS

Auditor: Please address each specific instruction appearing below. If the item has been addressed in any of the sections below, please just indicate the relevant section and number where that issue is addressed. If completing form by hand, please use extra sheets if required.

| SPECIFIC INSTRUCTIONS | Has each specific instruction been adequately addressed / implemented / complied with? If no, please explain the discrepancy. If yes, please provide a brief statement (e.g., "no salt used", "verified", "advised applicant", etc); please also identify any documents or methods used to verify the SI. |
|---|--|
| 1. QAI contract to be verified by Auditor to be on file if plant being inspected is deemed the Corporate/Headquarters. (If CE BOX is checked above then it is the corporate location) | On file and verified. |
| 2. Please verify stocking rates for livestock and include specific information in your inspection report. | See Dairy OCP Section E |
| 3. Please ensure that the client has current NOP certificates and specification sheets for all purchased feed on file and return copies to QAI with your report. | See Dairy OCP Section C |
| 4. Please comment on DMD and DMI calculations. Please comment on the client's ability to comply with the 30% DMD from pasture grazing requirement by 06/2011. | See Dairy OCP Section C |
| 5. Please comment on the computerized feeding system. Specifically, please describe how this system calculates DMI and DMD, as well as how justified the calculations are. | See Dairy OCP Section C |
| 6. Please comment on the Saudi style barns. Specifically please verify whether they enclosed and how they facilitate outdoor access. Please comment on the animals ability to move freely, engage in comfort behaviors, and exercise. | See Dairy OCP Section E |
| 7. Please verify that buffer zones are not necessary to protect organic pasture from contamination. | See Dairy OCP Section F |
| 8. Please verify that purges and / or residue tests are sufficient to verify the absence of sanitizers, specifically mandate Plus. | See 2010 RFI #3 |
| 9. Please verify at what level residual chlorine is present in effluent rinse water. Levels in the water must not exceed the maximum residual disinfectant limit allowed under the Safe Drinking Water Act. | See Dairy OCP Section I |
| 10. Please note that due to directives received from the NOP, only verify pest control materials in use on or around the milking parlor. | OK, See Dairy OCP Section J |
| 11. Please verify that the information provided on the Herd Pasture Profile is correct. Please | See Profile Section, Dairy Profiles, Dairy Herd Profile Form and Livestock Farm Profile Form. |

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| | |
|--|--|
| initial or check the Inspector Use Only Section on HHP for each point verified. | |
| 12. Please verify that the information provided on the Individual Feed Ration(s) is correct. Please initial or check the Inspector Use Only Section on IFR(s) for each point verified. **** If the IFR's are revised and/or new IFR's submitted please provide a clean copy with the report for the client's file. | See Profile Section , Dairy Profiles IFR |
| 13. Please verify that the information provided on the Medical Input Profile(s) is correct. Please initial or check the Inspector Use Only Section on MIP(s) for each point verified. **** If the MIPs are revised and/or new MIPs submitted please provide a clean copy with the report for the client's file. | See Profile Section , Dairy Profiles MIP |
| 14. Please verify the information provided on the Annual Input Record is correct. Please initial or check the Inspector Use Only Section on Annual Input Record for each point verified. | See Profile Section, Crop Profile AIR |
| 15. Please review all seed purchase documents to verify organic status of the seeds. Perform an audit for seeds planted/ per acre against purchase invoices and seed tags to verify that enough seed was purchased to plant the numbers of acres. | See Crop OCP Section F, Seed audit |
| 16. If non-organic seeds have been used, please submit documents with your inspection report verifying that Non-GMO, Non-Treated seeds have been used. | See Crop OCP Section F |
| 17. If non-organic seeds have been used, please verify that the producer has the Commercial Availability Worksheet retained in the audit trail records, and that there is clear documentation from suppliers of known organic seeds in the types and varieties grown by the producer verifying that organic seeds were not available. Include documentation that the producer is performing trials with organic seeds, if applicable, and include the producer's future plans to plant only organic seeds. | See Crop OCP Section F |
| 18. Please verify that this is an optimal time of year to inspect this client. If not, please identify what time of the year would be best and why. | This is an optimal time for the inspection, but in order to verify compliance to the pasture rule, it may be necessary to in the future require an in season inspection and an end of season inspection. |
| 19. Please verify information on the certificate and Organic System Plan Summary (OSPS) is correct. If applicable please note any changes. Both you and the applicant must sign and date. | Both verified signed and dated. Acreage figures were adjusted slightly per the LIFF. |
| 20. Please provide the total number of pasture acres provided and please provide the total number of animals that have access to that (those) pasture(s); if access to pasture is restricted at any time, please provide details regarding the applicant's justification for temporary confinement | See Dairy OCP Section E |

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| | |
|---|---|
| <p>21. Please conduct a complete audit of origin of livestock for all dairy livestock, as follows: a). If the dairy began operating as a 100% organic feed transitional dairy, please include with your inspection report a copy of the audit to verify that the all dairy replacement animals have completed a full one year of transitioning prior to selling, labeling, or otherwise representing the milk as 'organic'. b) If the dairy began operation under the former "80-20" feed exemption rule, please include a copy of the audit to verify that all replacement animals were from animals raised as organic from last 3rd of gestation. c) If the dairy began operating as an organic dairy after June 9, 2007, please include a copy of the audit which verifies that all replacement animals have been transitioned for one year prior to selling, labeling, or otherwise representing the milk as 'organic'.</p> | <p>See Dairy OCP Section A</p> |
| <p>22. Please conduct a complete audit of milk records to verify that there is enough organic animals in production to justify the sale of the organic milk using a statistically accurate method for determining days of production. Please include the audit results with your inspection report.</p> | <p>See Dairy OCP Section</p> |
| <p>23. If any form or documentation is updated during your inspection, please include both your initials and the client's initials on the updated document. This process will allow QAI to update the documents on file at QAI. Please inform the client that initialed changes will be made to their Organic Plan on file at QAI for them. If the client would rather update their own documents, please include updates with your inspection report.</p> | <p>OK</p> |
| <p>24. Please conduct a trace-back audit using the attached Sample Audit Worksheets. Return all calculations with your report.</p> | <p>See Dairy OCP Section B, origin of livestock, and C, livestock feed audit and L for the milk traceback and balance.</p> |
| <p>25. Please conduct an input / output balance using the attached Sample Audit Worksheets. Return all calculations with your report.</p> | <p>See dairy OCP section C</p> |
| <p>26. Please verify that a complaint log is in place which has documented any incoming complaints regarding organic compliance, actions taken to correct any deficiencies with products or services of the relevant standard and that all complaints have been resolved.</p> | <p>P. 32 of the Dairy OSP indicates that a procedure is in place. The applicant had a copy of the correspondence related to their only complaint in October of 2008.</p> |
| <p>27. As it is sometimes difficult to communicate a discrepancy or observation in written form, it may be helpful or necessary to photograph an area, or areas, of an operation for sight review at QAI. If the client will not allow you to take photographs, please make a note of this in your report, providing the client's explanation or reasoning for lack of permission. If pictures are not allowed, please do your best to fully explain</p> | <p>Pictures are attached.</p> |

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| | |
|---|------------------------|
| the discrepancy or observation without a picture, and why you felt a picture would best assist QAI in the review." | |
| 28. Please provide photographs of pasture areas including animals, barns, etc. with descriptions of each photograph including the location of the photograph. | Pictures are attached. |

Section 2: PREVIOUS NON-COMPLIANCES

Auditor: Please address each previous noncompliance below and verify whether or not they have been mitigated. Please also include a description of the practices and documentation you observed in verifying their compliance. If the item has been addressed in another section above or below, please just indicate the relevant section and number where that issue was addressed. If completing form by hand, please use extra sheets if required.

| | |
|------------------------------|---|
| NON-COMPLIANCE ISSUES | <p>Has the resolution to the previous non-compliances been implemented effectively?</p> <ul style="list-style-type: none"> • If no, please explain the discrepancy. • If yes, please provide a brief statement of how the client mitigated the noncompliance; please also identify any documents or methods used to verify the non-compliance was mitigated. |
|------------------------------|---|

Prior to Adding Fields

| | |
|--|---|
| <p>1. Please be advised that Individual Field Profiles (IFPs) for each field or farm parcel must accurately represent the crops produced under organic management. The following discrepancies were noted with the IFPs for Red River fields 1 and 2: a. A very thin planting of alfalfa was noted during the recent inspection, but section L of the IFP did not include alfalfa. b. It was noted that the crop rotation should be fallow in 2010 with annual pasture planned for 2011, but this was not noted in section N of the IFP. Please submit to QAI for review updated IFPs, which include all crops, pasture, and crop rotations for all fields under organic management. Alternatively, you may confirm in writing that the specific changes can be made by QAI staff as appropriate.</p> <p>7 CFR 205.201(a)(2)</p> | <p>IFPs are discussed below and are consistent with the operation's scope.</p> |
|--|---|

Request for More Information

| | |
|--|---|
| <p>2. Please note that the following crops are listed on the Producer Organic System Plan Summary (OSPS), but are not listed on any of the current Individual Field profiles (IFPs): a. Hay b. Silage It was noted that Hay may be Sudan Grass Hay and that Silage may be Sorghum Silage and so these would be duplicate listings. Please verify in writing how these products are to be listed on the Producer Organic System Plan Summary.</p> <p>7 CFR Part 205.201(a)(2)</p> | <p>The applicant confirmed that the listing is accurate.</p> |
| <p>3. Please be advised that sanitizers used on food contact surfaces or utensils prior to the handling of organic product must be</p> | <p>This is discussed below in the Dairy Organic Compliance Plan section I.</p> |

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| | |
|---|--|
| <p>listed on the National List of Allowed and Prohibited Substances, 7 CFR Part 205.605. Alternatively, an intervening event (rinse, purge, complete drainage/drying of equipment) must be employed between the sanitizing step and organic handling to ensure no sanitizer residues are present on surfaces that contact organic product. Mandate Plus, which contains the active ingredients, phosphoric acid, octanoic acid and decanoic acid, is used without a rinse on food contact surfaces prior to the handling of organic milk. While this sanitizer has been allowed in the past, there is concern that there may be residues of octanoic and/or decanoic acid on milk handling equipment and that they may contact the organic milk. It was noted in an email from Shamrock Farms dated May 26, 2010 that SSOPs, which include rinse and purge, are currently in place. Please provide to QAI for review a copy of SSOPs that document the measures in place to protect organic milk from contamination by the decanoic and octanoic acids in the Mandate Plus sanitizer (such as an appropriate rinse, drain, residue test or purge).</p> <p>7 CFR Part 205.272(a)</p> | |
| <p>4. Please be advised that your organic compliance plan must accurately describe the practices and materials used in your facility. It was noted that an Addendum Materials List was not completed to supplement the Dairy Organic Compliance Plan. Please submit an updated AML, which includes all cleaners and sanitizers. Alternatively, you may confirm in writing that the specific changes can be made by QAI staff as appropriate. Please include an MSDS or specification sheet for each material used.</p> <p>7 CFR Part 205.201</p> | <p><u>The AML provided this year accurately lists materials used in the milking operation.</u></p> |
| <p>5. Please forward to QAI written confirmation from aerial applicators that they have been advised, in writing, that Shamrock Farms is an organic operation.</p> <p>7 CFR Part 205.201(a)(5)</p> | <p><u>The letter was verified at the time of inspection as well.</u></p> |
| <p>6. An audit trail must be in place to ensure that all activities and transactions are disclosed in sufficient detail as to be readily understood and audited. During your inspection, the following record keeping deficiencies were noted: a. Barley: 380, 50-lb bags of Barley Nebula were purchased from Helena Chemical Co.; 179 acres of</p> | <p><u>See seed audit below.</u></p> |

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| | |
|---|------------------------------|
| <p>Red River fields RR 4, 5 and 6 were planted with barley seed at rate of 130 lbs per acre. i. 179 acres x 130 lbs per acre = 23,270 lbs required - 19,000 lbs purchased = 4,270 lb discrepancy. Please explain this discrepancy. ii. The planting dates were not noted in the field records. b. Oats: 360, 50-lb bags of Oat Cayuse from Helena Chemical Co: i. The oat seed was used to plant field Beryl 320 in February 2010, but the exact planting date was not recorded. ii. An invoice from Hart Brothers custom operator confirms the number of acres planted, but this was not documented by Shamrock. c. Sudan Grass: 24,000-lb purchased from Tee Pee Seed Co. i. The date of purchase and receipt was not recorded. ii. 65 acres of Red River field 4 was planted in early May 2010, but the exact date was not recorded. d. Clean Down Affidavits: It was noted that Clean Down Affidavits are completed for equipment prior to usage by a contracted operator on the Shamrock Organic Farm. However, the Clean Down Affidavit from T & K for the movement of manure to fields was not completed on two separate occasions. If Clean Down Affidavits are not required for the movement of manure, there should be some documentation on file to account for this field activity. e. Field Activity Log: Specific operational records for crop production activities are not recorded and maintained. Please establish and maintain a field activity log, which documents: - planting, inputs, weeding, harvesting, etc. - dates and types of field activities - the name of the operator doing the specific field activity and whether they are employees or custom. Once complete, please send a sample of the field activity log to QAI for review. In addition, please notify QAI in writing, of how you intend to improve your record keeping system so that it meets the USDA NOP standards.</p> <p>7 CFR Part 205.103(b)(2), 205.201(a)(1-3)</p> | |
| <p>7. Please send to QAI copies of current organic certification documentation for: a. Organic Pasture Seed Mix from Lockwood Seed b. Sudan Grass from Saddlehorn Ranches Please verify in writing that you will not use any seed or feed ingredient as organic unless you have proof of organic certification issued by a USDA-Accredited certification agent on file.</p> <p>7 CFR Part 205.103(b)(4)</p> | <p>See seed audit below.</p> |

CE Name: **Shamrock Farms Co**

| | |
|--|---|
| <p>8. Please be advised that the Herd Pasture Profile should represent your entire organic herd, including milking cows, young stock, and dry cows. Please clarify the following discrepancies noted with HPP on file: a. The inspector noted 742 organic animals, but the HPP accounts for 722 animals, specifically: i. Dry Cows: the inspector notes 66, but the HPP notes 22. ii. Milking Cows: the inspector notes 626, but the HPP notes 658. iii. The inspector notes 6 springing heifers and 2 bulls, which are not noted on the HPP. b. The inspector noted 273 acres available for pasture: i. Section C of the HPP notes that 334 acres are available for pasture. ii. The Acreage of Pasture Fields Provided column of the HPP accounts for 285 acres. While it is understood that there will be some natural small variation in the various sub-populations of cows and the amount of available pasture on a given day, if the totals observed on the day of the inspection represent a shift in your target numbers, please submit to QAI an updated HPP, which includes all of the fields and the revised number of organic animals seeking certification. Alternatively, you may confirm in writing that the specific changes can be made by QAI staff as appropriate.</p> <p>7 CFR 205.201(a)(2), 205.201(a)(6)</p> | <p><u>The HPP has been replaced by new forms. Animal numbers are provided in that and accurately describe the number of animals on site as of the day of inspection.</u></p> |
| <p>9. Please be advised that your organic compliance plan must accurately describe the practices and materials used in your facility. The response to section D7 of the Dairy Organic Compliance Plan indicates Not applicable, parasiticides are not administered. However, 5.0 is listed on the Medical Input Profile as an external parasiticide. Please submit the updated page of the Organic Compliance Plan and Addendum as referenced above. Alternatively, you may confirm in writing that the specific changes can be made by QAI staff as appropriate.</p> <p>7 CFR Part 205.201</p> | <p><u>This section of the plan was amended as requested, per review of the plan during inspection. See below</u></p> |
| <p>10. Please be advised that the Medical Input Profile (MIP) should provide an overview of the medical inputs used, or intended to be used, to manage health concerns. The following discrepancies were noted with the MIP on file: a. Electroid 7 is noted as a current input and a specification sheet is on file, but is not listed on the 2010 MIP. b. Calcium Gluconate is noted as a current</p> | <p><u>The MIP is discussed below in the profile section of the report.</u></p> |

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| | |
|---|--|
| <p>input and a specification sheet is on file, but is not listed on the 2010 MIP. c. Mineral Oil is only to be used as lubricant, but the reason for use noted on the 2010 MIP is calving issues. Please submit to QAI for review updated MIP, which includes all Medical Inputs that are currently, or intended to be, administered to livestock. Please be sure to specify the accurate reason for use. Alternatively, you may confirm in writing that the specific changes can be made by QAI staff as appropriate.</p> <p>7 CFR 205.201(a)(2), 205.201(a)(6)</p> | |
| <p>11. Please send a specification sheet and label for the following medical inputs to QAI for review: a. Aspirin b. Mineral oil c. Copper Sulfate d. Alcohol - Isopropanol e. Hydrogen Peroxide</p> <p>7 CFR Part 205.201(a)(2), 205.301, 205.605, 205.606</p> | <p><u>Labels and spec sheets were included in the inspection package and corresponded to the materials listed in the MIP.</u></p> |
| <p><u>Customer Service Advisement</u></p> | |
| <p>12. Please provide your written procedure for documenting and addressing customer complaints relating to compliance with organic standards.</p> <p>ISO Guide 65 15(a)(b)(c)</p> | <p><u>See SI section above.</u></p> |
| <p>13. Please be advised that, on 2/17/10, several sections of the NOP were modified and published. These changes directly affect all certified organic livestock operations. The revised Regulation is effective 6/17/10. Currently certified livestock operations must comply with this new Regulation by 6/17/2011. QAI is working with the NOP to develop workable calculation worksheets and is also developing new Organic Compliance Plans and Profiles which will be sent out to certified organic livestock operations in the very near future. QAI will work with Shamrock Farms to ensure that you understand the new requirements and the new forms. Please contact your CPM if you have any questions or concerns. Please note that land used for pasture must be managed under the organic crop requirements of the NOP.</p> <p>7 CFR 205.2, 205.237, 205.239</p> | <p><u>This aspect has been a central focus of the inspection.</u></p> |

Section 3: ORGANIC SYSTEM PLAN

Auditor: Please indicate any discrepancies or relevant inspector observations pertinent to the Application, OCP(s) and Product Profile(s) by listing a reference number from the question then your description. If completing form by hand, please use extra sheets if required.

A: Application

| Ref # | Description of Discrepancy/Relevant Observation |
|-------|---|
|-------|---|

CE Name: **Shamrock Farms Co**

| | |
|---------------------------------------|--|
| B1: Product Additions | No changes |
| B2 & 3 Field Number / Acreage Changes | No changes |
| B: Compliance Plan | |
| Ref # | Description of Discrepancy /Relevant Observation |

Producer Compliance Plan**A.) Overview**

| | |
|---|--|
| 4 | All of the crops grown on the farm are for the dairy organic dairy herd, whether it is forage for pasture or in some cases, it may be harvested as a crop. The applicant stated that it can be more cost effective for them to grow their own silage than purchase it depending on the market price and freight. |
| 5 | The applicant provided a log that documented the reviews of the OSP. |

B.) Product Protection

| | |
|---|---|
| 8 | Fences are either metallic or plastic, no wood. |
|---|---|

C.) Soil Fertility and Crop Nutrient Management

| | |
|---|---|
| 1 | Soils on the Beryl piece are poor but improvements have been noted from past inspections. The applicant has started using legumes in the pasture mix and intensive grazing should also help contribute to further improvements. |
| 4 | <p>The poultry compost has not been used since the OCP was first filled out. They rely on their own manure at this time.</p> <p>Invoices for the Jenner 8 humic acid were tallied up and confirmed that a total of 2300 gallons were purchased. The applicant stated that this was applied in April and September 2010, to the Beryl field (120 ac) so the rate of application came out at 19.16 gal/ac. The AIR lists 5gal/ac. We went to look at the bulk tank of the material and confirmed that it was empty. The applicant confirmed that the material was only applied to the Beryl field so the AIR was not correct. The applicant updated the AIR inspector copy to show 20 gal/ac.</p> |

D.) Natural Resources and Water Quality

| | |
|---------|---|
| General | The farm is located in an arid region that supports agricultural enterprises via the available irrigation. Natural habitat is very limited in the desert. Surrounding operations consist of confined livestock producers, cotton and some grains/forages. |
|---------|---|

E.) Crop Pest, Weed and Disease Prevention

| | |
|---|---|
| 1 | The main weeds in the pasture fields included mallow and mustards. These are not controlled in any way other than pre planting cultivation, deep tillage and grazing. |
|---|---|

CE Name: **Shamrock Farms Co****F.) Record Keeping and Audit Trail**

| | | | | | | | | | |
|--|--|---------------|-------|----------|-------|-----------|-----|-------------|-----|
| SI 16 Non GMO & Commercial Availability Organic Certificates Treatments & Inoculants | Non organic untreated Tee Pee variety Sudan grass seed was found in storage, purchased a couple of years back. The applicant stated he may use it this year and we discussed the need to do a commercial availability search prior to doing so. Organic hybrid Sorghum seed was seen on site. | | | | | | | | |
| | <p>The Pasture mix seed planted in 2010 was audited:</p> <table border="1"> <tr> <td>Acres Planted</td><td>351.8</td></tr> <tr> <td>Seed mix</td><td>39700</td></tr> <tr> <td>Seed rate</td><td>113</td></tr> <tr> <td>Rate in AIR</td><td>114</td></tr> </table> | Acres Planted | 351.8 | Seed mix | 39700 | Seed rate | 113 | Rate in AIR | 114 |
| Acres Planted | 351.8 | | | | | | | | |
| Seed mix | 39700 | | | | | | | | |
| Seed rate | 113 | | | | | | | | |
| Rate in AIR | 114 | | | | | | | | |
| SI 15: Seed Audit | The seed receipts from Lockwood were on file and confirmed the organic status of the pasture mix used. | | | | | | | | |

Comment [S1]: Please review all non purchase documents to verify organic status of the seeds. Perform an audit for seeds planted/ per acre against purchase invoices and seed tags to verify that enough seed was purchased to plant the numbers of acres.

Dairy Compliance Plan**A.) Overview**

| | |
|---|---|
| 1 | LFP dated 1/10/2011 is on file and verified. See notes below. |
| 4 | The OSP includes an accurate map of the Beryl piece with regards to the location of permanent fencing. The maps for the Red River pieces also include the main fences though there are few as the operation relies on electric fencing. |

B.) Origin of Livestock

The following animal numbers were recorded during the field visit and were used to randomly verify origin of livestock and transition data in the DHI plus recordkeeping system. The table includes the date when a heifer was brought into organic management and when it had its first calf and the days it was under organic management prior to providing milk. The location listed on the last column is where the animal started the transition, either from AZ or from the organic certified dairy in Oregon:

| Animal # | Pen | OG Mgmt | 1st Calf | Days | Loc. |
|----------|-----|----------|----------|------|------|
| 1643 | 3 | 2/2/09 | 6/3/10 | 486 | AZ |
| Y465 | 4 | 9/21/07 | 1/27/09 | 494 | AZ |
| T158 | 4 | 7/18/06 | 10/2/07 | 441 | OR |
| U765 | 4 | 11/20/06 | 12/14/07 | 389 | OR |
| R991 | 4 | 7/18/06 | 12/14/07 | 514 | OR |
| T999 | 4 | 9/1/06 | 12/18/07 | 473 | OR |
| 7231 | 4 | 1/5/10 | 3/4/11 | 423 | AZ |
| 2122 | 8 | 6/19/08 | 9/21/09 | 459 | AZ |
| T726 | 8 | 9/1/06 | 10/2/07 | 396 | OR |
| T508 | 9 | 9/1/06 | 9/22/07 | 386 | OR |

1, SI 21 - Replacement Stock Audit

Comment [S2]: Please conduct a complete audit of origin of livestock for all dairy livestock

CE Name: **Shamrock Farms Co**

| | | | | | | |
|--|--|---|----------|-------------|-----|----|
| | 7195 | 9 | 1/5/10 | 2/25/11 | 416 | AZ |
| | U653 | 7 | 11/20/06 | 1/19/08 | 425 | OR |
| | 4470 | 2 | 2/2/09 | 4/16/10 | 438 | AZ |
| | R568 | 2 | 6/9/06 | 5/24/07 | 349 | OR |
| | B422 | 2 | 12/16/10 | open heifer | na | AZ |
| Note that cow R568 shows less than 365 days prior to her first lactation on 5/25/07. The applicant provided a copy of the first load ticket that was delivered to the processing plant and it shows that they started shipping milk on 6/11/2007. This means that the milk from this particular fresh cow was bucketed and fed to calves, it was stated. | | | | | | |
| 2 | The applicant provided a document titled "Shamrock Farms Organic Animal Birth, Death and Culling" and a document titled "Shamrock Farms Replacements" | | | | | |
| 3 | Previously, the organic calves were tagged with a Z but now they are tagged with a W and digits. During the inspection, no Z or W tagged animals were noted in the organic herd. | | | | | |

C.) Livestock Feed

| | |
|--------------------------------------|--|
| 2 | The feed mixing equipment was seen on site and verbally confirmed that it is dedicated to the organic operation. A pull behind box and tractor were added to the operation approximately 6 months ago and is now primarily used for the feed mixing and delivery. The truck is a backup. |
| 3, 6, 7: SI 4 DMI Calculations | <p>A document was provided during the inspection, titled "Shamrock Farms Organic – Total Feed Ration Management". This describes the processes utilized to manage and track feed on the operation. Below is an analysis of these processes in more detail.</p> <p>DHIA records were verified and showed average production right around 52 pounds/ Holstein cow for the past 4 months and a butterfat percent of 3.25. The operation milks 2x/day. (See milk audit below in section L)</p> <p>DMD: The OSP does not include details on how the DMD and DMI are determined / calculated as required in 205.237 (d)(4). The applicant provided a statement from the nutritionist along with a description of the Spartan computer software used.</p> <p>The applicant stated that a nutritionist retained by the company determines the DMD from the "Spartan" computer software developed by Michigan State University from the NRC method. The formulations are specific to the following cow groups: High Producing Cows Low Producing Cows Far Off Dry cows Heifers (Open and bred are averaged)</p> <p>The rations provided are calculated with consideration of pasture DMI and several formulations are devised to accommodate the availability of forage, from no pasture, to 15% pasture and finally 30% pasture. The formulations assign a dry matter content to ingredients such as water and mineral, in order for them to show up in the formulation. The inclusion of these does not significantly impact the result of the formulation. New rations are created each time there is a change in the available ingredients. Specifically,</p> |

Comment [S3]: Please comment on DMD and DMI calculations. Please comment on the client's ability to comply with the 30% DMD from pasture grazing requirement by 06/2011.

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early in the grazing season they were using canola meal, then switched to dry roasted beans and cotton seed in early summer. For the current Far Off Dry Cow, no pasture ration where the applicant changed per nutritionist recommendations the 4 pounds of alfalfa/head to 2 pounds of alfalfa and 2 pounds of Sudan hay per head to address milk fever problems.

An MS Excel workbook was created during the last pasture season and was finalized as of the inspection and updated to include data from the start of the pasture season on December 14th. It is used to track pasture DMI based off of the actual amount fed and the DMD from the nutritionist's rations. The workbook is built for each pen from data on the daily feed sheets that list all of the pens and numbers of cows/pen, generated from the Feedwatch program on the mix truck. The pen summaries for the month for each pen are tallied on the spreadsheets.

Based on the above spreadsheet, actual pasture DMI for the days that the animals were actually on pasture this year were as follows:

| | Dec | | Jan | | Feb | | Mar | |
|-----------|------|----|------|----|------|---|------|----|
| | Days | % | Days | % | Days | % | Days | % |
| High Cows | 17 | 26 | 14 | 31 | 11 | 9 | 12 | 14 |
| Low Cows | 17 | 31 | 14 | 31 | 11 | 2 | 12 | 16 |
| Dry cows | 14 | 31 | 1 | 0 | 28 | 0 | 15 | 0 |
| Heifers | 18 | 31 | 31 | 53 | 7 | 0 | 13 | 45 |

Pastures are now providing up to 2T/ac based on tests and plans are to shift to the 30% pasture ration from here on out.

The rest of the season: Two more months of grazing will help them get close or slightly above the 120 day minimum. As long as pastures recover sufficiently between grazing, there should be enough biomass to meet the herd's needs.

Animals were kept off of pasture from November 1st to December 14th because of fieldwork and the timing of irrigations. The calendar field log pages of which are attached from mid September to December. This shows that by the time Beryl and the RR fields were planted and irrigated, they had barely 1 month to grow in order to meet the target date of November 1st to turn cows out. The applicant stated that realistically, to hit this target, it would be necessary to start field operations and planting sooner to capture the longer days and have at least 10" of forage to graze. In order to hit the 30% minimum he also stated that the forage should be about 18" tall.

Plans for coming into compliance:

Based on the DHP and as confirmed during the inspection, the operation has reduced the number of animals to match these to the available pasture. The herd size is now stable.

The upcoming grazing season may be extended in the fall by planting forages in late summer that can tolerate the heat and be grazed in the fall.

The LFP defines the grazing season as 137 days. The applicant is re-evaluating this and may shorten or redefine the grazing season based on when crops are available. The need to update the OSP to reflect any changes in that regard was discussed.

Request from the Nutritionist rations higher than 30% DM from pasture.

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See the feed audit below for the validation of the above-mentioned spreadsheet to feed rations and availability of corn.

Whole corn for the month of February was audited. The company maintains running inventories of all commodities handled. Corn can be difficult because it is received whole, ground on site (dedicated grinder) and placed in piles, which are difficult to inventory. Therefore, inventories are reconciled and adjusted when there is no corn left. The amount used is generated from the Feed watch computer system for each of the rations and used to obtain the ending inventory. This explains why in the table below, the amount available exactly matches the used amount:

| | |
|--------------|------------|
| 2/1/2011 BI | 459,455.00 |
| 2/28/2011 EI | 573,186.00 |
| Purchase | 382,020.00 |
| Available | 268,289.00 |
| Usage | 268,289.00 |

Purchase documentation for the corn confirmed that the vendors are consistent with those on the approved list, that the corn was organic and that the quantity in the calculation was correct. Note that the quantity used in the calculations is the quantity that the vendor bills on based on their weight tickets. In both instances, the weights on the Shamrock Farms tickets were different than the ones on the vendor's tickets. If one were to use the Shamrock weight tickets, the total purchased would be 10,940 pounds higher than what is recorded.

Based on an average of 88% dry matter in the whole corn or 236,094 pounds, the above usage was validated using the feed rations and amounts fed during the month of February. This was accomplished using the daily total dry mater intake for each pen from the Pasture Dry Matter workbook described above. Several of the groups were fed a "no pasture" ration while others got a 15% pasture ration. Taking this number and multiplying by the average number of head fed during that time generated the total amount of DM fed for the whole month. The % of dry matter from corn was determined based on the specific rations provided to each pen.

| Pen | 14 - H | 5 - H | 3 - CU | 2 - D | 7 - L | 8 - H | 9 - H | 4 - Fr | Total # |
|-----------|--------|-------|--------|-------|--------|--------|--------|--------|---------|
| TMR NP | 365 | 653 | 749 | 771 | 805 | 902 | 926 | 1,265 | |
| Corn % DM | 0.08 | 0.08 | 0.26 | 0.07 | 0.26 | 0.30 | 0.30 | 0.30 | |
| #/head | 27.63 | 52.26 | 196.11 | 56.61 | 210.94 | 270.96 | 278.01 | 379.80 | |
| Head | 115.00 | 64.00 | 49.00 | 67.00 | 95 | 216.00 | 190.00 | 35.00 | |
| | 3,177 | 3,344 | 9,609 | 3,793 | 20,039 | 58,527 | 52,822 | 13,292 | 164,606 |
| TMR 15% | | | | | 423.54 | 521.67 | 522.73 | | |
| Corn% DM | | | | | 0.25 | 0.31 | 0.31 | | |
| #/head | | | | | 106.95 | 160.37 | 160.70 | | |
| Head | | | | | 110.00 | 212.00 | 185.00 | | |
| | | | | | 11,764 | 33,999 | 29,729 | | 75,493 |
| | | | | | | | | Tot | 240,099 |

3: SI 5-
Feed Audit

Comment [S4]: Please comment on the computerized feeding system. Specifically, please describe how this system calculates DMI and DMD, as well as how justified the calculations are.

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| | |
|---|---|
| | The above calculation validates the amount of corn used, as well as the pasture DM tables used to track the amount of feed derived from pasture and fed. The numbers are not exact because the actual amount of dry matter in the corn could vary, etc. |
| SI 3 - Feed Certificates and Specification Sheets | <p>Certificates were provided in the inspection file and were all current. The IFR list provided in the inspection package was out dated so a more recent one, approved by the CPM was provided and is attached. Certificates for Grain Millers and Saddlehorn Ranches are attached because they were not provided in the inspection package. Milk cow mineral is provided by Modesto Milling, a certificate for which was included in the inspection package.</p> <p>The applicant provided a document titled "Shamrock Farms Organic Receiving" which describes the process of receiving organic commodities and the records generated from this process. The generation of these records was confirmed during the verification of the receiving records for the corn during the audit.</p> |

Comment [S5]: Please ensure that the client has current NOP certificates and specification sheets for all purchased feed on file and return copies to QAI with your report.

D.) Health Care

| | |
|-----|---|
| 1 | The applicant provided a document titled "Shamrock Farms Organic Administration of Medications Protocol". During the inspection, we met with the herdsman and visual verification of medicines on hand at the organic barn confirmed that these procedures are carried out as described. |
| 4 | No docked tails or other alterations were noted in the herd. |
| 5/6 | <p>The applicant provided a document titled "Shamrock Farms Organic Herd Health Protocols" which describes the typical ailments experienced by the herd and their treatments. The ailments listed are consistent with those mentioned by the applicant during the interview and noted during the inspection of the hospital/fresh cow pen (mastitis and foot problems). It was noted that the treatments listed are consistent with those included on the MIP and found on site.</p> <p>Health treatments are chronologically documented in a 3 ring binder and include the use of oxytocin, vaccines and milk fever treatments (calcium gluconate). Because the records are chronological, it is not feasible to audit the treatments provided to a cow throughout its life.</p> <p>When the professional hoof trimer treats animals for foot problems, trims hoofs etc, if the infection is bad enough, he may apply copper sulfate to the wound prior to wrapping. The use of the copper sulfate in this instance is not documented in the health log.</p> |
| 7 | Pyganic use: The log was on file and verification confirmed the it is used for tail head lice in June and October predominantly. An invoice for the pyganic purchased was verified. |
| 9 | There were no antibiotics found in the medicine room of the organic operation. |

E.) Living Conditions

| | |
|---------|---|
| 1- SI 6 | The Saudi style barns are steel structures (with no stalls), open on all sides. Industrial style fans automatically track the sun's progress and shade and provide ample airflow throughout the facility. Similarly, curtains on the W. side of the barn automatically lower so that at sunset, when the sun's angle is low, the cows are still in the shade. See attached pictures. A document titled "Livestock Living Conditions" describes the maintenance of the loafing areas in the Saudi Style barns. The activities described within that document |
|---------|---|

Comment [S6]: Please comment on the Saudi style barns. Specifically please verify whether they enclosed and how they facilitate outdoor access. Please comment on the animals ability to move freely, engage in comfort behaviors, and exercise.

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| | |
|---------------------------|---|
| | were confirmed during the inspection. |
| 2,3: Pasture Restrictions | <p>As noted above, pasture access is restricted based on the availability of forage. In addition, the OSP describes how pasture access is denied during the off season/summer months when it is too hot for the cows to graze them.</p> <p>The document provided in the OSP application titled "Proposed Pasture SOP for Shamrock Farms Organic Dairy" w/ a fax date of 11/19/2008 and in response to a PAMD request, is now out of date and along with the Organic Pasture Log – Lactating, and Organic Pasture Log – Dry Cows, and Organic Pasture Log – Heifers, is marked for removal from the file. This was replaced by "Shamrock Farms Organic Pasture Management" description which lists, rain/ Irrigation, Frost, High Day time temperatures and inclement weather as reason for confinement of animals off of pasture. This is accompanied by a pasture log that shows the date, the pen, the paddock, time in, time out and signature. The completed pasture logs were verified to be consistently used. For the frost period, the applicant made notes on daily temperatures (see attached copies).</p> <p>Accompanying this is the Temporary Confinement Log which lists the date, the Cow ID, the Pen and the reason for confinement.</p> <p>Currently, animals are on pasture up to 6 hours from about 9 AM to 3 PM as noted on RR 5. They may adjust milk times to capture more of the cooler temperatures as the weather heats up.</p> <p>Water risers were installed on RR 5 for watering troughs at each paddock. Animals on the W. end of Beryl are provided with water at the freestall barn. However, feed stanchions are locked out so they are forced to go back out to pasture after hydration.</p> |
| 4: Bedding | <p>It was confirmed during the inspection that dry manure is spread over concrete walkways, in areas where the cows bed down, etc. No straw or other plant matter or sand is used as bedding.</p> |

F.) Pasture Management Plan

| | |
|---------|---|
| | <p>Intensive rotational grazing is utilized on the 2 acre paddocks on the RR pieces and continuous type of grazing is used on the Beryl pasture which is broken down into larger areas of 15-30 acres. The company is discussing the possibility of changing the configuration of the center pivot to allow some flood irrigation on the E. end of Beryl. This would allow them to implement rotational grazing in this section.</p> <p>It was noted that the pastures are being very carefully managed to avoid over grazing. As such, DM intake from pasture for various groups this grazing season ranged from zero during certain portions of the month to 20% as stated above.</p> <p>Forage quantities are determined using the following method; it consists of taking 3x1' square samples, cutting @ 3" high, drying it down to determine the weight of the dry matter in the samples. This is converted to an acre figure. (Weight of sample in pounds/3 samples x % DM x 43,560 = pounds DM/ac).</p> <p>Based on visual observation, during the inspection, some of the pastures approximately had between 1 and 2 T/ ac of dry matter biomass. See attached photographs.</p> |
| 2: SI 2 | Overall, there are 688 head of livestock that are eligible for grazing (excludes the hospital |

Comment [S7]: Please provide the total number of pasture acres provided and please provide the total number of animals that have access to that (those) pasture(s); if access to pasture is restricted at any time, please provide details regarding the applicant's justification for temporary confinement

CE Name: **Shamrock Farms Co**

| | |
|----------------|---|
| Stocking Rates | /fresh cows and the close-up cows). There are 351 acres of available pasture as of the inspection date, so it excludes RR 1 and 2 which are fallow. On average, that gives 1.96 head/acre of grazing. |
|----------------|---|

Comment [S8]: Please verify stocking rates for livestock and include specific information in your inspection report.

G.) Pasture/Crop land

| | |
|---------|---|
| 2, SI 7 | All of the certified fields/pastures were visited and it was confirmed that none are directly adjacent to conventional production; Fields are separated by roads, field roads, and large dry, uncultivated areas from conventional agriculture. |
| 2, | |

Comment [S9]: Please verify that buffer zones are not necessary to protect organic pasture from contamination.

H.) Product Protection

| | |
|---|---|
| 2 | The applicant provided a letter dated 12/1/2010 that addressed the cleaning and sanitation of all milk tankers by the Phoenix AZ plant. |
|---|---|

I.) Cleaning & Sanitation

| | |
|--------|--|
| 1 | The applicant provided a document titled "Shamrock Farms Organic Milking Procedure" which was confirmed during the inspection. Teat dips used are those listed in the OSP. The Ecolab Ecoplus 100 listed on the OSP is not currently used but it is a back up in case they encounter wet conditions. |
| 2 SI 9 | The Ecolab cleaning materials listed in the Addendum Materials List were found on site. The sodium hypochlorite it was stated, is used not only for sanitizing the towels but also to boost the caustic Conquest CIP cleaner. |
| 3 | The sanitation log and the pH meter described in the OCP were both seen on site and confirmed that they are being used. |

Comment [S10]: Please verify at what level residual chlorine is present in effluent rinse water. Levels in the water must not exceed the maximum residual disinfectant limit allowed under the Safe Drinking Water Act.

J.) Pest management

| | |
|---|--|
| 1 | No traps or bait stations were noted near the milk parlor. Sticky fly strips and fly bait traps may be used in the summer. |
|---|--|

K.) Water

| | |
|---|--|
| 2 | Confirmed water is from the on site wells. |
|---|--|

L.) Records

| 2: SI22: Milk Audit | Milk production for the month of February was audited using the sight glass from the milk tanks as the beginning inventory and the settlement summary from Shamrock Dairy processing plant. | | | | | | | | | | | | | |
|--------------------------|---|--------------------------|--|-------------|--------|---------|---------|----------|---------|---------|--------|--------|-----|--------|
| | <table border="1"> <thead> <tr> <th colspan="2">February Milk Production</th></tr> </thead> <tbody> <tr> <td>2/1/2011 BI</td><td>49,550</td></tr> <tr> <td>Shipped</td><td>925,760</td></tr> <tr> <td>Produced</td><td>876,210</td></tr> <tr> <td>Per day</td><td>31,293</td></tr> <tr> <td># head</td><td>531</td></tr> <tr> <td>#/head</td><td>59</td></tr> </tbody> </table> <p>The pounds per head are higher here than in the DHIA testing sheets because it was stated those are derived from a snapshot of 1 day sampling in a month. The pounds were corroborated with the desk calendar maintained in the milk barn where animal numbers and pounds/head average are jotted down every day. The number of head milking is an average that was derived from the pick up summary. It was noted that that number is lower than what is in the updated DHP which actually is a snapshot of 3/15/2011. Weight</p> | February Milk Production | | 2/1/2011 BI | 49,550 | Shipped | 925,760 | Produced | 876,210 | Per day | 31,293 | # head | 531 | #/head |
| February Milk Production | | | | | | | | | | | | | | |
| 2/1/2011 BI | 49,550 | | | | | | | | | | | | | |
| Shipped | 925,760 | | | | | | | | | | | | | |
| Produced | 876,210 | | | | | | | | | | | | | |
| Per day | 31,293 | | | | | | | | | | | | | |
| # head | 531 | | | | | | | | | | | | | |
| #/head | 59 | | | | | | | | | | | | | |

Comment [S11]: Please conduct a complete audit of milk records

CE Name: **Shamrock Farms Co**

| | |
|--|--|
| | tickets for all of the pick ups were also on file and used to validate the figures in the pick up summary. |
|--|--|

C: Product Profile(s)**Crop Profiles**

| Ref # | Description of Discrepancy /Relevant Observation |
|---------------|---|
| LIFP | The acreage for RR4 was 65 acres in 2010, it is now listed as 66. The acreage for RR5 was 63 ac in 2010 and it is now 64.7 ac. The applicant confirmed that these figures are accurate and it was noted during the inspection, that no land was added to the operation. |
| 2: AIR, SI 14 | The DeLaval Feedtech silage inoculant was found on site and the label confirmed OMRI compliance. |

Dairy Profiles

| Ref # | |
|----------------|--|
| 1: SI 10 - IFR | The IFR lists the milk cow mineral mixed into the TMR as "Animal Feed Dairy". |
| 2: SI 11 - HPP | This information is now included on the Livestock Farm Profile Form and the Dairy Herd Profile Form. The livestock LFP lists 475.8 acres which does not include the 40 ac of dry corners on the Beryl piece. |
| | The materials listed in the MIP are consistent with those found on site. A total of 4x50# bags of copper sulfate are used in footbaths every week. The applicant stated that they had not noted any build-up of copper in their soils as a result. |
| 4: SI 13 MIP | There were no emollients on site, such as bag balm etc. The applicant stated that they did not need these in this climate and that he felt that they contribute to the spread of mastitis in the herd. The teat dips have emollients in them. |

Comment [S12]: Please verify the information provided on the Annual Input Record is correct. Please initial or check the Inspector Use Only Section on Annual Input Record for each point verified.

Comment [S13]: Please verify that the information provided on the Individual Feed Ration(s) is correct. Please initial or check the Inspector Use Only Section on IFR(s) for each point verified. **** If the IFR's are revised and/or new IFR's submitted please provide a clean copy with the report for the client's file.

Comment [S14]:

Comment [S15]: Please verify that the information provided on the Medical Input Profile(s) is correct. Please initial or check the Inspector Use Only Section on MIP(s) for each point verified. **** If the MIPs are revised and/or new MIPs submitted please provide a clean copy with the report for the client's file.

Section 4: ATTACHMENTS

Please list attachments to your report below.

| |
|---|
| 1. Photographs |
| 2. Crop Production Records, calendar |
| 3. E-mail from John Voss to John Joseph alerting him of the frost and some of the implications. |
| 4. Pasture logs showing frost conditions. |
| 5. E-mail communication and description of DMD calculation from the Nutritionist, Theo Lykos |
| 6. Feed Rations from Theo Lykos |
| 7. Sample Daily Recipe sheets from Feedwatch for 3/16/11 |
| 8. Monthly Pasture Dry Matter Intake sheets since the beginning of the grazing season. |
| 9. Organic Certs for Saddlehorn Ranches and Grain Millers |
| 10. Updated IFR |
| 11. Updated DHP |
| 12. Replacements Policy |
| 13. Birth, death and culling policy |
| 14. Total feed ration policy |
| 15. Feed ingredient receiving policy |
| 16. Pasture management policy |
| 17. Administration of medications protocol |
| 18. Herd health protocols |
| 19. Vaccinations protocols |
| 20. Pasture Log |



CE Name: **Shamrock Farms Co**

| |
|---|
| 21. Temporary confinement log |
| 22. Living conditions description |
| 23. Milk Tanker cleaning procedure from the plant |
| 24. Milking procedure |

CE Name: **Shamrock Farms Co****Section 5: Applicant Authorization: NOP 205.403(a)(2)**

I, the client, hereby acknowledge that I have reviewed and accept these observations of the Auditor and that all information is true and correct to the best of my knowledge. I understand that additional unannounced visits by QAI may be required, for which I hereby give my permission. **I hereby acknowledge that all corrective actions noted by the auditor are recommendations only and may be overturned or added to by QAI, and that I will implement corrective actions only after receiving formal notification from QAI.**

APPLICANT SIGNATURE5/19/11
DATE**Section 6: Auditor Authorization:**

Under penalty of perjury, I swear that I have reviewed the application and its supporting documents; and that all of the information I have collected and submitted with this audit package is true to the best of my knowledge. I understand that if I fraudulently misrepresent information, or violate the terms and conditions of the Audit Agreement, I am liable for all damages rendered by a court of law. I further indemnify and hold harmless Quality Assurance International, its agents and all others from liability for mistakes I knowingly commit. In addition, I attest to the following *(please initial)*:

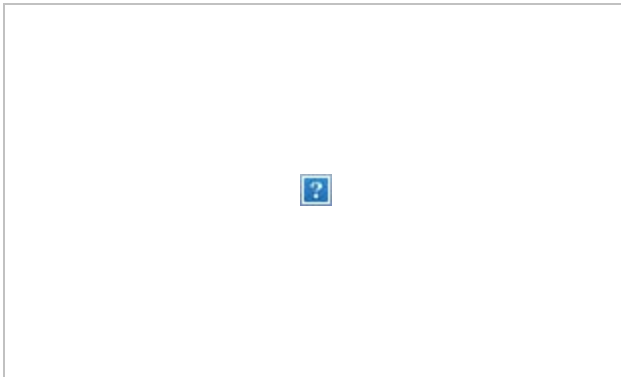
1. (b)(6),(b)(7)(c),(b)(7)(d) I understand that neither I nor an immediate family member are currently providing consulting services or in any way involved commercially with this operation. Furthermore, I understand that neither I nor an immediate family member may engage in such activities within the next 12 months without first informing QAI.
2. (b)(6),(b)(7)(c),(b)(7)(d) I attest that I have not accepted payment, gifts, or favors of any kind from the operation audited.
3. (b)(6),(b)(7)(c),(b)(7)(d) I understand that I am required to submit my audit report to QAI within 7 days of audit. If I am not able to submit my report in the allotted time frame it must be approved by QAI or my audit fee will be subject to a delayed payment penalty of 30 days.
4. (b)(6),(b)(7)(c),(b)(7)(d) I attest that I am an active member of a recognized auditor/inspector training organization IOIA.
5. (b)(6),(b)(7)(c),(b)(7)(d) I attest that I have not inspected this operation for more than four consecutive years.
6. (b)(6),(b)(7)(c),(b)(7)(d) I attest that neither I nor an immediate family member have provided consulting services for, or had a commercial interest in, the applicant/operation (within the last (24) twenty-four months).

AUDITOR SIGNATURE5/19/11
DATE**Section 7: Report Copy:**

A copy of this completed report will be provided to you by QAI per NOP 205.403(e)(2).

From: [Schmale, Valerie](#)
To: ["Randolph, Alexis"](#)
Subject: RE: Shamrock Visit
Date: Tuesday, April 05, 2011 6:29:20 AM
Attachments: [Schmale Valerie3.vcf](#)
[image001.jpg](#)

Great thanks Alexis! See you there.



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The NOP facilitates trade and ensures integrity of organic agricultural products by consistently implementing organic standards and enforcing compliance with the regulations throughout the world.

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"The true measure of a man is how he treats someone who can do him absolutely no good." Ann Landers

"If you don't have the courage to confront, you don't have the right to complain. Don't wait for anger to give you the courage." – Unknown

From: Randolph, Alexis [mailto:Randolph@qai-inc.com]
Sent: Monday, April 04, 2011 5:25 PM
To: Schmale, Valerie
Subject: RE: Shamrock Visit

Val,

Yes, that is the correct address. The contact is John Voss and his phone number is 480-988-1452.

Alexis

From: Schmale, Valerie [mailto:Valerie.Schmale@ams.usda.gov]
Sent: Monday, April 04, 2011 8:45 AM
To: Randolph, Alexis
Subject: RE: Shamrock Visit

Hi Alexis,

Awesome, that works. We'll probably do the grab and go lunch from the Hertz counter, but I'll let you know for sure when I know more. Let me verify that the location is: 40034 W Clayton, Stanfield, Arizona 85272?

Thanks,

Val



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From: Randolph, Alexis [mailto:Randolph@qai-inc.com]

Sent: Monday, April 04, 2011 11:40 AM

To: Schmale, Valerie

Subject: RE: Shamrock Visit

Hi Valerie,

Thanks for the update. Let's plan to meet at Shamrock between 2:45 and 3:00pm. My plane actually arrives a bit earlier than yours and I'm not sure which rental car company I'll be using under our corporate rates. So I will make my own way and probably pick-up some lunch.

Feel free to call me once you are on route if you'll be arriving earlier than that. Otherwise I'll see you there.

Alexis

From: Schmale, Valerie [mailto:Valerie.Schmale@ams.usda.gov]

Sent: Monday, April 04, 2011 3:41 AM

To: Randolph, Alexis; Randolph, Alexis

Subject: Shamrock Visit

Alexis,

Good morning. There has to be a slight change of plans with our visit. I received word from our travel office that we cannot carry non-government employees on travel status in the rental car with us, it is in violation of the regulations. So, I have to rescind our offer of a ride from and to the airport. Can we plan to meet at the car rental location and then travel in tandem to the site?

Please give me a call if you have any questions.

(202) 205-7804 – direct line.

**Thanks,
Val**



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United States
Department of
Agriculture

Agriculture
Marketing
Service

1400 Independence Ave., S.W.
Room 4004-S, STOP 0268
Washington D.C. 20250-0268

The National Organic Program
Compliance & Enforcement Division
Report of Investigation

| | |
|--|--|
| Complaint Number: | NOPC-003-09 |
| Complainant Name & Address: | Will Fantle P.O. Box 126 Cornucopia, Wisconsin 54827 Phone: (715) 839-7731 |
| Operator Name & Address: | Shamrock Farms Dairy 2228 N. Black Canyon Hwy. Phoenix, Arizona 85009 Phone: (602) 272-6721 |
| Physical Address of Dairy: | Shamrock Farms Co. 40034 W. Clayton Stanfield, Arizona 85272 |
| Accredited Certifying Agent Name & Address: | Maria DeVincenzo Quality Assurance International 9191 Towne Centre Drive, Suite 510 San Diego, CA 92122 USA (858) 792-3531 Phone (734) 827-6177 Fax |
| Date of Investigation: | October 22, 2008 to present |
| Date of Report: | February 17, 2010 |
| Compliance Specialist: | Valerie Schmale |

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REPORT OF INVESTIGATION

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REPORT OF INVESTIGATION

I. INTRODUCTION

The Compliance & Enforcement (C&E) Division of the National Organic Program (NOP) is responsible for investigating complaints filed under the Organic Foods Production Act of 1990 (7 USC 6501 et seq.) and its related laws and regulations.

On October 14, 2008, C&E received a complaint through David Trykowski, Director, Agricultural Marketing Service (AMS) Compliance and Analysis Branch regarding alleged violations of the NOP at Shamrock Farms Dairy (Shamrock) facility in Phoenix, Arizona (AZ) ([Exhibit 1](#)). Mr. Will Fantle, Director of Research, The Cornucopia Institute, Cornucopia, Wisconsin (WI) made the complaint.

On October 21, 2008, Valerie Schmale, Agricultural Marketing Specialist (Regulatory) C & E, contacted Joe Smillie, of Quality Assurance International (QAI), Shamrock's certifying agent, to begin an investigation into the allegations ([Exhibit 9Y](#)). The case was referred to Maria DeVincenzo, Quality Specialist, QAI, for further investigation.

An investigation was conducted and the results of the investigation are contained in this report.

Significant terms:

Center-pivot irrigation (sometimes called **central pivot irrigation**), also called **circle irrigation** – is a method of crop irrigation in which equipment rotates around a pivot.

Dry cow – A cow that will no longer give milk.

Feed – Edible materials which are consumed by livestock for their nutritional value. Feed may be concentrates (grains) or roughages (fodder, hay, silage). The term, “feed” encompasses all agricultural commodities, including pasture ingested by livestock for nutritional purposes.

Feed additive – A substance added to feed in micro quantities to fulfill a specific nutritional need; i.e. essential nutrients in the form of amino acids, minerals, and vitamins.

Feed supplement – A combination of feed nutrients added to livestock feed to improve the nutrient balance or performance of the total ration and intended to be: (1) Diluted with other feeds when fed to livestock; (2) Offered free choice with other parts of the ration if separately available; or (3) Further diluted and mixed to produce a complete feed.

Field – An area of land identified as a discrete unit within a production operation.

Forage – Vegetative material in a fresh, dried, or ensiled state (pasture, hay, or silage), which is fed to livestock.

Heifer – A young female cow before she has had her first calf.

Pasture – Land used for livestock grazing that is managed to provide feed value and maintain or improve soil, water, and vegetative resources.

Records – Any information in written, visual, or electronic form that documents the activities undertaken by a producer, handler, or certifying agent to comply with the Act and regulations in this part.

Saudi Barn – an open styled barn designed by the University of Arizona for use in the Saudi Arabian desert. The barn consists of a feed line under a shaded area, which allows the animals to be handled in the headlocks while eating. In other words, lean-to's with a concrete floor where the air temperature is controlled with fans and misters.

Split operation – An operation that produces or handles both organic and nonorganic agricultural products.

Springer – A female that is about to give birth to a calf.

BACKGROUND

Shamrock Dairy is a split operation with a total of about 10,000 cows, 1,000 of which were certified organic in June 2007. Shamrock is the only organic dairy in Arizona. Milk is shipped to its plant in Phoenix where it is bottled as fluid milk and processed into sour cream.

Shamrock has been certified with QAI for crops and livestock since March 2, 2007 ([Exhibit 5C](#)). Shamrock was certified to handle silage on April 5, 2007 and dairy products on April 23, 2007. Shamrock's organic dairy herd was started in June 2007 using a group of heifers that were transitioned in Oregon ([Exhibit 5D](#)). Two more groups of heifers entered the herd in 2007. One group entered the herd on June 5, 2007 and is known as the X group. The second group entered the herd on September 21, 2007 and is known as the Y group. Records indicate that there are 119 head accounted for in the X herd and 129 head accounted for in the Y herd. On January 2, 2009, Shamrock became a certified producer of crops for livestock feed (barley, hay, pasture, oats, sorghum, and Sudan Grass).

Shamrock's Dairy Organic Compliance Plan (OCP) ([Exhibit 6E](#)) for livestock management covers the Shamrock Farms Company in Stanfield, Arizona (AZ). According to Shamrock's OCP Herd Pasture Profile (HPP), dated November 15, 2008, there are 998 head of organic dairy cattle and 160 acres of organic pasture at Shamrock ([Exhibit 6F – last page](#)). Shamrock is certified for crops, handling, and livestock. Crops grown for the organic operations include permanent pasture, alfalfa, and winter forage. There are no outside sales of crops; all crops harvested are used for on-farm feed.

As of November 18, 2008, Shamrock's OCP Item A6 indicates there are 750 milk cows managed organically. The HPP dated November 15, 2008 indicates that the number of organic pasture acres is 160 total. The HPP indicates the breakdown of the organic herd as follows in the chart below.

Table 1

Herd Pasture Profile

| Age Group | # of Animals in Age Group | Production Status | Pasture Fields Provided to this Age Group | Acreage of Pasture Fields Provided | Number of Feed Units Fed to each Age Group per day | Estimated Number of Pasture Units Fed to each Age Group per day |
|------------|---------------------------|-------------------|---|------------------------------------|--|---|
| 16 months | 125 | Heifers | Berl 320 | 160 | 20 | 1 acre* |
| 22 months | 123 | Springers | Berl 320 | 160 | 24 | 1.25 acres* |
| 24+ months | 200 | Dry Cows | Berl 320 | 160 | 24 | 2.5 acres* |
| 24+ months | 550 | Milking | Berl 320 | 160 | 20 | 5.5 acres* |

***Note:** Figures as shown are not accurate. Figures should be reported as 1.28 acres per cow, 1.30 acres per cow, 0.80 acres per cow, and 0.29 acres per cow respectively by dividing the acreage by the number of cows.

- The inspector's report dated November 20, 2008 ([Exhibit 8H](#)), indicates that there were 120 acres of available pasture on Beryl 320, not 160 acres as stated on the HPP above.
- The report also states on page 6 of 18 *that alfalfa fields, which were scheduled to complete transition in 2009, were planted with treated seed. The error significantly impacted the operations' ability to implement the intended pasture plan.*
- On page 7 of 18, Item 4, the November 20, 2008 report states *that the 130 acres included in Red River 4, 5, and 6 were not used for the organic herd in the 2008 summer. The alfalfa was worked up and the fields were being planted to cereal grain at the time of inspection.*
- On page 8 of 18, Item A4 states, *"1. ...The 160 acres on the E side is where the current pasture is...(b) The applicant convinced the Arizona Water Board to allow them to move the water right to the E side of the parcel, which had never been farmed before. (c) As a result the quality of the ground on which the current pasture resides is a heavy 'caliche' type soil, heavy clay but very poor in nutrients. (d) The applicant boosted nutrient contents initially by applying composted chicken manure. They have planted two cycles of annuals/year, including a small grain cereal (usually oats) in the winter and sorghum in the summer. Cattle manure from the feed area is spread on the field each year and the cows graze the field."*
- Page 13 of 18, Item E1) Living conditions states that, *"The cows are in what is called a 'Saudi Barn' which consists of leetos with a concrete floor. Air temperature is controlled with fans and misters."*
- Page 13 of 18, Item E2/S11 number 1. states, *"For the 2008 winter, the 120 acres of pasture on Beryl 320 was the extent of available land."* Number 2. states, *"The applicant states this first year of providing pasture to cows at Shamrock dairy was not very successful for the lactating cows but as far as the heifers and the dry cows, they did benefit from this access. Overall:...b. Milk cows were curious about having the gates open and ventured into oats, in the first 1/3rd of the pasture closest to the feed area and ate that down pretty well and quickly. After that, the cows lost interest and stayed in the shade of the feed area where they were provided with a complete ration at 100%. i. In essence, the applicant provided access to pasture but did not force them by limiting the feed and putting them out to eat."*

Shamrock's Proposed Pasture SOP for the Organic Dairy ([page 48, Exhibit 8H](#)) indicates that animals shall have access to pasture except for the reasons of:

- *Pasture development (irrigation, planting, manure application)*
- *Inclement weather (Daily temperature exceeding 90°F, severe monsoon storms)*
- *Health Issues (dry animals, heifers in the last 30 days of gestation, fresh animals less than 45 days in milk, animals that are weak or sick and in need of close monitoring)*

The Proposed Pasture SOP does not indicate the number of acres available per cow, or the total number of acres available for pasture. Irrigation on the Beryl 320 parcel is accomplished through center-pivot irrigation. Irrigation for the Red River parcels is accomplished through flooding. Cattle cannot be pastured during times of irrigation because of damage created by the animals' hooves in the soft ground.

In a December 1, 2008 letter to Shamrock ([Exhibit 9M](#)), QAI indicated the inspector had noted that for the winter of 2008, the extent of pasture for the dairy was 140 acres. QAI requested that Shamrock provide a written plan to provide adequate pasture for its organic livestock. The plan was to include acreage, forage description, the timing of the cropping cycles such that there would always be ground available for grazing, animal numbers, and the duration/frequency of their stay on the pasture as well as an assessment of the pasture's ability to provide substantive nutritive value to the animals pastured. There is no evidence that QAI followed up on the noncompliances noted in the December 1, 2008 letter.

On December 15, 2009, ([Exhibit 8G](#)) QAI performed an unannounced inspection at Shamrock Farms Dairy. The report stated that this inspection took place in the middle of a transition between two annual crop plantings and animals were not seen on the pastures. The inspector did note that permanent fences were present on Beryl and Red River (RR) 4 and an electric fence was noted on RR4.

The inspector noted that it is clear from the field inspection that animals do graze the fields due to the compacted areas in the lanes and where the water troughs are located. Beryl 320 and RR4 were seen planted in barley and oats respectively. RR5 and RR6 are being used for crops and are planned for harvest in May 2010. The Beryl West pasture is being used exclusively for milk cows since it adjoins their housing area.

- From 11/19/08-1/21/09 ([63 days – 43 days in 2008; 20 days in 2009](#)) all of Beryl 320 was not available for grazing because the crop was just getting established.
- From 1/21/09-4/30/09 access was provided except during irrigation cycles.
 - 1/29-31/09 – 2/3/09 access denied due to irrigation ([6 days](#))
 - 2/17/09 access denied due to rain ([1 day](#))
 - 2/21-28/09 – 3/2/09 access denied due to irrigation ([10 days](#))
 - 3/17-24/09 access denied due to irrigation ([8 days](#))
 - 4/6-13/09 access denied due to irrigation ([8 days](#))
- 5/1/09 Sudan was planted and it got to hot according to the inspection report. Access was denied for pasture development from May 1-31, 2009 ([31 days](#)) according to pasture logs.
- 6/1-16/09 ([16 days](#)) pasture was denied for pasture development.

- 6/18-30/09 (13 days) pasture was denied for irrigation and heat.
- 7/1-31/09 (31 days) pasture was denied for heat and crops.
- 8/1-10/09 (10 days) pasture was denied for crops.
- 8/11-31/09 (21 days) pasture was denied for pasture development.
- 9/1/09 – 12/15/09 (106 days) pasture was denied for pasture development.

Based on the figures above obtained from pasture logs on December 15, 2009, Shamrock cows were denied pasture 281 days during the period of January 1, 2009 – December 15, 2009 or 81 percent of the 349 days documented. The report stated that each pen has access for 12 hours. The 12-hour access is based on three paddocks available for six corrals of milking cows. Based upon the milking schedule it works out to 12 hours per cow. The report states that there are about 750 cows on any given day for the 80 acres available on Beryl (0.11 acre/head). A Herd Pasture Profile was included with the report with updated figures and is recreated below as Table 2.

Table 2
Herd Pasture Profile
Dated 12/15/09

| Age Group | # of Animals in Age Group | Production Status | Pasture Fields Provided to this Age Group | Acreage of Pasture Fields Provided | Number of Feed Units Fed to each Age Group per day | Estimated Number of Pasture Units Fed to each Age Group per day |
|------------|---------------------------|-------------------|---|------------------------------------|--|---|
| 16 months | 85 | Heifers | Berl 320, RR 4 | 145 | 20 | 1.23 acres/head* |
| 22 months | 32 | Springers | Berl 320, RR 4 | 145 | 24 | 1.23 acres/head* |
| 24+ months | 172 | Dry Cows | Berl 320 | 80 | 24 | 0.46 acres/head* |
| 24+ months | 860 | Milking | Berl 320 | 80 | 20 | 0.11 acres/head* |

***Note:** Figures as shown are not accurate. Figures should read 1.71 acres/head, 4.53 acres/head, 0.47 acres/head, and 0.093 acres/head respectively by dividing the acreage by the number of cows.

- The report states that silage was harvested from Beryl 320 but there was no time for it to be grazed due to the very hot summer.
- In the fall Beryl 320 had to be replanted from oats to barley because of poor germination, which was caused by crusting of the soil.
 - The soil on Beryl is very low in organic matter and heavy in clay since it has not been farmed for very long.
 - Manure is being used to improve this but it will take time because too much manure would create a salt problem, which is closely monitored by soil testing (not verified by the inspector)
- Shamrock stated that they have a lack of permanent pasture.

II. ALLEGATIONS

The Cornucopia Institute (Cornucopia) broadly alleges violations of the National Organic Program's (NOP) regulatory standards governing dairy cows and access to pasture provisions.

Allegation 1: Cornucopia contends that Shamrock's feedlot facility does not provide sufficient pasture for its dairy herd of approximately 11,000 cows, of which approximately 700-1,000 cows are managed organically.

Allegation 2: Cornucopia contends that Shamrock's cows were confined to feedlots and not pastured for weeks.

Allegation 3: Cornucopia contends that geographic or climatic conditions, which make pasture impractical or not cost-effective, cannot be used to justify year-round noncompliance with the pasture rule.

III. METHODOLOGY

In response to the October 14, 2008 ([Exhibit 1](#)) initial complaint, On October 21, 2008 ([Exhibit 9Y](#)), Valerie Schmale with NOP C & E requested that QAI conduct an investigation into the allegations consistent with C&E procedures for certified operations. Ms. Schmale also requested QAI respond back to NOP with their findings by November 27, 2008; and a description of corrective action with a timeline for implementation.

On October 28, 2008 ([Exhibit 9X](#)), C&E Branch Chief, Ruihong Guo sent Cornucopia correspondence to request more information and evidence to support its allegations against Shamrock. C&E requested more information from Mr. Fantle because the initial complaint lacked sufficient evidentiary support to warrant a C&E investigation. Mr. Mark Kastel, Cornucopia, responded on November 3, 2008 that he was traveling and could not put the evidence together until his return; no specific date was proposed.

In a November 7, 2008 ([Exhibit 9W](#)), response to C&E's request, QAI indicated that a review of the inspection report from an April 1, 2008 inspection did not indicate any questions as to the organic integrity of the operation. QAI indicated that if a full investigation was not completed by January 30, 2009, it would submit an update on the current progress to the USDA. In a November 10, 2008 response, the NOP stated that complaints were time sensitive and must be investigated promptly. NOP responded that a full report was expected by November 27, 2008. QAI responded on November 26, 2008 that it had conducted an investigation on November 19 and 20, 2008. QAI stated that they would be issuing Shamrock a noncompliance letter on December 1, 2008 ([Exhibit 9U](#)).

On December 1, 2008, QAI sent Shamrock, a Notice of Noncompliance ([Exhibit 9U](#)) to address deficiencies found during the November 19-20, 2008 inspection. QAI indicated the inspector had noted that for the winter of 2008, the extent of pasture for the dairy was 140 acres. QAI requested that Shamrock provide a written plan to provide adequate pasture for its organic

livestock. The plan was to include acreage, forage description, the timing of the cropping cycles such that there would always be ground available for grazing, animal numbers, and the duration/frequency of their stay on the pasture as well as an assessment of the pasture's ability to provide substantive nutritive value to the animals pastured. Additionally, QAI stated that Shamrock would have to complete Individual Field Profile (IFP) Sheets for Red River 1, 2, and 3 fields that would be eligible for organic use in the autumn of 2009.

On December 10, 2008 (**Exhibit 4**), QAI sent a letter to Barbara C. Robinson, Acting Director National Organic Program, addressing the allegations of the complaint. In that letter, QAI stated that it believed Shamrock was complying with NOP regulations as currently written. QAI also addressed each allegation.

On September 17, 2009 (**Exhibit 2**), Schmale and Compliance Specialist Tammie Wilburn conducted a telephone interview with Mr. Will Fantle and Mr. Mark Kastel of the Cornucopia Institute. The telephone interview was conducted as a final attempt to collect evidence to support Cornucopia's complaint prior to moving to case closure. Schmale and Wilburn summarized the interview in a memorandum of telephone conversation, which was affirmed by all interview participants.

On December 4, 2009 (**Exhibit 9M**), Schmale requested and received from QAI, Shamrock's response to the December 1, 2009, Notice of Noncompliance.

On December 11, 2009 (**Exhibit 9L**), Schmale requested QAI perform an unannounced inspection. The inspection was scheduled for December 15, 2009. On December 15, 2009, an unannounced inspection was conducted at Shamrock. That report was received by C & E on January 4, 2010. The findings of that inspection are contained in this report.

The following findings of fact are supported by:

- (1) QAI's November 20, 2008 inspector's report submitted to C&E (**Exhibit 8H**),
- (2) QAI's December 1, 2008 Notice of Noncompliance to Shamrock (**Exhibit 9U**),
- (3) QAI's December 10, 2008 response to allegations (**Exhibit 4**),
- (4) Shamrock's response to the Notice of Noncompliance (**Exhibit 3B**),
- (5) C&E's September 17, 2009 Memo of Interview with the Cornucopia Institute (**Exhibit 2**),
- (6) QAI's December 15, 2009 inspector's report submitted to C & E (**Exhibit 8G**), and
- (7) Additional information as requested of QAI and the Cornucopia Institute (**Exhibits 9I-Y**).

IV. FINDINGS OF FACT

Allegation 1: Cornucopia contends that Shamrock's feedlot facility does not provide sufficient pasture for its dairy herd of approximately 11,000 cows, of which approximately 700-1000 cows are managed organically.

In its December 10, 2008 ([Exhibit 4](#)) letter, QAI responded that until the NOP finalizes the pasture rule, it will not require a certain number of cows per acre nor a certain quantity of feed from pasture/grazing. QAI findings indicate that access to the outdoors was provided aside from the instances related to inclement weather, animals' stage of production, or risk to soil or water quality. The reasons for confinement were consistent with NOP regulations. QAI findings indicate that pasture has been available, consistent with NOP regulations despite setbacks related to suitable pasture.

QAI inspector findings indicate that Shamrock is transitioning land near the dairy and an intensive grazing plan is being implemented. QAI reported that Shamrock has just converted an additional 194 acres for grazing. For the 2008 winter, spring, and fall, the only available pasture was the 160 acres known as Beryl 320. For the 2008 winter, 140 acres of pasture on Beryl 320 was the extent of available land. The findings indicated that as soon as the winter planting of oats in the newly transitioned Red River 4, 5, and 6 is established, the acreage will increase significantly and thus increasing the available grazing configuration.

Findings indicated that pastures were split into paddocks. It was reported that the milk cows were curious about having the gates open and ventured into oats in the first 1/3rd of the pasture closest to the feed areas and ate it down pretty well and quickly. The cows lost interest after that and stayed in the shade of the feed area where they were provided with a complete ration at 100%. Shamrock provided access to pasture, but did not force the cows by limiting the feed and putting them out to eat. Dry cows and heifers were used to eat up all of the remaining pasture that was in oats and they did a good job of it. Oats were a good choice of forage, but sorghum was not. The cows did not have an interest in the sorghum. The heifers did forage in the sorghum, however, they lost weight in the process and were removed.

A feed audit revealed that a total of less than 6 Tons per acre of sorghum silage was harvested. Locally, it was stated that yields go from 10 to 20 Tons/acre, which shows that the cows were foraging in the stand.

Shamrock plans to use Brown Midrib Sudan sorghum hybrid, which has a success of being used to graze in the south, instead of Sudan grass which when stressed puts out prussic acid that imparts a bad taste to the milk and is not healthy for the cows.

QAI provided a table (Page 14 of 18 of the November 20, 2008 Inspection report ([Exhibit 8H](#)); titled Table 3, Grazing Season Figures for this report) explaining the grazing season in relation to animal numbers and acres available for pasture (MC = Milking Cows, DR = Dry Cows, H = Heifers). Table 3 is being utilized for the response to all allegations contained in this report:

Table 3
Grazing Season Figures (2008)

| Month | Animal # | | | Acres Available | | Crop |
|-------------------------|----------|-----|--------------|-----------------|--------|-------------|
| | MC | DR | H | Cow | DC & H | |
| February | 743 | 4 | 253 | 100 | 20 | Oats |
| March | 730 | 16 | 367 | 100 | 20 | Oats |
| April | 701 | 43 | 365 | 0 | 120 | Oats |
| May 15 th | 701 | 24 | 365 | 0 | 120 | Oats |
| May 16 th On | 701 | 24 | 365 | 0 | 0 | Crop Switch |
| June | 663 | 88 | 471 | 0 | 0 | Crop Switch |
| July | 624 | 184 | 398 | 0 | 120 | Sorghum |
| August | 627 | 195 | 374 | 0 | 0 | Sorghum |
| September | 635 | 179 | 365 | 0 | 0 | Sorghum |
| October | 672 | 189 | 308 | 0 | 0 | Sorghum |
| November | 672 | 189 | 308 | 0 | 0 | Crop Switch |
| Average # | 679 | 103 | 358 | | | |
| | | | Total | 1140 | | |

Specific notes to the table indicate (1) that grazing of the oats started in mid to end of January and (2) the heifers tried to graze the sorghum for about 10 days in July.

Inspection records indicate that Shamrock dairy is a split operation with a total of about 10,000 cows, 1,000 of which are managed organically. QAI documented on its November 20, 2008 Inspection Report ([Exhibit 8H](#)) that Shamrock has not provided sufficient access to pasture for its organic dairy herd. QAI indicated the inspector had noted that for the winter of 2008, the extent of pasture for the dairy was 140 acres.

QAI requested that Shamrock provide a written plan to provide adequate pasture for its organic livestock. The plan was to include acreage, forage description, the timing of the cropping cycles such that there would always be ground available for grazing, animal numbers, and the duration/frequency of their stay on the pasture as well as an assessment of the pasture's ability to provide substantive nutritive value to the animals pastured. Additionally, QAI stated that Shamrock would have to complete Individual Field Profile (IFP) Sheets for Red River 1, 2, and 3 fields that would be eligible for organic use in the autumn of 2009. Copies of QAI's inspection records dated November 20, 2008, are in [Exhibit 8H](#).

The December 15, 2009 Unannounced Inspection ([Exhibit 8G](#)) disclosed that Shamrock admitted it did not have permanent pasture. Shamrock also provided documentation that it had 1,149 cows being managed organically on available pasture of 80-145 acres Table 2 page 7 of this report. Additionally, through documentation obtained from the December 15, 2009 Unannounced Inspection ([Exhibit 8G](#)), it was determined that Shamrock denied its organic herd access to pasture 281 days out of 349 days documented for heat, irrigation, and pasture development.

Allegation 2: Cornucopia contends that Shamrock's cows were confined to feedlots and not pastured for weeks.

In its December 10, 2008 letter, QAI responded that findings indicate that access to the outdoors was provided aside from the instances related to inclement weather, animals' stage of production, or risk to soil or water quality. The reasons for confinement were consistent with NOP regulations. QAI findings indicate that pasture has been available, consistent with NOP regulations. QAI provided a table (see page 10 of this report, Table 3 Grazing Season Figures) explaining the grazing season in relation to animal numbers and acres available for pasture.

The QAI inspector reviewed pasture logs from April 1-30, 2008 and July 1-31, 2008 ([Exhibit 8H](#)). The April pasture log shows the herd was denied pasture from April 5-8, 2008 due to irrigation of the field. The July pasture log shows the herd was denied pasture from July 1-31, 2008 due to ambient temperatures exceeding 90°F. The Inspector's Report dated November 20, 2008 ([Exhibit 8H](#)), states on page 2, item 3 that heifers and dry cows did not need supplemental feed during the winter when they were grazing the oats. Item 5 of the report states that the only available pasture was 160 acres known as Beryl 320. The report states that as soon as the winter planting of oats in the newly transitioned Red River Fields 4, 5, and 6 is established, the acreage will increase significantly and so will the configuration of the available grazing.

The December 15, 2009 Unannounced Inspection ([Exhibit 8G](#)) revealed that during 2009, Shamrock denied access to pasture to its organic dairy herd 281 days out of 349 days documented due to heat, irrigation, and pasture development.

Allegation 3: Cornucopia contends that geographic or climatic conditions, which make pasture impractical or not cost-effective, cannot be used to justify year-round noncompliance with the pasture rule.

In its December 10, 2008 letter ([Exhibit 4](#)), QAI responded that until the NOP finalizes the pasture rule, it will not require a certain number of cows per acre nor a certain quantity of feed from pasture/grazing. QAI findings indicate that access to the outdoors was provided aside from the instances related to inclement weather, animals' stage of production, or risk to soil or water quality. The reasons for confinement were consistent with NOP regulations. QAI findings indicate that pasture has been available, consistent with NOP regulations. QAI provided a table (see page 10, Table 3 Grazing Season Figures) explaining the grazing season in relation to animal numbers and acres available for pasture.

Specific notes to the table indicate (1) that grazing of the oats started in mid to end of January and (2) the heifers tried to graze the sorghum for about 10 days in July.

Additionally, a QAI inspector reviewed pasture logs from April 1-30, 2008 and July 1-31, 2008. The April pasture log shows the herd was denied pasture from April 5-8, 2008 due to irrigation of the field. The July pasture log shows the herd was denied pasture from July 1-31, 2008 due to ambient temperatures exceeding 90°F. The Inspector's Report dated November 20, 2008

([Exhibit 8H](#)), states on page 2, item 3 that heifers and dry cows did not need supplemental feed during the winter when they were grazing the oats. Item 5 of the report states that the only available pasture was 160 acres known as Beryl 320. The report states that as soon as the winter planting of oats in the newly transitioned Red River Fields 4, 5, and 6 is established, the acreage will increase significantly and so will the configuration of the available grazing.

The December 15, 2009 Unannounced Inspection ([Exhibit 8G](#)) revealed that during 2009, Shamrock denied access to pasture to its organic dairy herd 281 days out of 349 days documented due to heat, irrigation, and pasture development.

Quality Assurance International (QAI)

Records indicate QAI initially certified Shamrock March 2, 2007 for Livestock and Crop (Producer).

- On April 5, 2007, QAI certified Shamrock for Livestock Feed (Silage).
- On April 23, 2007, QAI then certified Shamrock for Dairy Cows (not for slaughter) and Milk (Raw).
- On January 2, 2009, QAI certified Shamrock for Livestock Feed (Barley, Hay, Oats, Pasture, Sorghum, and Sudan Grass)
- Records indicate that Shamrock was certified by QAI for a total of 354 acres although the breakdown of acreage for each crop is not specified by the certification.

Records indicate that no permanent pasture was available at the initial certification of Shamrock for dairy operations in 2007. *Section 205.239 (a) The producer of an organic livestock operation must establish and maintain livestock living conditions, which accommodate the health and natural behavior of animals including: (2) Access to pasture for ruminants.*

Records indicate that QAI performed an announced inspection on November 19-20, 2008 ([Exhibit 8H](#)) in response to a complaint filed on October 14, 2008. QAI also considered this inspection as an annual monitoring inspection. During the inspection, QAI noted several noncompliances and contacted Shamrock farms in a letter dated December 1, 2008 ([Exhibit 9U](#)) specifying a response was required within 30 days of receipt of said letter. Shamrock Farms responded to the letter within the 30 days. However, QAI failed to follow up on the proposed corrections for the noncompliances during 2009.

QAI did not perform another inspection until December 15, 2009 ([Exhibit 8G](#)). QAI performed an unannounced inspection at that time only at the urging of the USDA NOP. During that inspection, several noncompliances were found and Shamrock was notified in a Combined Notice of Noncompliance and Proposed Suspension dated January 8, 2010 ([Exhibit 9J](#)). Shamrock responded to the Combined Notice of Noncompliance and Proposed Suspension on January 22, 2010 ([Exhibit 3A](#)). QAI acknowledged Shamrock's corrective action response to the Combined Notice of Noncompliance and Proposed Suspension. QAI determined the corrective action response was inadequate and responded to Shamrock on February 5, 2010 ([Exhibit 9I](#)) that suspension would be effective March 5, 2010 unless there was a request for mediation or an appeal was filed.

V. CONCLUSION & RECOMMENDATION

Allegation 1: Cornucopia contends that Shamrock's feedlot facility does not provide sufficient pasture for its dairy herd of approximately 11,000 cows, of which approximately 700-1000 cows are managed organically.

Regulatory Requirements: 7 CFR Section 205.237(a)

The producer of an organic livestock operation must provide livestock with a total feed ration composed of agricultural products, including pasture and forage, that are organically produced and, if applicable, organically handled: Except, that, nonsynthetic substances and synthetic substances allowed under §205.603 may be used as feed additives and supplements.

Conclusion & Recommendation:

Violation 1: Shamrock has not provided sufficient organic pasture for its organic dairy herd.

QAI findings from an announced inspection on November 19-20, 2008 (**Exhibit 8H**) indicate apparent violations to 7 CFR Section 205.237(a). Documents contained in the report dated November 20, 2008, clearly show that pasture was not available from May 16-June 30, 2008 and from August 1 through November 19-20, 2008. Documents contained in the December 15, 2009 Inspection Report (**Exhibit 8G**) clearly show that Shamrock does not provide sufficient pasture for its organic dairy herd. Documents indicated that Shamrock did not provide pasture to its organic dairy herd for 281 days out of the 349 documented days. QAI has been in conversation with Shamrock about its pasture availability and approved a plan submitted by Shamrock in January 2009 to adapt its operations to meet regulatory guidelines.

C & E concludes that sufficient permanent organic pasture was not established prior to Shamrock becoming certified as an organic operation. It is evident from inspection reports that Shamrock still does not have sufficient permanent organic pasture established. While the regulations do make allowances for extreme weather conditions, those allowances are not to be used as a continual means to violate § 205.237, which clearly states, *...operation must provide livestock with a total feed ration composed of agricultural products, including pasture and forage, that are organically produced and, if applicable, organically handled.* It is evident from the inspection reports that Shamrock has violated § 205.237, and has willfully used exemptions in the regulations to justify doing so.

We concur that Shamrock has not increased the amount of pasture available to its organic herd. As a result, Shamrock has attempted to graze more animals than is justifiable for the climatic conditions given the limited quantity and quality of the organic pasture it has available.

Allegation 2: Cornucopia contends that Shamrock's cows were confined to feedlots and not pastured for weeks.

Regulatory Requirements: 7 CFR Section 205.238(a)(3) and (4) and 205.239 (a) (1) (2) (b)(1)(2)(3)(4)

(a) The producer of an organic livestock operation must establish and maintain livestock living conditions which accommodate the health and natural behavior of animals, including: (1) Access to the outdoors, shade, shelter, exercise areas, fresh air, and direct sunlight suitable to the species, its stage of production, the climate, and the environment; (2) Access to pasture for ruminants; (b) The producer of an organic livestock operation may provide temporary confinement for an animal because of: (1) Inclement weather; (2) The animal's stage of production; (3) Conditions under which the health, safety, or well-being of the animal could be jeopardized; or (4) Risk to soil or water quality.

Conclusion & Recommendation:

The November 20, 2008 inspection report ([Exhibit 8H](#)) indicates the QAI inspector reviewed pasture logs from April 1-30, 2008 and July 1-31, 2008. The April pasture log shows the herd was denied pasture from April 5-8, 2008 due to irrigation of the field. The July pasture log shows the herd was denied pasture from July 1-31, 2008 due to ambient temperatures exceeding 90°F. The report also states on page 2, item 3 that heifers and dry cows did not need supplemental feed during the winter when they were grazing the oats. Item 5 of the report states that the only available pasture was 160 acres known as Beryl 320. The report stated that as soon as the winter planting of oats in the newly transitioned Red River Fields 4, 5, and 6 is established, the acreage would increase significantly and so would the configuration of the available grazing. Table 3, page 10 of this report, clearly shows that Shamrock had no organic pasture available from May 16-June 30, 2008, and from August 1, 2008 through November 20, 2008. Table 3 also indicates that although there were 120 acres of pasture available, the cows were denied access.

The December 15, 2009 Inspection Report ([Exhibit 8G](#)) revealed that Shamrock denied its organic dairy herd access to pasture for 281 days out of 349 documented days. The reasons for the denial of access to pasture were due to heat (30 days), irrigation (46 days), and crop development (213 days). Of the 281 days denied pasture, 181 of these were consecutive days. While the regulations permit denial of pasture for (1) Inclement weather; (2) The animal's stage of production; (3) Conditions under which the health, safety, or well-being of the animal could be jeopardized; or (4) Risk to soil or water quality, it is not the intent of the regulations for operations to use these exemptions to continually deny pasture to animals.

C & E contends that denying access to pasture for 281 days out of 349 (81 % of the year) documented days is willful abuse of the regulations and therefore Shamrock is in violation of § 205.239(b)(1)(2)(3) and (4).

Allegation 3: Cornucopia contends that geographic or climatic conditions, which make pasture impractical or not cost-effective, cannot be used to justify year-round noncompliance with the pasture rule.

Regulatory Requirements: 7 CFR Section 205.239(a)(b)

(a) The producer of an organic livestock operation must establish and maintain livestock living conditions which accommodate the health and natural behavior of animals, including: (1) Access to the outdoors, shade, shelter, exercise areas, fresh air, and direct sunlight suitable to the species, its stage of production, the climate, and the environment; (2) Access to pasture for ruminants;...(b)The producer of an organic livestock operation may provide temporary confinement for an animal because of: (1) inclement weather; (2) The animal's stage of production; (3) Conditions under which the health, safety, or well being of the animal could be jeopardized; or (4) Risk to soil or water quality.

Conclusion & Recommendation:


C & E concludes that the regulations state,...*The producer of an organic livestock operation may provide temporary confinement for an animal because of...*the key is the word temporary. C & E contends that denying access to pasture for 281 days out of 349 documented days is well outside the definition of the term temporary and therefore represents a willful abuse of the regulations. Additionally, the documents show that in 2008, the organic dairy herd did not have organic pasture available for 9 months of the year. C & E contends that therefore Shamrock is in violation of § 205.239(b). C & E concurs with the Notice of Noncompliance and Proposed Suspension issued by QAI on January 8, 2010 ([Exhibit 9J](#)).

QAI Actions

While C & E concurs with the actions taken by QAI on January 8, 2010 with the issuance of the Combined Notice of Noncompliance and Proposed Suspension, C & E contends that QAI did not perform its due diligence as an Accredited Certifying Agent. QAI had in its possession, documentation obtained from November 19-20, 2008 Inspection ([Exhibit 8H](#)), that proved Shamrock had not provided organic pasture to its organic dairy herd for a period of 9 months. C & E must further conclude that QAI has failed to practice its due diligence as an accredited certifying agent by certifying Shamrock, an operation with insufficient organic pasture to sustain its organic herd, and failing to monitor the operation to ensure continued compliance thus failing to comply with § 205.402 Review of application.

(a)(2)Determine by a review of the application materials whether the applicant appears to comply or may be able to comply with the applicable requirements of subpart C of this part.

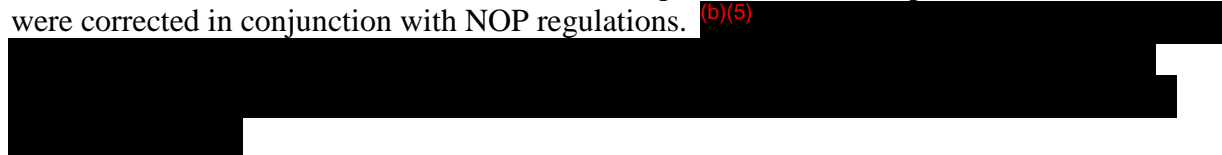
As stated in § 205.403(2)(ii), The Administrator or State organic program's governing State official may require that additional inspections be performed by the certifying agent for the purpose of determining compliance with the Act and the regulations of this part. (b)(5)



(b)(5)



C & E further contends that QAI failed to follow up on initial noncompliances to ensure that they were corrected in conjunction with NOP regulations. (b)(5)



(b)(5)





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The National Organic Program
Compliance & Enforcement Division
Report of Investigation

| | |
|--|--|
| Complaint Number: | NOPC-003-09 |
| Complainant Name & Address: | Will Fantle P.O. Box 126 Cornucopia, Wisconsin 54827 Phone: (715) 839-7731 |
| Operator Name & Address: | Shamrock Farms Dairy 2228 N. Black Canyon Hwy. Phoenix, Arizona 85009 Phone: (602) 272-6721 |
| Physical Address of Dairy: | Shamrock Farms Co. 40034 W. Clayton Stanfield, Arizona 85272 |
| Accredited Certifying Agent Name & Address: | Maria DeVincenzo Quality Assurance International 9191 Towne Centre Drive, Suite 510 San Diego, CA 92122 USA (858) 792-3531 Phone (734) 827-6177 Fax |
| Date of Investigation: | October 22, 2008 to present |
| Date of Report: | May 13, 2010 |
| Compliance Specialist: | Valerie Schmale |

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REPORT OF INVESTIGATION

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REPORT OF INVESTIGATION

I. INTRODUCTION

The Compliance & Enforcement (C&E) Division of the National Organic Program (NOP) is responsible for investigating complaints filed under the Organic Foods Production Act of 1990 (7 USC 6501 et seq.) and its related laws and regulations.

On October 14, 2008, C&E received a complaint through David Trykowski, Director, Agricultural Marketing Service (AMS) Compliance and Analysis Branch regarding alleged violations of the NOP at Shamrock Farms Dairy (Shamrock) facility in Phoenix, Arizona (AZ) ([Exhibit 1](#)). Mr. Will Fantle, Director of Research, The Cornucopia Institute, Cornucopia, Wisconsin (WI) made the complaint.

On October 21, 2008, Valerie Schmale, Agricultural Marketing Specialist (Regulatory) C & E, contacted Joe Smillie, of Quality Assurance International (QAI), Shamrock's certifying agent, to begin an investigation into the allegations ([Exhibit 9Y](#)). The case was referred to Maria DeVincenzo, Quality Specialist, QAI, for further investigation.

An investigation was conducted and the results of the investigation are contained in this report.

Significant terms:

Center-pivot irrigation (sometimes called **central pivot irrigation**), also called **circle irrigation** – is a method of crop irrigation in which equipment rotates around a pivot.

Dry cow – A cow that will no longer give milk.

Feed – Edible materials which are consumed by livestock for their nutritional value. Feed may be concentrates (grains) or roughages (fodder, hay, silage). The term, “feed” encompasses all agricultural commodities, including pasture ingested by livestock for nutritional purposes.

Feed additive – A substance added to feed in micro quantities to fulfill a specific nutritional need; i.e. essential nutrients in the form of amino acids, minerals, and vitamins.

Feed supplement – A combination of feed nutrients added to livestock feed to improve the nutrient balance or performance of the total ration and intended to be: (1) Diluted with other feeds when fed to livestock; (2) Offered free choice with other parts of the ration if separately available; or (3) Further diluted and mixed to produce a complete feed.

Field – An area of land identified as a discrete unit within a production operation.

Forage – Vegetative material in a fresh, dried, or ensiled state (pasture, hay, or silage), which is fed to livestock.

Heifer – A young female cow before she has had her first calf.

Pasture – Land used for livestock grazing that is managed to provide feed value and maintain or improve soil, water, and vegetative resources.

Records – Any information in written, visual, or electronic form that documents the activities undertaken by a producer, handler, or certifying agent to comply with the Act and regulations in this part.

Saudi Barn – an open styled barn designed by the University of Arizona for use in the Saudi Arabian desert. The barn consists of a feed line under a shaded area, which allows the animals to be handled in the headlocks while eating. In other words, lean-to's with a concrete floor where the air temperature is controlled with fans and misters.

Split operation – An operation that produces or handles both organic and nonorganic agricultural products.

Springer – A female that is about to give birth to a calf.

BACKGROUND

Shamrock Dairy is a split operation with a total of about 10,000 cows, 1,000 of which were certified organic in June 2007. Shamrock is the only organic dairy in Arizona. Milk is shipped to its plant in Phoenix where it is bottled as fluid milk and processed into sour cream.

Shamrock has been certified with QAI for crops and livestock since March 2, 2007 ([Exhibit 5C](#)). Shamrock was certified to handle silage on April 5, 2007 and dairy products on April 23, 2007. Shamrock's organic dairy herd was started in June 2007 using a group of heifers that were transitioned in Oregon ([Exhibit 5D](#)). Two more groups of heifers entered the herd in 2007. One group entered the herd on June 5, 2007 and is known as the X group. The second group entered the herd on September 21, 2007 and is known as the Y group. Records indicate that there are 119 head accounted for in the X herd and 129 head accounted for in the Y herd. On January 2, 2009, Shamrock became a certified producer of crops for livestock feed (barley, hay, pasture, oats, sorghum, and Sudan Grass).

Shamrock's Dairy Organic Compliance Plan (OCP) ([Exhibit 6E](#)) for livestock management covers the Shamrock Farms Company in Stanfield, Arizona (AZ). According to Shamrock's OCP Herd Pasture Profile (HPP), dated November 15, 2008, there are 998 head of organic dairy cattle and 160 acres of organic pasture at Shamrock ([Exhibit 6F – last page](#)). Shamrock is certified for crops, handling, and livestock. Crops grown for the organic operations include permanent pasture, alfalfa, and winter forage. There are no outside sales of crops; all crops harvested are used for on-farm feed.

As of November 18, 2008, Shamrock's OCP Item A6 indicates there are 750 milk cows managed organically. The HPP dated November 15, 2008 indicates that the number of organic pasture acres is 160 total. The HPP indicates the breakdown of the organic herd as follows in the chart below.

Table 1
Herd Pasture Profile

| Age Group | # of Animals in Age Group | Production Status | Pasture Fields Provided to this Age Group | Acreage of Pasture Fields Provided | Number of Feed Units Fed to each Age Group per day | Estimated Number of Pasture Units Fed to each Age Group per day |
|------------|---------------------------|-------------------|---|------------------------------------|--|---|
| 16 months | 125 | Heifers | Berl 320 | 160 | 20 | 1 acre* |
| 22 months | 123 | Springers | Berl 320 | 160 | 24 | 1.25 acres* |
| 24+ months | 200 | Dry Cows | Berl 320 | 160 | 24 | 2.5 acres* |
| 24+ months | 550 | Milking | Berl 320 | 160 | 20 | 5.5 acres* |

***Note:** Figures as shown are not accurate. Figures should be reported as 1.28 acres per cow, 1.30 acres per cow, 0.80 acres per cow, and 0.29 acres per cow respectively by dividing the acreage by the number of cows.

- The inspector's report dated November 20, 2008 (**Exhibit 8H**), indicates that there were 120 acres of available pasture on Beryl 320, not 160 acres as stated on the HPP above.
- The report also states on page 6 of 18 *that alfalfa fields, which were scheduled to complete transition in 2009, were planted with treated seed. The error significantly impacted the operations' ability to implement the intended pasture plan.*
- On page 7 of 18, Item 4, the November 20, 2008 report states *that the 130 acres included in Red River 4, 5, and 6 were not used for the organic herd in the 2008 summer. The alfalfa was worked up and the fields were being planted to cereal grain at the time of inspection.*
- On page 8 of 18, Item A4 states, *"1. ...The 160 acres on the E side is where the current pasture is...(b) The applicant convinced the Arizona Water Board to allow them to move the water right to the E side of the parcel, which had never been farmed before. (c) As a result the quality of the ground on which the current pasture resides is a heavy 'caliche' type soil, heavy clay but very poor in nutrients. (d) The applicant boosted nutrient contents initially by applying composted chicken manure. They have planted two cycles of annuals/year, including a small grain cereal (usually oats) in the winter and sorghum in the summer. Cattle manure from the feed area is spread on the field each year and the cows graze the field."*
- Page 13 of 18, Item E1) Living conditions states that, *"The cows are in what is called a 'Saudi Barn' which consists of leetos with a concrete floor. Air temperature is controlled with fans and misters."*
- Page 13 of 18, Item E2/S11 number 1. states, *"For the 2008 winter, the 120 acres of pasture on Beryl 320 was the extent of available land."* Number 2. states, *"The applicant states this first year of providing pasture to cows at Shamrock dairy was not very successful for the lactating cows but as far as the heifers and the dry cows, they did benefit from this access. Overall:...b. Milk cows were curious about having the gates open and ventured into oats, in the first 1/3rd of the pasture closest to the feed area and ate that down pretty well and quickly. After that, the cows lost interest and stayed in the shade of the feed area where they were provided with a complete ration at 100%. i. In essence, the applicant provided access to pasture but did not force them by limiting the feed and putting them out to eat."*

Shamrock's Proposed Pasture SOP for the Organic Dairy ([page 48, Exhibit 8H](#)) indicates that animals shall have access to pasture except for the reasons of:

- *Pasture development (irrigation, planting, manure application)*
- *Inclement weather (Daily temperature exceeding 90°F, severe monsoon storms)*
- *Health Issues (dry animals, heifers in the last 30 days of gestation, fresh animals less than 45 days in milk, animals that are weak or sick and in need of close monitoring)*

The Proposed Pasture SOP does not indicate the number of acres available per cow, or the total number of acres available for pasture. Irrigation on the Beryl 320 parcel is accomplished through center-pivot irrigation. Irrigation for the Red River parcels is accomplished through flooding. Cattle cannot be pastured during times of irrigation because of damage created by the animals' hooves in the soft ground.

In a December 1, 2008 letter to Shamrock ([Exhibit 9M](#)), QAI indicated the inspector had noted that for the winter of 2008, the extent of pasture for the dairy was 140 acres. QAI requested that Shamrock provide a written plan to provide adequate pasture for its organic livestock. The plan was to include acreage, forage description, the timing of the cropping cycles such that there would always be ground available for grazing, animal numbers, and the duration/frequency of their stay on the pasture as well as an assessment of the pasture's ability to provide substantive nutritive value to the animals pastured. There is no evidence that QAI followed up on the noncompliances noted in the December 1, 2008 letter.

On December 15, 2009, ([Exhibit 8G](#)) QAI performed an unannounced inspection at Shamrock Farms Dairy. The report stated that this inspection took place in the middle of a transition between two annual crop plantings and animals were not seen on the pastures. The inspector did note that permanent fences were present on Beryl and Red River (RR) 4 and an electric fence was noted on RR4.

The inspector noted that it is clear from the field inspection that animals do graze the fields due to the compacted areas in the lanes and where the water troughs are located. Beryl 320 and RR4 were seen planted in barley and oats respectively. RR5 and RR6 are being used for crops and are planned for harvest in May 2010. The Beryl West pasture is being used exclusively for milk cows since it adjoins their housing area.

- From 11/19/08-1/21/09 ([63 days – 43 days in 2008; 20 days in 2009](#)) all of Beryl 320 was not available for grazing because the crop was just getting established.
- From 1/21/09-4/30/09 access was provided except during irrigation cycles.
 - 1/29-31/09 – 2/3/09 access denied due to irrigation ([6 days](#))
 - 2/17/09 access denied due to rain ([1 day](#))
 - 2/21-28/09 – 3/2/09 access denied due to irrigation ([10 days](#))
 - 3/17-24/09 access denied due to irrigation ([8 days](#))
 - 4/6-13/09 access denied due to irrigation ([8 days](#))
- 5/1/09 Sudan was planted and it got to hot according to the inspection report. Access was denied for pasture development from May 1-31, 2009 ([31 days](#)) according to pasture logs.
- 6/1-16/09 ([16 days](#)) pasture was denied for pasture development.

- 6/18-30/09 (13 days) pasture was denied for irrigation and heat.
- 7/1-31/09 (31 days) pasture was denied for heat and crops.
- 8/1-10/09 (10 days) pasture was denied for crops.
- 8/11-31/09 (21 days) pasture was denied for pasture development.
- 9/1/09 – 12/15/09 (106 days) pasture was denied for pasture development.

Based on the figures above obtained from pasture logs on December 15, 2009, Shamrock cows were denied pasture 281 days during the period of January 1, 2009 – December 15, 2009 or 81 percent of the 349 days documented. The report stated that each pen has access for 12 hours. The 12-hour access is based on three paddocks available for six corrals of milking cows. Based upon the milking schedule it works out to 12 hours per cow. The report states that there are about 750 cows on any given day for the 80 acres available on Beryl (0.11 acre/head). A Herd Pasture Profile was included with the report with updated figures and is recreated below as Table 2.

Table 2
Herd Pasture Profile
Dated 12/15/09

| Age Group | # of Animals in Age Group | Production Status | Pasture Fields Provided to this Age Group | Acreage of Pasture Fields Provided | Number of Feed Units Fed to each Age Group per day | Estimated Number of Pasture Units Fed to each Age Group per day |
|------------|---------------------------|-------------------|---|------------------------------------|--|---|
| 16 months | 85 | Heifers | Berl 320, RR 4 | 145 | 20 | 1.23 acres/head* |
| 22 months | 32 | Springers | Berl 320, RR 4 | 145 | 24 | 1.23 acres/head* |
| 24+ months | 172 | Dry Cows | Berl 320 | 80 | 24 | 0.46 acres/head* |
| 24+ months | 860 | Milking | Berl 320 | 80 | 20 | 0.11 acres/head* |

***Note:** Figures as shown are not accurate. Figures should read 1.71 acres/head, 4.53 acres/head, 0.47 acres/head, and 0.093 acres/head respectively by dividing the acreage by the number of cows.

- The report states that silage was harvested from Beryl 320 but there was no time for it to be grazed due to the very hot summer.
- In the fall Beryl 320 had to be replanted from oats to barley because of poor germination, which was caused by crusting of the soil.
 - The soil on Beryl is very low in organic matter and heavy in clay since it has not been farmed for very long.
 - Manure is being used to improve this but it will take time because too much manure would create a salt problem, which is closely monitored by soil testing (not verified by the inspector)
- Shamrock stated that they have a lack of permanent pasture.

II. ALLEGATIONS

The Cornucopia Institute (Cornucopia) broadly alleges violations of the National Organic Program's (NOP) regulatory standards governing dairy cows and access to pasture provisions.

Allegation 1: Cornucopia contends that Shamrock's feedlot facility does not provide sufficient pasture for its dairy herd of approximately 11,000 cows, of which approximately 700-1,000 cows are managed organically.

Allegation 2: Cornucopia contends that Shamrock's cows were confined to feedlots and not pastured for weeks.

Allegation 3: Cornucopia contends that geographic or climatic conditions, which make pasture impractical or not cost-effective, cannot be used to justify year-round noncompliance with the pasture rule.

III. METHODOLOGY

In response to the October 14, 2008 ([Exhibit 1](#)) initial complaint, On October 21, 2008 ([Exhibit 9Y](#)), Valerie Schmale with NOP C & E requested that QAI conduct an investigation into the allegations consistent with C&E procedures for certified operations. Ms. Schmale also requested QAI respond back to NOP with their findings by November 27, 2008; and a description of corrective action with a timeline for implementation.

On October 28, 2008 ([Exhibit 9X](#)), C&E Branch Chief, Ruihong Guo sent Cornucopia correspondence to request more information and evidence to support its allegations against Shamrock. C&E requested more information from Mr. Fantle because the initial complaint lacked sufficient evidentiary support to warrant a C&E investigation. Mr. Mark Kastel, Cornucopia, responded on November 3, 2008 that he was traveling and could not put the evidence together until his return; no specific date was proposed.

In a November 7, 2008 ([Exhibit 9W](#)), response to C&E's request, QAI indicated that a review of the inspection report from an April 1, 2008 inspection did not indicate any questions as to the organic integrity of the operation. QAI indicated that if a full investigation was not completed by January 30, 2009, it would submit an update on the current progress to the USDA. In a November 10, 2008 response, the NOP stated that complaints were time sensitive and must be investigated promptly. NOP responded that a full report was expected by November 27, 2008. QAI responded on November 26, 2008 that it had conducted an investigation on November 19 and 20, 2008. QAI stated that they would be issuing Shamrock a noncompliance letter on December 1, 2008 ([Exhibit 9U](#)).

On December 1, 2008, QAI sent Shamrock, a Notice of Noncompliance ([Exhibit 9U](#)) to address deficiencies found during the November 19-20, 2008 inspection. QAI indicated the inspector had noted that for the winter of 2008, the extent of pasture for the dairy was 140 acres. QAI requested that Shamrock provide a written plan to provide adequate pasture for its organic

livestock. The plan was to include acreage, forage description, the timing of the cropping cycles such that there would always be ground available for grazing, animal numbers, and the duration/frequency of their stay on the pasture as well as an assessment of the pasture's ability to provide substantive nutritive value to the animals pastured. Additionally, QAI stated that Shamrock would have to complete Individual Field Profile (IFP) Sheets for Red River 1, 2, and 3 fields that would be eligible for organic use in the autumn of 2009.

On December 10, 2008 (**Exhibit 4**), QAI sent a letter to Barbara C. Robinson, Acting Director National Organic Program, addressing the allegations of the complaint. In that letter, QAI stated that it believed Shamrock was complying with NOP regulations as currently written. QAI also addressed each allegation.

On September 17, 2009 (**Exhibit 2**), Schmale and Compliance Specialist Tammie Wilburn conducted a telephone interview with Mr. Will Fantle and Mr. Mark Kastel of the Cornucopia Institute. The telephone interview was conducted as a final attempt to collect evidence to support Cornucopia's complaint prior to moving to case closure. Schmale and Wilburn summarized the interview in a memorandum of telephone conversation, which was affirmed by all interview participants.

On December 4, 2009 (**Exhibit 9M**), Schmale requested and received from QAI, Shamrock's response to the December 1, 2009, Notice of Noncompliance.

On December 11, 2009 (**Exhibit 9L**), Schmale requested QAI perform an unannounced inspection. The inspection was scheduled for December 15, 2009. On December 15, 2009, an unannounced inspection was conducted at Shamrock. That report was received by C & E on January 4, 2010. The findings of that inspection are contained in this report.

The following findings of fact are supported by:

- (1) QAI's November 20, 2008 inspector's report submitted to C&E (**Exhibit 8H**),
- (2) QAI's December 1, 2008 Notice of Noncompliance to Shamrock (**Exhibit 9U**),
- (3) QAI's December 10, 2008 response to allegations (**Exhibit 4**),
- (4) Shamrock's response to the Notice of Noncompliance (**Exhibit 3B**),
- (5) C&E's September 17, 2009 Memo of Interview with the Cornucopia Institute (**Exhibit 2**),
- (6) QAI's December 15, 2009 inspector's report submitted to C & E (**Exhibit 8G**), and
- (7) Additional information as requested of QAI and the Cornucopia Institute (**Exhibits 9I-Y**).

IV. FINDINGS OF FACT

Allegation 1: Cornucopia contends that Shamrock's feedlot facility does not provide sufficient pasture for its dairy herd of approximately 11,000 cows, of which approximately 700-1000 cows are managed organically.

In its December 10, 2008 ([Exhibit 4](#)) letter, QAI responded that until the NOP finalizes the pasture rule, it will not require a certain number of cows per acre nor a certain quantity of feed from pasture/grazing. QAI findings indicate that access to the outdoors was provided aside from the instances related to inclement weather, animals' stage of production, or risk to soil or water quality. The reasons for confinement were consistent with NOP regulations. QAI findings indicate that pasture has been available, consistent with NOP regulations despite setbacks related to suitable pasture.

QAI inspector findings indicate that Shamrock is transitioning land near the dairy and an intensive grazing plan is being implemented. QAI reported that Shamrock has just converted an additional 194 acres for grazing. For the 2008 winter, spring, and fall, the only available pasture was the 160 acres known as Beryl 320. For the 2008 winter, 140 acres of pasture on Beryl 320 was the extent of available land. The findings indicated that as soon as the winter planting of oats in the newly transitioned Red River 4, 5, and 6 is established, the acreage will increase significantly and thus increasing the available grazing configuration.

Findings indicated that pastures were split into paddocks. It was reported that the milk cows were curious about having the gates open and ventured into oats in the first 1/3rd of the pasture closest to the feed areas and ate it down pretty well and quickly. The cows lost interest after that and stayed in the shade of the feed area where they were provided with a complete ration at 100%. Shamrock provided access to pasture, but did not force the cows by limiting the feed and putting them out to eat. Dry cows and heifers were used to eat up all of the remaining pasture that was in oats and they did a good job of it. Oats were a good choice of forage, but sorghum was not. The cows did not have an interest in the sorghum. The heifers did forage in the sorghum, however, they lost weight in the process and were removed.

A feed audit revealed that a total of less than 6 Tons per acre of sorghum silage was harvested. Locally, it was stated that yields go from 10 to 20 Tons/acre, which shows that the cows were foraging in the stand.

Shamrock planned to use Brown Midrib Sudan sorghum hybrid, which has a success of being used to graze in the south, instead of Sudan grass which when stressed puts out prussic acid that imparts a bad taste to the milk and is not healthy for the cows.

QAI provided a table (Page 14 of 18 of the November 20, 2008 Inspection report ([Exhibit 8H](#)); titled Table 3, Grazing Season Figures for this report) explaining the grazing season in relation to animal numbers and acres available for pasture (MC = Milking Cows, DR = Dry Cows, H = Heifers). Table 3 is being utilized for the response to all allegations contained in this report:

Table 3
Grazing Season Figures (2008)

| Month | Animal # | | | Acres Available | | Crop |
|-------------------------|----------|-----|--------------|-----------------|--------|-------------|
| | MC | DR | H | Cow | DC & H | |
| February | 743 | 4 | 253 | 100 | 20 | Oats |
| March | 730 | 16 | 367 | 100 | 20 | Oats |
| April | 701 | 43 | 365 | 0 | 120 | Oats |
| May 15 th | 701 | 24 | 365 | 0 | 120 | Oats |
| May 16 th On | 701 | 24 | 365 | 0 | 0 | Crop Switch |
| June | 663 | 88 | 471 | 0 | 0 | Crop Switch |
| July | 624 | 184 | 398 | 0 | 120 | Sorghum |
| August | 627 | 195 | 374 | 0 | 0 | Sorghum |
| September | 635 | 179 | 365 | 0 | 0 | Sorghum |
| October | 672 | 189 | 308 | 0 | 0 | Sorghum |
| November | 672 | 189 | 308 | 0 | 0 | Crop Switch |
| Average # | 679 | 103 | 358 | | | |
| | | | Total | 1140 | | |

Specific notes to the table indicate (1) that grazing of the oats started in mid to end of January and (2) the heifers tried to graze the sorghum for about 10 days in July.

Inspection records indicate that Shamrock dairy is a split operation with a total of about 10,000 cows, 1,000 of which are managed organically. QAI documented on its November 20, 2008 Inspection Report ([Exhibit 8H](#)) that Shamrock has not provided sufficient access to pasture for its organic dairy herd. QAI indicated the inspector had noted that for the winter of 2008, the extent of pasture for the dairy was 140 acres.

Pasture logs for January 1 through December 31, 2008 specifically showed that during the months of October through April (The stated grazing season according to documentation provided by QAI and Shamrock) the cows were denied pasture a total of 123 days out of the 244 documented days, or 50 percent of the time the cows were denied pasture.

QAI requested that Shamrock provide a written plan to provide adequate pasture for its organic livestock. The plan was to include acreage, forage description, the timing of the cropping cycles such that there would always be ground available for grazing, animal numbers, and the duration/frequency of their stay on the pasture as well as an assessment of the pasture's ability to provide substantive nutritive value to the animals pastured. Additionally, QAI stated that Shamrock would have to complete Individual Field Profile (IFP) Sheets for Red River 1, 2, and 3 fields that would be eligible for organic use in the autumn of 2009. Copies of QAI's inspection records dated November 20, 2008, are in [Exhibit 8H](#).

The December 15, 2009 Unannounced Inspection ([Exhibit 8G](#)) disclosed that Shamrock admitted it did not have permanent pasture. Shamrock also provided documentation that it had 1,149 cows being managed organically on available pasture of 80-145 acres Table 2 page 7 of

this report. Additionally, through documentation obtained from the December 15, 2009 Unannounced Inspection ([Exhibit 8G](#)), it was determined that Shamrock denied its organic herd access to pasture 281 days out of 349 days documented for heat, irrigation, and pasture development.

Allegation 2: Cornucopia contends that Shamrock's cows were confined to feedlots and not pastured for weeks.

In its December 10, 2008 letter, QAI responded that findings indicate that access to the outdoors was provided aside from the instances related to inclement weather, animals' stage of production, or risk to soil or water quality. The reasons for confinement were consistent with NOP regulations. QAI findings indicate that pasture has been available, consistent with NOP regulations. QAI provided a table (see page 10 of this report, Table 3 Grazing Season Figures) explaining the grazing season in relation to animal numbers and acres available for pasture.

The QAI inspector reviewed pasture logs from April 1-30, 2008 and July 1-31, 2008 ([Exhibit 8H](#)). The April pasture log shows the herd was denied pasture from April 5-8, 2008 due to irrigation of the field. The July pasture log shows the herd was denied pasture from July 1-31, 2008 due to ambient temperatures exceeding 90°F. The Inspector's Report dated November 20, 2008 ([Exhibit 8H](#)), states on page 2, item 3 that heifers and dry cows did not need supplemental feed during the winter when they were grazing the oats. Item 5 of the report states that the only available pasture was 160 acres known as Beryl 320. The report states that as soon as the winter planting of oats in the newly transitioned Red River Fields 4, 5, and 6 is established, the acreage will increase significantly and so will the configuration of the available grazing.

The December 15, 2009 Unannounced Inspection ([Exhibit 8G](#)) revealed that during 2009, Shamrock denied access to pasture to its organic dairy herd 281 days out of 349 days documented due to heat, irrigation, and pasture development.

Allegation 3: Cornucopia contends that geographic or climatic conditions, which make pasture impractical or not cost-effective, cannot be used to justify year-round noncompliance with the pasture rule.

In its December 10, 2008 letter ([Exhibit 4](#)), QAI responded that until the NOP finalizes the pasture rule, it will not require a certain number of cows per acre nor a certain quantity of feed from pasture/grazing. QAI findings indicate that access to the outdoors was provided aside from the instances related to inclement weather, animals' stage of production, or risk to soil or water quality. The reasons for confinement were consistent with NOP regulations. QAI findings indicate that pasture has been available, consistent with NOP regulations. QAI provided a table (see page 10, Table 3 Grazing Season Figures) explaining the grazing season in relation to animal numbers and acres available for pasture.

Specific notes to the table indicate (1) that grazing of the oats started in mid to end of January and (2) the heifers tried to graze the sorghum for about 10 days in July.

Additionally, a QAI inspector reviewed pasture logs from April 1-30, 2008 and July 1-31, 2008. The April pasture log shows the herd was denied pasture from April 5-8, 2008 due to irrigation of the field. The July pasture log shows the herd was denied pasture from July 1-31, 2008 due to ambient temperatures exceeding 90°F. The Inspector's Report dated November 20, 2008 ([Exhibit 8H](#)), states on page 2, item 3 that heifers and dry cows did not need supplemental feed during the winter when they were grazing the oats. Item 5 of the report states that the only available pasture was 160 acres known as Beryl 320. The report states that as soon as the winter planting of oats in the newly transitioned Red River Fields 4, 5, and 6 is established, the acreage will increase significantly and so will the configuration of the available grazing.

The December 15, 2009 Unannounced Inspection ([Exhibit 8G](#)) revealed that during 2009, Shamrock denied access to pasture to its organic dairy herd 281 days out of 349 days documented due to heat, irrigation, and pasture development.

Quality Assurance International (QAI)

Records indicate QAI initially certified Shamrock March 2, 2007 for Livestock and Crop (Producer).

- On April 5, 2007, QAI certified Shamrock for Livestock Feed (Silage).
- On April 23, 2007, QAI then certified Shamrock for Dairy Cows (not for slaughter) and Milk (Raw).
- On January 2, 2009, QAI certified Shamrock for Livestock Feed (Barley, Hay, Oats, Pasture, Sorghum, and Sudan Grass)
- Records indicate that Shamrock was certified by QAI for a total of 354 acres although the breakdown of acreage for each crop is not specified by the certification.

Records indicate that no permanent pasture was available at the initial certification of Shamrock for dairy operations in 2007. *Section 205.239 (a) The producer of an organic livestock operation must establish and maintain livestock living conditions, which accommodate the health and natural behavior of animals including: (2) Access to pasture for ruminants.*

Records indicate that QAI performed an announced inspection on November 19-20, 2008 ([Exhibit 8H](#)) in response to a complaint filed on October 14, 2008. QAI also considered this inspection as an annual monitoring inspection. During the inspection, QAI noted several noncompliances and contacted Shamrock farms in a letter dated December 1, 2008 ([Exhibit 9U](#)) specifying a response was required within 30 days of receipt of said letter. Shamrock Farms responded to the letter within the 30 days. However, QAI failed to follow up on the proposed corrections for the noncompliances during 2009.

QAI did not perform another inspection until December 15, 2009 ([Exhibit 8G](#)). QAI performed an unannounced inspection at that time only at the urging of the USDA NOP. During that inspection, several noncompliances were found and Shamrock was notified in a Combined Notice of Noncompliance and Proposed Suspension dated January 8, 2010 ([Exhibit 9J](#)). Shamrock responded to the Combined Notice of Noncompliance and Proposed Suspension on January 22, 2010 ([Exhibit 3A](#)). QAI acknowledged Shamrock's corrective action response to the Combined Notice of Noncompliance and Proposed Suspension. QAI determined the

corrective action response was inadequate and responded to Shamrock on February 5, 2010 ([Exhibit 9I](#)) that suspension would be effective March 5, 2010 unless there was a request for mediation or an appeal was filed.

V. CONCLUSION & RECOMMENDATION

Allegation 1: Cornucopia contends that Shamrock's feedlot facility does not provide sufficient pasture for its dairy herd of approximately 11,000 cows, of which approximately 700-1000 cows are managed organically.

Regulatory Requirements: 7 CFR Section 205.237(a)

The producer of an organic livestock operation must provide livestock with a total feed ration composed of agricultural products, including pasture and forage, that are organically produced and, if applicable, organically handled: Except, that, nonsynthetic substances and synthetic substances allowed under §205.603 may be used as feed additives and supplements.

Conclusion & Recommendation:

Violation 1: Shamrock has not provided sufficient organic pasture for its organic dairy herd.

QAI findings from an announced inspection on November 19-20, 2008 ([Exhibit 8H](#)) indicate apparent violations to 7 CFR Section 205.237(a). Documents contained in the report dated November 20, 2008, clearly show that pasture was not available from May 16-June 30, 2008 and from August 1 through November 19-20, 2008. Documents contained in the December 15, 2009 Inspection Report ([Exhibit 8G](#)) clearly showed that Shamrock did not provide sufficient pasture for its organic dairy herd. QAI has been in conversation with Shamrock about its pasture availability and approved a plan submitted by Shamrock in January 2009 to adapt its operations to meet regulatory guidelines. However, pasture logs showed that Shamrock did not provide sufficient access to pasture in 2009. The pasture logs showed that for 2009, Shamrock denied access to its dairy cows 160 days out of 227 documented days in the period from January – May and October – December. The logs also showed that if the grazing season is from January – April and November – December, Shamrock still denied access to its organic herd 98 out of 165 documented days in 2009, which is 59 percent of the total.

Pasture logs submitted on May 12, 2010 for 2008 and 2009 show the following information for the period of October through May, which would cover the 8 months listed in the OCP as the grazing season.

Table 4
8-month grazing period

| Month/Days→ Year ↓ | January (31) | February (28 or 29) | March (31) | April (30) | May (31) | October (31) | November (30) | December (31) | Totals | Percent Denied |
|-----------------------|-----------------|------------------------|---------------|---------------|-------------|-----------------|------------------|------------------|---------|-------------------|
| 2008 | 7 | 0/29 | 4 | 4 | 16 | 31 | 30 | 31 | 123/244 | 50.4 |
| 2009 | 23 | 12/28 | 10 | 8 | 31 | 31 | 30 | 31 | 176/243 | 72.4 |

The information could also be limited to November through April with the following results:

Table 5
6-month grazing period

| Month/Days→ Year ↓ | January (31) | February (28 or 29) | March (31) | April (30) | November (30) | December (31) | Totals | Percent Denied |
|-----------------------|-----------------|------------------------|---------------|---------------|------------------|------------------|---------|-------------------|
| 2008 | 7 | 0/29 | 4 | 4 | 30 | 31 | 76/182 | 42% |
| 2009 | 23 | 12/28 | 10 | 8 | 30 | 31 | 114/181 | 63% |

C & E concludes, based on the documentation provided, sufficient permanent organic pasture was not established prior to Shamrock becoming certified as an organic operation. It is evident from inspection reports that Shamrock does not have sufficient permanent organic pasture established. While the regulations do make allowances for extreme weather conditions, those allowances are not to be used as a continual means to violate § 205.237, which clearly states, *...operation must provide livestock with a total feed ration composed of agricultural products, including pasture and forage, that are organically produced and, if applicable, organically handled.* It is evident from the inspection reports and pasture logs that Shamrock has violated § 205.237, and has used exemptions in the regulations to justify doing so.

We concur that Shamrock has not increased the amount of pasture available to its organic herd. As a result, Shamrock has attempted to graze more animals than is justifiable for the climatic conditions given the limited quantity and quality of the organic pasture it has available. During 2008 and 2009 Shamrock failed to improve the quantity and quality of its organic pasture available to its organic herd. Records show that Shamrock stated pasture access was restricted from Mid-June through September due to extreme heat.

Allegation 2: Cornucopia contends that Shamrock's cows were confined to feedlots and not pastured for weeks.

Regulatory Requirements: 7 CFR Section 205.238(a)(3) and (4) and 205.239 (a) (1) (2) (b)(1)(2)(3)(4)

(a) The producer of an organic livestock operation must establish and maintain livestock living conditions which accommodate the health and natural behavior of animals, including: (1) Access to the outdoors, shade, shelter, exercise areas, fresh air, and direct sunlight suitable to the species, its stage of production, the climate, and the environment; (2) Access to pasture for ruminants; (b) The producer of an organic livestock operation may provide temporary confinement for an animal because of: (1) Inclement weather; (2) The animal's stage of production; (3) Conditions under which the health, safety, or well-being of the animal could be jeopardized; or (4) Risk to soil or water quality.

Conclusion & Recommendation:

The November 20, 2008 inspection report (**Exhibit 8H**) indicates the QAI inspector reviewed pasture logs from April 1-30, 2008 and July 1-31, 2008. The April pasture log shows the herd

was denied pasture from April 5-8, 2008 due to irrigation of the field. The July pasture log shows the herd was denied pasture from July 1-31, 2008 due to ambient temperatures exceeding 90°F. The report also states on page 2, item 3 that heifers and dry cows did not need supplemental feed during the winter when they were grazing the oats. Item 5 of the report states that the only available pasture was 160 acres known as Beryl 320. The report stated that as soon as the winter planting of oats in the newly transitioned Red River Fields 4, 5, and 6 is established, the acreage would increase significantly and so would the configuration of the available grazing. Table 3, page 10 of this report, clearly shows that Shamrock had no organic pasture available from May 16-June 30, 2008, and from August 1, 2008 through November 20, 2008. Table 3 also indicates that although there were 120 acres of pasture available, the cows were denied access. Shamrocks OCP shows that the grazing season is from October through May, or an 8-month period of ideal grazing weather for dairy cattle. During mediation, Shamrock

The December 15, 2009 Inspection Report ([Exhibit 8G](#)) revealed that Shamrock denied its organic dairy herd access to pasture for 281 days out of 349 documented days. The reasons for the denial of access to pasture were due to heat (30 days), irrigation (46 days), and crop development (213 days). Of the 281 days denied pasture, 181 of these were consecutive days. While the regulations permit denial of pasture for (1) Inclement weather; (2) The animal's stage of production; (3) Conditions under which the health, safety, or well-being of the animal could be jeopardized; or (4) Risk to soil or water quality, it is not the intent of the regulations for operations to use these exemptions to continually deny pasture to animals.

C & E contends that denying access to pasture for 281 days out of 349 (81 % of the year) documented days is willful abuse of the regulations and therefore Shamrock is in violation of § 205.239(b)(1)(2)(3) and (4).

Allegation 3: Cornucopia contends that geographic or climatic conditions, which make pasture impractical or not cost-effective, cannot be used to justify year-round noncompliance with the pasture rule.

Regulatory Requirements: 7 CFR Section 205.239(a)(b)

(a) The producer of an organic livestock operation must establish and maintain livestock living conditions which accommodate the health and natural behavior of animals, including: (1) Access to the outdoors, shade, shelter, exercise areas, fresh air, and direct sunlight suitable to the species, its stage of production, the climate, and the environment; (2) Access to pasture for ruminants; ... (b) The producer of an organic livestock operation may provide temporary confinement for an animal because of: (1) inclement weather; (2) The animal's stage of production; (3) Conditions under which the health, safety, or well being of the animal could be jeopardized; or (4) Risk to soil or water quality.

Conclusion & Recommendation:

C & E concludes that the regulations state,...*The producer of an organic livestock operation may provide temporary confinement for an animal because of...*the key is the word temporary. C & E contends that denying access to pasture for 281 days out of 349 documented days is well outside the definition of the term temporary and therefore represents a willful abuse of the regulations. Additionally, the documents show that in 2008, the organic dairy herd did not have organic pasture available for 9 months of the year. C & E contends that therefore Shamrock is in violation of § 205.239(b). C & E concurs with the Notice of Noncompliance and Proposed Suspension issued by QAI on January 8, 2010 ([Exhibit 9J](#)).

QAI Actions

While C & E concurs with the actions taken by QAI on January 8, 2010 with the issuance of the Combined Notice of Noncompliance and Proposed Suspension, C & E contends that QAI did not perform its due diligence as an Accredited Certifying Agent. QAI had in its possession, documentation obtained from November 19-20, 2008 Inspection ([Exhibit 8H](#)), that proved Shamrock had not provided organic pasture to its organic dairy herd for a period of 9 months. C & E must further conclude that QAI has failed to practice its due diligence as an accredited certifying agent by certifying Shamrock, an operation with insufficient organic pasture to sustain its organic herd, and failing to monitor the operation to ensure continued compliance thus failing to comply with § 205.402 Review of application.

(a)(2) Determine by a review of the application materials whether the applicant appears to comply or may be able to comply with the applicable requirements of subpart C of this part.

As stated in § 205.403(2)(ii), The Administrator or State organic program's governing State official may require that additional inspections be performed by the certifying agent for the purpose of determining compliance with the Act and the regulations of this part. (b)(5)

[REDACTED]

(b)(5)

[REDACTED]

C & E further contends that QAI failed to follow up on initial noncompliances to ensure that they were corrected in conjunction with NOP regulations. (b)(5)

[REDACTED]

(b)(5)

[REDACTED]

(b)(5)



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| | Agriculture | Service | Washington D.C. 20250-0268 |
| | | | |

The National Organic Program
Compliance & Enforcement Division
Report of Investigation

Complaint Number: NOPC-003-09

Complainant Name & Address: Will Fantle
P.O. Box 126
Cornucopia, Wisconsin 54827
Phone: (715) 839-7731

Operator Name & Address: Shamrock Farms Dairy
2228 N. Black Canyon Hwy.
Phoenix, Arizona 85009
Phone: (602) 272-6721

Physical Address of Dairy: Shamrock Farms Co.
40034 W. Clayton
Stanfield, Arizona 85272

Accredited Certifying Agent Name & Address: Maria DeVincenzo
Quality Assurance International
9191 Towne Centre Drive, Suite 510
San Diego, CA 92122 USA
(858) 792-3531 Phone
(734) 827-6177 Fax

Date of Investigation: October 22, 2008 to present

Date of Report: December 15, 2009

Compliance Specialist: Valerie Schmale

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REPORT OF INVESTIGATION

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REPORT OF INVESTIGATION

I. INTRODUCTION

The Compliance & Enforcement (C&E) Division of the National Organic Program (NOP) is responsible for investigating complaints filed under the Organic Foods Production Act of 1990 (7 USC 6501 et seq.) and its related laws and regulations.

On October 14, 2008, C&E received a complaint through David Trykowski, Director, Agricultural Marketing Service (AMS) Compliance and Analysis Branch regarding alleged violations of the NOP at Shamrock Farms Dairy (Shamrock) facility in Phoenix, Arizona (AZ). Mr. Will Fantle, Director of Research, The Cornucopia Institute, Cornucopia, Wisconsin (WI) made the complaint.

On October 21, 2008, Valerie Schmale, Agricultural Marketing Specialist (Regulatory) C & E, contacted Joe Smillie, of Quality Assurance International (QAI), Shamrock's certifying agent, to begin an investigation into the allegations. The case was referred to Maria DeVincenzo, Quality Specialist, QAI, for further investigation.

An investigation was conducted and the results of the investigation are contained in this report.

Significant terms:

Center-pivot irrigation (sometimes called **central pivot irrigation**), also called **circle irrigation** – is a method of crop irrigation in which equipment rotates around a pivot.

Dry cow – A cow that will no longer give milk.

Feed – Edible materials which are consumed by livestock for their nutritional value. Feed may be concentrates (grains) or roughages (fodder, hay, silage). The term, “feed” encompasses all agricultural commodities, including pasture ingested by livestock for nutritional purposes.

Feed additive – A substance added to feed in micro quantities to fulfill a specific nutritional need; i.e. essential nutrients in the form of amino acids, minerals, and vitamins.

Feed supplement – A combination of feed nutrients added to livestock feed to improve the nutrient balance or performance of the total ration and intended to be: (1) Diluted with other feeds when fed to livestock; (2) Offered free choice with other parts of the ration if separately available; or (3) Further diluted and mixed to produce a complete feed.

Field – An area of land identified as a discrete unit within a production operation.

Forage – Vegetative material in a fresh, dried, or ensiled state (pasture, hay, or silage), which is fed to livestock.

Heifer – A young female cow before she has had her first calf.

Pasture – Land used for livestock grazing that is managed to provide feed value and maintain or improve soil, water, and vegetative resources.

Records – Any information in written, visual, or electronic form that documents the activities undertaken by a producer, handler, or certifying agent to comply with the Act and regulations in this part.

Split operation – An operation that produces or handles both organic and nonorganic agricultural products.

Springer – A female that is about to give birth to a calf.

BACKGROUND

Shamrock Dairy is a split operation with a total of about 10,000 cows, 1,000 of which were certified organic in June 2007. Shamrock is the only organic dairy in Arizona. Milk is shipped to its plant in Phoenix where it is bottled as fluid milk and processed into sour cream.

Shamrock has been certified with QAI for crops and livestock since March 2, 2007. Shamrock was certified to handle silage on April 5, 2007 and dairy products on April 23, 2007. On January 2, 2009, Shamrock became a certified producer of crops for livestock feed (barley, hay, pasture, oats, sorghum, and Sudan Grass). Shamrock's organic dairy herd was started in June 2007 using a group of heifers that were transitioned in Oregon. Two more groups of heifers entered the herd in 2007. One group entered the herd on June 5, 2007 and is known as the X group. The second group entered the herd on September 21, 2007 and is known as the Y group. Records indicate that there are 119 head accounted for in the X herd and 129 head accounted for in the Y herd.

Shamrock's Dairy Organic Compliance Plan (OCP) for livestock management covers the Shamrock Farms Company in Stanfield, Arizona (AZ). According to Shamrock's OCP Herd Pasture Profile (HPP), dated November 15, 2008, there are 998 head of organic dairy cattle on 120-140 acres of organic pasture at Shamrock. Shamrock is certified for crops, handling, and livestock. Crops grown for the organic operations include permanent pasture, alfalfa, and winter forage. There are no outside sales of crops; all crops harvested are used for on-farm feed.

As of November 18, 2008, Shamrock's OCP Item A6 indicates there are 750 milk cows managed organically. The HPP dated November 15, 2008 indicates that the number of organic pasture acres is 160 total. The HPP indicates the breakdown of the organic herd as follows in the chart below.

| Age Group | # of Animals in Age Group | Production Status | Pasture Fields Provided to this Age Group | Acreage of Pasture Fields Provided | Number of Feed Units Fed to each Age Group per day | Estimated Number of Pasture Units Fed to each Age Group per day |
|------------|---------------------------|-------------------|---|------------------------------------|--|---|
| 16 months | 125 | Heifers | Berl 320 | 160 | 20 | 1 acre |
| 22 months | 123 | Springers | Berl 320 | 160 | 24 | 1.25 acres |
| 24+ months | 200 | Dry Cows | Berl 320 | 160 | 24 | 2.5 acres |
| 24+ months | 550 | Milking | Berl 320 | 160 | 20 | 5.5 acres |

The inspector's report dated November 19-20, 2008, indicates that there were 120 acres of available pasture on Beryl 320.

Shamrock's Proposed Pasture SOP for the Organic Dairy indicates that animals shall have access to pasture except for the reasons of:

- Pasture development (irrigation, planting, manure application)
- Inclement weather (Daily temperature exceeding 90°F, severe monsoon storms)
- Health Issues (dry animals, heifers in the last 30 days of gestation, fresh animals less than 45 days in milk, animals that are weak or sick and in need of close monitoring)

The Proposed Pasture SOP does not indicate the number of acres available per cow, or the total number of acres available for pasture. Irrigation on the Beryl 320 parcel is accomplished through center-pivot irrigation. Irrigation for the Red River parcels is accomplished through flooding. Cattle cannot be pastured during times of irrigation because of damage created by the animals' hooves in the soft ground.

In a December 1, 2008 letter to Shamrock, QAI indicated the inspector had noted that for the winter of 2008, the extent of pasture for the dairy was 140 acres. QAI requested that Shamrock provide a written plan to provide adequate pasture for its organic livestock. The plan was to include acreage, forage description, the timing of the cropping cycles such that there would always be ground available for grazing, animal numbers, and the duration/frequency of their stay on the pasture as well as an assessment of the pasture's ability to provide substantive nutritive value to the animals pastured.

II. ALLEGATIONS

The Cornucopia Institute (Cornucopia) broadly alleges violations of the National Organic Program's (NOP) regulatory standards governing dairy cows and access to pasture provisions.'

Allegation 1: Cornucopia contends that Shamrock's feedlot facility does not provide sufficient pasture for its dairy herd of approximately 11,000 cows, of which approximately 700-1,000 cows are managed organically.

Allegation 2: Cornucopia contends that Shamrock's cows were confined to feedlots and not pastured for weeks.

Allegation 3: Cornucopia contends that geographic or climatic conditions which make pasture impractical or not cost-effective, cannot be used to justify year-round noncompliance with the pasture rule.

III. METHODOLOGY

In response to the October 14, 2008 initial complaint, On October 21, 2008, Valerie Schmale with NOP C & E requested that QAI conduct an investigation into the allegations consistent with C&E procedures for certified operations. Ms. Schmale also requested QAI respond back to NOP with their findings by November 27, 2008; and a description of corrective action with a timeline for implementation.

On October 28, 2008, C&E Branch Chief, Ruihong Guo sent Cornucopia correspondence to request more information and evidence to support its allegations against Shamrock. C&E requested more information from Mr. Fantle because the initial complaint lacked sufficient evidentiary support to warrant a C&E investigation. Mr. Mark Kastel, Cornucopia, responded on November 3, 2008 that he was traveling and could not put the evidence together until his return; no specific date was proposed.

In a November 7, 2008, response to C&E's request, QAI indicated that a review of the inspection report from an April 1, 2008 inspection did not indicate any questions as to the organic integrity of the operation. QAI indicated that if a full investigation was not completed by January 30, 2009, it would submit an update on the current progress to the USDA. In a November 10, 2008 response, the NOP stated that complaints were time sensitive and must be investigated promptly. NOP responded that a full report was expected by November 27, 2008.

On December 1, 2008, QAI sent Shamrock, a Notice of Noncompliance to address deficiencies found during the November 19-20, 2008 inspection. QAI indicated the inspector had noted that for the winter of 2008, the extent of pasture for the dairy was 140 acres. QAI requested that Shamrock provide a written plan to provide adequate pasture for its organic livestock. The plan was to include acreage, forage description, the timing of the cropping cycles such that there would always be ground available for grazing, animal numbers, and the duration/frequency of their stay on the pasture as well as an assessment of the pasture's ability to provide substantive nutritive value to the animals pastured. Additionally, QAI stated that Shamrock would have to complete Individual Field Profile (IFP) Sheets for Red River 1, 2, and 3 fields that would be eligible for organic use in the autumn of 2009.

On December 10, 2008, QAI sent a letter to Barbara C. Robinson, Acting Director National Organic Program, addressing the allegations of the complaint. In that letter, QAI stated that it believed Shamrock was complying with NOP regulations as currently written.

On September 17, 2009, Schmale and Compliance Specialist Tammie Wilburn conducted a telephone interview with Mr. Will Fantle and Mr. Mark Kastel of the Cornucopia Institute. The telephone interview was conducted as a final attempt to collect evidence to support Cornucopia's complaint prior to moving to case closure. Schmale and Wilburn summarized the interview in a memorandum of telephone conversation, which was affirmed by all interview participants.

On December 4, 2009, Schmale requested and received from QAI, Shamrock's response to the December 1, 2009, Notice of Noncompliance.

The following findings of fact are supported by:

- (1) QAI's November 20, 2008 inspector's report submitted to C&E,
- (2) QAI's December 1, 2008 Notice of Noncompliance to Shamrock,
- (3) QAI's December 10, 2008 response to allegations,
- (4) Shamrock's response to the Notice of Noncompliance

- (5) C&E's September 17, 2009 Memo of Interview with the Cornucopia Institute , and
- (6) Additional information as requested of QAI and the Cornucopia Institute.

IV. FINDINGS OF FACT

Allegation 1: Cornucopia contends that Shamrock's feedlot facility does not provide sufficient pasture for its dairy herd of approximately 11,000 cows, of which approximately 700-1000 cows are managed organically.

Inspection records indicate that Shamrock dairy is a split operation with a total of about 10,000 cows, 1,000 of which are managed organically. QAI documented on its November 20, 2008 Inspection Report that Shamrock has not provided sufficient access to pasture for its organic dairy herd. QAI indicated the inspector had noted that for the winter of 2008, the extent of pasture for the dairy was 140 acres. QAI requested that Shamrock provide a written plan to provide adequate pasture for its organic livestock. The plan was to include acreage, forage description, the timing of the cropping cycles such that there would always be ground available for grazing, animal numbers, and the duration/frequency of their stay on the pasture as well as an assessment of the pasture's ability to provide substantive nutritive value to the animals pastured. Additionally, QAI stated that Shamrock would have to complete Individual Field Profile (IFP) Sheets for Red River 1, 2, and 3 fields that would be eligible for organic use in the autumn of 2009. Copies of QAI's inspection records dated November 20, 2008, are in the exhibits section of this report.

Allegation 2: Cornucopia contends that Shamrock's cows were confined to feedlots and not pastured for weeks.

The QAI inspector reviewed pasture logs from April 1-30, 2008 and July 1-31, 2008. The April pasture log shows the herd was denied pasture from April 5-8, 2008 due to irrigation of the field. The July pasture log shows the herd was denied pasture from July 1-31, 2008 due to ambient temperatures exceeding 90°F. The Inspector's Report dated November 20, 2008, states on page 2, item 3 that heifers and dry cows did not need supplemental feed during the winter when they were grazing the oats. Item 5 of the report states that the only available pasture was 160 acres known as Beryl 320. The report states that as soon as the winter planting of oats in the newly transitioned Red River Fields 4, 5, and 6 is established, the acreage will increase significantly and so will the configuration of the available grazing.

Cornucopia provided no facts to support this allegation.

Allegation 3: Cornucopia contends that geographic or climatic conditions, which make pasture impractical or not cost-effective, cannot be used to justify year-round noncompliance with the pasture rule.

The QAI inspector reviewed pasture logs from April 1-30, 2008 and July 1-31, 2008. The April pasture log shows the herd was denied pasture from April 5-8, 2008 due to irrigation of the field.

The July pasture log shows the herd was denied pasture from July 1-31, 2008 due to ambient temperatures exceeding 90°F. The Inspector's Report dated November 20, 2008, states on page 2, item 3 that heifers and dry cows did not need supplemental feed during the winter when they were grazing the oats. Item 5 of the report states that the only available pasture was 160 acres known as Beryl 320. The report states that as soon as the winter planting of oats in the newly transitioned Red River Fields 4, 5, and 6 is established, the acreage will increase significantly and so will the configuration of the available grazing. Cornucopia provided no facts to support this allegation.

V. CONCLUSION & RECOMMENDATION

Allegation 1: Cornucopia contends that Shamrock's feedlot facility does not provide sufficient pasture for its dairy herd of approximately 11,000 cows, of which approximately 700-1000 cows are managed organically.

Regulatory Requirements: 7 CFR Section 205.237(a)

The producer of an organic livestock operation must provide livestock with a total feed ration composed of agricultural products, including pasture and forage, that are organically produced and, if applicable, organically handled: *Except*, that, nonsynthetic substances and synthetic substances allowed under §205.603 may be used as feed additives and supplements.

Conclusion & Recommendation:

QAI findings from an announced inspection on November 19-20, 2008 indicate apparent violations to 7 CFR Section 205.237(a). QAI has been in conversation with Shamrock about its pasture availability and approved a plan submitted by Shamrock in January 2009 to adapt its operations to meet regulatory guidelines.

We concur that Shamrock has not increased the amount of pasture available to its organic herd. As a result, Shamrock has attempted to graze more animals than is justifiable for the climatic conditions given the limited organic pasture it has available. (b)(5)

[REDACTED]

As stated in § 205.403(2)(ii), The Administrator or State organic program's governing State official may require that additional inspections be performed by the certifying agent for the purpose of determining compliance with the Act and the regulations of this part. (b)(5)

[REDACTED]

Allegation 2: Cornucopia contends that Shamrock's cows were confined to feedlots and not pastured for weeks.


Regulatory Requirements: 7 CFR Section 205.238(a)(3) and (4) and 205.239 (a) (1) (2) (b)(1)(2)(3)(4)

(a) The producer of an organic livestock operation must establish and maintain livestock living conditions which accommodate the health and natural behavior of animals, including: (1) Access to the outdoors, shade, shelter, exercise areas, fresh air, and direct sunlight suitable to the species, its stage of production, the climate, and the environment; (2) Access to pasture for ruminants; (b) The producer of an organic livestock operation may provide temporary confinement for an animal because of: (1) Inclement weather; (2) The animal's stage of production; (3) Conditions under which the health, safety, or well-being of the animal could be jeopardized; or (4) Risk to soil or water quality.

Conclusion & Recommendation:

The QAI inspector reviewed pasture logs from April 1-30, 2008 and July 1-31, 2008. The April pasture log shows the herd was denied pasture from April 5-8, 2008 due to irrigation of the field. The July pasture log shows the herd was denied pasture from July 1-31, 2008 due to ambient temperatures exceeding 90°F. The Inspector's Report dated November 20, 2008, states on page 2, item 3 that heifers and dry cows did not need supplemental feed during the winter when they were grazing the oats. Item 5 of the report states that the only available pasture was 160 acres known as Beryl 320. The report states that as soon as the winter planting of oats in the newly transitioned Red River Fields 4, 5, and 6 is established, the acreage will increase significantly and so will the configuration of the available grazing. Based on the inspector's report, C & E concludes that the herd was denied pasture for the reasons set forth in § 205.239(b). C & E recommends Shamrock increase the acreage of available organic pasture for its herd. C & E also recommends a physical visit to Shamrock by C & E investigators.

As stated in § 205.403(2)(ii), The Administrator or State organic program's governing State official may require that additional inspections be performed by the certifying agent for the purpose of determining compliance with the Act and the regulations of this part. (b)(5)



Allegation 3: Cornucopia contends that geographic or climatic conditions which make pasture impractical or not cost-effective, cannot be used to justify year-round noncompliance with the pasture rule.


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(a) The of an organic livestock operation must establish and maintain livestock living conditions which accommodate the health and natural behavior of animals, including: (1) Access to the outdoors, shade, shelter, exercise areas, fresh air, and direct sunlight suitable to the species, its

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Conclusion & Recommendation:

The QAI inspector reviewed pasture logs from April 1-30, 2008 and July 1-31, 2008. The April pasture log shows the herd was denied pasture from April 5-8, 2008 due to irrigation of the field. The July pasture log shows the herd was denied pasture from July 1-31, 2008 due to ambient temperatures exceeding 90°F. The Inspector's Report dated November 20, 2008, states on page 2, item 3 that heifers and dry cows did not need supplemental feed during the winter when they were grazing the oats. Item 5 of the report states that the only available pasture was 160 acres known as Beryl 320. The report states that as soon as the winter planting of oats in the newly transitioned Red River Fields 4, 5, and 6 is established, the acreage will increase significantly and so will the configuration of the available grazing. Again, based on the inspector's report, C & E concludes that the herd was denied pasture for the reasons set forth in § 205.239(b). (b)(5)



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The National Organic Program
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Complaint Number: NOPC-003-09

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P.O. Box 126
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Records – Any information in written, visual, or electronic form that documents the activities undertaken by a producer, handler, or certifying agent to comply with the Act and regulations in this part.

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II. ALLEGATIONS

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Allegation 2: Cornucopia contends that Shamrock's cows were confined to feedlots and not pastured for weeks.

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| Month | Animal # | | | Acres Available | | Crop |
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| February | 743 | 4 | 253 | 100 | 20 | Oats |
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Specific notes to the table indicate (1) that grazing of the oats started in mid to end of January and (2) the heifers tried to graze the sorghum for about 10 days in July.

Inspection records indicate that Shamrock dairy is a split operation with a total of about 10,000 cows, 1,000 of which are managed organically. QAI documented on its November 20, 2008 Inspection Report that Shamrock has not provided sufficient access to pasture for its organic dairy herd. QAI indicated the inspector had noted that for the winter of 2008, the extent of pasture for the dairy was 140 acres. QAI requested that Shamrock provide a written plan to provide adequate pasture for its organic livestock. The plan was to include acreage, forage description, the timing of the cropping cycles such that there would always be ground available for grazing, animal numbers, and the duration/frequency of their stay on the pasture as well as an assessment of the pasture's ability to provide substantive nutritive value to the animals pastured. Additionally, QAI stated that Shamrock would have to complete Individual Field Profile (IFP) Sheets for Red River 1, 2, and 3 fields that would be eligible for organic use in the autumn of 2009. Copies of QAI's inspection records dated November 20, 2008, are in the exhibits section of this report.

Allegation 2: Cornucopia contends that Shamrock's cows were confined to feedlots and not pastured for weeks.

In its December 10, 2008 letter, QAI responded that findings indicate that access to the outdoors was provided aside from the instances related to inclement weather, animals' stage of production, or risk to soil or water quality. The reasons for confinement were consistent with NOP regulations. QAI findings indicate that pasture has been available, consistent with NOP regulations. QAI provided a table explaining the grazing season in relation to animal numbers and acres available for pasture (MC = Milking Cows, DR = Dry Cows, H = Heifers):

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Cornucopia provided no facts to support this allegation.

Allegation 3: Cornucopia contends that geographic or climatic conditions, which make pasture impractical or not cost-effective, cannot be used to justify year-round noncompliance with the pasture rule.

In its December 10, 2008 letter, QAI responded that until the NOP finalizes the pasture rule, it will not require a certain number of cows per acre nor a certain quantity of feed from pasture/grazing. QAI findings indicate that access to the outdoors was provided aside from the instances related to inclement weather, animals' stage of production, or risk to soil or water quality. The reasons for confinement were consistent with NOP regulations. QAI findings indicate that pasture has been available, consistent with NOP regulations. QAI provided a table explaining the grazing season in relation to animal numbers and acres available for pasture (MC = Milking Cows, DR = Dry Cows, H = Heifers):

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V. CONCLUSION & RECOMMENDATION

Allegation 1: Cornucopia contends that Shamrock's feedlot facility does not provide sufficient pasture for its dairy herd of approximately 11,000 cows, of which approximately 700-1000 cows are managed organically.

Regulatory Requirements: 7 CFR Section 205.237(a)

The producer of an organic livestock operation must provide livestock with a total feed ration composed of agricultural products, including pasture and forage, that are organically produced and, if applicable, organically handled: *Except*, that, nonsynthetic substances and synthetic substances allowed under §205.603 may be used as feed additives and supplements.

Conclusion & Recommendation:

QAI findings from an announced inspection on November 19-20, 2008 indicate apparent violations to 7 CFR Section 205.237(a). QAI has been in conversation with Shamrock about its pasture availability and approved a plan submitted by Shamrock in January 2009 to adapt its operations to meet regulatory guidelines.

We concur that Shamrock has not increased the amount of pasture available to its organic herd. As a result, Shamrock has attempted to graze more animals than is justifiable for the climatic conditions given the limited organic pasture it has available. (b)(5)

As stated in § 205.403(2)(ii), The Administrator or State organic program's governing State official may require that additional inspections be performed by the certifying agent for the purpose of determining compliance with the Act and the regulations of this part. (b)(5)

Allegation 2: Cornucopia contends that Shamrock's cows were confined to feedlots and not pastured for weeks.

Regulatory Requirements: 7 CFR Section 205.238(a)(3) and (4) and 205.239 (a) (1) (2) (b)(1)(2)(3)(4)

(a) The producer of an organic livestock operation must establish and maintain livestock living conditions which accommodate the health and natural behavior of animals, including: (1) Access to the outdoors, shade, shelter, exercise areas, fresh air, and direct sunlight suitable to the species, its stage of production, the climate, and the environment; (2) Access to pasture for ruminants; (b) The producer of an organic livestock operation may provide temporary confinement for an animal because of: (1) Inclement weather; (2) The animal's stage of production; (3) Conditions under which the health, safety, or well-being of the animal could be jeopardized; or (4) Risk to soil or water quality.

Conclusion & Recommendation:

The QAI inspector reviewed pasture logs from April 1-30, 2008 and July 1-31, 2008. The April pasture log shows the herd was denied pasture from April 5-8, 2008 due to irrigation of the field. The July pasture log shows the herd was denied pasture from July 1-31, 2008 due to ambient temperatures exceeding 90°F. The Inspector's Report dated November 20, 2008, states on page 2, item 3 that heifers and dry cows did not need supplemental feed during the winter when they were grazing the oats. Item 5 of the report states that the only available pasture was 160 acres known as Beryl 320. The report states that as soon as the winter planting of oats in the newly transitioned Red River Fields 4, 5, and 6 is established, the acreage will increase significantly and so will the configuration of the available grazing. Based on the inspector's report, C & E concludes that the herd was denied pasture for the reasons set forth in § 205.239(b). (b)(5)

[REDACTED]

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|  | United States | Agriculture | 1400 Independence Ave., S.W. |
| | Department of | Marketing | Room 4004-S, STOP 0268 |
| | Agriculture | Service | Washington D.C. 20250-0268 |
| | | | |

The National Organic Program
Compliance & Enforcement Division
Report of Investigation

Complaint Number: NOPC-003-09

Complainant Name & Address: Will Fantle
P.O. Box 126
Cornucopia, Wisconsin 54827
Phone: (715) 839-7731

Operator Name & Address: Shamrock Farms Dairy
2228 N. Black Canyon Hwy.
Phoenix, Arizona 85009
Phone: (602) 272-6721

Physical Address of Dairy: Shamrock Farms Co.
40034 W. Clayton
Stanfield, Arizona 85272

Accredited Certifying
Agent Name & Address: Maria DeVincenzo
Quality Assurance International
9191 Towne Centre Drive, Suite 510
San Diego, CA 92122 USA
(858) 792-3531 Phone
(734) 827-6177 Fax

Date of Investigation: October 22, 2008 to present

Date of Report: December 15, 2009

Compliance Specialist: Valerie Schmale

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REPORT OF INVESTIGATION

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3. OPERATOR RESPONSE & DOCUMENTATION
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REPORT OF INVESTIGATION

I. INTRODUCTION

The Compliance & Enforcement (C&E) Division of the National Organic Program (NOP) is responsible for investigating complaints filed under the Organic Foods Production Act of 1990 (7 USC 6501 et seq.) and its related laws and regulations.

On October 14, 2008, C&E received a complaint through David Trykowski, Director, Agricultural Marketing Service (AMS) Compliance and Analysis Branch regarding alleged violations of the NOP at Shamrock Farms Dairy (Shamrock) facility in Phoenix, Arizona (AZ). Mr. Will Fantle, Director of Research, The Cornucopia Institute, Cornucopia, Wisconsin (WI) made the complaint.

On October 21, 2008, Valerie Schmale, Agricultural Marketing Specialist (Regulatory) C & E, contacted Joe Smillie, of Quality Assurance International (QAI), Shamrock's certifying agent, to begin an investigation into the allegations. The case was referred to Maria DeVincenzo, Quality Specialist, QAI, for further investigation. An investigation was conducted and the results of the investigation are contained in this report.

Significant terms:

Center-pivot irrigation (sometimes called **central pivot irrigation**), also called **circle irrigation** – is a method of crop irrigation in which equipment rotates around a pivot.

Dry cow – A cow that will no longer give milk.

Feed – Edible materials which are consumed by livestock for their nutritional value. Feed may be concentrates (grains) or roughages (fodder, hay, silage). The term, “feed” encompasses all agricultural commodities, including pasture ingested by livestock for nutritional purposes.

Feed additive – A substance added to feed in micro quantities to fulfill a specific nutritional need; i.e. essential nutrients in the form of amino acids, minerals, and vitamins.

Feed supplement – A combination of feed nutrients added to livestock feed to improve the nutrient balance or performance of the total ration and intended to be: (1) Diluted with other feeds when fed to livestock; (2) Offered free choice with other parts of the ration if separately available; or (3) Further diluted and mixed to produce a complete feed.

Field – An area of land identified as a discrete unit within a production operation.

Forage – Vegetative material in a fresh, dried, or ensiled state (pasture, hay, or silage), which is fed to livestock.

Heifer – A young female cow before she has had her first calf.

Pasture – Land used for livestock grazing that is managed to provide feed value and maintain or improve soil, water, and vegetative resources.

Records – Any information in written, visual, or electronic form that documents the activities undertaken by a producer, handler, or certifying agent to comply with the Act and regulations in this part.

Saudi Barn – an open styled barn designed by the University of Arizona for use in the Saudi Arabian desert. The barn consists of a feed line under a shaded area, which allows the animals to be handled in the headlocks while eating.

Split operation – An operation that produces or handles both organic and nonorganic agricultural products.

Springer – A female that is about to give birth to a calf.

BACKGROUND

Shamrock Dairy is a split operation with a total of about 10,000 cows, 1,000 of which were certified organic in June 2007. Shamrock is the only organic dairy in Arizona. Milk is shipped to its plant in Phoenix where it is bottled as fluid milk and processed into sour cream.

Shamrock has been certified with QAI for crops and livestock since March 2, 2007. Shamrock was certified to handle silage on April 5, 2007 and dairy products on April 23, 2007. On January 2, 2009, Shamrock became a certified producer of crops for livestock feed (barley, hay, pasture, oats, sorghum, and Sudan Grass). Shamrock's organic dairy herd was started in June 2007 using a group of heifers that were transitioned in Oregon. Two more groups of heifers entered the herd in 2007. One group entered the herd on June 5, 2007 and is known as the X group. The second group entered the herd on September 21, 2007 and is known as the Y group. Records indicate that there are 119 head accounted for in the X herd and 129 head accounted for in the Y herd.

Shamrock's Dairy Organic Compliance Plan (OCP) for livestock management covers the Shamrock Farms Company in Stanfield, Arizona (AZ). According to Shamrock's OCP Herd Pasture Profile (HPP), dated November 15, 2008, there are 998 head of organic dairy cattle on 120-140 acres of organic pasture at Shamrock. Shamrock is certified for crops, handling, and livestock. Crops grown for the organic operations include permanent pasture, alfalfa, and winter forage. There are no outside sales of crops; all crops harvested are used for on-farm feed.

As of November 18, 2008, Shamrock's OCP Item A6 indicates there are 750 milk cows managed organically. The HPP dated November 15, 2008 indicates that the number of organic pasture acres is 160 total. The HPP indicates the breakdown of the organic herd as follows in the chart below.

| Age Group | # of Animals in Age Group | Production Status | Pasture Fields Provided to this Age Group | Acreage of Pasture Fields Provided | Number of Feed Units Fed to each Age Group per day | Estimated Number of Pasture Units Fed to each Age Group per day |
|------------|---------------------------|-------------------|---|------------------------------------|--|---|
| 16 months | 125 | Heifers | Berl 320 | 160 | 20 | 1 acre |
| 22 months | 123 | Springers | Berl 320 | 160 | 24 | 1.25 acres |
| 24+ months | 200 | Dry Cows | Berl 320 | 160 | 24 | 2.5 acres |
| 24+ months | 550 | Milking | Berl 320 | 160 | 20 | 5.5 acres |

The inspector's report dated November 19-20, 2008, indicates that there were 120 acres of available pasture on Beryl 320.

Shamrock's Proposed Pasture SOP for the Organic Dairy indicates that animals shall have access to pasture except for the reasons of:

- Pasture development (irrigation, planting, manure application)
- Inclement weather (Daily temperature exceeding 90°F, severe monsoon storms)
- Health Issues (dry animals, heifers in the last 30 days of gestation, fresh animals less than 45 days in milk, animals that are weak or sick and in need of close monitoring)

The Proposed Pasture SOP does not indicate the number of acres available per cow, or the total number of acres available for pasture. Irrigation on the Beryl 320 parcel is accomplished through center-pivot irrigation. Irrigation for the Red River parcels is accomplished through flooding. Cattle cannot be pastured during times of irrigation because of damage created by the animals' hooves in the soft ground.

In a December 1, 2008 letter to Shamrock, QAI indicated the inspector had noted that for the winter of 2008, the extent of pasture for the dairy was 140 acres. QAI requested that Shamrock provide a written plan to provide adequate pasture for its organic livestock. The plan was to include acreage, forage description, the timing of the cropping cycles such that there would always be ground available for grazing, animal numbers, and the duration/frequency of their stay on the pasture as well as an assessment of the pasture's ability to provide substantive nutritive value to the animals pastured.

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| June | 663 | 88 | 471 | 0 | 0 | Crop Switch |
| July | 624 | 184 | 398 | 0 | 120 | Sorghum |
| August | 627 | 195 | 374 | 0 | 0 | Sorghum |
| September | 635 | 179 | 365 | 0 | 0 | Sorghum |
| October | 672 | 189 | 308 | 0 | 0 | Sorghum |
| November | 672 | 189 | 308 | 0 | 0 | Crop Switch |
| Average # | 679 | 103 | 358 | | | |
| | | | Total | 1140 | | |

Specific notes to the table indicate (1) that grazing of the oats started in mid to end of January and (2) the heifers tried to graze the sorghum for about 10 days in July.

Inspection records indicate that Shamrock dairy is a split operation with a total of about 10,000 cows, 1,000 of which are managed organically. QAI documented on its November 20, 2008 Inspection Report that Shamrock has not provided sufficient access to pasture for its organic dairy herd. QAI indicated the inspector had noted that for the winter of 2008, the extent of pasture for the dairy was 140 acres. QAI requested that Shamrock provide a written plan to provide adequate pasture for its organic livestock. The plan was to include acreage, forage description, the timing of the cropping cycles such that there would always be ground available for grazing, animal numbers, and the duration/frequency of their stay on the pasture as well as an assessment of the pasture's ability to provide substantive nutritive value to the animals pastured. Additionally, QAI stated that Shamrock would have to complete Individual Field Profile (IFP) Sheets for Red River 1, 2, and 3 fields that would be eligible for organic use in the autumn of 2009. Copies of QAI's inspection records dated November 20, 2008, are in the exhibits section of this report.

Allegation 2: Cornucopia contends that Shamrock's cows were confined to feedlots and not pastured for weeks.

In its December 10, 2008 letter, QAI responded that findings indicate that access to the outdoors was provided aside from the instances related to inclement weather, animals' stage of production, or risk to soil or water quality. The reasons for confinement were consistent with NOP regulations. QAI findings indicate that pasture has been available, consistent with NOP regulations. QAI provided a table explaining the grazing season in relation to animal numbers and acres available for pasture (MC = Milking Cows, DR = Dry Cows, H = Heifers):

| Month | Animal # | | | Acres Available | | Crop |
|-------------------------|----------|-----|--------------|-----------------|--------|-------------|
| | MC | DR | H | Cow | DC & H | |
| February | 743 | 4 | 253 | 100 | 20 | Oats |
| March | 730 | 16 | 367 | 100 | 20 | Oats |
| April | 701 | 43 | 365 | 0 | 120 | Oats |
| May 15 th | 701 | 24 | 365 | 0 | 120 | Oats |
| May 16 th On | 701 | 24 | 365 | 0 | 0 | Crop Switch |
| June | 663 | 88 | 471 | 0 | 0 | Crop Switch |
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| November | 672 | 189 | 308 | 0 | 0 | Crop Switch |
| Average # | 679 | 103 | 358 | | | |
| | | | Total | 1140 | | |

Specific notes to the table indicate (1) that grazing of the oats started in mid to end of January and (2) the heifers tried to graze the sorghum for about 10 days in July.

The QAI inspector reviewed pasture logs from April 1-30, 2008 and July 1-31, 2008. The April pasture log shows the herd was denied pasture from April 5-8, 2008 due to irrigation of the field. The July pasture log shows the herd was denied pasture from July 1-31, 2008 due to ambient temperatures exceeding 90°F. The Inspector's Report dated November 20, 2008, states on page 2, item 3 that heifers and dry cows did not need supplemental feed during the winter when they were grazing the oats. Item 5 of the report states that the only available pasture was 160 acres known as Beryl 320. The report states that as soon as the winter planting of oats in the newly transitioned Red River Fields 4, 5, and 6 is established, the acreage will increase significantly and so will the configuration of the available grazing.

Cornucopia provided no facts to support this allegation.

Allegation 3: Cornucopia contends that geographic or climatic conditions, which make pasture impractical or not cost-effective, cannot be used to justify year-round noncompliance with the pasture rule.

In its December 10, 2008 letter, QAI responded that until the NOP finalizes the pasture rule, it will not require a certain number of cows per acre nor a certain quantity of feed from pasture/grazing. QAI findings indicate that access to the outdoors was provided aside from the instances related to inclement weather, animals' stage of production, or risk to soil or water quality. The reasons for confinement were consistent with NOP regulations. QAI findings indicate that pasture has been available, consistent with NOP regulations. QAI provided a table explaining the grazing season in relation to animal numbers and acres available for pasture (MC = Milking Cows, DR = Dry Cows, H = Heifers):

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Specific notes to the table indicate (1) that grazing of the oats started in mid to end of January and (2) the heifers tried to graze the sorghum for about 10 days in July.

Additionally, a QAI inspector reviewed pasture logs from April 1-30, 2008 and July 1-31, 2008. The April pasture log shows the herd was denied pasture from April 5-8, 2008 due to irrigation of the field. The July pasture log shows the herd was denied pasture from July 1-31, 2008 due to ambient temperatures exceeding 90°F. The Inspector's Report dated November 20, 2008, states on page 2, item 3 that heifers and dry cows did not need supplemental feed during the winter when they were grazing the oats. Item 5 of the report states that the only available pasture was 160 acres known as Beryl 320. The report states that as soon as the winter planting of oats in the newly transitioned Red River Fields 4, 5, and 6 is established, the acreage will increase significantly and so will the configuration of the available grazing.

Cornucopia provided no facts to support this allegation.

V. CONCLUSION & RECOMMENDATION

Allegation 1: Cornucopia contends that Shamrock's feedlot facility does not provide sufficient pasture for its dairy herd of approximately 11,000 cows, of which approximately 700-1000 cows are managed organically.

Regulatory Requirements: 7 CFR Section 205.237(a)

The producer of an organic livestock operation must provide livestock with a total feed ration composed of agricultural products, including pasture and forage, that are organically produced and, if applicable, organically handled: *Except*, that, nonsynthetic substances and synthetic substances allowed under §205.603 may be used as feed additives and supplements.

Conclusion & Recommendation:

QAI findings from an announced inspection on November 19-20, 2008 indicate apparent violations to 7 CFR Section 205.237(a). QAI has been in conversation with Shamrock about its pasture availability and approved a plan submitted by Shamrock in January 2009 to adapt its operations to meet regulatory guidelines.

We concur that Shamrock has not increased the amount of pasture available to its organic herd. As a result, Shamrock has attempted to graze more animals than is justifiable for the climatic conditions given the limited organic pasture it has available. (b)(5)

As stated in § 205.403(2)(ii), The Administrator or State organic program's governing State official may require that additional inspections be performed by the certifying agent for the purpose of determining compliance with the Act and the regulations of this part. (b)(5)

Allegation 2: Cornucopia contends that Shamrock's cows were confined to feedlots and not pastured for weeks.

Regulatory Requirements: 7 CFR Section 205.238(a)(3) and (4) and 205.239 (a) (1) (2) (b)(1)(2)(3)(4)

(a) The producer of an organic livestock operation must establish and maintain livestock living conditions which accommodate the health and natural behavior of animals, including: (1) Access to the outdoors, shade, shelter, exercise areas, fresh air, and direct sunlight suitable to the species, its stage of production, the climate, and the environment; (2) Access to pasture for ruminants; (b) The producer of an organic livestock operation may provide temporary confinement for an animal because of: (1) Inclement weather; (2) The animal's stage of production; (3) Conditions under which the health, safety, or well-being of the animal could be jeopardized; or (4) Risk to soil or water quality.

Conclusion & Recommendation:

The QAI inspector reviewed pasture logs from April 1-30, 2008 and July 1-31, 2008. The April pasture log shows the herd was denied pasture from April 5-8, 2008 due to irrigation of the field. The July pasture log shows the herd was denied pasture from July 1-31, 2008 due to ambient temperatures exceeding 90°F. The Inspector's Report dated November 20, 2008, states on page 2, item 3 that heifers and dry cows did not need supplemental feed during the winter when they were grazing the oats. Item 5 of the report states that the only available pasture was 160 acres known as Beryl 320. The report states that as soon as the winter planting of oats in the newly transitioned Red River Fields 4, 5, and 6 is established, the acreage will increase significantly and so will the configuration of the available grazing. Based on the inspector's report, C & E concludes that the herd was denied pasture for the reasons set forth in § 205.239(b). (b)(5)

[REDACTED]

As stated in § 205.403(2)(ii), The Administrator or State organic program's governing State official may require that additional inspections be performed by the certifying agent for the purpose of determining compliance with the Act and the regulations of this part. (b)(5)

[REDACTED]


Allegation 3: Cornucopia contends that geographic or climatic conditions which make pasture impractical or not cost-effective, cannot be used to justify year-round noncompliance with the pasture rule.

Regulatory Requirements: 7 CFR Section 205.239(a)(b)

(a) The of an organic livestock operation must establish and maintain livestock living conditions which accommodate the health and natural behavior of animals, including: (1) Access to the outdoors, shade, shelter, exercise areas, fresh air, and direct sunlight suitable to the species, its stage of production, the climate, and the environment; (2) Access to pasture for ruminants;...(b)The producer of an organic livestock operation may provide temporary confinement for an animal because of: (1) inclement weather; (2) The animal's stage of production; (3) Conditions under which the health, safety, or well being of the animal could be jeopardized; or (4) Risk to soil or water quality.

Conclusion & Recommendation:

The QAI inspector reviewed pasture logs from April 1-30, 2008 and July 1-31, 2008. The April pasture log shows the herd was denied pasture from April 5-8, 2008 due to irrigation of the field. The July pasture log shows the herd was denied pasture from July 1-31, 2008 due to ambient temperatures exceeding 90°F. The Inspector's Report dated November 20, 2008, states on page 2, item 3 that heifers and dry cows did not need supplemental feed during the winter when they were grazing the oats. Item 5 of the report states that the only available pasture was 160 acres known as Beryl 320. The report states that as soon as the winter planting of oats in the newly transitioned Red River Fields 4, 5, and 6 is established, the acreage will increase significantly and so will the configuration of the available grazing. Again, based on the inspector's report, C & E concludes that the herd was denied pasture for the reasons set forth in § 205.239(b). (b)(5)





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**UNITED STATES DEPARTMENT OF AGRICULTURE
NATIONAL ORGANIC PROGRAM
COMPLIANCE & ENFORCEMENT BRANCH**

REPORT OF INVESTIGATION

| | |
|--|--|
| Complaint Number: | NOPC-003-09 |
| Complainant Name & Address: | Will Fantle P.O. Box 126 Cornucopia, Wisconsin 54827 Phone: (715) 839-7731 |
| Operator Name & Address: | Shamrock Farms Dairy 2228 N. Black Canyon Hwy. Phoenix, Arizona 85009 Phone: (602) 272-6721 |
| Accredited Certifying Agent Name & Address: | Maria DeVincenzo Quality Assurance International 9191 Towne Centre Drive, Suite 510 San Diego, CA 92122 USA (858) 792-3531 Phone (734) 827-6177 Fax |
| Date of Investigation: | October 22, 2008 to present |
| Date of Report: | September 30, 2009 |
| Compliance Specialists: | Valerie Schmale and Tammie Wilburn |

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REPORT OF INVESTIGATION

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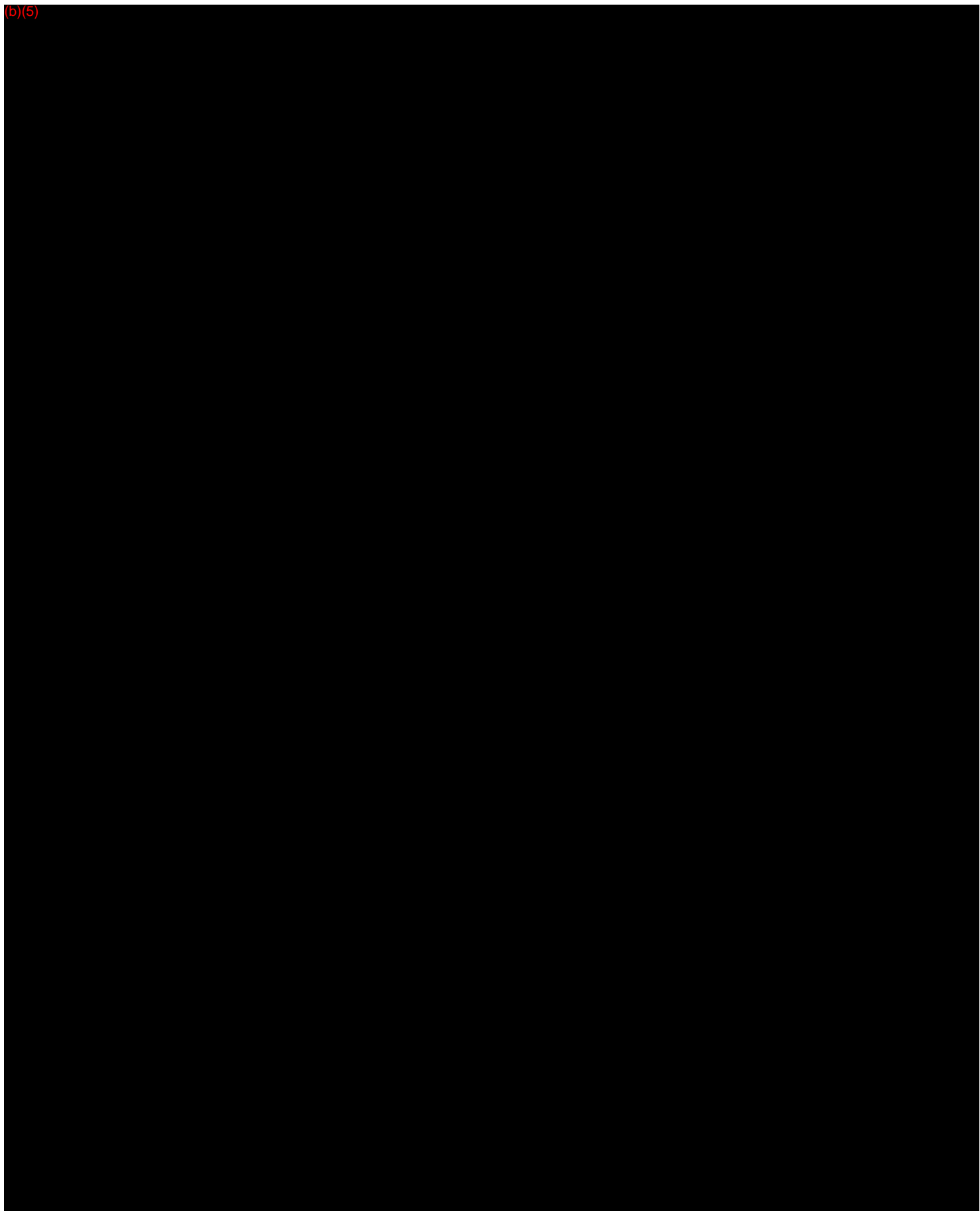
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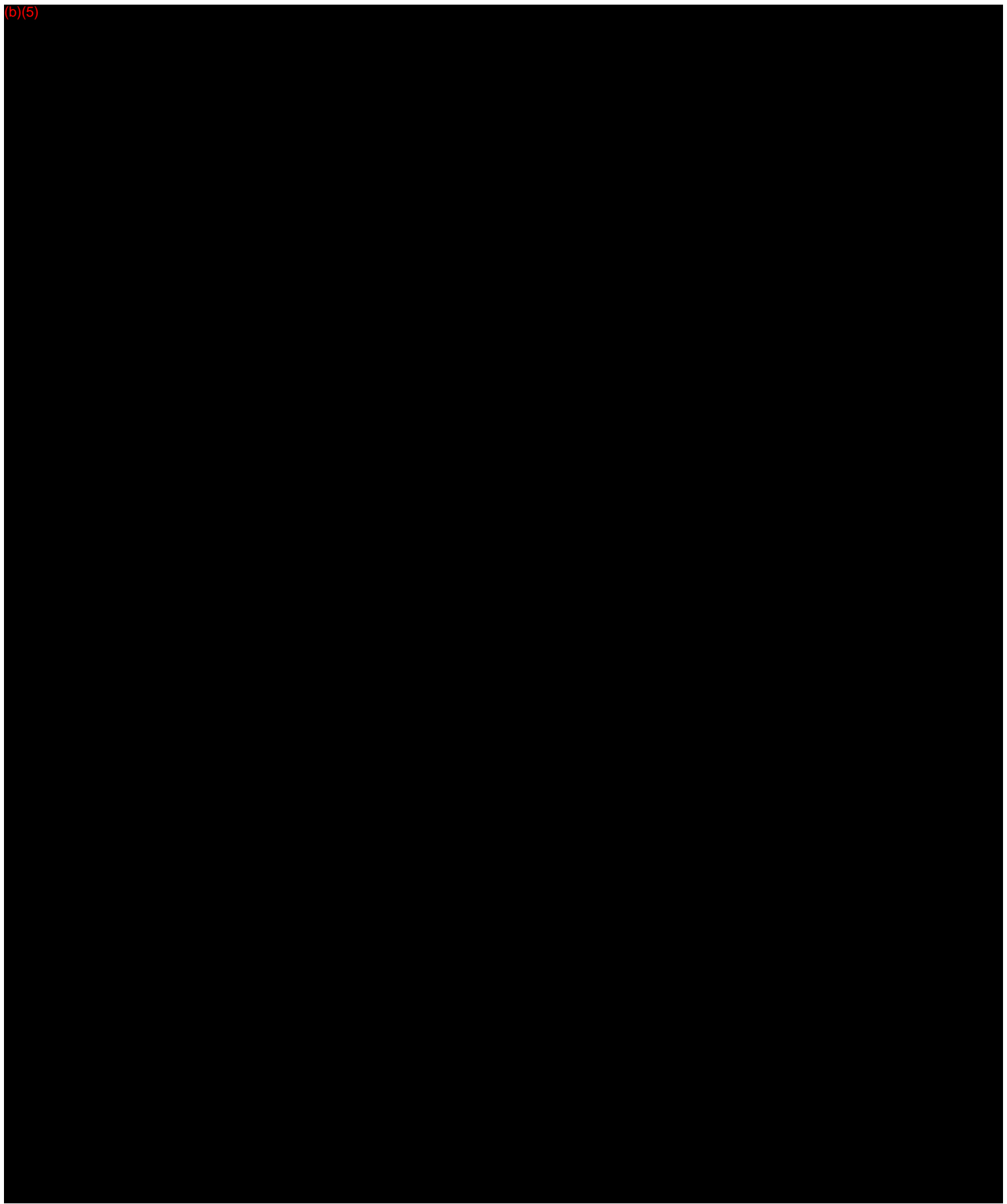
REPORT OF INVESTIGATION

(b)(5)





[REDACTED]



(b)(5)



From: [Morr, Craig](#)
To: [Crail, Lars](#); [Schmale, Valerie](#)
Subject: FW: Shamrock revised NC letter - DRAFT
Date: Tuesday, August 02, 2011 9:25:43 AM
Attachments: [Reinspection Draft NC Letter - Shamrock \(3\).doc](#)

Lars and Valerie,

Here is another attempt at the letter to Shamrock. Again, we'd like to provide intro to the letter with the proposed email at the bottom of this string. If you have issues with this letter, please give me a call to clarify your concerns. I'm afraid I may not have been the best communicator of your concerns back to the team on this matter.

Thank you for your assistance.

Craig

From: Morr, Craig
Sent: Thursday, July 14, 2011 3:08 PM
To: Crail, Lars; 'Schmale, Valerie'
Cc: Randolph, Alexis; Greal, Stephen
Subject: Shamrock revised NC letter - DRAFT

Lars and Valerie,

Attached you will find a revised letter to Shamrock on their non-compliance status. This along with the following cover email are what we propose distributing to them upon your review. As a reminder, we had issued a rescission of the proposed suspension last Friday.

Any input you have on the proposed would be greatly appreciated.

Regards,
Craig

Dear Mr. John Voss:

Thank you for responding to the combined notice of noncompliance and proposed suspension letter issued on May 13, 2011. As you are aware that letter was rescinded on July 8, 2011. QAI has accepted the additional information Shamrock Farms supplied in response to that letter as an update to your organic system plan.

We have been able to complete our evaluation of your operation based on your recent inspection June 9, 2011. Please find attached your finalized review letter. A complete response is due within the timeframes noted for each point. Once a sufficient response is received we will be able to proceed with your certification.

NOTICE: This email and its contents/attachments may be confidential and are

intended solely for the individual to whom it is addressed.
If you are not the named addressee or if this email is otherwise received in error, please immediately notify the sender without reading it and do not take any action based on its contents or otherwise copy or disclose it to anyone. Any opinions or views expressed in this transmission are solely of the author and do not necessarily represent those of NSF International or its affiliates.



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Notice of Noncompliance

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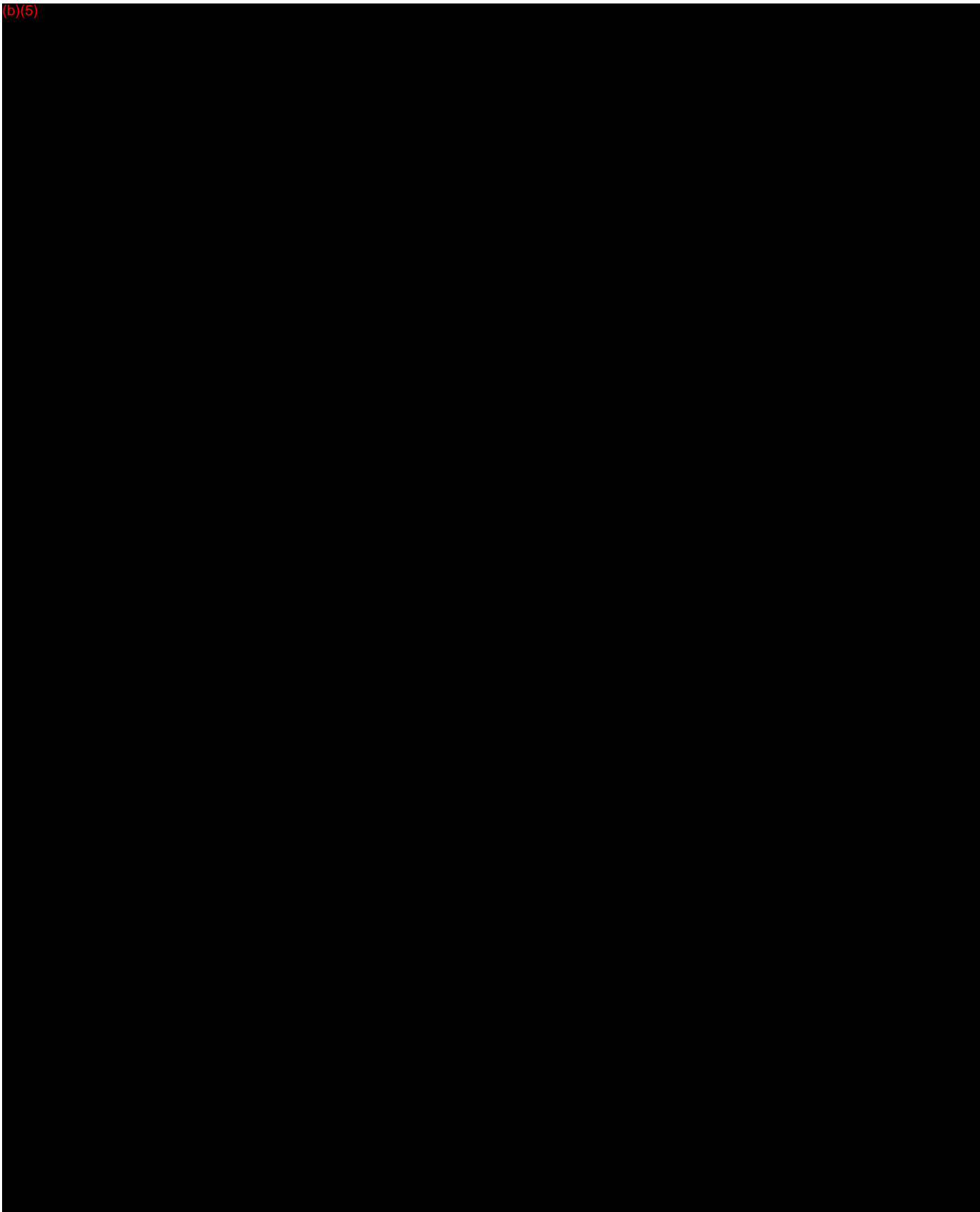
Subject: NOPC-003-09

Dear (b)(5)

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(b)(5)

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(b)(5)



If you have questions regarding this proposed action or how to file an appeal, you may contact Dr. Ruihong Guo at Ruihong.Guo@ams.usda.gov or by telephone at (202) 720-3252.


Sincerely,

Barbara C. Robinson, Ph.D.
Acting Director
National Organic Program

cc: Mark Bradley, Chief, Accreditation, Auditing, & Training Branch
(b)(5)
David W. Trykowski, Director, Compliance, Safety and Security

R. Guo_____ Barbara C. Robinson_____

(b)(5),(b)(7)(e)





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Washington, D.C. 20250-0268

Notice of Noncompliance

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Subject: NOPC-003-09

Dear (b)(5)

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(b)(5)

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If you have questions regarding this notice of noncompliance or the suitability of proposed corrective actions, please contact me or Dr. Ruihong Guo, Director, Compliance & Enforcement Division at Ruihong.Guo@ams.usda.gov or by telephone at (202) 720-3252.

Sincerely,

Miles McEvoy
Deputy Administrator
National Organic Program

cc: Mark Bradley, Chief, Accreditation, International Activities Division
Samantha Simon, Auditing Review & Compliance Branch, Livestock & Seed Programs

R. Guo _____ Miles McEvoy _____

(b)(5),(b)(7)(e)