

Raising the Bar

Choosing Healthy Snack Bars versus Gimmicky Junk Food



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The Cornucopia Institute is chartered as a tax-exempt public charity focusing on research and education. Cornucopia aims to empower organic producers, consumers, and wholesale buyers to make discerning marketplace decisions, protecting the credibility of the organic food and farming movement and the value it delivers to society.

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Executive Summary

SNACK BARS ARE PERCEIVED as a healthy convenience food, easy for the beach, a hike, or a lunchbox. Whether marketed as “granola,” “protein,” “energy,” or “nutrition” bars, they have become wildly popular, representing an \$8.3 billion industry with double-digit annual growth.¹

Packaged, ready-to-eat bars are heavily marketed with a dizzying array of health claims. **This report addresses:**

- Whether the health claims are legitimate or just marketing hype;
- What is really in the bars; and,
- Whether some bars are healthier than others.

Major Findings

The majority of mass-market bars contain long ingredient lists with unfamiliar chemical names. In contrast, certified organic bars have far fewer and much simpler ingredients that are, in many cases, nutritious whole foods.

Many companies charge higher prices for “natural” products when there is little, if any, difference from other, less expensive conventional products. Many popular natural brands shower themselves in “do-gooder ethos” but stop far short of actually fulfilling a legitimate mission, especially when they make the choice to source conventional ingredients.

While the “natural” claim is virtually unregulated, there are two organic labels that are regulated:

The first label is “made with” organic ingredients. Products can carry this label if 70% of the ingredients, by weight, are certified as organic. The remaining 30% of ingredients, by weight, can be non-organic.²

The second label is USDA organic. The presence of the organic seal indicates that a minimum of 95% of the ingredients, by weight, are certified organic.

The USDA organic seal indicates that a specific product was produced without toxic pesticides, insecticides, or herbicides, and processed without potentially harmful chemicals, an assertion that is government-regulated and third-party certified.

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The USDA label is highly regulated. In contrast, the “made with” organic ingredients claim is regulated, but loopholes exist which diminish the quality and health benefits of those products.

For instance, solvent extraction is not allowed to be used for products that carry the USDA organic seal. However, the USDA organic regulations specifically provide an exception to allow solvent extraction to be used on products that carry the “made with” organic claim.^{3,4} “Natural” ingredients can also be processed with neurotoxic and polluting petrochemicals, such as hexane.⁵

Common non-organic ingredients that are almost universally processed with volatile solvents include soy pro-

For the healthiest choice, bars should only contain naturally sweet whole foods like dried fruit with naturally occurring antioxidants, vitamins, and fiber.



tein isolate, soy protein concentrate, and soy lecithin.⁶ Low levels of hexane are commonly found in ingredients extracted with the neurotoxic chemical.⁷ These highly modified ingredients are used to artificially inflate the protein content of snack bars and change their texture.

In addition, these processed soy-based ingredients almost exclusively come from GMO soybeans that have been sprayed multiple times with glyphosate (i.e., “RoundUp-ready” soybeans). The USDA organic regulations require all ingredients to be produced without GMOs - including the 30% of non-organic ingredients in “made with” organic ingredients products.

However, this “excluded method” is difficult to enforce for the 5-30% of conventionally sourced ingredients in “made with” organic ingredients products.

In addition to conventional soy protein isolate, soy lecithin, and soy protein concentrate, bars labeled “made with” organic ingredients often contain glycerin, palm oil, nuts, and fruit, which are comparatively more expensive to buy organically.

Some of these conventional crops, such as soybeans, cacao (i.e., chocolate), fruit, and nuts are typically produced with high levels of toxic agrichemicals. Organic versions of these ingredients are usually commercially available and, by law, are not allowed to be produced with toxic pesticides, GMO ingredients, or processed with hexane.

Some of the most popular conventional ingredients in snack bars (i.e., chocolate, fruits, and nuts) have the high-

est rates of pesticide applications and, when the products are dried, agrichemical residues become concentrated, making it extremely important to ensure that these ingredients are certified organic.⁸

When a company uses the “made with” organic ingredients claim, it’s likely that they have chosen to use one or more relatively inexpensive organic ingredients, such as oats, tapioca syrup, or rice flour. This enables them to legally use the words “made with organic” on the packaging, but not the USDA seal. This rule allows the word “organic” on the front package, even though up to 30% of the contents are not organic.

Choosing to buy from companies that commit to the USDA organic seal rather than the “made with” organic ingredients label rewards ethical choices for the sourcing of all ingredients. There are many companies that are cutting corners to enhance profitability by including conventional ingredients, all while embracing rhetoric proclaiming their commitment to organics in their marketing materials.

The following report and accompanying scorecard will help consumers find snack bars that offer nutritious organic ingredients that support human and environmental health, while avoiding those that use disingenuous “natural” and “made with” organic ingredients claims that depend on cheap, conventionally grown and/or synthetic ingredients.

How to find the healthiest snack bars for you and your family

1. **Buy certified organic products.** The USDA organic seal indicates that a snack bar was produced with a minimum of 95% organic ingredients by weight (the remaining 5% has to be ingredients that are not available organically and that are reviewed for safety, such as baking powder). The organic rules require verification that all USDA certified organic snack bars are non-GMO and free of toxic solvent extraction. The “made with” organic ingredients label allows up to 30% of the product to be conventionally sourced, including ingredients extracted with hexane.
2. **Support companies that exclusively manufacture and offer USDA certified organic products.** These companies are truly dedicated to the values that come with the organic label, including protecting farmworkers, consumers, and the environment from exposure to toxic herbicides, pesticides, and processing aids. Other companies with mixed organic and non-organic offerings are likely exploiting the price premium they can get for organic products, rather than fully making the commitment to support the ethos behind the organic food and farming movement.

3. **Look for whole ingredients.** Many of the healthiest snack bars are produced predominantly with nuts, seeds, and dried fruit. Protein isolates, syrups, calcium caseinate, chicory root, and “milk ingredients” are common examples of highly processed ingredients that are not whole foods.
4. **Avoid protein isolates, especially those that are not labeled organic.** Pea, whey, and soy protein isolates are conventionally processed with synthetic solvents like hexane that can remain in the food after processing. Protein isolates are a cheap way to increase the protein content of bars, rather than using more expensive whole foods, such as nuts and seeds. Some bars list protein isolate as the first ingredient. Extraction with volatile synthetic solvents, such as hexane, is a prohibited method in all certified organic products, but not “made with” organic ingredients products. Be aware that if a protein isolate isn’t listed as “organic” on the ingredients label, it is likely hexane-extracted and made from GMO soybeans.
5. **Choose bars with lower levels of added sweeteners.** Organic cane sugar, honey, and maple syrup are better than artificial sweeteners or refined non-organic sugar. However, for the healthiest choice, bars should only contain naturally sweet whole foods like dried fruit with naturally occurring antioxidants, vitamins, and fiber. At a minimum, be aware of the high sugars found in some nutrition bars and treat them as a dessert.
6. **Choose bars without added flavors and colors.** Added flavors and colors, even “natural” flavors and colors, are only necessary when lower quality ingredients are used instead of whole foods. Often, they are added to improve the flavor of products that have been highly processed. Synthetic colors and flavors can be a health risk and are prohibited in organic foods.
7. **Choose bars without harmful synthetic and non-organic preservatives, emulsifiers, and gums.** Common bar preservatives with known negative health effects include butylated hydroxytoluene (BHT) and butylated hydroxyanisole (BHA). Safer, natural preservatives are ascorbic acid, lactic acid, citric acid, tocopherols, and rosemary oil. Emulsifiers and gums, such as sorbitan monostearate, xanthan gum, carrageenan, acacia gum, and guar gum are unnecessary ingredients and known inflammatory agents.⁹

There are hundreds of options in the snack bar aisle. This report and accompanying buyers’ guide will help consumers support companies that are fully committed to supporting the environmental and health benefits of organic food and farming. It is possible to distinguish between truly healthy snack bars and those that should be considered desserts or even junk food.

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ARTIFICIAL FLAVORS WITH 49 CHEMICALS, INCLUDING THE FOLLOWING:

A typical artificial strawberry flavor, like the kind found in a fast food strawberry milk shake, contains the following ingredients:

amyl acetate, amyl butyrate, amyl valerate, anethol, anisyl formate, benzyl acetate, benzyl isobutyrate, butyric acid, cinnamyl isobutyrate, cinnamyl valerate, cognac essential oil, diacetyl, dipropyl ketone, ethyl acetate, ethyl amyl ketone, ethyl butyrate, ethyl cinnamate, ethyl heptanoate, ethyl heptylate, ethyl lactate, ethyl methylphenylglycidate, ethyl nitrate, ethyl propionate, ethyl valerate, heliotropin, hydroxyphenyl-2-butanone (10 percent solution in alcohol), a-ionone, isobutyl anthranilate, isobutyl butyrate, lemon essential oil, maltol, 4-methylacetophenone, methyl anthranilate, methyl benzoate, methyl cinnamate, methyl heptene carbonate, methyl naphthyl ketone, methyl salicylate, mint essential oil, neroli essential oil, nerolin, neryl isobutyrate, orris butter, phenethyl alcohol, rose, rum ether, g-undecalactone, vanillin, and solvent

Look for the USDA Organic Label

SNACK BARS ARE PROCESSED FOODS and, while most processed food has a bad reputation, the wide range of snack bars available includes some healthy choices, among the many poor ones.

It is important when choosing a processed food that the product is certified organic because all additives have undergone a rigorous review by the National Organic Standards Board for human and environmental health and safety. In fact, a growing number of scientific studies suggest that organic food offers clear health benefits.¹⁰ Look for the green and white circle logo that says “USDA Organic” (at least 95% organic ingredients) which is light years better than the “made with” organic ingredients claim (at least 70% organic ingredients).

For both labels, the remaining 5-30% of non-organic ingredients must be on the National List of Allowed and Prohibited Substances and cannot be commercially available in organic form. However, the commercial availability standard is difficult to enforce and is often used as a loophole by companies to purchase non-organic ingredients. Disagreement among certifying agents regarding when and under what circumstances an ingredient is commercially available undermines the intent of equitable and enforceable organic standards.

Organic suppliers frequently testify at National Organic Standards Board meetings that there is a surplus of specific organic ingredients and, yet, companies continue to source their conventional counterparts because they are on the National List of Allowed and Prohibited Substances in organics.

The United States Department of Agriculture (USDA) annually tests common foods, both conventional and organic, for certain pesticide residues.¹¹ Results show that conventional foods often contain pesticide residues, whereas organic foods are usually clean. Other published studies have found similar results.¹² When residues are detected on organic food, it is usually a result of cross-contamination, rather than fraud. Pesticide drift can

have an impact as well, but certified organic farmers must maintain a buffer area to mitigate the potential for drift, where it exists.



Accredited Certifying Agents are audited by the USDA and are responsible for ensuring that USDA organic products meet federal organic standards. Every certified organic packaged product must list its certifier directly on its packaging.

The federal standards, originating with The Organic Food Production Act of 1990 or OFPA, aim to provide consistency between certifiers; however, not all certifying agents implement the standards equally. Some certifiers choose to be more stringent based on their interpretation of language in OFPA.¹³

For fruit and vegetable production, certifiers differ, for example, in whether or not they allow the certification of hydroponic growing (i.e., without soil in liquid fertilizer), even though the law requires production in soil. For example, blueberries and raspberries, commonly found in bars, can be grown using hydroponic techniques. The European Union recently agreed to ban hydroponic techniques in organics; however, many certifiers in the U.S. still allow hydroponic organic certification.¹⁴

Whenever possible, it is important to buy products that are certified by accredited certifying agents (ACAs) that adhere to the highest standards. This places market pressure on certifiers to maintain high integrity.

ACAs that meet the highest standards include One Cert, Vermont Organic Farmers, Organic Crop Improvement Association, Maine Organic Farmers and Gardeners Association, and Northeast Organic Farmers Association. The logo of the certifying agent can be found on the product label. Even better, make your own granola with dried fruit, grains, or nuts from your local organic farmers.¹⁵

Avoid the “Made with” Organic Ingredients Label

PRODUCTS THAT CONTAIN at least 70% organic ingredients can be labeled “made with” organic ingredients, but they cannot carry the USDA organic seal. In order to use the “made with” organic ingredients claim on the label, the remaining 30% of non-organic ingredients, if synthetic, must also be on the National List of Allowed and Prohibited Substances.

All ingredients, including the 30% non-organic ingredients, must be produced without “prohibited methods” in organics, including GMOs and the use of sewage sludge as a fertilizer.¹⁶ However, it can be difficult to prove that certain non-organic ingredients, such as soy protein isolate, soy protein concentrate, and soy lecithin are produced from non-GMO soy, because these ingredients are chemically processed and proteins are denatured. It is also important to know that volatile extraction with hexane is allowed in products that use the “made with” organic ingredients labeling.¹⁷

If a product contains both organic and non-organic forms of the same ingredient, each ingredient must be identified separately on the label. Often, soy protein isolate and soy lecithin are listed in both organic and non-organic forms on the same product, so it is important to read through the entire ingredients label. Since these products are both available in organic form, there is no reason why an organic brand should be using non-organic forms of these ingredients, other than to cut their own costs.

The “made with” organic ingredients label is an opportunity for companies that are not fully committed to organic food and farming to produce cheaper products by buying less expensive non-organic ingredients. Other non-organic ingredients commonly found in “made with” organic products include flours, spices, chocolate, nuts, and fruit. Conventional almonds, for example, are most likely “pasteurized” with propylene oxide, an EPA designated carcinogen, whereas organic growers use steam sterilization.¹⁸

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Instead of buying products containing the “made with” organic ingredients claim, buy products with the USDA organic seal. By doing so, it places market pressure on other companies to use organic ingredients across the board and reduces your exposure to toxic chemicals, while supporting environmental stewardship.

Non-GMO Label

THE NON-GMO LABEL is often found on products that are marketed as “natural.” It is unnecessary for products that carry the USDA organic seal to also bear this claim, although some products do. The organic label already includes non-GMO verification, plus the added benefits of ensuring that no toxic herbicides, insecticides, or fungicides were used in the production or storage of the ingredients.

Most processed products in the grocery store contain GMO ingredients. The following is a list of common snack bar ingredients and the genetically modified crops from which they are derived:

CORN: corn flour, corn starch, corn oil, corn sweetener, corn syrup.

SOYBEANS: soy flour, soy lecithin, soy protein isolate, soy protein concentrate.

CANOLA: canola oil (any product that lists oil or vegetable oil likely contains GM oils).

SUGAR BEETS: sugar (any product that doesn't specify “cane



sugar,” but rather just “sugar,” likely contains GM beet sugar).

However, many ingredients come from crops that have never been genetically modified, such as oats, rice, sorghum, and fruit (except papaya, one of the first genetically modified foods released in 1998, modified to resist the ringspot virus using RNAi).¹⁹ Because many ingredients do not come from GM

crops, it can be very cheap in these cases for a company to add the non-GMO label without changing their conventional ingredient suppliers.

Buying USDA organic is the best option because it is always non-GMO, plus so much more.

Ingredients to Avoid in “Natural” Products

THE BEST BARS CONTAIN ONLY WHOLE FOODS. Most bars do not utilize real foods to achieve the high protein and high fiber levels boasted on their labels. Whole foods naturally contain a range of nutrients, antioxidants, and minerals in addition to natural fibers, sugars, and protein. The best bars contain only whole foods.

Rather than using nuts or seeds, protein is boosted with various protein isolates, most commonly soy protein isolate. Likewise, rather than adding whole grains, dried fruit, and nuts, fiber content is often increased with chicory root or cellulose extracted from wood pulp.²⁰

1. Soy Protein Isolate: Volatile Solvent Extraction (hexane)

Soy and pea protein isolates are powders used to boost the protein content of a food without adding carbohydrates, oils, or other contents of the bean or pea. Protein isolates are high in the amino acids lysine and arginine and are considered a cheaper way to boost protein in snack bars, rather than adding whole nuts or seeds. In addition to the cost advantage, these highly concentrated isolates are able to boost the protein content higher than would be possible with food sources alone.

But isolated proteins do not contain many of the healthy oils, vitamins, minerals, and fiber found in whole foods. For example, $\frac{1}{4}$ cup almonds contains 5 grams protein, 5 grams fiber, 61% recommended daily value (RDV) vitamin E, 44% RDV riboflavin, 44% RDV manganese, 36% RDV magnesium, 10% RDV calcium, and 4% RDV iron.²¹

In addition to lacking essential nutrients, imported protein powders have been contaminated with melamine in the past. Melamine, which is used in making plastic, can be cheaply added to protein powders to boost the protein content. The FDA explains that when melamine and cyanuric acid, a waste product formed from melamine production, are absorbed into the bloodstream, they concentrate and interact in renal tubules, then crystallize and damage the renal cells that line the tubes, causing the kidneys to malfunction.²²

The leading conventional manufacturers of protein isolates, including Axiom, Nutri Pea, Cosucra, Roquette, and Jianyuan Foods, are located in China, where protein adulteration scandals have occurred in the past. In 2007, a major contamination of melamine in pet food ingredi-

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ents imported from China caused the death of, and injury to, many companion animals in the U.S.²³ That same contamination event affected over 300,000 people in China and resulted in the death of six infants from melamine-contaminated infant formula.

Protein isolates vary in quality and composition depending on the extraction process used. Most conventional soy protein isolates are derived from immersing whole soybeans in hexane to separate the oil from the rest of the bean. Hexane is a by-product of the gasoline refinement process.

The de-oiled soybeans are then milled into flour, containing approximately 50% protein. The protein is further extracted with ethanol or acid to remove flavor compounds and carbohydrates, producing soy protein concentrates containing roughly 70% protein. This product is further processed into soy protein isolates, containing more than 90% protein, by alkali protein extraction and

Data from USDA's National Nutrient Database Comparing Soy Protein Isolate and Soybeans. Whole soybeans offer more complete nutrition than soy protein isolate.

	Soy Protein Isolate (100g)	Soybeans (100 g)
Vitamin A, IU	0	22 IU
Vitamin E	0	0.85 mg
Vitamin C	0	6 mg
Vitamin K	0	47 mg
Thiamin	0.176 mg	0.874 mg
Riboflavin	0.100 mg	0.870 mg
Niacin	1.438 mg	1.623 mg
Vitamin B6	0.100 mg	0.377 mg
Folate	176 mg	375 mg
Calcium	178 mg	277 mg
Iron	14.5 mg	15.7 mg
Magnesium	39 mg	280 mg
Phosphorus	776 mg	704 mg
Potassium	81 mg	1797 mg
Sodium	1005 mg	2 mg
Zinc	4.03 mg	4.89 mg
Manganese	0.4 mg	2.517 mg
Selenium	0.2 mg	17.8 mg
Omega-3 fatty acids	0.546 g	1.03 g
Fiber	0	17.7 g
Protein	88.32 g	38.55 g
Carotene, beta	0	13 mg
Isoflavones	91.05 mg	155.76 mg
Fatty acids, polyunsaturated	1.648 g	11.255 g
Fatty acids, monounsaturated	0.645 g	4.404 g
Fatty acids, saturated	0.422 g	2.884 g

removal of fiber by centrifugation and drying.²⁴ In contrast, the protein content of whole soybeans is typically in the 35-38% range.²⁵ The table above depicts the nutrient loss resulting from soybean processing.

There are soy protein isolate production facilities in the U.S. that guarantee non-hexane extraction, reducing the chances of adulteration because the product is produced domestically. For example, World Food Processing operates a facility in Turtle Lake, Wisconsin offering hexane-free extraction of soybeans and peas.

This facility produces both non-GMO Project Verified and certified organic soy protein isolates.²⁶ [Note, the non-GMO version is still produced from conventional beans grown using synthetic fertilizers and toxic herbicides and pesticides].

Though World Food Processing produces a Non-GMO Project Verified pea protein, there are currently no GMO pea varieties grown commercially, so there is no difference between the Non-GMO Project Verified version and

conventional pea protein isolate. This is why choosing organic pea protein isolate is more meaningful than non-GMO verification.

Organic forms of soy protein isolate likely come from these domestic sources, compared to conventional protein isolates, most of which are produced in China.

Even if companies have learned their lesson from the widespread recalls of past protein adulteration scandals, organic whole foods are always better than food components because they contain all the vitamins, minerals, and antioxidants naturally present and none of the residues or chemical changes from harsh extraction processes.

For bars, whole organic nuts and seeds are more nutritious protein sources than protein powders. However, if choosing a bar with protein powder, be sure that all forms are listed as organic on the ingredient label, so as not to be deceived by the Non-GMO Project Verified or “made with” organic ingredients labels.

2. Colors and Flavors

Nutrition experts advise people to eat plenty of fruits and vegetables for good health. The Harvard School of Public Health reports: “There is compelling evidence that a diet rich in fruits and vegetables can lower the risk of heart disease and stroke.”

Organic is always a better option when choosing a bar with dried fruit or fruit juice concentrates, because conventional fruits, especially when dried or concentrated, commonly contain residues of synthetic pesticides. In many cases, however, conventional bars contain no fruit at all, even if the label pictures fruit and the product bears the name of a fruit. Instead, these products commonly contain artificial colors and artificial flavors designed to mimic the presence of fruit.

Consumers should be aware that some “fruit-flavored” snack bars contain fruit flavors, rather than the fruit.

For example, Kellogg’s Special K® Strawberry Protein Meal Bars contain strawberry-flavored cranberries and natural strawberry flavor, but no strawberries, among more than fifty ingredients on the package label.

The “natural strawberry” that Kellogg’s refers to is natural strawberry flavor, originally derived from tree bark or castoreum, a secretion of the North American beaver’s castor sacs, not actual strawberries. Artificial strawberry flavor is made up of about 50 chemical ingredients.²⁷

Another example is PepsiCo’s strawberry-flavored Quaker Chewy® Yogurt Granola Bars, which contain glucose syrup, fructose, modified potato starch, and sodium alginate in their strawberry flakes, on top of a bar that contains artificial colors and BHT as a preservative.

Artificial flavors are common in mass-market bars. They are synthetic secret cocktails consisting of any number of the 2,500 chemically defined flavoring substances considered safe for use in food by the Food and Drug Administration.

These substances are the basis for artificial flavors and include chemicals such as isopropyl benzoate, 4-propenylveratrole, 3-hydroxy-2-methyl-4H-pyran-4-one, 2-isopropyl-5-methylcyclohexanol and α -methylbenzyl propionate. All these materials are prohibited in organic food. In addition, safety evaluations are largely based on consumer exposure, but occupational health concerns are associated with many flavoring chemicals, including diacetyl, 2,3-pentanedione and acetaldehyde.²⁸

Natural flavors are also common in most bars, including organic products. Though they are derived from natural substances, it doesn’t mean they are derived from the

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foods where they naturally occur. Organic natural flavors are derived from certified organic natural sources. The organic standards allow the addition of natural flavors in organic foods, and these ingredients are held to stricter standards than those in conventional foods. The natural flavors in organic foods are prohibited from processing using synthetic, petroleum-based solvents, such as propane and hexane, commonly used to produce “natural flavors” for use in conventional foods.

In addition, natural flavors in organic foods cannot contain any synthetic carrier systems or artificial preservatives.²⁹ A non-organic bar could claim to be “all natural” yet contain natural flavors with synthetic carriers and preservatives, such as polysorbate 80, BHT, BHA, triacetin, and propylene glycol (see section below on preservatives). Since these are sub-ingredients in the natural flavor powder, the FDA does not require that they be included in the ingredients list, even though they appear in the final product.

Malic acid is added to many bars to change the taste. It enhances certain flavors, like fruit, while masking less-desirable flavors like protein isolates. Malic acid in conventional bars is likely DL-malic acid, a synthetic substance made from petroleum-based chemicals, including butane and benzene.³⁰ Organic standards allow only L-malic acid, the naturally occurring form found in apple juice, rhubarb, and grapes, for example, made without the use of petrochemicals.

Choose snack bars that rely on flavors from “real food” rather than additives whenever possible.

Excess consumption of refined sugar is tied to many health problems. The American Heart Association (AHA) recommends limiting added sugar intake to no more than six teaspoons per day.



3. Preservatives

Many food preservatives appear to be completely safe, such as tocopherols (vitamin E), rosemary, and ascorbic acid (vitamin C). However, some synthetic preservatives have been called into question because of potential carcinogenic or allergenic risks.

Common preservatives found in conventional bars are BHA (butylated hydroxyanisole) and BHT (butylated hydroxytoluene), added to fats to prevent rancidification. Both are considered carcinogens in certain doses, based on animal experimentation.³¹ In contrast, vitamin E, which is structurally similar and also acts as a preservative, is not carcinogenic. The best bars have quick expiration dates and avoid preservatives all together.

4. Emulsifiers and Gums

Some snack bars add unnecessary emulsifiers and gums for “improved mouth feel.” Examples include soy lecithin (also extracted using hexane), sorbitan monostearate, xanthan gum, carrageenan, acacia gum, and guar gum. Carrageenan is a known inflammatory agent (see Cornucopia’s Carrageenan report for details).^{32,33} Xanthan gum is a known laxative and can cause bloating.³⁴

5. Sweeteners

Corporations market snack bars as health foods even when the products contain high levels of sugar or high fructose corn syrup. Many flavored bars have as much sugar as candy, although they are marketed as a “healthy snack.” Organic brands are not necessarily any less sug-

ary than non-organic brands, although their sugars come from certified organic, non-GMO sources.

Excess consumption of refined sugar is tied to many health problems. The American Heart Association (AHA) recommends limiting added sugar intake to no more than six teaspoons per day.³⁵ Research links high sugar consumption with cancer, diabetes (independent of obesity), cardiovascular disease, and reduced brain function, including effects on memory and learning.^{36,37,38}

Artificial sweeteners, such as sucralose, acesulfame potassium, and aspartame sometimes substitute for sugar and lower calories in snack bars. But research has shown that artificial sweeteners have a host of negative health effects, including altering the gut microbiome and impairing digestion (see Cornucopia’s Yogurt Report, Culture Wars, for more details).³⁹

High fructose corn syrup (HFCS) has replaced sugar as a more ubiquitous sweetener in soda and many types of junk food, including some bars. On average, Americans consume about 12 teaspoons per day of HFCS, but teens and other high consumers can take in 80% more HFCS than average.

HFCS is made from corn starch, sourced almost exclusively from GMO corn, by using the enzyme glucose isomerase to convert glucose into fructose. It can often be contaminated with mercury during the production process. One study found almost half of the HFCS samples tested contained mercury, while also detecting mercury in nearly one-third of 55 popular brand-name food and beverage products where HFCS is the first- or second-highest labeled ingredient.⁴⁰

High levels of fructose are not found in natural, real food. Milk, vegetables, and meat contain essentially no fructose, or very low levels. Fruits like grapes, blueberries, and raw apples have a fructose content of only 5-10% by weight.⁴¹ Several studies link high dietary levels of fructose with the formation of body fat.⁴²

While most HFCS contains either 42% or 55% fructose, a third variation of high fructose corn syrup is called HFCS-90. It contains 90% fructose and, according to the Corn Refiners’ Association, “syrups with 90% fructose will not state high fructose corn syrup on the label, they will state ‘fructose’ or ‘fructose syrup.’”⁴³

Agave was once thought to be a good alternative to sugar because it has a low-glycemic index, meaning it doesn’t spike your blood sugar. Yet agave is 90% fructose. Research has shown that fructose is digested in the liver, similar to toxins, where it releases uric acid and free radicals that damage cells as well as triglycerides that contribute to heart disease.⁴⁴

The Bars on the Shelves: An Overview

HERE IS A SAMPLING OF SNACK BARS on the shelves to help consumers begin to understand what to look for on ingredient labels and what to avoid. For a more comprehensive list, see Cornucopia's bars scorecard, a companion to this report.

The following list begins with brands that offer exclusively organic bars with high-quality organic ingredients. Then, it reviews brands that offer both good and bad choices so that consumers can learn how to differentiate within brands. It ends with examples of mass-market bars and brands that should be avoided by health-conscious consumers completely.

SOURCE: SIMPLESQUARES.COM



Simple Squares

These bars have it all, only seven whole organic ingredients in each bar, and the company is still independently owned.

These “organic nutrition bars” all have “simple” organic ingredients, no syrups, isolates, or added flavors. The recipe is similar for each variety: almonds, honey, herbs or spices, and salt.

Simple Squares Organic Rosemary Oil Protein Bar ingredients: Organic Cashews, Organic Almonds, Organic Honey, Organic Unsweetened Coconut, Organic Vanilla, Sea Salt, Organic Rosemary.

Nature's Path

Nature's Path is an independently owned organic company. 100% of their products are certified organic, fair trade, and non-GMO. As the largest manufacturer of certified organic breakfast cereal, they are a company that truly “walks their talk” in terms of organic integrity.

It's rare to find a large, independently owned all-organic company with products in many mainstream grocery stores, but Nature's Path is just that. Though there are a few organic bars out there with fewer ingredients and lower in added sugar, this highly rated company puts market pressure on larger, agribusiness competitors to increase their organic offerings.

Nature's Path Pumpkin-N-Spice Flax Plus Granola Bar ingredients: Organic Whole Grain Rolled Oats, Organic Cane Sugar, Organic Soy Oil, Organic Tapioca Syrup, Organic Brown Rice Flour, Organic Pumpkin Seeds, Organic Invert Cane Syrup, Organic Flax Seeds, Organic Acacia Gum, Organic Soy Oil, Organic Evaporated Cane Juice, Sea Salt, Organic Spice, Organic Molasses.

Larabar

Larabar, owned by General Mills, prides itself on having very few ingredients, sometimes as few as three, with no additional additives. The first ingredient in all the bars is dates, which provide sweetness and adds natural fiber. Hazelnuts, almonds, and hemp seeds are common ingredients in all their bars as well. **Most of the product line is not organic**, but there are three USDA certified organic varieties, and all organic offerings have only six ingredients.

The majority of their product line is not organic, and many of the ingredients they are using present a likely risk of exposure to agrochemical residues.

Larabar Organic with Superfoods Hazelnut, Hemp, and Cacao ingredients: Organic Dates, Organic Hazelnuts,

Organic Cacao Nibs, Organic Hemp Seeds, Organic Almonds, Organic Cocoa Powder.

Zego

Zego offers whole food, mostly conventional seeds and fruit (no nuts); however, a few bars are certified organic.

Zego bars have no additives, they are “allergy-friendly,” using organic seeds instead of nuts, and some of their offerings are certified organic. The seeds used include organic sunflower, chia, poppy, and sacha inchi seeds. When just the proteins from these seeds are used, as with the sacha inchi, the seeds are mechanically pressed, not processed with chemicals or enzymes. Zego bars use sorghum syrup for sweetening, a natural sweetener low in fructose that retains trace minerals.

Zego Fudgy Chocolate Nutrition Bar ingredients: Organic Zego Seed Blend (Organic Sunflower Seeds, Organic Sacha Inchi Seed Protein, Organic Chia Seeds, Organic Poppy Seeds), Organic Dates, Organic Sorghum Syrup, Organic Chocolate (organic cocoa mass, organic sugar, organic cocoa butter, organic vanilla), Organic Cacao, Organic Chocolate Extract, Organic Vanilla Extract, Salt.

Clif

All of Clif’s products contain some organic ingredients, but most products are not USDA certified organic. Protein isolates and syrups like added sugars are common.

SOURCE: WWW.CLIFBAR.COM/PRODUCTS
Of the different types of Clif bars, including their Luna and ZBar brands, only a few bars are certified organic (Nut Butter Filled and Z-bar (but not Z-bar protein). The vast majority of their products are “made with” organic ingredients. The “made with” organic ingredients label allows up to 30% of the conventional ingredients in these bars to be cheaper than their organic counterparts, including soy protein isolate and soy lecithin, which are extracted using hexane from GMO soybeans.

Clif, a snack bar industry leader, uses “greenwashing” marketing, contributing a percentage of profits to worthy environmental causes, but missing the mark when it comes to supporting organic agriculture and providing the highest-integrity ingredients across their offerings.



Clif is a company that wants to be perceived as organic, but opts for cheaper, non-organic ingredients in most of their products. While their USDA certified organic products are a good choice, the majority of their products have many ingredients that are synthetic or derived from conventional GMO agriculture.

Below are the ingredients from a few products that Clif offers, including both their original 70% “made with” organic ingredients bars and one of their certified organic bars with 95% organic ingredients.

Notice the first ingredient in their original line, Clif Bar, is organic brown rice syrup rather than whole fruits, grains, nuts, or seeds. Clif’s conventional protein builder’s bars have hexane-extracted soy protein isolate as the first ingredient, and the second ingredient is conventional GMO beets. Their protein bar marketed to kids (Zbar) has syrup and flour listed as the first two ingredients, rather than whole foods, and they list non-organic protein isolates and fiber boosters. Non-organic ingredients are highlighted below in yellow.

Overall, Clif is a company that wants to be perceived as organic, but opts for cheap imitations in most of their products. While they do carry some USDA certified organic products, the majority of their products have many ingredients that are synthetic or derived from conventional, often GMO, agriculture.

The highlighted ingredients are conventional, rather than organic.

Clif Bar Chocolate Chip (“made with organic oats,” 70% organic) ingredients: Organic Brown Rice Syrup, Organic Rolled Oats, Soy Protein Isolate, Organic Cane Syrup, Organic Roasted Soybeans, Rice Flour, Dried Cane Syrup, Organic Oat Fiber, Unsweetened Chocolate, Organic Soy Flour, Organic Sunflower Oil, Organic Date Paste, Cocoa Butter, Molasses Powder, Organic Soybean Oil, Barley Malt Extract, Salt, Vanilla Extract, Soy Lecithin, Natural Flavors, Cinnamon.

Clif Protein Builders Bar ingredients: Soy Protein Isolate, Beet Syrup, Organic Brown Rice Syrup, Organic Dried Cane Syrup, Palm Kernel Oil, Cocoa, Unsweetened Chocolate, Organic Soy Protein Concentrate, Vegetable Glycerin, Organic Rolled Oates, Natural Flavors, Organic High Oleic Sunflower Oil, Rice Starch, Organic Oat Fiber, Cocoa Butter, Soy Lecithin, Salt.

Clif Kid Protein Zbar ingredients (“made with organic oats,” 70% organic): Organic Tapioca Syrup, Organic Brown Rice Flour, Organic Rolled Oats, Whey Protein Concentrate, Organic Cane Syrup, Organic Dried Cane Syrup, Organic Oat Flour, Chicory Fiber Syrup, Whey Protein Isolate, Rice Flour, Organic Cocoa, Organic Tapioca Syrup Solids, Vegetable Glycerin, Organic Pea Protein, Palm Kernel Oil, Organic Palm Kernel Solids, Organic High Oleic Sunflower Oil, Organic Psyllium, Natural Flavors, Organic Unsweetened Chocolate, Sea Salt, Organic Alkalized Cocoa, Organic Soy Lecithin, Salt, Organic Vanilla Extract, Organic Cocoa Butter.

Annie’s

This company only offers a few bars, two that are conventional and gluten-free and three that are organic. Ingredients are mostly oats, rice crisps, and sugars and they lack whole seeds, fruits, and nuts.

Annie’s brand, perhaps best known for its organic macaroni and cheese product, was bought by General Mills in 2011. The company offers organic and “made with” organic ingredients options for most products, but consumers have to be careful to identify which they are buying.

The company advertises that it provides grants for school gardens and for sustainability leadership, but it still offers many conventional products.

Many of their product lines are marketed as “natural,” however they do offer certified organic “Chewy Granola Bars.” Annie’s organic products do not contain questionable ingredients; however, they should be viewed as a dessert-like treat.

Annie’s Organic Chewy Granola Bars, Chocolate Chip Ingredients: Organic Granola (Organic Whole Grain Oats, Organic Tapioca Syrup, Organic Cane Sugar, Organic Sunflower Oil, Sea Salt, Organic Vanilla Extract, Baking Soda), Organic Tapioca Syrup, Organic Semisweet Chocolate Chips (Organic Cane Sugar, Organic Chocolate, Organic Cocoa Butter, Organic Vanilla Extract), Organic Rice Crisp (Organic Brown Rice Flour, Organic Cane Sugar, Organic Sunflower Oil, Sea Salt), Organic Rice Flour, Organic Whole Grain Oat Flour, Organic Sunflower Oil, Organic Rice Extract, Sea Salt, Organic Natural Cream Flavor, Organic Vanilla Extract, Natural Flavor

Annie’s Gluten Free Double Chocolate Chip ingredients (conventional): Gluten Free Toasted Oats (Whole Grain Oats, Organic Cane Sugar, Canola Oil, Mixed Tocopherols), Tapioca Syrup, Rice Crisp, Palm Oil, Chocolate Chips (Cane Sugar, Chocolate, Cocoa Butter, Soy Lecithin, Vanilla), Organic Cane Syrup, Organic Tapioca Syrup Solids, Organic Inulin, Rice Fiber, Cocoa, Natural Flavors, Sea Salt, Organic Sunflower Lecithin.

Kellogg’s Kashi

This well-known “natural” cereal company has slowly started to introduce more organic ingredients, but not enough to qualify for the USDA organic seal. In contrast to the image the brand tries to convey, their snack bars largely lack good nutrition. They use the Non-GMO Project Verified label rather than the much more stringent USDA organic seal.

Kashi Chewy Nut Butter Bar ingredients: Organic Whole Grain Oats, Brown Rice Syrup, Almond Butter, Organic Semi-sweet Chocolate Chunks (Organic Cane Sugar, Organic Chocolate Liquor, Organic Cocoa Butter, Organic Soy Lecithin, Organic Vanilla Extract), Dried Brown Rice Syrup, Sorghum, Almond Flour, Dates, Organic Cold Pressed Coconut Oil, Palm Oil, Organic Oat Fiber, Salt, Organic Vanilla Extract, Natural Flavor, Rosemary Extract.

Nature Valley

Introduced in 1975, Nature Valley granola bars set the trend for convenience snacking. Owned by General Mills, Nature Valley’s tag line is “The Energy Bar Nature Intended.” Though these bars have fewer ingredients than most, none of them are organic, including hexane-extracted soy lecithin.

Nature Valley Oats ‘n Honey ingredients: Whole Grain Oats, Sugar, Canola Oil, Rice Flour, Honey, Salt, Brown Sugar Syrup, Baking Soda, Soy Lecithin, Natural Flavor.

Kind Bars

Kind bars are full of conventional ingredients, sugary syrups, and hexane-extracted protein isolate/soy lecithin. They at least use real nuts and grains.

Kind’s website quotes Hippocrates, “Let food be thy medicine and medicine be thy food.” Ironically, this line is often quoted by organic stakeholders, yet none of Kind’s ingredients are organic. They also advertise healthy whole ingredients, while adding syrups, GMO sugar, hexane extracted soy lecithin, and gums.

Kind Healthy Grains Gluten Free ingredients: Whole Grain Blend (Oats, Millet, Brown Rice, Buckwheat, Amaranth, Sorghum, Quinoa, Oat Flour), Tapioca Syrup, Dried Cane Syrup, Honey, Sugar, Canola Oil, Palm Kernel Oil, Brown Rice Syrup, Gum Acacia, Sea Salt, Natural Flavor, Cocoa Powder, Vanilla Extract, Soy Lecithin, Vitamin E (to maintain freshness).

thinkThin

thinkThin is a typical conventional protein bar with highly processed conventional ingredients, including soy protein isolate, calcium caseinate, whey protein isolate, glycerin, and maltitol. The conventional soy protein and soy lecithin are hexane extracted ingredients.

Likewise, their high protein and fiber bars add chicory fiber to boost fiber content. Their maple almond bars don't contain maple syrup, rather glycerin and maltitol for sweeteners. Despite the product's name, almonds are listed on the ingredient label only after "protein blend," "coating," maltitol, and glycerin.

thinkThin High Protein and Fiber Bar Ingredients (Milk Chocolate and Toffee): Protein Blend (Soy Protein, Whey Protein), Coating (Maltitol, Cocoa Butter, Chocolate, Sodium Caseinate, Milk Fat, Soy Lecithin, Natural Flavors, Salt), Brown Rice Syrup, Chicory Fiber, Maltitol, Almonds, Glycerin, Soy Crisps (Soy Protein, Rice Flour, Salt), Canola Oil, Sea Salt, Soy Lecithin, Natural Flavors.

Kellogg's Special K

These bars contain corn syrup, fructose, BHT, and hexane-extracted ingredients.

Special K Nourish Cranberries and Almonds ingredients: Roasted Peanuts, Dried Cranberries (Cranberries, Sugar, Glycerin, Vegetable Oil), Raisins (Raisins, Vegetable Oil),

Corn Syrup, Sugar, Roasted Almonds, Whole Grain Gluten-Free Oats, Rice Flour, Dates, Fructose, Coconut, Modified Palm Oil Shortening, Salt, Vegetable Oil, Glycerin, Calcium Carbonate, Dextrose, Soy Lecithin, BHT, Milk Ingredients, Soy Protein, Calcium Phosphate, Sulphites.

Quaker Chewy

Quaker bars contain more than 50 ingredients, few of them good.

This historically trusted brand has declined in quality in recent years after being acquired by PepsiCo.

Quaker Chewy Chocolate Chip Granola ingredients:

Granola (Whole Grain Rolled Oats, Brown Sugar, Crisp Rice (Rice Flour, Sugar, Salt, Malted Barley Extract), Whole Grain Rolled Wheat, Soybean Oil, Dried Coconut, Whole Wheat Flour, Sodium Bicarbonate, Soy Lecithin, Caramel Color, Nonfat Drymilk), Semisweet Chocolate Chips (Sugar, Chocolate Liquor, Cocoa Butter, Soy Lecithin, Vanilla Extract), Corn Syrup, Brown Rice Crisp (Whole Grain Brown Rice, Sugar, Malted Barley Flour, Salt), Invert Sugar, Sugar, Corn Syrup Solids, Glycerin, Soybean Oil. Contains 2% or less of Sorbitol, Calcium Carbonate, Salt, Water, Soy Lecithin, Molasses, Natural and Artificial Flavor, BHT (Preservative), Citric Acid.

For a comprehensive list, see Cornucopia's scorecard: cornucopia.org/scorecard/snack-bar-scorecard

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Appendix A

Snack Bars Scorecard Criteria

Organic

500	USDA Organic
300	“Made with” organic ingredients (70% of contents by weight are organic)
0	Not organic

Percent Organic of Parent Company

One point for every percentage organic offering

Protein Isolates

100	No protein isolates
50	Organic protein isolates
0	Conventional protein isolates

Lecithin

100	No Lecithin
90	Organic lecithin (soy or sunflower)
20	Conventional sunflower lecithin (non-GMO)
0	Conventional soy lecithin (GMO)

First 3 Ingredients

100	Organic whole foods
50	Organic isolated syrups, flours, or proteins
20	Conventional whole foods
0	Conventional isolated syrups, flours, or proteins

Added Sugars or Flavors

100	No added sugars or flavors
50	Organic syrups, organic honey, organic natural flavors
20	Conventional syrups or sugar or natural flavors
0	Artificial sweetener or flavors

Hydrogenated Oils

100	No hydrogenated oils
0	Contains hydrogenated oils

GMO ingredients added:

100	No GMO ingredients
0	Contains GMO ingredients

100% Whole Ingredients

100	Only whole foods like fruits, nuts, and seeds
0	Isolated flours, starches, proteins, syrups, lecithin, concentrates, powders

Boosted Fiber

100	No boosted fiber
80	Organic fiber
0	Conventional Fiber

Preservatives

100	None or organic preservatives (organic rosemary)
20	Natural preservatives (citric acid, mixed tocopherols, conventional rosemary, malic acid, sodium ascorbate, calcium carbonate, ascorbic acid)
0	BHT, sulfites

Colors

100	None or organic colors
20	Conventional "natural" colors
0	Synthetic colors

Thickeners/Gums

100	No thickeners or gums
50	Organic gums
0	Conventional gums

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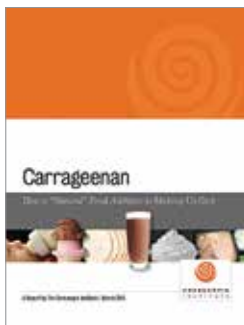
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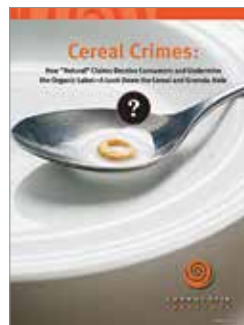
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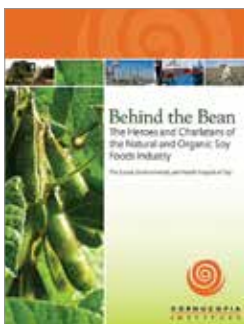
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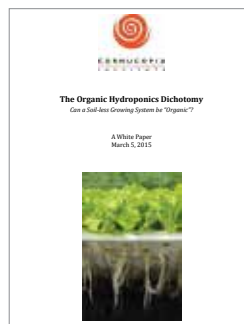
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