

GE Ingredients and Labeling

Version 2.0: 2025



Reason for Standard

Genetic engineering (GE), where an organism's DNA is modified in a lab, has become increasingly prevalent in agriculture and food production. The resulting ingredients known as genetically modified organisms (GMOs), are now widespread in grocery products.^{i,ii} While genetic engineering is marketed as an agricultural advancement, it has raised profound environmental, health, and ethical concerns. GE crops are often engineered to withstand high levels of pesticides, contributing to ecological degradation, increased pesticide residues, and health risks for farm workers and communities.ⁱⁱⁱ Additionally, GMOs may introduce unknown allergens, posing health risks for consumers.^{iv}

Historical Context and Growth of GMO Foods

Since the introduction of GE foods in the 1990s, the industry has rapidly expanded. Today, genetically engineered crops such as corn, soy, canola, and sugar beets dominate much of the processed food supply, making GMOs nearly unavoidable in conventional grocery stores. Ingredients from these crops are widespread in many processed foods, which limits shoppers' choices for avoiding GMOs in their food.^v Furthermore, ethical concerns arise from the consolidation of seed companies and intellectual property (IP) ownership, which grants a handful of corporations control over essential agricultural resources, diminishing grower sovereignty and fostering dependency on patented seeds.^{vi}

Exclusion of GE in Organic Standards

Organic certified products offer consumers a reliable option to avoid GE foods. The USDA National Organic Program (NOP) prohibits genetic engineering in organic production, because those practices are not compatible with organic principles, which emphasize natural biological processes, soil health, and biodiversity.^{vii}

The Non-GMO Project as a Credible Certification

In addition to organic certification, the Non-GMO Project offers a trusted third-party verification for non-GMO products.^{viii} The Non-GMO Project's rigorous standards include thorough supply chain oversight, testing, and traceability to ensure that no genetically engineered materials are used in production, rather than merely testing final products. Their approach to verification, advocacy, and education has established the Non-GMO Project as a credible and accessible option for consumers seeking to avoid GMOs in their food. PCC relies on this certification to provide added assurance to our shoppers who value transparency and wish to support a non-GMO food system.

While organic certification and Non-GMO Project verification both ensure products are free of genetic engineering, they have very different standards and requirements that products must meet to obtain certification. The Non-GMO Project focuses discretely on the presence of GMOs in food, while the organic certification also ensures that foods are grown without the use of toxic and persistent pesticides and

synthetic fertilizers, and packaged goods are free of many additives commonly found in conventional processed foods.^{ix}

Current Landscape and Labeling

With products of GE crops now present in most processed foods and animal feedstocks, the need for transparency has grown. The National Bioengineered Food Disclosure Standard (NBFDS) established in the U.S. in 2018 mandates disclosure for certain GE foods. However, it has faced criticism for its limited scope, numerous exceptions for highly processed ingredients, and reliance on disclosure methods, such as QR codes, that can be inaccessible to some shoppers.^x As GE foods become more complex with advancements like synthetic biology and precision fermentation, regulatory oversight struggles to keep pace, often leaving consumers without sufficient information to make informed choices.

Although GMOs have been in the food supply for many years, they were rarely seen in store produce departments. Over the last decade, through technological advancements in gene editing and biotechnology, there has been a growing movement to develop GE fruits and vegetables with modifications intended to appeal to consumers.^{xi} These varieties have alterations to attributes like taste, color, or nutritional value. Many of these products made through ‘new genomic techniques’ (NGT), such as CRISPR, do not require disclosure under the NBFDS.^{xii}

Certain GE varieties may be developed with good intentions, like increasing nutrients in rice that is grown for communities experiencing extreme poverty. Biotechnology is not, however, the only means to achieve such goals. Organic and regenerative farming can address many of the challenges that GE crops seek to overcome, like drought and pest resistance, improved nutritional value, and higher yields. This is accomplished through production methods that minimize synthetic fertilizer and pesticide use and enhance soil health and biodiversity to create healthy, productive, and resilient farmland ecosystems.^{xiii}

PCC’s Commitment and Standard Objectives

For more than 25 years, PCC has educated shoppers on GMOs, supported transparency in GMO labeling, prioritized organic and non-GMO agriculture, and advocated for stronger regulations and greater oversight of genetically engineered foods. We have organized postcard and letter writing campaigns to help our shoppers amplify their voices on these issues and submitted comments on state and federal policies around GMO labeling. When national organic regulations were developed in the early 2000’s, PCC rallied its members to oppose the inclusion of genetic engineering methods in organic production.

In 2020, PCC joined the Center for Food Safety in a [lawsuit](#) against the United States Department of Agriculture over the final rule on the GE labeling, the NBFDS.^{xiv} We shared the concerns of many other organizations about the rule, including the exemptions and use of the unfamiliar term “bioengineering” instead of the more recognized term “genetic engineering.”

In 2012, PCC started working on labeling GMOs in our stores, however, when the NBFDS passed in 2018, PCC and retailers with similar goals were forced to shift their strategies. Given the current landscape and evolution of the biotech industry, eliminating GMOs from our shelves entirely or voluntarily labeling all products of GE is no longer feasible. Despite these challenges, PCC continues to advocate for stronger regulations and transparent labeling of GMOs, and seeks to minimize the presence of newer food technologies in our stores.

By setting this standard, PCC aims to balance our dedication to organic and sustainable food systems with our commitment to providing shoppers with a variety of options that meet their needs. The criteria we

established enable us to mitigate the presence of GE foods in our stores, while affording us flexibility in sourcing so that we can respond to and navigate changes in the marketplace.

Scope

This is a co-op wide standard applicable to products that contain or have the potential to contain genetically modified ingredients. The standard applies to all departments and addresses genetically engineered crops, their derivatives, and emerging technologies that use genetically engineered microorganisms and/or feedstocks.

Standard

1. General Requirements

1.1. **PCC's Commitment to Transparency**

At PCC, we believe that transparency is essential for empowering our shoppers to make informed decisions about the food they consume. For over a decade, we have been dedicated to advocating for clear labeling and open communication about genetically engineered (GE) ingredients and genetically modified organisms (GMOs). We are committed to minimizing GE foods in our stores to the best of our ability and will be transparent about our efforts. PCC maintains its own list of ingredients that are at high risk of being genetically engineered. The conditions and rationale for items on our list are outlined in [Appendix A](#).

1.2. **The Importance of Credible Third-Party Certifications**

We prioritize products that meet rigorous third-party certifications, such as USDA Organic and Non-GMO Project Verified, both of which prohibit the use of genetically engineered ingredients. Additionally, we require brands to verify any non-GMO claims they make about their products or ingredients.

1.3. **USDA Bioengineered Food Disclosure Standard**

While the introduction of the [National Bioengineered Food Disclosure Standard \(NBFDS\)](#) in 2018 has brought some level of transparency to the marketplace, we believe that the standard does not go far enough. For example, it allows for disclosure via QR codes and digital links, methods that many shoppers may not access easily. The NBFDS also has been widely criticized for its narrow scope, as it does not apply to all GE foods or food products derived from GE crops that no longer contain detectable modified material. PCC remains committed to providing transparency in a way that is accessible to all, ensuring that shoppers can quickly and easily identify products that align with their values. By setting our own standards, PCC seeks to fill some of the gaps left by current regulations, while still complying with federal law.

1.4. **Excluded Methods in Organic Production**

Organic certification in the United States, overseen by the USDA National Organic Program, explicitly prohibits the use of genetic engineering in organic food production. This exclusion is based on the principle that organic agriculture should rely on natural ecological processes and biodiversity rather than technological interventions like genetic modification.

1.5. **Emerging Technologies and Future Concerns**

Precision fermentation, also known as synthetic biology, is a new biotechnological approach used to create food ingredients. Although precision fermentation does not involve genetic modification of the final product, it employs genetically engineered microorganisms in the production process.

These methods are not currently subject to GE labeling requirements, raising concerns about consumer awareness and potential safety risks associated with these new food technologies.

2. Bulk, Packaged, and Processed Food and Beverages

- 2.1. PCC prioritizes products that are certified USDA Organic or Non-GMO Project verified, as both standards prohibit the use of GMO agricultural ingredients.
- 2.2. PCC will not carry products that are required to make a declaration for containing a bioengineered food ingredient under the National Bioengineered Food Disclosure Standard (NBFDS), including products that make the required declaration via label statement, QR code or phone number.
- 2.3. For multi-ingredient products with ingredients potentially derived from GE crops, PCC prioritizes organic or non-GMO options. High-risk crops include:
 - 2.3.1. Alfalfa
 - 2.3.2. Pineapple
 - 2.3.3. Corn (except popcorn¹)
 - 2.3.4. Soy
 - 2.3.5. Canola
 - 2.3.6. Sugar beets
 - 2.3.7. Potato
 - 2.3.8. Apple
 - 2.3.9. Zucchini
 - 2.3.10. Yellow Summer Squash
 - 2.3.11. Hawaiian Papaya

3. Animal Products

- 3.1. PCC is committed to providing options for meat, poultry, fresh milk and egg products from animals raised without genetically engineered feed, which is prohibited in both USDA Organic and Non-GMO Project Verified items.
- 3.2. Due to the increasing cost of animal feed and our commitment to offer affordable products to our shoppers, PCC may sell animal products from animals potentially fed GE feed in some cases as noted under “product allowances” below. In our fresh meat department, PCC must offer USDA Organic or Non-GMO Project verified options, unless commercially unavailable.

Commercially Unavailable: Refers to the inability to source a product or ingredient that meets the specified requirements (e.g., USDA Organic or Non-GMO Project Verified) due to limited marketplace availability, prohibitive costs that compromise affordability, or other supply chain constraints.

3.2.1. Product Allowances

- 3.2.1.1. **Beef Cattle and Bison:** PCC will allow 100% grass-fed beef or bison from suppliers who are not USDA Organic or Non-GMO Project Verified, provided that the producer

¹ There is no variety of corn used for popcorn that is genetically engineered.

demonstrates to PCC² that alfalfa or other high-risk crops used as supplemental feed³ is from non-GMO sources.

- 3.2.1.2. **Lamb and Goats:** Due to limited availability of organic and non-GMO options, PCC may sell lamb and goat meat from suppliers who are not USDA organic or Non-GMO Project Verified.
- 3.2.1.3. **Turkey:** PCC may offer turkey in the fresh meat department that is not certified organic or Non-GMO Project Verified to ensure adequate supply of affordable options to shoppers.
- 3.2.1.4. **Deli Department:** To ensure PCC can offer deli items at affordable prices, some animal products offered in the deli will not be certified organic or Non-GMO Project Verified. When organic and non-GMO options are provided or used as ingredients, they will be clearly labelled.
- 3.2.1.5. **Processed and cured meats:** Some items such as hot dogs, bacon, hams, or other processed and cured meats may come from animals that were fed GE feed.
- 3.2.1.6. **Cheese, eggs, and dairy products, except fresh milk:** Some products in these categories may come from animals that were fed GE feed.
- 3.3. Fresh cow and goat fluid milk must be certified organic or from animals fed non-GMO feed, validated through the Non-GMO Project or an equivalent on-package certification.
- 3.4. Fresh meat, poultry, and eggs that are not Certified Organic or non-GMO verified must still comply with the requirements outlined in our [animal welfare standards](#).
- 3.5. PCC will not sell genetically engineered salmon or other fish.

4. Fresh Produce

- 4.1. Fresh produce that is at high risk for being genetically engineered, including pre-packaged items, must be certified organic or verified as non-GMO. Fresh produce crops at high risk of being GE include:
 - 4.1.1. Alfalfa
 - 4.1.2. Pineapple
 - 4.1.3. Apple
 - 4.1.4. Corn
 - 4.1.5. Hawaiian Papaya
 - 4.1.6. Potato
 - 4.1.7. Yellow Summer Squash
 - 4.1.8. Zucchini
- 4.2. If a high-risk crop listed in 4.1 is not USDA Organic or Non-GMO Project Verified, then the grower must complete a GE Risk Crop Affidavit prior to sale at PCC and provide evidence of non-GMO seed sourcing and/or post-harvest testing.

² PCC will accept documentation from a third-party lab verifying that the crop is non-GMO but encourages producers to seek certified non-GMO feed when possible.

³ Supplemental feed is given intentionally to cattle to provide additional nutrients beyond what they get from grazing on pasture.

5. Health and Body Care Products

- 5.1. Non-food products that fall under the scope of PCC's [Health & Body Care Department Standards](#) that make a non-GMO claim about the overall product must be USDA organic, Non-GMO Project Verified, or certified to the [NSF 305 Organic Personal Care standard](#).
- 5.2. Verified and truthful declarations of non-GMO status for specific ingredients made within a product's ingredient panel list are acceptable.

6. Wine, Beer, and Alcohol

- 6.1. Wine, beer and alcohol are exempt from the disclosure requirements of the National Bioengineered Food Disclosure Standard (NBFDS). If a product in this category makes a voluntary disclosure of bioengineered ingredients, PCC will not carry that product.
- 6.2. All wine, beer and alcohol products making a non-GMO claim must be certified organic or Non-GMO Project Verified.

7. PCC Branded Products (Private Label)

- 7.1. "Private Label" is defined as products that are created in partnership by another company and packaged and sold under the PCC brand name.
- 7.2. Private Label food products sold in grocery, cheese, and fresh meat department:
 - 7.2.1. Private Label items containing high-risk GE ingredients, as listed under criterion 2.3 of this standard, must be Certified Organic or Non-GMO Project Verified.
 - 7.2.2. Private Label items that are singularly or primarily comprised of animal products, such as meat and poultry, fresh milk, cheese, and eggs, must be sourced to prioritize Non-GMO and Certified Organic, and must meet the requirements outlined in Section 3 of the standard.
- 7.3. Private Label products sold in prepared deli and bakery departments:
 - 7.3.1. Private Label items that are sold in the prepared deli and bakery departments must meet the requirements outlined for those departments in Section 8 of the standard.
- 7.4. Private Label Non-Food Products:
 - 7.4.1. PCC avoids genetically engineered ingredients in non-food Private Label items wherever possible and prioritizes verified non-GMO and organic ingredients.
 - 7.4.2. Non-food Private Label products falling under the scope of PCC's Healthy and Body Care Standards making a non-GMO claim about the overall product must be USDA organic, Non-GMO Project Verified, or certified to the [NSF 305 Organic Personal Care standard](#).
 - 7.4.3. Verified and truthful declarations of non-GMO status for specific ingredients made within a product's ingredient panel list are acceptable.

8. Prepared Deli and Bakery⁴

- 8.1. High-risk crops used as whole ingredients must be Certified Organic or Non-GMO. Crops at high risk of being GE include:
 - 8.1.1. Alfalfa
 - 8.1.2. Pineapple

⁴ Prepared deli and bakery items can be identified as "ready to eat" items or take-and-bake that require no additional preparation. Examples of items include pies, cookies, cakes, sandwiches, soups, salads, pizzas, enchiladas, or dips.

- 8.1.3. Corn
- 8.1.4. Soy
- 8.1.5. Canola
- 8.1.6. Sugar Beets
- 8.1.7. Potato
- 8.1.8. Apple
- 8.1.9. Zucchini
- 8.1.10. Yellow Summer Squash
- 8.1.11. Hawaiian Papaya

- 8.2. There are many ingredients derived from the high-risk crops outlined above that can be challenging to identify because the ingredient name does not reference the source crop (e.g., dextrose). Some derived ingredients may be used in PCC's prepared deli and bakery items that are not certified organic or non-GMO. When feasible, PCC will work with suppliers to source organic or non-GMO options for derived ingredients we identify.
- 8.3. Animal products used for in-house made items are subject to the requirements outlined in Section 3 of the standard.

9. Pet Food

- 9.1. Pet food is exempt from the disclosure requirements of the National Bioengineered Food Disclosure Standard (NBFDs). If a product in this category makes a voluntary disclosure of bioengineered ingredients, PCC will not carry that product.
- 9.2. Any pet food items making a non-GMO claim must be certified organic or non-GMO Project Verified.

10. Emerging Technologies

Emerging Technologies: Precision fermentation and lab grown meat are newer biotechnological approaches used to create food ingredients and whole food products. Precision fermentation is becoming more widespread in the marketplace but isn't covered under the USDA's GE disclosure and labeling requirements. Lab grown meat is an emerging technology not yet available in the United States; however, regulations and labeling requirements are already being developed. PCC is taking a precautionary stance on products that are produced exclusively through these new technological methods.

- 10.1. PCC will not sell food products that are made primarily using precision fermentation, the use of potentially bioengineered microorganisms and feedstocks to create food ingredients. Products with a minimal amount (less than 5% by weight) of ingredients derived from precision fermentation may be sold.⁵
- 10.2. PCC will not sell cell-cultured or lab-grown fresh or processed meat, seafood or other products.

Standard-Specific Glossary

Bioengineered Food: Defined by the USDA as food containing genetic material modified through specific laboratory techniques that could not be achieved through conventional breeding or found in nature. The

⁵ This allowance is because most cheese is now made using rennet that is produced through precision fermentation. Rennet is an enzyme necessary for cheese production.

term was introduced by the federal government with the National Bioengineered Food Disclosure Standard (NBFDS) as an alternative to "Genetically Engineered" (GE) or "Genetically Modified Organism" (GMO). Many have raised concerns that this terminology may lead consumers to view bioengineered foods more favorably than GE or GMO.

Fresh Meat: Raw, unprocessed meat, poultry or poultry products sold without preservatives, including celery powder, in the refrigerated and frozen meat section of PCC.

Genetically Engineered (GE)/Genetically Modified Organism (GMO): A living organism whose genetic material (DNA) has been artificially manipulated in a laboratory through genetic engineering. This process creates unique combinations of genes that do not occur in nature or through traditional breeding methods, involving plant, animal, bacterial, or viral genes. Variability in the definition has created challenges in achieving transparency and consensus around GMO labeling.

High-Risk Genetically Engineered Crop: The [Non-GMO Project](#) maintains a list of crops that are most likely GE varieties, unless certified organic; ingredients made from these crops are also considered at high risk for being products of genetic engineering. Being at high risk means that the majority of farmers growing that crop conventionally start with GE seed. These include, but are not limited to, canola, corn (except popcorn), papaya, soy, and sugar beet. PCC maintains independent lists of high-risk crops and ingredients but relies on the Non-GMO Project's list as a starting point.

Lab-Grown Meat: Also known as cultured meat, this product is grown in a laboratory from animal cells that produce muscle and tissue, mirroring real meat at the cellular level. Lab-grown meat aims to provide a slaughter-free alternative with a similar texture and flavor to traditional meat. Proponents of lab-grown meat are optimistic that it could reduce the climate impact of livestock production as well. However, research is ongoing to assess its sustainability, resource usage, and long-term impact.

National Bioengineered Food Disclosure Standard (NBFDS): The United States' national mandatory standard for disclosing foods that are or may be bioengineered, established by the USDA in 2018 as directed by Congress in the 2016 Bioengineered Food Disclosure Law. The standard introduces the term "bioengineered" and offers disclosure options that include text, symbol, digital link, and QR codes, but is criticized for allowing limited disclosure methods and exempting highly processed GE ingredients.

Non-GMO Project: A nonprofit organization providing third-party certification for non-GMO products. [The Non-GMO Project](#) verifies that no genetically engineered materials are used in production, rather than relying solely on testing final products. Through verification, advocacy, and consumer education, the Non-GMO Project works to maintain the integrity of the non-GMO food supply chain.

Precision Fermentation: A subset of synthetic biology used to produce specific animal-like products, such as milk proteins, fats, collagen, and egg whites. Genetically engineered microorganisms, such as yeast, bacteria, or algae, are utilized to produce materials biologically similar to animal-derived ingredients. While marketed as sustainable, precision fermentation's dependence on high-input feedstocks like conventionally grown GMO corn and soy can limit its climate benefits. Additionally, because GMOs are not present in the final product, these ingredients often bypass disclosure requirements under the NBFDS.

Synthetic Biology: A field of biotechnology that involves altering the genetic makeup of organisms (e.g., bacteria, plants, animals) to impart new abilities or characteristics. Synthetic biology is advancing within medicine and environmental remediation, but its entry into the food industry raises questions regarding safety, transparency, and the potential for unintended consequences.

Appendix A

High-Risk GMO List: PCC maintains independent lists of crops and ingredients that are at high risk for being genetically engineered, as outlined in the standard above. We will add an item to the list if it meets all of the following conditions:

- It is on the Non-GMO Project’s list of high-risk ingredients or crops
- It has been approved by the FDA for sale in the United States
- It is actively being imported to the United States or grown in the US for commercial use (commercially available for use)
- It is not on PCC’s list of prohibited substances, regardless of organic or non-GMO status

ⁱ Center for Food Safety. “About Genetically Engineered Foods.” Accessed February 28, 2025.

<https://www.centerforfoodsafety.org/issues/311/ge-foods/about-ge-foods>.

ⁱⁱ Waddell, Melissa. “What Do You Need to Know About GMOs?” The Non-GMO Project, May 2, 2024.

<https://www.nongmoproject.org/blog/what-do-you-need-to-know-about-gmos/>.

ⁱⁱⁱ FoodPrint. “GMO Foods and Genetic Engineering,” December 11, 2024. <https://foodprint.org/issues/gmo-foods-genetic-engineering/>.

^{iv} Center for Food Safety. “GE Food & Your Health.” Accessed February 15, 2024.

<https://www.centerforfoodsafety.org/issues/311/ge-foods/ge-food-and-your-health>.

^v The Non-GMO Project. “GMO Facts,” November 18, 2022. <https://www.nongmoproject.org/gmo-facts/>.

^{vi} FoodPrint. “GMO Foods and Genetic Engineering,” December 11, 2024. <https://foodprint.org/issues/gmo-foods-genetic-engineering/>.

^{vii} Organic Trade Association. “Organic and GMOs.” Accessed February 28, 2025. <https://ota.com/organic-101/organic-gmos>.

^{viii} The Non-GMO Project. “What Is Non-GMO Project Verified?,” December 2, 2024.

<https://www.nongmoproject.org/butterfly-label/>.

^{ix} Organic Produce Network. “Organic vs. Non-GMO Labels,” June 5, 2024.

<https://www.organicproducenetwork.com/regulatory/certified-organic-and-non-gmo-project-verified-difference>.

^x Center for Food Safety. “Lawsuit Challenges “Bioengineered” GMO Food Labeling,” July 28, 2020.

<https://www.centerforfoodsafety.org/press-releases/6100/lawsuit-challenges-bioengineered-gmo-food-labeling>.

^{xi} The Non-GMO Project. “New GMO Alert: Navigating GMOs in the Produce Section,” September 28, 2024.

<https://www.nongmoproject.org/blog/new-gmo-alert-navigating-gmos-in-the-produce-section/>.

^{xii} Waddell, Melissa. “What Is Bioengineered Food?” The Non-GMO Project Blog, January 29, 2025.

<https://www.nongmoproject.org/blog/what-is-bioengineered-food/>.

^{xiii} Rodale Institute. “Organic Farming Practices.” Accessed March 18, 2025. <https://rodaleinstitute.org/why-organic/organic-farming-practices/>.

^{xiv} PCC Community Markets. “Lawsuit Against USDA Over Final GMO Labeling Rule,” July 28, 2020.

<https://www.pccmarkets.com/statements/lawsuit-against-usda-over-final-gmo-labeling-rule/>.