

Berkey Creamery

Food Allergen Awareness Plan

**For The Dairy Plant
and Salesroom**

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Introduction

Food allergen awareness is a universal requirement for dairy processors. Foods that cause allergic reactions or food allergens can cause major problems to dairy processors if they are unaware of what food allergens are and how they must be managed.

Managing food allergens requires that all employees become “aware” of the procedures and techniques necessary to properly deal with food allergens every day. Plant employees, office staff, salesroom supervisors, and our student employees must be aware that even trace amounts of a food allergen can cause allergic reactions for some consumers.

Personnel in all areas of the Creamery need to be aware of food allergens in our dairy products. This awareness must be a part of the way each of us does our job and the effect they have in other departments such as processing, packaging, receiving, shipping, labeling, and serving customers in our salesroom. Office personnel that take phone calls from consumers are another example of awareness. It is important that all of our customers be given the first impression that we are aware of food allergens and are concerned about them.

What is a Food Allergy?

A food allergen reaction occurs when a person has an immune system response to a normally harmless food and reacts as if the food is a harmful agent. Normally, people that know they are allergic to specific foods avoid them. They do not knowingly consume these foods. They develop avoidance strategies such as reading food labels, asking what is in the ingredients, or inquiring about them in a restaurant prepared meal, and generally avoiding anything that may be suspect.

Customers in our salesroom may rely on ingredient labels to determine when there is an ingredient they must avoid. They may also ask questions about our dairy products, especially our cheeses and ice cream flavors. Our supervisors and students need to be aware of this important part of their jobs in order to be as helpful as possible.

Some Facts about Food Allergens

Adults.....2% of the adult population have a food allergy.

Infants and Young Children.....5% of the population of infants and young children have a food allergy.

Approximately 6 million people have a peanut or tree nut allergy.

Each year approximately 30,000 people require emergency treatment and 150-200 people die from food allergen related problems.

What Are Some Common Food Allergen Reactions?

Food allergen reactions can be serious, even life threatening. The following list shows the common reactions a person has after ingesting or being exposed to a food to which they are allergic. This list is shown in progressively worsening order and represents the most common way a reaction occurs in people.

- Hives
- Abdominal Cramps
- Vomiting
- Diarrhea
- Difficulty Breathing
- Swelling of the Tongue, Throat, Face, and Lips
- Sense of Impending Doom
- Asthma
- Rapid Drop in Blood Pressure
- Unconsciousness
- Anaphylactic Shock
- Death

Allergic reactions to foods usually begin within a few seconds to a few hours after eating the offending food. In very sensitive people, simply touching or smelling the food can produce an allergic reaction.

What Foods Are Frequently Food Allergens?

Many foods may be food allergens but according to the Food and Drug Administration more than 90% of the food allergen incidents in the United States are caused by just eight foods. The remaining 10% of food allergen incidents in the U.S. are caused by hundreds of other foods. The “top eight” food allergens are listed below in order from the most common to the least common.

- 1) Peanuts
- 2) Tree Nuts (e.g. almonds, pecans, walnuts)
- 3) Crustaceans/Shellfish (e.g. crab, lobster, shrimp)
- 4) Eggs
- 5) Milk and Dairy Products
- 6) Fish (e.g. bass, flounder, cod)
- 7) Soybeans
- 8) Wheat

The “top eight” are frequently used as ingredients in other foods. In the Creamery we are most concerned with milk, peanuts, tree nuts (almonds and pecans), soy (as an ingredient) and wheat (also as an ingredient in other foods). This is most obvious in our many ice cream flavors that contain food allergens within the ingredients themselves, e.g. soy lecithin in Oreo® cookie, which is an ingredient in our Cookies-n-Cream ice cream.

Concern for Peanuts, Tree Nuts, and Food Colors

Peanuts and tree nuts (almonds, walnuts, pecans, etc.) are among the top eight food allergens found in foods in the U.S. Peanuts by far are the number one cause of food allergen incidents. Some people may be allergic to peanuts and not to tree nut and vice versa. Some people may be allergic to pecans and not to walnuts and vice versa. This makes it extremely important to use the correct nut as an ingredient in our products and to be sure our labeling is accurate, especially our ice cream flavors.

While we do not list our food colors as part of the top eight food allergens, we do list them on our ingredient statement where necessary, and it is important to understand that food colors can cause allergic reactions similar to those of the top eight allergens listed above.

Food Allergen Awareness Program at Berkey Creamery

In order to deal with this important matter, we must develop a Food Allergen Awareness Program. Our team must include personnel from the salesroom, office, lab, and manufacturing. All of us need to be aware and involved in this part of our jobs. In small dairy operations such as ours, many responsibilities are spread over just a few individuals who then must be the key people in an allergen awareness program.

Our program needs to look at four major areas:

- 1) identify all food allergens in our operation
- 2) identify the food allergen risks or means of failure
- 3) develop a food allergen control plan
- 4) develop a food allergen awareness training program

1.) Identify Food Allergens Used

As a review, the key food allergens that may be present in the Creamery are milk, soy, wheat, peanuts, tree nuts, and colorings (blue 1, red 40, yellow 5, and yellow 6). The key food allergens that may be present in other dairy plants and ingredient suppliers include peanuts, tree nuts, wheat, milk and dairy products, eggs, soy, flavorings, colorings, and even sulfite preservatives. We must ensure that egg products, when used, are declared in the ingredient statements of flavors or inclusions used in our ice cream. It is everyone's job to monitor this, from receiving to the end product being served in our salesroom.

To help assist in the identification of food allergens in our dairy products, the following are some examples

Peanuts: Peanut Butter Swirl ice cream, Peanut Butter Cup ice cream
Tree Nuts: Butter Pecan ice cream, Heath Bar Candy ice cream, Toasted Almond Fudge ice cream, Pralines-n-Cream ice cream
Milk: everything!
Soy: Also listed as soybean. Cookies-n-Cream ice cream
Wheat: Cookies-n-Cream ice cream, Chocolate Chip Cookie Dough ice cream, Espresso Fudge Pie ice cream
Colorings: Peachy Paterno ice cream, Raspberry Fudge Torte ice cream, Boysenberry yogurt

A comprehensive survey of all ingredients used in the Creamery must be undertaken to determine which ingredients contain food allergens. To do this we need to review ingredient labels and ingredient specifications. If there is a question about a particular ingredient, we need to check with the manufacturer to find out if the ingredient is made with anything possibly considered to be a food allergen. Ingredient specifications with our suppliers showing what we intend to purchase will be helpful in trying to identify food allergens used in our plant.

Of particular importance is the use of nut oils. Many of our nut ingredients are fried or baked in a process using nut oils. It is not uncommon to process almonds and pecans in peanut oil. It is important to check the labels of the incoming nut ingredients to be sure that peanut oils are not a part of the list. If it is, please inform the laboratory director or Creamery manager and they will take the proper action.

2.) Identify Failures Which Cause Food Allergen Risks

Food allergen problems can occur in many ways. When a system or procedure breaks down, this can cause unintentional food allergen contamination of our products. Most food allergen contamination results in mislabeled product and mislabeling is the number one cause of food allergen product recalls. Listed below are some of the most common food allergen problems facing the dairy industry.

a.) Incorrect Formula

- i.) Wrong formula used: If an operator mistakenly uses the wrong formula when making a product, food allergen ingredients may be included. Or, if the formula is written wrong or entered in the computer incorrectly, this can result in food allergen ingredients being used in a product that is incorrectly labeled for the actual ingredient it contains.
- ii.) Wrong ingredients used: If an operator by mistake adds the wrong ingredients to a product, this can result in a food allergen being added to a product that is not labeled with the allergen as an ingredient.

b.) Incorrect Rework

- i.) Rework is mislabeled or the labeling is illegible: This failure may cause the inadvertent use of an allergen containing rework to be used in a product that should not contain the allergen.
- ii.) Wrong rework used: If an operator inadvertently uses the wrong rework in a formula, it may cause an allergen to get into the product.

- iii.) Non-allergen rework is contaminated with an allergen: In this instance, a non-allergen containing rework is inadvertently contaminated or mixed with an allergen containing rework. Then, this rework gets used in a formula that should not contain food allergens and contamination results.

c.) Mislabeled product

- i.) Proof reading mistakes: All new labels must be proof read prior to printing and use. At least two people must review any new label prior to its approval for printing. Ingredient and labeling mistakes can easily slip by unnoticed.
- ii.) Switched or incorrect packaging: Production personnel can inadvertently bring the wrong packaging out to the production line. Sometime packaging is intended to be used in a certain order. This order can be altered and the incorrect packaging gets used by mistake. This is particularly devastating when the packaging line is producing an allergen-containing product, but a non-allergen labeled container is used by mistake.
- iii.) Switched or incorrect ingredients: Production personnel may inadvertently switch ingredients resulting in the use of the wrong ingredient in a batching formula. This is disastrous if the incorrect ingredient is or contains an allergen.
- iv.) Mixed packaging: Packaging operators, if they are not careful during change overs, can mix two different types of packaging in the same box. This is devastating to a plant that may be producing an allergen-containing product and have a non-allergen containing package mixed in. It is important to specify to our suppliers that mixed packaging can cause major problems for our operation as well as enduring an embarrassing recall of product. Our packaging operators should have a change over sequence that goes from a non-allergen labeled package to an allergen labeled package, clearly indicating a change in packaging.
- v.) Ingredient declaration not accurate: If the formula contains a food allergen, it must appear on the ingredient declaration. This is extremely important to those consumers who are aware that they have a food allergen and rely on ingredient labeling to avoid those foods. If it's in our product, it must be shown in the ingredient label of every container or package.

3.) Develop a Food Allergen Control Plan

The best way for us to prevent allergen contamination and product recalls is to have a Food Allergen Control Plan. Standard operating procedures (SOP's) for processing, packaging, rework, and sanitation will be supplied by the laboratory. Allergen containing products are to be packaged on separate days from non-allergen containing products, or they must be the last products run on a production day that also packages non-allergen products.

a.) Labeling

- i.) Ingredient labels must be on all containers offered for sale. If a food allergen or food color is in our products, it must be listed in the ingredient statement. All new products must be reviewed for food allergens prior to production.

- ii.) Use of precautionary labeling. This is labeling products with statements such as “may contain pecans, almonds...” FDA states that such precautionary statements should not be used and that we need to take all necessary steps to eliminate cross contamination. However, precautionary labeling may be warranted in situations where allergen contamination is likely to occur. The “Contains” statement must be clearly visible after the ingredient statement.
- iii.) Daily production records and records of manufacture are one of the most important areas that all of us can use to help prevent cross contamination. Our records inform production personnel what products to make, the sequence, and the ingredients used in each product. Be sure they are dated properly and complete with as much information as possible. Record all ingredients and their lot number on the record of manufacture as well as the lot numbers of all food-contact packaging materials.
- iv.) Date coding must be shown on all products produced on a line that packages food allergen products. In the event of a recall or product trace, proper code dating will allow us to pinpoint the production of the item in question.
- v.) Packaging inventories must be periodically monitored to prevent the use of obsolete, outdated packaging. Be sure packaging labels and ingredient labels match.
- vi.) Our ingredient suppliers should provide documentation and certificates ensuring that all of their ingredients are properly labeled and declared.

b.) Sanitation

- i.) Cleaning and sanitation are extremely important in preventing food allergen problems. It has been shown that even minute amounts of an allergen can cause a reaction in individuals who are very sensitive. Sanitation and cleaning procedures must be established and verified for cleaning the pasteurizer, storage tanks, lines, valve groups, flavor vats, fruit feeder, and packaging equipment. Cleaning must be documented.
- ii.) Improper manual sanitation practices may cause product contamination. If processing equipment is left dirty or was improperly cleaned, the residues may contain enough of a food allergen to get carried through to the finished product and cause an allergic reaction. Parts that require manual cleaning should be thoroughly inspected prior to use to be sure that the equipment is clean and ready to run.
- iii.) When time, temperature or chemical concentration deficiencies occur in cleaned-in-place (CIP) systems, there is likelihood that food allergen residues can contaminate the next product. Our CIP system must be monitored and documented for proper time, temperature, chemical concentration, and flow rate (pressure). Chemical washes must be adjusted to remove heavy residues such as milk fat and peanut butter.
- iv.) Equipment failures such as stuck valves, and incomplete drainage of tanks will cause contamination of products. Plant employees must be on the lookout for other areas of concern such as dead-ends, valve clusters, hook -ups, make-break CIP fittings at flow verter panels, or any temporary pipe line hook-ups. A thorough equipment preventative maintenance program, designed to check seals, gaskets, and air valves will prevent most of these problems before they happen. Also, daily pre-operative inspections, including checking for complete drainage before a tank is used, are recommended.

- v.) Cleaning and sanitizing effectiveness must be verified prior to line start-up by documented pre-op inspections. This is particularly important on shared equipment. After producing an allergen-containing product, it is imperative to know how effective the cleanup was to insure there is no carry-over of allergenic substances to our non-allergen containing products. Milk protein detection swabs should be used prior to manufacturing non-milk products such as tea, lemonade, or orange juice. ATP swabs will not detect food allergen residues, but they do give an indication of surface cleanliness.

c.) Cross Contamination

- i.) In most operations, equipment is used to produce both non-allergen and allergen-containing products. When a piece of equipment that previously ran products containing food allergens is inadequately cleaned prior to producing a non-allergen product, there is a possibility that cross contamination can occur. This makes pre-operative equipment inspections extremely important.
- ii.) Equipment failures may allow allergen-containing foods to get into non-allergen containing foods. Again, a preventative maintenance program with frequent inspections of equipment such as valves is necessary.
- iii.) Segregated ingredient and utensil storage can prevent cross contamination. To avoid mix-ups, keep all nut varieties and nut containing ingredients separated. Be “allergen aware” in our warehouse, the plant, and in the salesroom. This is especially true at the ice cream dipping stations. Please be sure that allergen ice cream and ice cream scoops, as well as milk shake spindles are separate from the rest of the frozen desserts.

d.) Rework

- i.) Rework is permitted to be a part of our processing operation as long as its use is carefully monitored. An SOP must be in place which outlines the products that are reworkable, into which products they can be reworked, and the percent allowable. An SOP of like-into-like is preferred.
- ii.) If rework is stored for more than twenty-four hours, the storage containers must be clearly labeled. Example: Our ten gallon cans are used to rework skim milk for yogurt. The can must have a label on it stating that skim milk is inside the container. This can be as simple as a piece of tape with the words “skim milk” and the date noted on the tape. The rework must be stored in a cooler until it is used.
- iii.) Ice cream flavors that have nut products should not be reworked unless the rework is put into like products.

4.) Develop a Food Allergen Awareness Training Program

Personnel in all areas of the Creamery need to be constantly aware of food allergens in our products and the risks associated with them. New employees must be trained in the proper procedures to minimize allergen related incidents and existing personnel need to have their knowledge up-dated on a regular basis.

a.) Some possible points of discussion

- i.) What is an allergic reaction?
- ii.) What are the key food allergens found in the Creamery?
- iii.) What are the high risk areas of concern?
- iv.) What can we all do to prevent allergen incidents?
- v.) What is the risk to our Creamery?
- vi.) What is the possible financial impact on the Creamery?

b.) Some possible areas for practical training

- i.) How to handle phone calls from consumers. Remember, when a consumer calls a company, their first impression of how aware a company is of food allergens is critical to successfully resolving the complaint.
- ii.) How to handle an allergen related consumer complaint.
- iii.) Posting information about allergens.
- iv.) Walk through the plant and store looking for examples of allergens in ingredients.

<h2>Summary</h2>

Practicing food allergen awareness must be standard operation procedure for not only the Creamery but for all dairy plants. Keep in mind that most food allergen incidents are the result of mislabeling and virtually all mislabeling problems can be prevented. The bottom line is that food allergen awareness is everyone's responsibility.

