

Update

NPMA LIBRARY UPDATE

Insert this update into the NPMA Pest Management Library, which can be purchased from the Resource Center. Phone: 703-352-NPMA (6762); Fax: 703-352-3031

Introduction to Food Allergens

What is a food allergen?

A food allergen is anything that causes a food allergy — an adverse immune response to a food protein. The food protein triggering the allergic response is termed a food allergen. Food allergy is distinct from other adverse responses to food, such as food intolerance, pharmacologic reactions, and toxin-mediated reactions.

Why are food allergens important?

It is estimated that up to 12 million Americans have food allergies, and the prevalence is rising. Six to eight percent of children under the age of three have food allergies and nearly four percent of adults have them. Food allergy causes roughly 30,000 emergency room visits and 100 to 200 deaths per year in the United States.

The most common food allergies in adults are shellfish, peanuts, tree nuts, fish, and eggs, and the most common food allergies in children are milk, eggs, peanuts, and tree nuts.

The Food and Drug Administration (FDA) requires food manufacturers to list the top eight common food allergens on food labels in simple terms that adults and older

children can understand. Common allergens are listed either in the ingredients list, after the list, or right next to it. The labeling requirements are designed to reduce chances of an accidental allergic reaction to a food product. While food labels don't include every possible allergen, they do list the top eight, which account for 90 percent of all documented food allergies.

Top Eight Food Allergens

- Milk
- Eggs
- Peanuts
- Tree nuts (such as almonds, cashews, walnuts)
- Fish (such as bass, cod, flounder)
- Shellfish (such as crab, lobster, shrimp)
- Soy
- Wheat



This list also represents the foods most likely to cause a severe or life-threatening allergic reaction (called anaphylaxis).

While the FDA does in fact list these items on labels for parents and affected adults to read, the products we use in pest management would most likely **not** be thought of by a person suffering from such an allergy. That is why it becomes incumbent upon us to think about the materials we are using and placing in our client accounts, and whether or not they will be safe for our clients and their environment and their potential end users. This is important for residential clients certainly that have this issue within their family, but it also becomes especially important as we service the more sensitive client accounts including schools, day care facilities, hospitals, and nursing homes. There are many schools and day care facilities currently that have peanut-free tables in the lunch room, or allergen-free designated areas in the school. Some even prevent the children from bringing nuts, peanut butter sandwiches, nut candies or candy bars to school. We have all seen the switch that the airline industry has made in the past several years to pretzels as in-flight snack offerings over the traditional small pack of peanuts. The slightest exposure to peanuts (or other allergens) by a hypersensitive individual can induce anaphylactic shock with fatal consequences. You must keep this in mind as you service these accounts.

Where may our industry run into food allergens?

Perhaps you've never thought about your pest management actions in relation to food allergy before. However, if you take a good look at the management techniques you use, there may be opportunity for your actions or use of products to trigger an allergic reaction in a client, or in the case of food processing plants, a client's end-user client! Most of our pest management materials are not in and of themselves allergy-producing, but we often will try to be creative in catching that elusive roof rat, or the hard-to-get pharaoh ant colony and introduce food allergen materials in the process.

Food Allergens in Pest Management Baits, Attractants, and Other Products

Many times, we will bait our traps or mix something in with insect or rodent baits in order to make them more attractive or palatable to the pests involved. Common attractants for rodent and wildlife traps can often include peanut butter, sunflower seeds, various nuts, slices of hot dogs or slim jims, sardines, anchovies, tuna fish, cat food, or milk chocolate candies. Common attractants for ant traps and bait mixtures can often include peanut butter, cat food, dog food, canned fish or other proteins. Some cockroach traps and rodent trapping glue boards are impregnated with food attractants or extracts or pheromones that may prove to be food allergens. One should always consult with the manufacturer and the client decision maker before using such products.

Top 8 Food Allergens

1. Milk
2. Eggs
3. Peanuts
4. Tree nuts (such as almonds, cashews, walnuts)
5. Fish (such as bass, cod, flounder)
6. Shellfish (such as crab, lobster, shrimp)
7. Soy
8. Wheat

Pest Management Food Allergen Containing Materials Often Used as Attractant Mix-ins with Bait for Rodents/Wildlife/Ants

- Hot dogs/Slim Jims
- Sardines/Anchovies
- Tuna fish
- Sunflowers
- Peanuts
- Other nuts
- Peanut butter
- Chocolates

Personal Food Items

We likely have given it little thought in the past, but our clothing and all of our accessory equipment (such as clipboards, flashlights, pens and service tickets) may be inadvertently exposed to food allergens while we eat our lunch — in our service vehicles or have it sitting on the dashboard, passenger side seat or in vehicle cup holders; crumbs or bits of a peanut butter and jelly sandwich, a tuna fish sandwich, a hot dog or a candy bar will all contain food allergens that can be ultimately translocated into the customer's account with potentially detrimental results. Sometimes all that is required to trigger the food allergy is the odor of the allergen. (Consider the case of an elementary school student in 2004 who ate at the same lunch table an hour after another student

had eaten peanut butter there. An alert school nurse who knew of the peanut allergy in this student immediately administered an epipen as the student went into anaphylaxis. Fortunately, the student recovered.)

Clothing / Equipment Cross Contamination

Consider your route and previous accounts you have been in as you enter a new account, especially when entering the more sensitive accounts, such as schools, hospitals and day care facilities. It is best not to schedule a grocery store or a food plant that handles nuts, tree nuts, soy, milk or seafood products on the same day and route as the day you will service a hospital

or school, unless you plan to shower and change clothes and shoes, and wipe your equipment down thoroughly, which is seldom practical or time efficient. It is never a bad idea to carry a spare change of clothing or uniform in your vehicle for those times you may be called back into a customer account after being in an account where food allergens are common. Pest management technicians and salespeople tend to carry a change of clothing in their vehicles anyway to always look their most professional.

Who should be concerned?

You will find amongst your pest management customer base that some customers are more concerned about this issue than others. Some clients, even schools, will not express a concern. This does not mean that you should not be watchful and considerate of your pest management actions. This issue is now very much on the radar within the food plant industry because of compliance laws enacted by the FDA in 2004. More and more schools and day cares and healthcare facilities are expressing this concern as they have an increasing experience with students or patients with food allergies.

Servicing Food Plants for Pest Management

The food plant industry does demand more attention in this regard. All USDA food plants are now required to be allergen-free and must guarantee against the big eight food allergens — egg, milk, wheat, fish, peanuts, shellfish, tree nuts and soy, unless labeled. Due to concerns about allergens, no peanut butter or nut-based attractants may be used inside a food plant unless approved by the plant contact.

What Pest Management Companies Can Do to Ensure Compliance

The new 2009 NPMA Pest Management in Food Plant Standards manual highlights the food allergen issue. Food plants and other accounts must declare if there is a possibility of any of these products entering the food either as an ingredient or as an incidental additive. Food plants have expanded their criteria for allergen-free in many cases for any products used in the plant but not food ingredients, including pest manage-



ment products, unless waived by the particular plant. (For example, a peanut processor already declaring this allergen would waive this requirement for peanut containing pest management products. Also, some plants might not have a concern about allergen-containing pest management products and would waive the requirement.)

The Future of the Food Allergen Issue

"Food allergens are high on the agenda of government agencies, consumer groups, food processors, health professionals and food scientists," says Dr. Steve Taylor, head of the food science and technology department at the University of Nebraska. He devotes considerable time to the support of the Food Allergy & Anaphylaxis Network (FAAN), a non-profit organization that provides educational support and increased awareness of food allergies and anaphylaxis. Dr. Taylor currently serves as a member of its Medical Advisory Board (its only non-physician) and is Chair of the Board of Directors. He is also co-Director of the Food Allergy Research & Resource Program (FARRP), an industry-funded consortium with 32 food industry members currently that supports research and outreach on food allergies and allergens. "Food allergies are far more common than we thought when I started studying 20 years ago, and they will only continue to increase," Taylor says.

FARRP researchers also are working to define the exact trace levels, or threshold doses, of different allergenic foods that cause a reaction in the most sensitive of people. Food processors prepare different foods on the same equipment, which is cleaned before a new product is processed. Proces-

The Actual 2009 NPMA Food Plant Standard as It Appears in the Manual

No pest management product may be used inside any food plant if the product contains any of the big eight allergens: cow's milk, eggs, peanuts, tree nuts, soybean products, wheat, fish and crustacean shellfish. Before products may be used in a plant, the pest management company must file a copy of the statement from the manufacturer that the products contain none of the big eight allergens.

Exception

This section may be waived by the food plant. If the plant waives this requirement, a signed statement by the plant must be retained in the records.

sors and regulators need to know at what level an allergen causes allergic reactions. "The question is how clean is clean enough? We need to know what's really needed to protect people; regulators need science-based threshold information on which to make decisions," says Taylor. Threshold studies require global collaboration for clinical trials. The FARRP team works with scientists at medical clinics equipped to test allergenic volunteers. International representation is important because the allergy prevalence for a specific food varies country to country, depending mainly on how widely that food is eaten. Food companies worldwide now look to FARRP for information about how best to protect allergic consumers and control allergens. "This is the most successful food industry-funded consortium in the United States right now," Taylor says. "It has made the country and world a safer place for food allergic consumers." 

References

- <http://ianrnews.unl.edu/static/0310101.shtml> By Vicki Miller
IANR News Service
- <http://www.foodallergy.org/allergens/index.html>
- <http://www.cfsan.fda.gov/~dms/wh-alrgy.html>
- http://en.wikipedia.org/wiki/Food_allergy
- <http://www.mayoclinic.com/health/food-allergies/AA00057>