

nutripro[®]

NESTLÉ PROFESSIONAL NUTRITION MAGAZINE

Food Allergens

Know Your
Allergens

Ingredients
to Watch

Serving
Your Guests
Safely




FOOD *allergies*

Food
ALLERGIES
AFFECT
250
MILLION
PEOPLE
GLOBALLY¹

MOST FATAL^{3,4,5}
REACTIONS ARE
TRIGGERED BY
FOOD SERVED
OUT OF HOME

THERE ARE
AROUND
170
KNOWN
FOOD
ALLERGENS²

8 **FOODS**
CAUSE
THE MAJORITY OF
ALLERGIC
REACTIONS²

 **3**
every
minutes
SOMEONE IS
HOSPITALIZED
FOR A FOOD
ALLERGY
REACTION
and
every **6**
minutes
THAT
REACTION
IS LIFE-
THREATENING
ANAPHYLAXIS⁶

THE COST OF
CHILDREN'S
FOOD ALLERGIES IN
THE US IS NEARLY
\$25
BILLION
PER YEAR⁷

WHO
HAS
FOOD
ALLERGIES?⁷

8%
OF CHILDREN



NEARLY
5%
OF ADULTS



What are food allergies?

Food allergies occur when a person's immune system recognises the protein in a particular food as a threat and the body responds with physical reactions (e.g. hives, upset stomach, difficulty breathing).⁸

A Safer Kitchen *STARTS HERE*



As a food service provider, you're expected to serve safe and satisfying food to your customers, and one of the most important ways to do that is to learn about food allergies.

Food allergies affect hundreds of millions of people worldwide—you probably know someone with a food allergy. In fact, food allergy prevalence is becoming more common, and reactions are also becoming more severe.⁹

While many different foods can cause allergies, most problems arise from a handful of common allergens. Reactions can be mildly uncomfortable, serious, or even fatal, and they can happen anywhere—even in your dining room! In fact, the majority of fatal allergic reactions occur with foods served outside of the home.

However, by taking a few important safeguards, you can help protect both your customers and your business from the harmful effects of food allergies.

In this issue, we'll tell you more about common allergens, safe practices you can follow in the kitchen and at the table, and alternatives to satisfy customers with food allergies.

Ready to learn what you can do about food allergies?
Let's get started.



anatomy

OF A FOOD ALLERGY

Food allergies are widespread and can be unpredictable. While some people never experience a problem, allergic reactions could potentially affect anyone including you, your customers, or your staff.



Food allergies are most common in babies and children, but they can arise at any point in life—even if someone has eaten a particular food for years with no problems.¹⁰

Children may grow out of some food allergies when they become adults, but there is no medical cure today. People who are affected must follow strict avoidance diets to avoid a reaction.¹¹

What about oral allergy syndrome?

Oral allergy syndrome (OAS) is technically a pollen allergy, not a food allergy. However, when someone with allergies to birch, ragweed, or grass pollens consumes particular raw fruits, vegetables, or tree nuts, OAS can cause an itchy mouth or throat. Cooking or peeling the food in question may distort the proteins enough to overcome the problem.^{12,13} However, if a customer asks you to avoid a certain food, it's best to do so, as there have been documented incidents of serious reactions.

Allergy vs. Intolerance

THE IMMUNE SYSTEM
responds to a food protein that
is consumed or inhaled.



The body's immune system reacts by releasing histamine and other chemicals to attack the protein. These chemicals trigger allergic symptoms like:

ITCHY EYES

**RUNNY NOSE
& SNEEZING**

ANAPHYLAXIS

This is the most dangerous reaction and can be fatal if not treated quickly. Symptoms include swelling of the airways, difficulty breathing, drop in blood pressure and unconsciousness.

**WHEEZING &
SHORTNESS OF
BREATH**

**RED OR ITCHY
SKIN, HIVES &
ECZEMA**

**CRAMPS, NAUSEA,
VOMITING &
DIARRHOEA**

THE DIGESTIVE SYSTEM
responds negatively to
a particular food.



For instance, a person with lactose intolerance cannot completely digest milk sugar and may experience diarrhoea after eating dairy foods. While an intolerance is not an allergy, a customer with a food intolerance may still experience discomfort and wish to avoid consuming certain foods.

**CRAMPS &
DIARRHOEA**





Common

CULPRITS

Today's top food allergens

Allergies can be caused by up to 170 different foods, but most of them are linked to a much smaller group of foods. Some countries recognize "The Big 8,"¹⁴ while others expand the list to up to 14 food allergens.¹⁵

The following pages will point out some of the foods to avoid for each type of allergy. However, please note that these lists are not exhaustive and other examples may still cause allergic reactions. Check labels for phrases like "may contain..." or "made in a facility that processes..." to alert you of other sources for allergens.¹⁴ If in doubt, ask the customer!





The top 14 food allergens:

| | | | | |
|--|---|---|--|---|
|  EGGS |  FISH |  PEANUTS |  GLUTEN BASED CEREALS |  MUSTARD |
|  MILK |  CRUSTACEANS |  TREE NUTS |  SOY |  LUPIN |
| |  MOLLUSKS |  SESAME SEEDS |  CELERY |  SULPHITES |

PEANUTS & TREE NUTS

Peanuts are a common allergy among children. While tree nuts are biologically different, they are also among the top food allergies, and up to 40 percent of people with peanut allergies are allergic to at least one tree nut.¹⁰ When preparing food for these guests, take care with the following ingredients.

|  AVOID |  CHECK LABELS |
|---|---|
| Peanuts <ul style="list-style-type: none">• Whole or ground peanuts• Peanut butter or paste• Peanut oil• Peanut flour or meal• Lupin (related to peanuts)• Nut extract | <ul style="list-style-type: none">• African, Asian, and Mexican cuisine (high risk of cross contact)• Candy, chocolate, and desserts• Cereals• Chilli• Crackers and cookies• Egg rolls• Flavoured coffee• Frozen desserts• Glazes, marinades, and sauces• Marinades and sauces• Marzipan• Nougat• Sunflower seeds• Vegetarian meat substitutes |
| Tree nuts <ul style="list-style-type: none">• Whole or ground tree nuts (many species)• Monkey nuts, beer nuts, or mixed nuts• Nut milk• Nut flour or meal• Nut oils• Nut butter or paste | <p><i>*Because coconuts are botanically different from other tree nuts, they are not included on most allergen lists. However, due to some rare but serious reactions, the US lists coconut as a tree nut allergen.</i></p> |

Not an exhaustive list. Read ingredient labels carefully.^{16,17}



Since 2010, children are experiencing 21% more peanut allergies, 18% more tree nut allergies, and 7% more shellfish allergies.¹⁸







DID YOU KNOW

Check the ingredient list on marshmallows. They can contain a fish-based gelatin.

FISH

CRUSTACEANS & MOLLUSCS

There are more than 20,000 species of fish. Some people are allergic to only certain varieties, but medical professionals typically recommend that people with fish allergies avoid all types. Other kinds of seafood are also linked to serious food allergies. Unfortunately, fish and seafood allergies are usually not outgrown, so they require life-long avoidance.

|  AVOID | |  CHECK LABELS |
|--|--|---|
| Fish | Molluscs | <ul style="list-style-type: none">• African and Asian cuisine (high risk of cross-contact)• Barbecue sauce• Bouillabaisse• Caesar salad/dressing• Fish paste or sauce• Imitation fish or shellfish• Seafood flavouring• Worcestershire sauce |
| <ul style="list-style-type: none">• Fish (Any species)• Fish gelatin• Fish oil• Fish sticks | <ul style="list-style-type: none">• Abalone• Clams• Mussels• Octopus | |
| Crustaceans | <ul style="list-style-type: none">• Oysters• Scallops• Snails/escargot• Squid | |
| <ul style="list-style-type: none">• Crab• Crayfish• Lobster• Shrimp and prawns | | |
| | | |

Not an exhaustive list. Read ingredient labels carefully.^{16,17}



Allergens, including seafood, can become airborne, particularly with fried or steamed preparations. Avoid seating guests with seafood allergies near the kitchen.

MILK

Milk is another common food allergen, especially for infants and young children. Since the proteins from milk in cow, sheep and goat are similar, those with milk allergies may need to avoid dairy from other domestic animals.

|  AVOID | CHECK LABELS |
|--|---|
| <ul style="list-style-type: none">• All milk from domestic animals (liquid, condensed, powdered, malted, evaporated)• Buttermilk• Cream, half-and-half• Butter• Cheese and cottage cheese• Sour cream• Yoghurt | <ul style="list-style-type: none">• Curd or whey• Custard and pudding• Ice cream• Mayonnaise• Products with lactose or casein• Coffee creamer• Cream soups• Whipped topping• Ghee |
| | <ul style="list-style-type: none">• Baked goods• Candy and chocolate• Lactic acid starter culture• Deli meats• Hot dogs (except kosher)• Margarine or butter flavouring• Nougat• Tuna fish containing casein |

Not an exhaustive list. Read ingredient labels carefully.^{16,17}

Lactose INTOLERANCE

Up to 65% of the human population may be lactose intolerant,¹⁹ which means the body has trouble digesting the main sugar in milk and dairy foods. While not a food allergy, lactose intolerance can cause cramps, diarrhoea, and other digestive system problems for those who consume dairy products in larger amounts.

CHEF TIPS Milk is an everyday ingredient in many recipes, but there are many ways for chefs to get around dairy allergies.

| | | | | |
|---|--|---------------------------------|--|--|
| Replace dairy milk with almond milk, soy milk, rice milk, or coconut milk | In some recipes, water, broth, or juice can also be substituted for milk | Cook with oil instead of butter | Rice milk can be used as a thickening agent in baked goods or desserts | Look for “pareve” on kosher food label which indicates a milk-free product |
|---|--|---------------------------------|--|--|



EGGS

Replace one egg with:

4g yeast dissolved
in 60 mL warm water

5g baking powder
+ 15 mL liquid
+ 5 mL vinegar

1 packet gelatin
+ 30 mL warm water

15 mL fruit puree

15 mL liquid + 7.5 mL oil
+ 5 g baking powder

250 g soft puréed tofu

Replace egg with
beer in batters

Half of a large mashed
banana for cakes or muffins

Eggs play an important structural role in many recipes, making them difficult to avoid. Here are some ingredients to watch out for and some egg alternatives for you to experiment with in your own recipes.



| <input type="checkbox"/> AVOID | <input checked="" type="checkbox"/> CHECK LABELS |  |
|---|--|--|
| <ul style="list-style-type: none">• Egg in any form (white, yolk, dried, powdered)• Albumin• Cream pies• Custard and puddings• Hollandaise sauce• Soufflés• Eggnog• Lysozyme• Mayonnaise• Meringue• Ovalbumin | <ul style="list-style-type: none">• Baked goods• Batter-fried foods• Egg substitutes• Ice cream• Lecithin• Marshmallows• Marzipan• Meatloaf, meatballs• Nougat | <ul style="list-style-type: none">• Pancakes, waffles, French toast• Pasta• Pretzels• Tartar sauce• Foaming agents in coffee drinks, beer, or bar drinks |

Not an exhaustive list. Read ingredient labels carefully.^{16,17}



WHEAT

Some people are allergic to the proteins in wheat, and it is recognized as a major allergen in many countries. The EU broadens this category, including all gluten-containing cereals in this group of allergens. In addition to allergies, there are also other reasons for some guests to avoid consuming gluten, so it's important for you to understand the issues and know your options.

|  AVOID | |  CHECK LABELS |
|--|--|---|
| Wheat | Gluten | <ul style="list-style-type: none">• Ale and beer• Asian cuisine• Baked goods and baking mixes• Breaded/batter-fried foods• Breakfast cereals• Ice cream• Processed meats and meat patties• Sauces and salad dressings• Soups• Starch• Ketchup, malted items (e.g. malt vinegar) |
| <ul style="list-style-type: none">• Any variety of wheat grain (bulgur, couscous, einkorn, emmer, farina, kamut, seitan, semolina, spelt)• Any form of wheat (bran, durum, germ, gluten, grass, malt, sprouts, starch)• Wheat flour• Wheat germ oil• Hydrolysed wheat protein• Cereal extract• Matzoh• Pasta• Cooking sprays• Artificial vanilla• Cake icing• Gravy | <p>In addition to avoiding the foods listed under Wheat, those with gluten intolerance must avoid these:</p> <ul style="list-style-type: none">• Wheat and wheat varieties (durum, emmer, spelt, farro and einkorn wheat)• Rye• Barley• Oats (cross-contact risk) <p><i>Buckwheat is not related to wheat and is considered safe to eat.</i></p> | |

Not an exhaustive list. Read ingredient labels carefully.^{16,17}

| Replace one cup of wheat flour with: | |
|---------------------------------------|---------------------------------------|
| 1 - 1 ¼ cups rye flour* | ⅝ cup rice flour + ⅓ cup rye flour* |
| ⅞ - 1 cup rice flour | ⅝ cup rice flour + ⅓ cup maize flour |
| 1 cup maize (corn flour) | ⅝ cup potato starch |
| 1 cup potato flour | ½ cup soy flour + ½ cup rice flour |
| 1 cup soy flour + ¼ cup potato starch | ½ cup potato flour + ½ cup rye flour* |
| 1 ⅓ cups rolled oats or oat flour* | |

* Not suitable for people avoiding gluten-containing cereals.

Good to Know

People with wheat allergies, coeliac disease and non-coeliac gluten sensitivity account for up to 10% of the population. Roughly 20% of people with a wheat allergy, will also experience a cross-reaction with other gluten-containing cereals. Therefore, when reviewing your recipes, make note of the presence of all cereal grains noted in the table to the left.²⁰

Coeliac Disease: It's Serious

When people with coeliac disease consume gluten, it triggers an auto-immune mediated response. The immune system attacks the tissues of the intestines, causing long-term digestive problems including abdominal pain, chronic or intermittent diarrhoea, chronic constipation, vomiting, weight loss, bloating, and malnutrition. To avoid these problems, people with coeliac disease must follow a gluten-free diet for life.

No Gluten, Please

Non-coeliac gluten sensitivity (NCGS) is still not widely understood, but people with this condition may experience symptoms such as abdominal pain, chronic diarrhoea, fatigue, abdominal distension, eczema, headache, blurred vision, depression, anaemia, paraesthesias, and joint pain after consuming gluten—though symptoms improve after following a gluten-free diet. Guests with NCGS may prefer to avoid eating gluten.²¹





DID YOU KNOW

While oats themselves don't contain gluten, they should be avoided due to cross-contact with gluten-containing cereals during harvest.

SOY

Known as soy or soya, this is a standard ingredient in many Asian and vegetarian foods. Soybean allergies are common, especially among children.



|  AVOID |  CHECK LABELS |
|--|---|
| <ul style="list-style-type: none">• Soy in any form• Soybean• Some soy oils• Soy protein• Soy sauce• Tamari• Emulsifiers• MSG• Vegetable gum or starch | <ul style="list-style-type: none">• Tempeh• Textured vegetable protein (TVP)• Tofu• Edamame• Miso• Lecithin• Asian cuisine (risk of cross-contact)• Vegetable starch• Broth and soups• Baked goods• Cookies and crackers• Sauces |

Not an exhaustive list. Read ingredient labels carefully.^{16,17}



SESAME SEED

Whether used as whole seeds or processed into sesame oil (which is not refined), these foods can cause allergic reactions for some people.

|  AVOID |  CHECK LABELS |
|--|---|
| <ul style="list-style-type: none">• Sesame seeds, flour, and paste• Sesame oil*• Sesame salt (gomasio)• Tahini• Benne, benne seed, benniseed• Gingelly• Halvah• Sesamol | <ul style="list-style-type: none">• Asian cuisine• Baked goods (bread, rolls)• Bread crumbs• Cereals• Chips, crackers, and snack mix• Dipping sauces• Dressings, gravies, marinades, and sauces• Falafel• Hummus• Margarine• Processed meats and sausages• Soups• Sushi• Tempeh• Vegetarian burgers |

Not an exhaustive list. Read ingredient labels carefully.^{16,17}



LUPIN



Peanuts and lupins both belong to the legume family. People with peanut allergies may also react to lupins. When in doubt, always double-check with your guests.²²

|  AVOID |  CHECK LABELS | |
|--|--|--|
| <ul style="list-style-type: none">• Lupin (whole seed)• Lupin flour | <ul style="list-style-type: none">• Baked goods (especially gluten-free) | <ul style="list-style-type: none">• Pasta (especially gluten-free) |

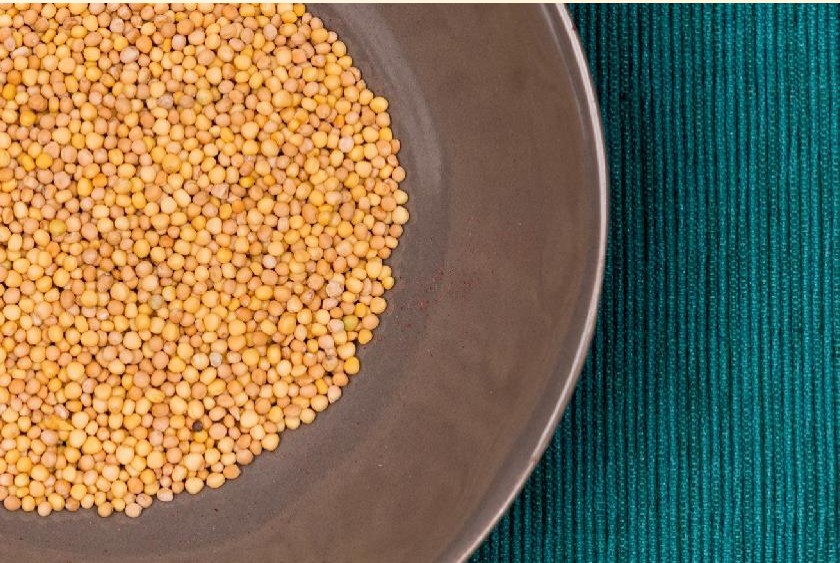
Not an exhaustive list. Read ingredient labels carefully.²²

MUSTARD

Seeds from the mustard plant are found in many condiments. These allergies are common in France and Spain, where they can trigger serious reactions.²²



|  AVOID |  CHECK LABELS | |
|---|--|--|
| <ul style="list-style-type: none">• Mustard seeds• Mustard powder• All prepared mustards (e.g. Dijon) | <ul style="list-style-type: none">• Curries• Fish paste• Marinades• Processed meats• Pickles | <ul style="list-style-type: none">• Mayonnaise• Sauces and dressings• Tomato sauce and ketchup |

Not an exhaustive list. Read ingredient labels carefully.²²



SULPHITES



Used as a preservative in foods and beverages, sulphites (or sulphur dioxide) may affect 5-10% of people with asthma.²³

|  AVOID |  CHECK LABELS | |
|--|---|---|
| <ul style="list-style-type: none">• Sulphur dioxide• Sodium metabisulphite• Potassium metabisulphite | <ul style="list-style-type: none">• Dried fruit such as raisins, apricots, and prunes | <ul style="list-style-type: none">• Meat products• Soft drinks• Wine and beer |

Not an exhaustive list. Read ingredient labels carefully.²³

CELERY

Allergies to celery and celeriac are common in Switzerland and France, especially among people who are also allergic to birch pollen.²²

|  AVOID |  CHECK LABELS | |
|---|--|--|
| <ul style="list-style-type: none">• Celery stalks and leaves• Celery seeds• Celeriac root | <ul style="list-style-type: none">• Celery salt• Soups and stock cubes | <ul style="list-style-type: none">• Salads• Spice mixes |

Not an exhaustive list. Read ingredient labels carefully.²²



Back OF HOUSE

MAINTAIN AN ALLERGY-FREE ZONE

and keep it stocked with dedicated aprons, gloves, cutting boards, utensils and knives.

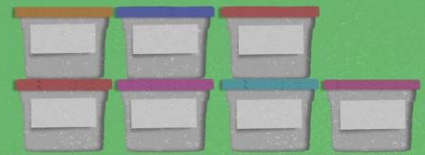
AVOID FRIED FOODS

The fryer is a common source of cross-contact.



STORE PLATES ABOVE THE WORK AREA to prevent cross-contact from falling food particles.

STORE FOODS in clearly labelled, sealed containers.



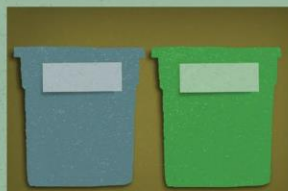
APRONS and GLOVES should be changed/replaced and **CUTTING BOARDS**, utensils, and cooking surfaces should be cleaned before food prep.

BLEACH AND WATER at room temperature is the standard for cleaning food prep surfaces. Use 15 ml of bleach for every 4 litres of water.

FOR SALAD STATIONS AND CONDIMENTS, keep foods containing allergens (e.g. eggs, cheese, nuts & seeds) separate and equipped with their own dedicated utensils. Never use utensils for more than one item to avoid a high risk of cross-contact.

SOAP AND WATER eliminates the proteins that cause allergic reactions, while hand sanitizer does not.

STORE FLOUR DOWN LOW to prevent cross-contact from small spills.



CLEANING TIPS FOR BLEACH

HOT WATER decreases the effectiveness of bleach solutions.

THE EFFECTIVENESS of a bleach solution diminishes over time.

KEEP SPRAY BOTTLES of bleach solution for convenient use.

AIR DRY cleaned surfaces after sanitizing.

SAFETY FIRST

Protecting your customers from allergic reactions begins in the kitchen.

By taking steps to prevent exposure and cross-contact during food preparation, you can help keep your customers safer. Here are some tips to come up with your own allergy management plan.

1 Understand Your Ingredients

Have a clear understanding of the ingredients used in your kitchen, and which ones contain a common allergen. Ask your vendors to share any food allergy information they may have. In many parts of the world, food allergens must be declared on labels,¹⁵ so read labels carefully and recheck them regularly for changes. If a label says, “may contain traces of...”, the food is probably prepared in a factory that also makes products containing the allergen. These trace amounts may be significant enough to cause a serious allergic reaction.

Review Your Recipes

Review your recipes frequently, keeping an updated record of which ones contain allergens. This record should be easily accessible to your staff and management. Identify which recipes can be adapted with simple substitutions, and which are prohibited for people with specific food allergies. This will help your kitchen address each customer’s needs, while reassuring guests that you have their best interests at hands.

2

3 Manage Your Workspace

Anyone preparing food should understand the importance of following food allergy protocol. Make sure your staff knows that food allergies can be life-threatening, and use the tips on the opposite page²⁴ to reduce the risk of cross-contact.



Front OF HOUSE

Allergy Etiquette

Making an allergy-safe

MENU

Listing known allergens clearly on each item puts your guests' safety first.

Asian Egg-Noodles with peanuts

Pasta with Pesto
(contains pine nuts, dairy)

Salad with Blue-Cheese
& Walnut Dressing

Fresh Fruit Salad with Macaroons
(contains egg)

In many places, food businesses are required to provide information about the use of allergenic ingredients. Consider keeping a list of the ingredients used in each recipe and sharing it with customers when they ask about possible allergens.

Keep Your Cool

Since allergies can begin or worsen at any time, it's possible that one of your guests will experience a reaction while dining with you. How can you prepare for an event like this?

1. Know the numbers of local emergency responders and keep them posted in the kitchen at all times.
2. If a customer is exhibiting allergy symptoms, ask if they have food allergies.
3. If the person is having trouble breathing, stay calm and call your emergency responders right away. Anaphylaxis can occur within seconds or minutes of exposure to the allergen, can worsen quickly, and can be fatal.
4. Record what and how much the person ate and share the information with emergency responders. Preserve the suspected food.





Start the Conversation

Make sure your wait staff knows how to answer guests' questions about food allergies and communicate their needs to the kitchen. Establishing a set of guidelines can help everyone on your team communicate when a guest has allergies.

SERVER:

- Before seating guests, ask if anyone has a food allergy. If so, avoid seating them near the kitchen door where airborne allergens may affect them.
- Ask if anyone at the table has food allergies. If the answer is yes, write down all allergens!
- Ensure that the allergen is communicated to the kitchen in writing or entered into the ordering system.
- Inform the manager on duty about the allergen request, including the guest's table and order.

CHEF:

- Inform server if menu item can be prepared without the allergen, and indicate any adaptations required to the dish.
- Communicate clearly with your team. Acknowledge the request, and repeat it back to the server. Ensure all kitchen stations concerned verbally acknowledge the allergen request, as well.
- When the dish is ready, isolate it from others going to the table, verbally communicating the sensitive dish directly to the server or manager who will deliver it to the guest.

SERVER OR MANAGER:

- Bring the dish to the table, mentioning the allergen again to make sure there are no mix-ups.

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Nestlé Professional
Nestec S.A.
Avenue Nestlé 55
CH-1800 Vevey
Switzerland

www.nestleprofessional.com

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Contact nutripro@nestle.com
for further information.

Editor: Erin Gilgan
Creative Direction: Mr & Mrs
Copy: Karin Lannon
Photography: Yolanda Gonzalez,
Sarah Herman, Nestlé Professional