

# Your quick guide to: Reactions to Legumes

## What are legumes?

Legumes are foods from the Fabaceae (also known as Leguminosae) plant family. This includes all plants that grow in pods. It is a very broad group that includes beans, lentils, pulses, peas, lupin, fenugreek, soya, and peanut. Some are eaten fresh, while others are dried and need to be cooked before eating. Dried beans, chickpeas, lentils and peas are collectively known as pulses. The word dal (also spelled daal or dhal) is derived from South Asia. It refers to split pulses such as split lentils, peas, chickpeas, and beans, as well as to the traditional dishes made from them. Dal is often believed to translate to lentils, but this is incorrect as it can include a variety of legumes. Fenugreek (also known as methi) is a legume used as a spice and herb.

Legumes are known to be nutritious parts of our diet, providing dietary fibre, plant-based protein, and a range of vitamins and minerals. In plant-based diets they contribute significantly to protein intake and overall nutritional balance.

Peanut and soya are the most common legumes that people in the UK have allergy to. For more detailed information about these allergies, please see our factsheets on [peanut allergy](#) and [soya allergy](#). Because peanut is commonly considered a nut, this factsheet will focus on other legumes including beans, lentils, peas, lupin and fenugreek. For people with a [pea allergy](#), we also have a separate factsheet on pea allergy.

## How common is legume allergy?

It is not clear exactly how common allergy to legumes is, but it is believed to be increasing in the UK. This might be related to the rise in popularity of plant-based diets and the increased use of legumes in processed foods.

Legume allergy varies across different countries and tends to be more common in the countries where they are eaten more. Lentil and chickpea allergies are more common in India, the Middle East, and some Mediterranean countries, where they are dietary staples. Lupin allergy is more common in France and Southern Europe, where lupin beans are eaten as snacks and lupin flour is often added to bread and bakery products.

The most common food allergy in adults in the UK is pollen food syndrome (PFS). People with PFS can react to soya products and raw, uncooked or very lightly cooked legumes such as beansprouts, mangetout or sugar snap peas. This is not a specific allergy to the food, but due to pollen allergy. For further information, please see our factsheet on [pollen food syndrome](#).

Legumes are often linked to gut symptoms such as bloating, wind and stool changes. This is most often not due to allergy, but a result of the fibre and fermentable carbohydrates in the legumes.

## Cross reactivity

People with an allergy to one legume may also react to others. This is called cross-reactivity, and it happens because proteins in different legumes can be similar in structure. Having an allergy to one legume does not mean you are allergic to all legumes, and there is no need to avoid all legumes unless advised. People with allergy to peanut and/or soya do not automatically need to avoid other legumes. However, people with an allergy to one type of legume (e.g. bean or lentil) may need to avoid other legumes of the same type. Advice from a specialist health professional is needed to find out which legumes are safe to eat, and which need to be avoided. This may not always be straightforward and health professionals may have to do further tests and, in some cases, food challenges to find out.

## Symptoms of allergy to legume

Symptoms depend on the type of allergy a person has. IgE-mediated allergy is the most common form of legume allergy and typically causes immediate symptoms soon after eating the food. The symptoms can present as mild or moderate such as itching, hives or vomiting, to severe and potentially life-threatening (anaphylaxis). Symptoms that affect the airways, breathing or circulation/consciousness are considered severe and should be treated as a medical emergency for which adrenaline is needed. For further information on how to identify and manage anaphylaxis and severe allergic reaction, please see our factsheet anaphylaxis and severe allergic reactions. A qualified health professional should provide guidance on whether

## Key facts:

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carrying an adrenaline autoinjector such as EpiPen or Jext is recommended on an individual basis.

A different type of allergy – called non-IgE-mediated food allergy, tends to result in delayed symptoms. It is more common in children than adults. Non-IgE-mediated allergy to legumes other than soya appears to be uncommon. It is also possible to have non-allergic food hypersensitivity (sometimes called food intolerance) to legumes – this is not allergy. For more information about different types of allergies, please see our webpages on [food allergy](#).

## Testing and diagnosis

It is important to seek advice from a healthcare professional if allergy to a legume suspected. In the first instance, this will usually be the GP. An allergy-focussed clinical history helps healthcare professional determine whether allergy is likely and testing is needed. Allergy tests are not usually recommended unless there is convincing evidence of an immediate type (IgE-mediated) allergy. A specialist allergy clinic can perform skin prick testing and/or specific IgE blood testing to foods. These tests help to diagnose food allergy and rule out other possible causes of symptoms. Allergy tests cannot predict how mild or severe an allergic reaction will be.

Alternative types of allergy testing other than those recommended by a healthcare professional are not advised as these are often unreliable with no value in diagnosing allergy and could lead to removing food from the diet unnecessarily.

There are no reliable tests for other types of food sensitivities (often referred to as food intolerance). If you are unsure, speak with your healthcare provider or call Allergy UK's Helpline for further information.

If you have had been concerned about an immediate-type food allergy and have been avoiding the food, it is important not to reintroduce it back into the diet without medical advice

## Legumes in everyday foods

There are lots of different types of legumes

and they can be found in a large range of foods, either as wholefoods, ground down into flour, fermented or used to make sauces, flavourings or food additives.

Flours made from soya, lupin, chickpea (gram), pea and other beans are used in bread products, pastry, breadcrumbs and batter. Lentils, soya/edamame beans, chickpea, peas and other beans are also used to make gluten-free substitutes to pasta and noodles, as well as added to wheat to make 'high protein' options. Water that beans and chickpeas have soaked in is called 'aquafaba' and is used as an egg substitute as well as in a range of processed foods, including dairy-free alternatives.

Below is listed some common foods that contain legumes. It is important to note that it is very unusual to have to avoid all legumes and therefore, it's rare that all these foods need to be avoided.

### Everyday Meals & Substitutes

- Processed meats: sausages, hot dogs, meatballs, scotch eggs (may contain soya, chickpea or other bean flour as a filler)
- Tinned beans and baked beans
- Plant-based meat alternatives: burgers, sausages, nuggets, mince (often made with soya, pea, chickpea, or lentil or faba bean protein)
- Vegan, vegetarian and plant-based ready meals and home-cooked dishes
- Falafel (made with chickpeas or faba beans)
- Tofu, tempeh.

### Bakery foods

- Bread and bakery items (commonly contain soya flour; some contain lupin or faba bean flour)
- Seeded bread or high protein bread may contain kibbled soya, beans or lentils
- Chapatis and chapati flours.

### High Protein plant-based products

- High protein modified foods (e.g. protein bars/cereal bars, shakes, pasta, fortified breads and cereals) may contain pea, chickpea, faba bean, lupin, or soya protein isolates or concentrates.

### 'Free From' and 'Gluten Free' Products

- Dairy-free, egg-free, and gluten-free foods often contain legume ingredients
- Gluten-free baking mixes and products (may include chickpea flour, lupin flour, or pea protein)
- Gluten-free pasta and noodles often made from lentil, chickpea, pea, or soya flour
- Aquafaba (the liquid from cooked or canned beans, usually chickpeas) is commonly used in egg-free baking for its foaming properties.

### Dairy Alternatives

- Plant-based drinks and yogurt, cream, cheese, butter/spread substitutes may be based on soya or pea or include legume-based protein or additives such as lentil or faba bean preparation

### Dips & flavourings

- Hummus and other bean/lentil dips
- Soya sauce, tamari, miso, black bean sauce, red bean paste
- Sauces that contain these e.g. teriyaki, hoisin sauce

### Snacks

- Poppadoms and papads (usually made with black gram/urad dal which may be labelled as 'lentil flour', sometimes made with chickpea or flour from other legumes)
- Legume-based crisps: pea crisps, lentil puffs, hummus chips, chickpea puffs, triangles, pea & bean sticks
- Roasted or spiced legumes: salted chickpeas, wasabi peas, roasted faba beans
- Rice cake equivalent crackers e.g. chickpea cakes, lentil cakes

### Soups, Stews, Salads and Side dishes

- Lentil soup, split pea soup, mixed bean stew
- Vegetable soups may contain added lentils or beans
- Salads and side dishes may include a variety of legumes as well as sprouted legumes or shoots

### Foods and Dishes from Around the World

- Asian (Japan, China, East Asia &

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Indonesia): Tofu, bean sprouts, soy sauce, black bean sauce, tempeh, red bean soup, red bean desserts (mochi, dorayaki, red bean buns, shaved ice), mung bean pancakes and mung bean porridge

- Indian: Dal, chana masala, bhajis, pakoras, Bombay mix, besan chilla
- Middle Eastern: Hummus, falafel, fava bean dishes (ful medames), lentil soups
- Mexican & Latin American: Refried beans, burritos, chilli, enchiladas, feijoada, tacu tacu
- French/Mediterranean: Cassoulet, bean salads, gigantes plaki, socca, panelle
- African: Bean stews, ewa riro, mbaazi wa nazi, shiro
- Eastern Europe & Caucasus: Lentil soups, lobio, pilaki, fasolka po bretořsku
- North America: Chili, succotash, black-eyed peas with greens, bean burgers

## Management and avoidance

Allergy to legumes is managed by strictly and completely avoiding all forms of the food a person is allergic to. This includes avoiding additives derived from the legume(s) of concern e.g. isolated protein, fibre, or aquafaba (the water it has been soaked in).

It is important to be aware of which type of legumes need to be avoided, and which are safe to eat. This may mean needing to be familiar with lots of different types of legumes, the way that they look and which names can be used to describe them.

Sometime peas, beans, chickpeas and lentils are confused. Lentils are usually smaller, flatter, and more disk-shaped. Beans tend to be larger, plumper, and more oval or kidney shaped. Peas and chickpeas are typically round when whole and appear semi-circular when split. Split mung beans and split peas can resemble lentils, but lentils are often thinner and flatter in comparison. If you are unsure about what the food is and whether it is safe for you - don't eat it. This table highlights the different legume groups and where some of these foods are typically found:

Category	Types/names of legumes	Food examples
BEANS Phaseolus genus (the common bean)	Black bean/Turtle bean, Borlotti bean/Cranberry bean, Butter bean/Lima bean, Cannellini bean, Flageolet bean, Flat beans/Helda beans, French bean/Green bean/String bean, Great Northern bean, Haricot bean/Navy bean/White bean, Kidney bean, Marrow bean, Pinto bean, Runner bean	Sprouts and shoots from these beans  Tinned beans, baked beans, salads, chilli con carne, burritos, refried beans, cassoulet, plant-based meals, Caribbean 'rice and peas'
Vigna genus (Asian and African beans)	Adzuki bean (also called red bean), Black gram/Urad dal, Cowpea/Black-eyed pea, Moth bean, Mung bean/Green gram, Rice bean.	Beansprouts (often mung bean), poppadums (black gram/urad dal), sweet red bean paste, red bean soup, dosa, dal makhani, medu vada, Hoppin' John, lobia curry, moong dal, tauge goreng, mung bean soup, khichdi/kitchari
Vicia faba	Broad bean/faba bean/fava bean	Roasted fava bean, faba bean protein/preparation in dairy-free milk alternatives, bread/bakery items and other processed foods
Cajanus cajan	Pigeon pea/toor dal (also called gungo peas)	Traditional dishes from the Caribbean, Africa and India e.g. Jamaican 'rice and peas', pelau, arroz con gandules, mbaazi wa nazi, githeri, toor dal (or arhar dal), sambar
SOYA Glycine max	Soya, edamame, sprouts and shoots from soya	Tofu, plant-based meat substitutes, dairy-free alternatives e.g. soya-based drink/yogurt/desserts/ice cream.  Many bread and bakery foods, processed foods and plant-based protein powders.
CHICKPEA Cicer arietinum	Chickpea is also known as: Garbanzo bean, Bengal gram, Egyptian pea, Chana dal and Gram.  Sprouted chickpea	Used in gram flour and besan flour.  Falafel, hummus, bhajis, pakoras, certain poppadums, dal, chickpea-based crisps, socca

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Category	Types/names of legumes	Food examples
LENTILS  Lens culinaris	All varieties of lentils:  Brown lentils, green lentils (including Puy lentils/ French lentils/speckled lentils/lentils vert), red lentils (masoor dal), yellow lentils (hulled red lentils – NB! different from yellow split peas), black lentils/ Beluga lentils, ivory lentils (hulled black lentils), Spanish pardina lentils.  Sprouted lentils or lentil shoots	Used in soups, lentil crisps, plant-based dishes such as lentil cottage pie  (Note: many legumes thought of as “lentils” or dal/daal/dhal in South Asian cuisine are beans or peas e.g. black gram/urad dal, mung, chana, toor daal or split peas)  Lentils are usually smaller and flatter in shape than beans
PEA  Pisum sativum	Garden pea (green pea), Snow pea, Sugar snap pea  Dried peas and split peas  Pea flour, pea protein, pea fibre  'Matar'	Pea-based dairy alternatives, pease pudding, mushy peas, curries like matar paneer, aloo matar, matar masala, pea soups, often in risotto, paella, samosas and pakoras.  Pea flour is often added to gram flour and besan flour. Pea protein is added to numerous processed foods.
LUPIN  Lupinus	Seeds and flour	Lupin beans are eaten as snacks in Mediterranean countries. Lupin flour may be used in bread, pastries, cakes, biscuits, pizza bases, and gluten free products
Fenugreek/ methi  Trigonella	Leaves, seeds	Curry powder, spice blends, Indian dishes, herbal teas and supplements

## Labelling and eating out

There are 14 regulated food allergens in the UK and EU (note that this does not apply for other areas of the world) that must be highlighted on food ingredients lists of prepacked foods. Food businesses that sell loose foods must also provide information about these allergens. Lupin, peanut, and soya are included in these 14 regulated allergens, but no other legumes. Therefore, people with allergy to other legumes must be extra careful to avoid the foods. Pre-packaged foods must always have a full list of ingredients and food businesses providing loose foods are encouraged to provide full list of ingredients, if possible and when asked for.

It's essential that a person with legume allergy checks the ingredients of foods carefully whilst also being aware of different names that can be used for different legumes. For example, chickpea may be called gram, besan, garbanzo or chana dal, and broad bean may be called faba bean or fava bean. 'Lentil' can be used on food ingredients to mean any kind of pulse (e.g. black gram/urad dal in poppadums) and extra care must be taken to avoid 'lentil' when it is not clear what actual legume it contains. Protein and fibre isolated from legumes may be listed only as 'vegetable protein' or 'vegetable fibre' and must be avoided.

If you are in doubt about whether the food contains a legume that needs to be avoided, do not eat the food.

It is important to read the full ingredient list every time, even for foods you usually eat without problems. This is because the food industry frequently changes ingredients. It has become increasingly common to add legumes to recipes and the food packaging may look identical after the recipe change. For further information about food labelling, see our factsheet on [food labelling](#) and our leaflet, [decoding allergen labelling](#).

Although research is limited, legumes such as chickpeas, lentils, and peas are believed to be among the most common food allergens outside of the 14 major allergens regulated in the UK and EU. This is something that the Food Standards Agency (FSA) is collecting information about and it is possible that labelling laws about food allergens may change in future.

To avoid legumes that are not included in allergen information when eating out eating out or ordering takeaway food, it is important that you make staff aware of the allergy and highlight the importance for staff to take strict precautions to ensure that the food served is completely free from the legume(s), including additives (e.g. vegetable protein in processed products – this can include 'free from' products) and sprouts and shoots derived from legumes used as garnish. If the food business is uncertain about their ability to do this, then it is not safe to eat the food served.

If you are eating out, it can be safer to avoid more types of legumes than you strictly need to avoid misunderstanding and confusion when ordering or buying foods. If you have communication difficulties or are going abroad, you might find having an [Allergy UK Translation Card](#) helpful.

## Other legumes in food

We also use certain legume plants to make gums, thickeners, syrups and flavourings. These are typically used in very small amounts in foods and allergic reactions are rare. Gums may be more of a concern when used in larger amounts as a thickener to



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fluids such as anti-reflux formula and infant Carobel.

Most people with legume allergies will not need to avoid these foods. Talk to your healthcare professional if you are unsure or concerned about reacting to any of these.

## Other legumes in foods that rarely cause allergic reactions

CAROB Carob bean, carob flour, carob syrup	Carob bean is often used as a chocolate substitute. Although uncommon, allergic reactions to carob have been reported, particularly when adults have exposure to carob flour in the workplace. Carob syrup is very unlikely to trigger allergic reactions.
GUMS Carob bean gum/locust bean gum (E410) Guar gum Tara gum Tragacanth	These gums are used as a thickener and emulsifier in foods such as plant-based drinks, yoghurts and dressing. Carob bean/locust bean gum is used as a gum-based thickener in anti-reflux formula milk and infant Carobel. There have been case reports of allergic reactions in infants.
Alfalfa and Clover	Mostly used in animal feed; occasionally used sprouted for human consumption
Liquorice root	Liquorice is used in sweets, as a flavouring and in herbal teas
Jicama	The jicama root is a root vegetable used in Mexico and Central America. Only the root is edible -the rest of the plant, including seeds and leaves, is toxic.
Tamarind	The pulp from the bean pod is used as a paste, concentrate or powder to flavour food such as chutneys and curries
Kudzu, also called Chinese arrowroot or Japanese arrowroot	Used as a gluten free thickener

## Final note

Allergy to legumes is becoming more common, but it can be particularly difficult to avoid those that are not included in the 14 allergens regulated by food law in the UK and EU. Proper diagnosis, awareness of which legumes must be avoided, and which can be safely eaten, and careful checks of all food ingredients in prepacked foods and when eating out are crucial for staying safe with a legume allergy. If an allergy to a legume is suspected, see a health professional for further advice.

## Clinical contributions:

### Allergy UK Clinical Team

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