

However, there are a number of ways to significantly reduce the gas-producing factors associated with pulses:

1. Cook pulses thoroughly as undercooked starch is harder to digest.
2. Change the soaking water 2 or 3 times during the long cold soak.
3. When using canned pulses, or after dried pulses have been soaked, rinse thoroughly before cooking.
4. Do not use the soaking liquid to cook the pulses.
5. Regular consumption gives your digestive system a chance to adapt and the intestinal gas problem will decrease. Start with small amounts, drink lots of water and gradually increase your pulse intake.
6. There are digestive enzymes on the market in liquid and pill form that help to eliminate gas. They are available in health food stores, pharmacies and most grocery stores.

### Cooking Times

Pulse	Soaking Requirement	Cooking Time
Beans	Yes	45 – 60 minutes
Peas		
Whole	Yes	1 – 1 ½ hours
Split	No	40 – 45 minutes
Lentils		
Whole Green	No	30 – 45 minutes
Split Red	No	10 – 15 minutes
Chickpeas	Yes	1 – 1 ½ hours

For more information and great recipes, visit [www.pulsecanada.com](http://www.pulsecanada.com)

Other fact sheets available include:

- Peas – Nutrition Information and Products
- Lentils - Nutrition Information and Products
- Beans, Peas, Lentils and Weight Management
- Beans, Peas, Lentils and Cardiovascular Disease
- Beans, Peas, Lentils and Diabetes
- Beans, Peas, Lentils and Cancer

## Guide to Cooking Beans, Peas and Lentils

### Why Eat More Pulses?

Pulses, or beans, peas, lentils and chickpeas, offer many nutritional advantages which make them suitable for a healthy diet. They provide almost twice the amount of protein than cereal grains, have high levels of dietary fibre, as well as important vitamins and minerals and contain virtually no fat. Many health organizations recommend pulse consumption for maintaining good health and preventing chronic diseases. The USDA Dietary Guidance recommends consuming 3 cups of beans (pulses) per week. Canada's Food Guide to Healthy Eating recommends eating beans and lentils more often. Research studies have demonstrated that regular pulse consumption can increase feelings of fullness and control appetite, lower blood cholesterol levels, improve blood glucose control, and reduce risk of some cancers.

In addition to their nutrient density and health benefits, pulses are an economical food choice and can be used for many different food applications. Pulses and flours made from pulses do not contain gluten meaning they are suitable for people who cannot digest this protein that is found in wheat. Pulses are also an important part of vegetarian diets because they contain a high amount of protein. Plant sources of protein do not require as much energy to produce as compared to animal protein which is good for the environment. Growing pulses in rotation with cereal crops is also good for the environment since pulse crops do not require nitrogen containing fertilizers which release nitric oxide, a greenhouse gas. Lentils and split peas are the “convenience” pulses because they require cooking times similar to rice, etc. Other pulses can be pre-cooked and frozen or cooked in a pressure-cooker to increase the convenience. Proper preparation and cooking of pulses, however, is important to optimize their taste, texture, and nutritional properties.

### Shopping for Pulses

Pulses, or lentils, peas, beans and chickpeas can be found in most supermarkets, health food stores and ethnic food specialty stores. They are available uncooked, dried in bags or in bulk, or pre-cooked in cans or sometimes frozen. When buying dried pulses, look for bright color seeds, uniform size and smooth skins without chips or shriveled seed coats.

Canned pulses are very convenient as they are pre-cooked and ready to use. Always drain and rinse canned beans before adding them to your recipe. A 540 ml (19 oz) can of drained pulses is approximately equal to 500 ml (2 cups) of cooked pulses. A 398 ml (14 oz) can of drained pulses is approximately equivalent to 375 ml (1 cup) of cooked pulses.

### Storing Pulses

Dry lentils, peas, beans and chickpeas will keep almost indefinitely if stored in tightly covered containers in a dry place at below 21°C (70°F). When exposed to light for long periods of time, pulses tend to lose their color, but flavor, nutrition and texture will not be affected as long as they are tightly sealed. However, the longer a pulse is stored, the drier it becomes which increases its cooking time and means the product may remain slightly tough after cooking. Therefore, it is best to use dry pulses within one year of purchase.

*A great timesaving tip: cook more pulses than you need for one recipe and refrigerate or freeze the remainder.*

Cooked pulses store well for 1-3 days in the refrigerator or for several months in the freezer. To freeze, cool the pulses, then store in plastic bags or containers in 250 to 500 ml (1 to 2 cup) portions ready to add to your favorite recipe.

### Soaking Pulses

Some pulses must be soaked prior to cooking as their skins do not readily absorb water. Water can only enter through the small end formerly attached to the plant's stem. Soaking pulses speeds up the cooking time and increases their digestibility. Dried lentils and split peas do not require soaking and only need to be rinsed before cooking. Dried beans, whole peas and chickpeas do require soaking before cooking.

Before soaking or cooking dried pulses, pick them over to remove any shriveled or broken seeds or any foreign matter such as dried soil or pebbles, then place in a sieve and rinse under cold running water.

There are three methods of soaking pulses:

1. *The Long Cold Soak or Overnight Method:* For every 250 ml (1 cup) of beans or whole peas, add 750 ml (3 cups) of water. Let stand 12 hours or overnight in the refrigerator. Discard soaking water and cook beans or peas according to recipe.
2. *The Quick Soak Method:* For every 250 ml (1 cup) of beans or whole peas, add 750 ml (3 cups) of water. Slowly bring to a boil and boil gently for 2 minutes. Remove from heat, cover, and let stand 1 hour. Discard soaking water and cook according to recipe. Using this method beans absorb as much water in 1 hour as they do in 15 hours soaking in cold water.
3. *Microwave Soak:* For every 250 ml (1 cup) of pulses, combine with 750 ml (3 cups) of water in a suitable microwave casserole dish, cover, and microwave on high for 10-15 minutes; let stand for 1 hour.

Regardless of the soaking method used, discard the soaking water afterwards and rinse the pulses in a sieve under cold water. This will wash away gas-producing complex carbohydrates or sugars (responsible for flatulence) and will further increase digestibility.

### Cooking Pulses

#### *Cooking Dried Pulses*

Pulses can be cooked in a saucepan on top of the stove, in a slow cooker, in a pressure cooker, and for certain recipes such as baked beans, in the oven. Basic cooking principles remain the same regardless of which method is used. Acidic ingredients (such as tomatoes and vinegar) should be added only when the pulses are already tender, as acids and salt slow down the cooking process. Seasonings such as garlic, onion and herbs may be added to the cooking water right from the beginning.

The use of baking soda in pulse cooking water is not recommended. Some recipes suggest the addition of baking soda (sodium bicarbonate) to speed up the softening of pulses during cooking, especially if using hard water. This increases water absorption, however, baking soda destroys thiamin, affecting the nutritional status of the final product. It may also affect the texture of pulses, making them too soft. For these reasons, adding baking soda to pulse cooking water is not recommended. If hard water must be used and requires the addition of baking soda, the amount of baking soda should be regulated to 0.5 ml per 500 ml (1/8 tsp. Per 16 oz) of cooking water. Soft water is preferable for both soaking and cooking.

#### *Stove Top Cooking*

To cook dried pulses on top of the stove, combine pre-soaked pulses with water, 5 ml (1 tsp) of oil (optional), to prevent foaming, and seasonings in a heavy saucepan. Be sure to use a large enough saucepan, as pulses double to triple in volume during cooking. Bring to a boil, cover tightly, reduce heat and simmer until they are just tender and not mushy.

Always simmer pulses slowly as cooking too fast can break the seed coats. Cooking times will vary with the type, age and quality of the pulses, as well as with altitude and the hardness of the water. Approximate cooking times are provided below, but the best way to check if pulses are done is to taste them. Cooked pulses should be tender, free of any "raw" taste, and able to be crushed easily in your mouth. A 250 ml (1 cup) measure of dried pulses will yield approximately 625 to 750 ml (2 to 3 cups) when cooked.

#### *Pressure Cooker*

Pressure cookers cut down cooking time significantly, making pulse-cooking more convenient. Follow the manufacturer's instructions for operation.

#### *Oven Cooking*

Some traditional pulse recipes call for baking in the oven over long periods of time. To reduce the cooking time for these dishes, a combination of stove top followed by oven cooking can be used. Make sure sufficient liquid is present at all times during baking to prevent drying and hardening of the pulses.

#### *Slow Cooker*

Slow cookers offer a real time advantage in that they cook without any attention. Experiment with your own slow cooker and follow manufacturer's instructions for the best result.

#### *Pulse Purée*

Some recipes, including those for baked products or dips may call for a pulse purée. Follow these instructions to make a purée from any type of pulse.

- 250 ml (1 cup) dried pulses
- 625 ml (2 cups) water

Rinse pulses and pre-soak if required (beans, whole peas, chickpeas need to be soaked as described under "Soaking Dried Pulses"). Place in saucepan and cover with water. Bring to a boil and reduce heat. Cover and simmer until the pulses are very tender (40-50 minutes for lentils or split peas; 1 - 2 hours for beans). Drain and rinse. Place pulses in food processor and blend, adding enough water to make a smooth purée with a consistency similar to that of canned pumpkin. Puree can be frozen in plastic bags or containers if desired and will keep for up to several months in the freezer. Makes 500 ml (2 cups).

#### *General Tips for Cooking Pulses*

Pulses may create flatulence or gas for some individuals, but no more so than cabbage, broccoli, and many other vegetables and fruit. The complex sugars found in pulses cause gas production. These sugars are not digested completely and therefore pass, undigested, from the upper intestine into the lower intestine. In the lower intestine, the oligosaccharides are then metabolized by bacteria. This produces gas and bloating for some individuals.