



# How to Avoid Food Poisoning from Undercooked Beans

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Have you ever cooked beans? Then, it is important that you read this article because according to a study conducted by Dr. Paul McNeil undercooked beans may cause temporary discomfort and even illness. <sup>[1]</sup> The reason that undercooked beans may cause temporary discomfort and even illness is due to the cooking process. Beans need to be cooked longer to break down the chemical composition of a natural insecticide that is found within the beans. This chemical is commonly known as lectin and its scientific name is phytohaemagglutinin. If the beans are not cooked properly it can cause a broad range of symptoms ranging from minor discomfort to very severe pain and even getting food poisoning. This article will inform how to prepare the beans properly before cooking them so you and your loved ones are not affected by this ailment.

## Steps

**1 Understand the potential dangers of eating undercooked beans and know the symptoms.** Poisoning by undercooked beans usually results in abdominal pain and can also lead to diarrhea and in some uncommon cases, hospitalization. However, recovery is usually rapid and spontaneous. If you have consumed undercooked beans, these may some of the symptoms:

- Nausea
- Vomiting
- Diarrhea
- Gas
- Abdominal pain.

**2 Give yourself enough time to cook beans.** Rushing the cooking process of the beans is not going to benefit you any, instead, it is better to cook the beans properly and to refrigerate them for tomorrow night's dinner, than to rush them and eat them underdone for tonight's meal.

- Have standby grains such as [couscous](#) and [burghul wheat](#) for a quick soak should the beans not be ready and you still need a substantial side dish of plant origin protein.

**3 Know the cooking times for the types of beans you're cooking.** These can vary according to the bean and you should know both the type of bean you're cooking and the length of time it requires to be both soaked (if relevant) and cooked for. Phytohaemagglutinin is found in its highest concentration in red kidney beans, so they're the ones to be the most careful about. Here are some cooking times to be aware of for each 1 cup of dried beans:<sup>[2]</sup>

- **Adzuki:** No soaking time needed, boil for 45-50 minutes or pressure cook for 15-20 minutes.
- **Black (turtle) beans:** Soak overnight, boil for 45-60 minutes, pressure cook for 15-20 minutes.
- **Black-eyed pea:** Soak overnight, boil for 1 hour, pressure cook for 10 minutes.
- **Chickpeas** or garbanzo beans: Soak overnight, boil for 1 1/2 to 2 1/2 hours, pressure cook for 15-20 minutes.
- **Fava** or **broad beans:** Soak overnight, cook for 45-60 minutes. Don't pressure cook. Also note that some people are unable to consume fava beans if they have a Glucose-6-phosphate dehydrogenase (G6PD) deficiency as this causes the disease favism.
- **Kidney beans:** Soak overnight, cook for 1 to 1 1/2 hours, pressure cook for 10 minutes. This is the bean to be very careful with as it has the highest levels of phytohaemagglutinin out of all beans.
- **Red lentils:** No soaking needed, cook 20-30 minutes or pressure cook 5-7 minutes. Always wash well and sieve to remove pieces of debris.
- **Green or brown lentils:** No soaking needed, cook 30-45 minutes or pressure cook for 6-8 minutes.
- **Lima beans:** Soak overnight and cook for 60-90 minutes. Don't use a pressure cooker.
- **Mung beans:** Soak overnight, cook 1 - 1 1/2 hours, pressure cook for 8-10 minutes.

- **Split pea:** No soaking needed, cook for 35-40 minutes, don't pressure cook.
- **Pinto beans:** Soak overnight, cook for 1 1/2 hours, pressure cook for 10 minutes.
- **Soybean:** Soak overnight, cook for 3 hours, pressure cook for 15 minutes.
- **White (Great Northern, Marrow, Navy, Pea) beans:** Soak overnight, cook for 45-60 minutes, pressure cook for 4-5 minutes.

**4 Prefer canned beans.** If you just don't have the time or patience for cooking your own beans, let someone else do the cooking for you and purchase pre-cooked canned beans.

**5 Get a pressure cooker.** Pressure cookers can speed up bean cooking time if you're in a hurry. Follow the cooker's accompanying instructions carefully.

## Community Q&A

### Are canned baked beans safe to eat the next day if they were not refrigerated after cooking?



No. You should eat any food that would normally be refrigerated and has been left at room temperature for more than 1 to 2 hours. This is because bacteria starts to form 1 hour after cooking. Also, most canned foods don't contain enough preservatives to prevent bacterial growth, as the canning is the preservative.

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## Tips

- Celiac disease is a common problem for people sensitive to gluten, a mixture of proteins that include lectins. Those who suffer from Celiac disease are unable to absorb nutrients after gluten ingestion.
- Lectin belongs to a family of proteins found in vegetables that may be toxic and repairs the tears in the cells walls by disabling GI tract cells. Experts also showed that lectin blocks mucus expulsion from cells.

## Warnings

- Long-term lectin consumption has been connected to celiac disease or colorectal cancer.
- Too much lectin that comes from undercooked food may result in nausea, vomiting, or diarrhea. The body tends to eliminate it before it becomes a problem though, unless there are other complications. See a doctor promptly if symptoms persist beyond 1-3 hours. If allergies are involved, see the doctor immediately.
- Pressure cooking beans (and other foods that foam when cooking) can cause danger of explosion and/or scalding. A foam is produced by beans that can foul the relief valve and has been known to cause excessive pressure, and rupture/explode the vessel. Best to be safe and boil at atmospheric pressure (if you have ever boiled milk you have seen foaming over, no doubt; cooked milk makes a glue called casein and can even make [milk into stone](#), when cooked with vinegar).

## Sources and Citations

1. <http://www.medicalnewstoday.com/releases/78478.php>
2. <http://weblife.org/beanchart.html>

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