



Are Lectins in Food Good or Bad for You?

Might lectins help explain why those who eat more beans and whole grains have less cancer?

Lectins are to blame for the great “white kidney bean incident” of 2006 in Japan. One Saturday evening, a TV program introduced a new method to lose weight. The method was simple: toast some dry, raw, white kidney beans in a frying pan for three minutes, grind the beans into a powder, and then dust it onto rice. Within days, a thousand people fell ill, some with such severe diarrhea and vomiting they ended up in the hospital. Why? Lectin poisoning. Three minutes of dry heat is not enough to destroy the toxic lectins in kidney beans. If you don't presoak them, you need to boil large kidney beans for a full hour to completely destroy all the lectins, though if you first soak them overnight 98 percent of the lectins are gone after boiling for just 15 minutes and all are gone by half an hour. And, indeed, when researchers tested the white beans, they found that toasting them for three minutes didn't do a thing. It's no wonder people got sick.

While canning may completely eliminate lectins from most canned beans, some residual lectin activity may remain in canned kidney beans, though apparently not enough to result in toxicity. And, ironically, “High doses of lectins may be beneficial by stimulating gut function, limiting tumor growth, and ameliorating obesity.” What? I thought lectins were toxic.

For as long as people have speculated dietary lectins are harmful, others have conjectured that they may be protective. “If this theory is correct, appropriate lectins by mouth should be of use in the prevention (and possibly treatment) of colon cancer.” Or, of course, we could just eat our beans.

Interest in the purported antitumor effect of plant lectins started with the discovery in 1963 that lectins could distinguish between cancer cells and normal cells. Researchers at Massachusetts General Hospital found a substance in wheat germ—the lectin in whole wheat—that appeared to be “tumor cell specific,” clumping together the tumor cells, while the normal cells were left almost completely alone.

*“True health
infuses posi-
tive energy
in the mind,
body, and
spirit, it is
an impor-
tant focus
for our
lives.”*

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Daily Dozen

nutritionfacts.org/daily-dozen

Dr Greger's Daily Dozen was developed based upon the best available balance of evidence. Rather than a meal plan or diet in itself, it is simply a checklist to inspire you to include some of the healthiest foods in your diet.

The Daily Dozen includes:

- Beans
- Berries
- Other Fruits
- Cruciferous Vegetables
- Greens
- Other Vegetables
- Flaxseed
- Nuts and Seeds
- Herbs and Spices
- Whole Grains
- Beverages
- Exercise
- Vitamin B12

Visit:

<https://nutritionfacts.org/daily-dozen/> to find out quantities and serving sizes.

Daily Dozen also has an helpful App to keep track of your daily intake and can be customized to meet your specific needs. - Available in the link above.

Nutritional Yeast Healthy for Everyone?

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Those with certain autoimmune diseases such as Crohn's disease should probably not eat nutritional yeast. Nineteen patients with Crohn's disease ate their regular diet for a month and were then switched to a yeast-exclusion diet. There was a significantly higher CDAI, Crohn's Disease Activity Index, which assesses symptoms like abdominal pain and diarrhea, during the period when they were eating yeast, compared to the yeast-free period

Lead Contamination in Hot Sauces

nutritionfacts.org

Lead contamination found in candies containing chili imported from Mexico, 25 hot sauces were tested for heavy metals. The most contaminated hot sauces had about a microgram of lead per teaspoon.

Subsequently, it was discovered that lectins couldn't only distinguish between the two types of cells, but also extinguish the cancer cells, while largely leaving the normal cells alone. For example, that same white kidney bean lectin was found to almost completely suppress the growth of human head and neck cancer cells, liver cancer cells, breast cancer cells, and cervical cancer cells (at least most of the way), within about three days—but that was in a petri dish.

Colorectal cancer is one thing. The fact that lectins can kill off colon cancer cells in a petri dish may be applicable, since lectins we eat may come in direct contact with cancerous or precancerous cells in our colon, "providing a mechanism" by which bean consumption may help in "the prevention and treatment of colorectal cancer." Even more exciting is the potential for effectively rehabilitating cancer cells. The "loss of differentiation and invasion are the histological hallmarks of malignant cells," meaning that when a normal cell transforms into a cancer cell, it tends to lose its specialized function. Breast cancer cells become less breast-like, and colon cancer cells become less colon-like. What these researchers showed—for the first time—is that the lectin in fava beans could take colon cancer cells and turn them back into looking more like normal cells. Before exposure to the fava bean lectins, the cancer cells were growing in amorphous clumps. But, after exposure to the fava bean lectins for two weeks, those same cancer cells started to go back to growing glandular structures like normal colon tissue. Therefore, dietary lectins or putting them in a pill "may slow the progression of colon cancer," potentially helping to explain why dietary consumption of beans, split peas, chickpeas, and lentils appears to reduce the risk of colorectal cancer based on 14 studies involving nearly two million participants.

"Although lectin containing foods," like beans and whole grains, "are frequently consumed cooked or otherwise processed, these treatments may not always inactivate the lectins...For example, lectins have been detected in roasted peanuts...." Peanuts are legumes, and we don't tend to eat them boiled but just roasted or even raw. Are we able to absorb the lectins into our system? Yes. Within an hour of consumption of raw or roasted peanuts, you can detect the peanut lectin in the bloodstream of most people. Same with tomatoes. Some of the non-toxic lectin in tomatoes also makes it down into our gut and into our blood.

In terms of phytochemicals in the fight against cancer, lectins are able to "resist digestion resulting in high bioavailability," potentially allowing "the cellular mechanisms of the host to utilize the full potential of the...dramatic anti-cancer benefits" lectins have to offer. So, maybe lectins are one of those protective compounds. We know people who eat more beans and whole grains tend to get less cancer overall, but we're just not sure exactly why.

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Refried Beans

Ingredients:

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|--------------------------|-------------------------|
| 2 lg onions, diced | 2 t chilli powder |
| 4 cloves garlic, chopped | 1 t salt |
| 1 T oil | 3 c pinto beans, cooked |
| 2 lg red capsicums | 2 T lemon juice |
| 1 t oregano | 140 g can tomato paste |
| 2 t ground cumin | Liquid from pinto beans |

Method:

In a saucepan saute onions and garlic in oil or water. Add capsicum and seasonings. Stir frequently. Once soft, reduce heat and add beans, lemon juice and tomato paste. Heat through. Process in the blender and add the liquid from the beans until desired consistency is achieved. Yield: 4-5 cups.

Note: Good for spreading in salad wraps or burritos.

—Ref. What's Cooking with Natural Foods, p.77