

Q: Do I need to be concerned about lectins in potatoes?

A: Lectins are naturally occurring proteins found in almost all plant foods, including potatoes.¹ Although considered toxic if consumed raw and in large quantities, lectins are readily destroyed by cooking and processing. Potatoes are rarely, if ever, consumed raw. Thus, eating normal amounts of cooked foods containing lectins (including potatoes) is of little to no health risk for most people.²

ORIGIN

Lectins gained notoriety in 2017 with the publication of *The New York Times* best-selling book, *The Plant Paradox*. The author, cardiac surgeon Dr. Steven Grundy, claims that lectins - a group of proteins found in abundance in legumes, grains and vegetables of the nightshade family including tomatoes and potatoes - are toxic to one's gut. He contends that consuming foods with lectins will cause severe gastrointestinal problems and may even lead to autoimmune disorders such as Crohn's disease and celiac disease.³ This is because lectins cannot be digested by human digestive enzymes and their chemical nature allows them to "stick" to the lining of the gut wall where they can cause inflammation resulting in "leaky gut syndrome," a condition in which the lining of the gut becomes damaged, allowing food particles and toxins to move from the digestive tract into the bloodstream. According to Dr. Gundy, reducing lectins in the diet can have far-reaching effects on health promotion, disease prevention and even weight loss.³ The book provides ample amounts of anecdotal evidence and testimonials, but no scientific evidence to support the author's claims.

FACTS

- Lectins are found in all foods, but are most concentrated in legumes and grains with lesser amounts found in other plant foods, including potatoes.²
- Lectins are a broad class of plant proteins (not a single protein). While some lectins are toxic, others actually have beneficial effects including enhancing immune function and destroying cancer cells.⁴⁻⁶
- Certain lectins can cause gastrointestinal problems, but only if eaten raw and in very high doses. Cooking completely denatures lectins; in fact, boiling legumes in water eliminates almost all lectin activity, and canning beans is just as effective. Soaking, sprouting and fermenting foods can also reduce lectins.²
- Foods containing lectins, including whole grains, legumes and potatoes, also provide significant amounts of key nutrients including B vitamins, fiber and potassium.
- The nutritional benefits of legumes, whole grains and vegetables like potatoes far outweigh any concern about the trace amounts of lectins contained within them.
- Potatoes are a nutrient-dense vegetable. A medium-size, 5.3 ounce potato with the skin-on is an excellent source of vitamin C, a good source of vitamin B6, and contains more potassium than a banana.

REFERENCES

1. Gong T, Wang X, Yang Y, Yan Y, Yu, Zhou R, Jiang W. Plant Lectins Activate the NLRP3 Inflammasome To Promote Inflammatory Disorders. *J Immunol.* 2017;198:2082-2092.
2. Mayo Clinic. Know Your Lectins. <https://connect.mayoclinic.org/page/gastroenterology-and-gi-surgery/newsfeed-post/know-your-lectins-1/> Accessed 5/20/19
3. Gundy SR. *The Plant Paradox: The Hidden Dangers in "Healthy" Foods That Cause Disease and Weight Gain.* Haper Wave. 2017.
4. Voidani A. Lectins, agglutinins, and their roles in autoimmune reactivities. *Altern ther Health Med.* 2015;21(Suppl 1):46-51.
5. Cheung RCF, Wong JH, Ng TB, Naude R, Rolka K, Tse R, Tse TF, Chan H, Sze SCW. Tuber lectins with potentially exploitable bioactives. *Curr Med Chem.* 2018;25:5986-6001.
6. Yau T, Dan X, Ng CC, Ng TB. Lectins with potential for anti-cancer therapy. *Molecules.* 2015;20:3791-3810.