

## Can You Use Corn Meal for Weed Control?

### AGRI-VIEWS

by Chuck Otte, Geary County Extension Agent

Last week started off with a friend sending me an article posted on social media that essentially said that you could sprinkle corn meal around your garden and it would keep weed seeds from germinating and growing. They wondered if this was correct. I'll just spoil the entire story right now and say, no it isn't correct, and then explain the rest of it. Sprinkling corn meal around your garden will attract ants, slugs and probably snails but it won't stop weed seeds from germinating. Thank you social media for giving me something more to write about.

In 1991 a patent was issued after it was discovered that corn gluten meal had potential as a natural pre-emergent herbicide. Corn gluten meal is a byproduct of the corn wet milling process. Corn gluten meal is NOT corn meal. There is a big difference. Corn gluten meal is about 60% protein. A researcher at Iowa State University found that it COULD inhibit crabgrass seed growth. Maximum efficiency occurred at the rate of basically one pound of corn gluten meal for every 11 square feet of lawn area. If you are having trouble visualizing that, it's roughly 3.3 feet by 3.3 feet. But, it needed to be applied about a week before the crabgrass seed germinated. Applying it a month before the seed germinated required much heavier rates to be as effective.

Corn gluten meal contains compounds known as dipeptides that when present in the soil in the presence of small seedlings inhibits root development and the seedlings die. It doesn't stop germination. The seed still germinates, but it does restrict root development and that is what kills the seedlings. Researchers have found that while it does seem to work on many weed species, it is more effective on some than on others and some plant species aren't affected at all. To make matters worse, researchers at other universities, reported that it either didn't work or was very erratic in it's effectiveness.

With all of that said, you can buy corn gluten meal products for pre emergent weed control. There are many products out there. But make sure that they are labeled for weed prevention. Some are only sold as fertilizer and those may not be the right form of corn gluten meal. Next, follow the directions very closely. You'll need to apply close to the time that weeds are germinating. You need a little moisture to activate the products but too much rain within the first week and it'll basically dilute things down to where you will get no control. The other thing you need to know is that these gluten meal products will add slow release nitrogen to the soil. So if they don't control the weeds, those weeds will now be growing faster!

Now let's get to the bottom line, cost. These natural products aren't cheap, especially when you figure out how often they need to be applied. I compared a well known brand that has the corn gluten meal garden weed preventer and their traditional product with the herbicide trifluralin (a herbicide that has been around for over 50 years). I found the cheapest price that I could for each product. The corn gluten product was going to cost \$8 per 100 square feet and you needed to reapply it every 4 weeks. The traditional product was going to cost \$1.33 per 100 square feet and needed to be reapplied every 9 to 12 weeks.

I appreciate the desire that some gardeners have to use "natural" products. They are out there and if used carefully and according the label directions, they likely will work. But the margin of error is small, and part of it (the weather) is going to be out of your control. Go ahead and try them, but be prepared for alternative weed control (hoeing or pulling) if the control breaks down! If you want more information on corn gluten meal, Iowa State University has a good web page: <https://www.hort.iastate.edu/horticulture-research/corn-gluten-meal-research/>