

APPLYING PRE-EMERGENTS

If you do not plan to do any seeding of turfgrass before fall, certain weeds, such as crabgrass, annual bluegrass, purslane, prostrate pigweed and knotweed, can be treated with a pre-emergence herbicide to keep the seeds from germinating. This will prevent weeds from establishing next spring.

Type of Weeds

When using pre-emergence herbicides, it is important to know whether the weeds you want to control are annuals, biennials, or perennials. The type of weed it is determines when it germinates, and if the herbicide is applied at the wrong time it will not be effective when the seeds you are targeting are sprouting.



CORN GLUTEN MEAL: A NATURAL HERBICIDE

By Steve Nichols, Soil Technologies Corp.

Environmentally safe weed control can be a challenge in landscape maintenance. Until recently there were no chemical-free methods to eradicate weeds other than hand-weeding. Corn gluten meal is a natural product that can safely inhibit germination of grass and weed seeds. In 1985, Dr. Nick Christians, of Iowa State University (ISU), accidentally discovered that corn gluten meal had pre-emergence herbicide activity. The control plot of a turf study showed thin seeded grass stands when pure corn gluten was used. Further study by Dr. Christians and his graduate students led to 4 patents on corn gluten and its active components over the last 15 years. Currently over 15 companies are licensed by ISU to sell corn gluten as a natural herbicide.

What is Corn Gluten?

Corn gluten is a by-product of the wet milling process of making cornstarch. Because it contains 60% protein, corn gluten meal is commonly used as an animal feed for cattle, poultry, other livestock, fish and some dog foods. The meal of corn gluten also contains naturally occurring substances which inhibit the growth of a weed seed's tiny feeder roots. The treated seedlings struggle to get enough moisture, which causes them to die before they ever have a chance to take hold. When used as directed, corn gluten acts as a pre-emergent herbicide that will not harm beneficial insects, soil organisms, pets, or children.

Since corn gluten kills only the roots of sprouting seeds, it can be used around transplants and established vegetables, flowers, fruit, shrubs and lawns. It can be used even up to the day

of harvest. Once grass, vegetable, or flower seedlings are established, it is then safe to apply corn gluten.

Corn gluten meal has another benefit for landscapers. It is 10% nitrogen by weight in a slow-release form. As the applied corn gluten decomposes in the soil it adds a substantial amount of plant available nitrogen. In university research, corn gluten treated plants consistently show superior color and quality.

Many manufacturers now supply corn gluten in a granular form for easy application with a standard fertilizer spreader. The recommended rate of application is 20lbs./1000 sq.ft. for lawn grass and up to 40lbs./1000sq.ft. on ornamental plantings.

Who Uses it?

Grounds managers that are looking for a non-chemical alternative have had success with corn gluten meal. Harley Carter, athletic director at Maharishi School in Fairfield, Iowa learned about corn gluten from Soil Technologies Corp. in Fairfield. The company is a licensee of the ISU patent on corn gluten and markets it's brand as Dynaweed. The Maharishi School's unirrigated soccer field was initially seeded in a mix of bluegrass and rye. "The grass hadn't grown in well and the field was in dire need of weed control," he said. "I wanted a natural means of controlling weeds". After hearing about corn gluten, Carter decided to give it a try. Corn gluten has been applied to the field each spring for 4 years now. "We apply it only in the spring because we're playing on the field in the fall," he noted. "It takes time, but there's no doubt that it works. Our soccer field looks as good as anybody's in the league now."

Research suggests that the effectiveness of corn gluten meal improves with every season of use. "Anybody who is looking for an alternative to synthetic herbicides should try it," says Don Morishita, University of Idaho extension weed scientist, "It's pretty effective. You have to keep using it, but that's the case with synthetic herbicides, too."