

# Increasing Corn/Soybean Yields In Nematode Infested Soils

CHARLESTON, MO.

Charleston, Missouri grower Donnie DeLine has sandy soils so full of nematodes that University of Missouri researchers often conduct nematode studies in his fields. However, by adding two products to his corn and soybean production programs, DeLine has increased his yields.

For four years, he has treated part of his corn acreage with ProAct foliar spray from Plant Health Care, Inc. for reducing nematode populations and improving overall plant health. Last year, his ProAct-treated corn averaged a 12-bushel yield increase. "Over the last four years, we have averaged at least an 8-bushel yield increase in ProAct-treated corn over our untreated corn," DeLine says. "Last year, we planted more corn acres than normal; we had a little over 7,000 acres of corn – most of our corn is irrigated. We applied ProAct on half of our corn last year, mainly on the nematode ground. The healthier plants were able to deal with the nematodes better and were able to produce more corn than the untreated acres."

ProAct is the only foliar spray product labeled for use against nematodes in corn. The product contains the second generation Harpin protein in a wettable dry granule formulation. ProAct is applied at one-half ounce per acre as a foliar spray application with a minimum of 5 gallons of water per acre. The application is typically applied with the first post-emergence herbicide application. A single application is recommended anytime between the two-leaf stage (V2) through pre-tasseling. ProAct may be applied by ground or air, and may be tank-mixed with glyphosate and other herbicides, insecticides or fungicides.

"We apply ProAct with our post Roundup application so we don't have to make an extra trip," DeLine says. "There are no mixing problems and ProAct is an inexpensive treatment."

In addition to increased yields, DeLine also sees increased plant health in ProAct-treated corn. "The plants are much healthier, and they seem to have a little better color to them because of the health," he says. "Last year, we could tell pretty much to the row where we left checks in the field. We made two loads of Roundup with ProAct in one field and held ProAct out of the next load just to give us a check on the different varieties. The plant looked healthier, seemed to have a little more size to it, and more even tasseling. Sometimes it takes a field 10 to 12 days to pull a tassel when it starts. The treated corn was more consistent, which meant it was going to pollinate more consistently."

#### Combination treatment.

Last year on 200 acres of his most heavily nematode infested corn fields, DeLine used a combination of N-Hibit CST seed treatment and ProAct foliar spray. N-Hibit CST is a seed treatment from Plant Health Care, Inc. for reducing nematode populations and improving overall plant health. The product is the only nematode seed treatment labeled for use in corn. N-Hibit CST contains the HarpinEa protein in a formulation that is available only through Commercial Seed Treater facilities. The recommended use rate is 0.75 ounces (wetable dry granule) per 100 pounds of seed.

"N-Hibit really helps on the nematodes," DeLine says. "We treated some corn seed with N-Hibit and followed later with ProAct. Those yields were even stronger with the combination versus the N-Hibit or ProAct alone. We saw a 16- to 17-bushel yield increase where we used both products together. We used the products where we have sandier soils with higher concentration of nematodes."

"The combination did so well, and with the price of corn, we plan to expand the use this year. I want every bushel off an acre of corn that I can get when we're spending two to three times more per acre this year on fertilizer and diesel. If we spend an extra bushel of expense to add the N-Hibit and the ProAct to gain 17 to 18 bushels more per acre, then it more than pays for itself."

"N-Hibit also offers a more consistent corn stand in the nematode ground. We plant 32,000 plants per acre and we'll actually have 31,000 or better as a final stand count with our

treated seed. Where we didn't have the N-Hibit on the nematode ground, we might end up with a 28,000 to 29,000 stand count. N-Hibit gives you a more consistent stand, which helps with the increased yield. Corn planting seed is expensive so by cutting back on our seeding rate we help pay for the treatment, which more than offsets the price of N-Hibit. And we still get better stands."

#### Soybeans.

After using ProAct in corn for several years, DeLine decided to try N-Hibit Gold CST on some of his soybeans last year. N-Hibit Gold CST is a new soybean seed treatment for reducing Soybean Cyst Nematode (SCN) populations. The product is the only seed treatment labeled for use against SCN in soybeans. N-Hibit Gold CST contains the second generation Harpin?? protein in a formulation that is avail-



## Satisfaction Guaranteed

Plant Health Care, Inc. (PHC) will issue a refund for the full purchase price of the N-Hibit and/or ProAct applied to any cotton, corn or soybean acreage in 2008 where the end-user (farmer) is less than satisfied with the performance of N-Hibit and/or ProAct. Refunds under the terms of this program will be paid via check from PHC, issued joint-payable to the retailer from whom the N-Hibit and/or ProAct was purchased and the farmer. For more details, go to [www.planthealthcare.com](http://www.planthealthcare.com) or call 800.421.9051. Δ

able only through Commercial Seed Treater facilities. The recommended use rate for N-Hibit Gold is 0.25 ounces (wetable dry granule) per 100 pounds of seed.

"We tried N-Hibit treated soybeans for the first time in 2007," DeLine says. "We planted the N-Hibit treated soybeans on sandy ground behind potatoes, which are major hosts for nematodes. We planted on June 26 and left a check. Our N-Hibit treated soybeans averaged 5 bushels of beans more than the check. At today's prices of \$12 beans, that equates to \$60 more per acre."

"Additionally, I normally plant heavily since I expect to lose 10 percent of my stand to nematodes. But by using N-Hibit, I can cut back on my seeding rate, which will help pay for the treatment."

"We normally plant 180,000 to 185,000 plants per acre on heavy nematode ground. Now we can get by with 140,000 to 150,000 plants per acre and still have the same resulting stand count by the time nematodes take out 20 percent or more of our untreated soybeans."

"I plan to use N-Hibit treated soybean seed on every acre of sandy and/or nematode ground that we have this year, which will be about 2,000 acres."

This year, DeLine also plans to try a combination treatment of N-Hibit and ProAct on some of his beans. "With \$14 soybeans, and as good of products as N-Hibit and ProAct are, there's no point in not trying the combo treatment to see if we can enhance yields ever further."

ProAct foliar spray reduces Soybean Cyst Nematode (SCN) populations and improves overall plant health. ProAct is the only foliar spray product labeled for use against nematodes in soybeans. Δ