

Soybean Product Information:**Fresh rhizobial inoculants recommended for soybeans planted into continuous corn acres in 2009**

Ames, Iowa – March 19, 2009 – With soybean production expected to approach a record 80-million acres in 2009, many growers will be rotating land back into soybeans after several years of continuous corn. When doing so, university experts say, growers should expect significantly depleted populations of nitrogen-fixing *rhizobia* bacteria in these soils. To avoid the performance losses typically associated with inadequate nitrogen, these experts are recommending that producers inoculate their soybean seed with fresh rhizobial inoculants.

These naturally occurring *rhizobium* bacteria release compounds that cause legumes, such as soybeans, to develop nodules on their roots. The bacteria move into these nodules where they grow and multiply. In this protected environment, they also extract environmental nitrogen from the air and turn it into a nitrogen form the plant can use to grow and produce a crop. Commercial inoculants, such as VAULT[®], from Becker Underwood, use *rhizobia* strains that are selected for their ability to fix nitrogen, and, ultimately, increase the yield of the soybean plant. Without adequate numbers of these highly active fresh *rhizobia*, crop performance suffers.

“Typically, fields that have been in continuous corn for several years will have *rhizobium* cells, but the populations are very low and they don’t generate enough nodules to supply adequate nitrogen for a high-yielding soybean crop,” explains Jim Beuerlein, professor of agronomy and soybean research and extension specialist for The Ohio State University. “In this type of situation, it is very likely that a grower will see a large yield response from inoculation.”

University studies show that growers normally can expect an average yield benefit of 2.5 bushels per acre from the use of inoculants in fields that are rotated to soybeans every other year. However, the yield benefit often is significantly greater in fields where soybeans have not been planted in several years, such as continuous corn or CRP acres.

Charlie Hale, U.S. inoculant product manager for Becker Underwood, says there is evidence that *rhizobia* become less productive, or “lazy,” when exposed to high nitrogen levels, as is typically the case on ground planted to corn. *Rhizobia* that survive in the soil from one year to the next are not necessarily the best strains when it comes to fixing nitrogen for the soybean plant.

“As farmers look to reestablish their regular crop rotations and think about planting more soybeans in 2009, they really need to make sure they inoculate their soybeans with a fresh, high-quality rhizobial inoculant,” he says. “This will help ensure that *rhizobia* populations are present in the numbers and strains needed for maximum nitrogen fixation and, ultimately, greater yield.”

Inoculants offer additional benefits, Hale notes. Well-nodulated soybeans, for instance, are capable of producing a nitrogen credit of as much as 120 pounds per acre, although around 40 pounds per acre is more typical. This nitrogen is in the soil, in a highly stable form, and available for use by the next year’s corn or small grains crop. This nitrogen also reduces the amount of

costly synthetic nitrogen fertilizer the producer must purchase in order to produce the following year's crop, he says.

There is an environmental benefit, too. "The production of synthetic nitrogen fertilizers generates large volumes of carbon emissions," Hale says. "Reducing the need for synthetic nitrogen fertilizer decreases greenhouse gas emissions. Also, by applying less nitrogen to their fields, growers lower the risk of nitrogen leaching into the groundwater."

Becker Underwood produces three VAULT brand soybean inoculants. These include VAULT LVL, a low-volume liquid inoculant system that also includes a biological fungicide for increased disease protection. Initially introduced as a professionally applied product, VAULT LVL has recently received approval for on-farm application by growers. Additional VAULT formulations include VAULT NP (formerly known as NOD+™) and VAULT SP (sterile peat).

Learn more about VAULT inoculants at www.BeckerUnderwood.com or by visiting your local dealer or seed treater. Please call 1-800-892-2013 if you need help locating a dealer in your area.

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