

January 23, 2015

SOYBEAN SEED TREATMENTS

Farmers are looking at ways to trim input costs due to lower commodity prices, however, cutting costs is usually not easy and certainly one does not want to take a step backwards in profitability. Some crop expenses such as crop insurance may naturally decline in 2015 since premium costs are linked to lower commodity prices. Fertilizer costs too may be less, if energy prices continue to trend lower. However, variable costs such as using soybean seed treatment as “cheap insurance” may be less accepted now with lower commodity prices and narrow profit margins.

For soybean growers, many seed treatments are available to choose from including inoculants, fungicides, insecticides, and combination products. Where growers have not grown soybeans for the past four years or more, inoculant (*Brady rhizobium japonica*) seed treatment is likely to be a good investment. Furthermore, on CRP or grass put back into production, I recommend double inoculation that is fresh from the seed dealer and add seed box treatment too at planting.

Rhizobium bacteria are needed to form nitrogen fixing nodules on soybean roots. Since neither soybeans nor *Brady rhizobium japonica* are native to United States soils, the bacteria must be added to the fields through inoculated soybean seeds or carried over with formerly nodulated soybean roots. These bacteria cause the soybean nodules to produce 40-80% of the soybean’s nitrogen needs for the growing season. Soybeans need 3-4 pounds of nitrogen per bushel of soybean seed produced, therefore, inoculated treatments are very beneficial when needed.

During the 2014 Soybean Management Field Days, University soybean seed treatment trials revealed that while seed treatments can be effective in managing fields with stand problems, seed treatments do not consistently reward significant yield increase. In UNL trials, the highest potential yield response occurred when a combination fungicide plus insecticide was applied at the reproductive (R3-R4) soybean growth stage resulting in a 2 to 4 bushels per acre yield increase. However, many treatments did not provide a yield advantage. Further, risks such as insecticide and fungicide resistance developing, environmental contamination and wasted production expense (even when the cost was only a few dollars per acre) occur without justification on adding seed treatments.

UNL Extension specialists advise using the following guidelines for soybean seed treatment use. First, on early planted fields, fungicide and insecticidal soybean seed treatments are a good idea. Cool, wet soils associated with early planting may cause increased seedling root rots. Also, fields with a history of soybean insect pests such as bean leaf beetles may justify seed insecticide treatments.

Finally, consider using a fungicide seed treatment for fields with *Phytophthora* rot and stem rot disease history and always consider this on replanted soybeans. This soil borne fungus “rests” as spores in many Nebraska fields and may be a problem especially in years where fields with soil temperatures are consistently above 60°F combined with high soil moisture. Also, this disease is most common in low areas and poorly drained field zones. My suggestion is to always use fungicide treated beans on replant fields, as more often than not, soil pathogens are active waiting for an opportunity.



More soybean production and seed treatment guidelines are available at <http://cropwatch.unl.edu>

SAVE THE DATE - The Wilber Crop Clinic at Sokol Hall is Friday, February 13th, with more details next week.

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