The Benefits of Soybean Fungicide Seed Treatments
(Interim Report)

Purpose:

The use of seed treatments on corn and wheat are standard practice in Ontario. The majority of Ontario soybeans, on the other hand, do not receive a fungicide seed treatment. Since soybeans tend to be planted later than corn, soil conditions are generally more favourable for rapid crop germination and emergence. However, when conditions are wet and cool, soil borne diseases may cause considerable seed and seedling damage.

The extent of the damage these diseases may cause depends on moisture, temperature, overall plant health, and soil type. One of the most damaging scenarios can result from a wet spring followed by extremely dry summer, because of reduced root system development. Seed treatments are most beneficial when seedlings are stressed, during the first couple of weeks after planting. Cold wet soils, crusting, heavy rains, compaction, and even postemergent herbicides may all cause plant stresses, which make the seedlings more susceptible to diseases.

The purpose of this project is to investigate the benefits of newer fungicide seed treatments. The main question concerning soybean fungicide seed treatments that should be addressed is: Should fields at high risk of root rots (i.e. a history of disease, early planting, no-till, heavy soils, etc.) be planted with treated seed or should all soybean seed be treated with a fungicide.

Methods:

Full-length field strips were used to compare treated and untreated yields. Two replications were used in each trial. Eight sites in Perth, Huron, Middlesex, Lambton, and Wellington counties were compared in 2003.

Treatments included:

1. Untreated Seed Control
2. Seed Treated with a Fungicide Soybean Seed Treatment

Results/Summary:

This was the first year of a three-year study. Final results will be published at the end of the study period.

Next Steps:

New insecticide seed treatments will also need to be evaluated along with fungicide seed treatments. Soybean aphids have caused considerable damage since the first outbreak in 2001. New insecticide seed treatments have shown considerable promise in controlling this pest during the first 6-8 weeks after planting. Since lindane will no longer be available for the control of seed-corn maggot insecticide seed treatments also need to be tested to evaluate their potential to control this pest. Both insecticide and fungicide seed treatments will be evaluated in 2004.

Acknowledgements:

Thanks to all those co-operators who participated in the project. Special thanks to Syngenta Crop Protection and Gustafson for providing the seed treatments and Ridgetown College for treating the seed.

Project Contacts:

Horst Bohner, OMAFRA, Stratford, horst.bohner@ontario.ca. If you would like to be involved in this project please contact Horst.