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Producing High Quality IP Soybeans

By Eric Bosveld, CCA-ON

Asian market demand for Canadian grown, identity preserved food-grade soybeans remains strong. This is despite production and quality problems over the last few years, a higher Canadian dollar, increased freight costs and fierce competition from other regions. The Ontario industry has been challenged by adverse weather and severe crop stress caused by drought and aphids among other things. We need to remain focused on supplying a consistently high quality product. This article focuses on two production items that need close attention from Ontario producers to improve the quality (and yield) of IP soybeans: soybean aphids and crop rotations.

Lots of attention has been focused on the aphid situation in 2003, and there are many "experts" planning to make specific recommendations if they reappear in 2004 in significant quantities.

Undoubtedly, there were many IP fields in parts of Ontario that would have benefited tremendously if treated for aphids last year. Going forward, this situation needs to be monitored very closely to ensure that last year's mistakes are not repeated. Having your fields scouted regularly and consulting with your trusted CCA is a good first step. Your CCA operates under a signed "code of ethics" and is obligated to make recommendations that he/she believes is in your best interest and those that are based on sound science. Being prepared to act decisively and quickly on any recommendation to treat will be an important second step. In order to produce a quality crop with

decent seed size, we need to act aggressively in dealing with this pest. The potential for a lost premium must be considered when deciding whether to treat or not. Damaged, shrunken, and/or undersized seeds may result in rejection of your crop by your IP marketer.

A second, and often overlooked, production factor that can seriously impact your yields and soybean quality is the crop rotation you use (particularly in some years). Soybeans following soybeans tend to be more susceptible to a host of common diseases, some of which can directly affect the quality of the seed (downy mildew for example). Many soybean diseases can have a significant effect on the crop's development and its ability to withstand other stresses, such as drought or aphids. Some pests such as Soybean Cyst Nematode have an increased opportunity to build up populations in poor rotations to economically important thresholds. This could limit your options to participate in the IP market altogether, if you are forced to grow only resistant varieties.

Rotating different crops in sequence can break weed seed production cycles, disrupt proliferation of troublesome weeds well adapted to compete with soybeans and allows for the effective integration of a variety of chemical/cultural control methods.

However, what is often not fully considered is the impact the rotation can have on soil structure, and its ability to withstand compaction. Poor soil structure and/or compaction can have a direct impact on root development and plant vigour of any crop. In turn, crops with poorly developed roots cannot normally support a high yielding, high quality crop.

Roots require the right balance of air and moisture for proper development

Healthy and vigorous roots are needed to provide the soybean plant the opportunity to fully nodulate (provides the nitrogen to make the proteins needed for growth, development and accumulation in the seed), helps ensure adequate nutrient and water uptake and aids in recovery from disease and pest infections thereby reducing their impact.

Compared to grain corn or wheat, soybeans provide less long-term organic residue for subsequent crops.

Organic matter decomposition and the accumulation of humus over time provide for improvements in soil structure and its ability to withstand greater compactive forces.

It is often the interaction of stresses (weeds, diseases, aphids /insects, compaction etc.) on the plant that can cause serious damage in quality and yields. Eliminating or reducing many of these by practicing a good rotation will go a long way in those years in which the uncontrollable stresses are severe.

All the efforts you make in cleaning your planter, trucks, wagons, bins etc. and the care you take at harvest to ensure varietal purity of your IP soybean crop will only pay for itself when you have a high yielding, high quality crop to market. Controlling aphids when necessary and practicing good crop rotations are only two of many factors that will affect the crop yield and quality, but are undoubtedly two important ones to consider this year.



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There are over 500 Certified Crop Advisers (CCA) in Ontario. Each CCA has demonstrated their knowledge about Ontario crop production by passing the required exams. In addition, they have the crop advisory experience, the education, the commitment to continuing education and have signed a comprehensive code of ethics, which places the grower's interests first.

This industry driven program helps ensure that Ontario crop producers are well served by those providing their crop production advice. This article was written by one of those CCAs.