Field Crop Report

Ontario

Soybean Seasonal Summary—Horst Bohner

Soybeans continue to be the largest row crop in Ontario with an estimated 2.55 million acres seeded in 2013. Current high prices compared to other crops including corn suggest even higher acreage in 2014. The majority of the 2013 crop was seeded by May 20th while some areas could not finish until well into June due to excess moisture. Unfortunately, some unseeded acreage occurred due to excess rainfall. Spring frosts resulted in some limited damage but most of the crop had not emerged by the frost dates. Heavy down pours did occur in some areas and reduced plant stands which required replanting in some fields. Saturated soils resulted in more root rots than normal. Thin stands, white mold, soybean aphids, soybean cyst nematode, and Japanese beetles were some additional challenges faced by soybean growers in 2013. Excess water continued to be a problem into July for some resulting in tile run soybean, root rots, and pale crops. The relatively wet spring was followed by a dry August in the main soybean growing areas. Generally, a wet spring followed by a lack of moisture during August reduces soybean yield potential, but for the majority of growers, 2013 yields turned out to be higher than anticipated. With about 42% of acres reported to Agricorp to date the average yield across the province is 46 bu/ac. This number generally drops slightly as remaining acres are reported. The five year provincial average is 44 bu/ac. Although, harvest started with dry conditions the fall quickly turned wet. Areas with heavier textured soils, poorly drained fields, or regions experiencing continual showers struggled to get soybeans harvested. As of early December some acreage remains in the field. Favorable growing conditions, improved soybean genetics, as well as increased use of SCN resistant varieties have contributed the upward trend in yields. Soybeans are also more intensely managed today than they were 20 years ago. Visit gosoy.ca for the 2013 soybean performance trials. Variety selection is the single biggest decision a producer can make to improve yields.

Growing Season: Cool, wet conditions in June and July meant that root nodules took longer than normal to fix nitrogen from the air. This resulted in an obvious pale green color to the crop which has not been evident in recent previous years as the growing seasons were warmer and dryer during the late vegetative stage of development. The majority of soybean yield is set during the last half of July and the month of August, but September can be very important in determining yield. Growing conditions during that time have more impact on yield than growing conditions during the early stages of plant development. By the end of July many fields, especially in the central region were not in good shape. However, August and September had better weather conditions which coincided with the plant's reproductive growth stages, so much of the crop recovered. Soybean aphids were found across a wide geography but spraying was not required for the majority of the acerage in the southwest. Considerable acreage did reach threshold in eastern Ontario. In some cases aphid numbers dropped naturally due to insect predator feeding and weather conditions highlighting the importance of crop scouting in determining the need to employee expensive control treatments.

Soybean Cyst Nematode (SCN): SCN continues to spread across the province with confirmed sites all the way to Quebec. A Huron SCIA project conducted to raise awareness of SCN saw103 soil samples submitted to AAFC of which 54% had SCN present and 25% of the samples submitted had levels considered high. This is a strong reminder that every soybean grower should test for SCN. Once SCN is detected appropriate management strategies can be undertaken to limit yield losses (Photo to right).

White Mold (WM) WM is a serious soybean disease and can reduce yields by up to 75%. The disease is favored by cool moist conditions during flowering. It was a severe problem in isolated fields in the southwest and more of a general problem throughout eastern Ontario. Considering the relatively wet conditions experienced in some regions, WM pressure was actually lower than feared in the southwest. This was probably due to the low level of disease inoculum over the last few years. Make careful note of which fields were affected this year and plan accordingly for the next susceptible crop. There are large differences in variety tolerance to WM. Seeding rates should be kept low in fields with a history of the disease and the use of wider rows will help to lower moisture levels within the canopy.

Japanese beetle: Japanese beetle is rarely enough of a problem in soybean fields to require control measures. Populations are generally localized. However, if insect numbers are high they can defoliate soybean plants quickly over just a few weeks (Photo to right). A few fields in Ontario required control measures for Japanese beetle this year.

Cercospora: This leaf blight and purple seed stain are caused by a fungal pathogen which overwinters in soybean residue and seed coats. Infection of plants occurs during warm wet weather. Although yield losses are usually minimal from Cercospora, purple seed stain can significantly reduce seed quality. Purple seed stain was widely fund in many soybean seed samples this harvest. Management strategies for this disease include crop rotation, tillage, and an application of a foliar fungicide.

Harvest: Harvest started early but was interrupted by about three weeks of wet weather. Yields were reported to be as low as 11 bu/ac in fields with excessive rainfall or disease and as high as 80 bu/ac in areas with good moisture and tile drainage.

Challenges and Opportunities for 2014: It's estimated that up to 20% of Ontario fields are below ideal levels for potassium (K). Applying potassium in the spring before planting is an acceptable practice for fields with low soil test levels. Any field with less than a 100 ppm K may suffer significant yield losses, especially in dry years. A 50 bu/ac crop removes 70 lbs/acre of K. Sometimes plants show K deficiency due to the presence of Soybean Cyst Nematodes (photo at right). Always check for SCN if K deficiency symptoms are present in a field.

Good prices and relatively high yields over the last few years are expected to push acreage higher again in 2014. Shorter crop rotations will mean soybean growers have to be vigilant in selecting disease resistant varieties, scouting their crop, and applying inputs when and as required.