In Ontario, growers typically plant soybeans in mid-May. One management strategy that consistently leads to higher yields is early planting. Another strategy could be to plant longer-maturing varieties for a given area. With the introduction of CruiserMaxx seed treatment, higher plant populations can often be achieved under more stressful conditions, making it possible to plant earlier. A three-year study was conducted to determine if an early planting strategy along with the use of longer-maturing varieties can significantly increase yield potential.

Methods

The yield response to three soybean varieties (per region) was measured from planting at three time periods, early (April 15–May 5), normal (May 6–20), and late (May 21–June 5) over three years (2010–2012). Varieties were chosen over a range of maturities from an adapted variety for that site to varieties that were up to 200 crop heat units (CHU) longer maturing than the adapted variety.

During the three years of this study, eight small-plot trials were conducted each year in various locations. The trials were conducted at three public research stations, and six were conducted by Monsanto Canada Inc. These trials were located near Seaforth, Chatham, Ridgetown, Elora, Kemptville, Ayr, St. Hugues, and Coteau-du-lac. Plots were seeded using three varieties, including one that was planted with and without CruiserMaxx seed treatment. These treatments were replicated at least three times.

Results

In 2010, there was a significant advantage to planting early. Averaged across all the sites, there was a 3 bu/ac advantage over a normal planting date, and almost 10 bu/ac compared with a late planting. Due to the exceptional growing season, in almost all cases, the latest-maturing varieties were the highest-yielding soybeans at each location. In 2011, the results were affected by late planting conditions in the province. Yield response to planting date varied across varieties and site locations. Generally, the normal planted date and the early date yielded about the same. In some cases, adapted varieties that were seeded early suffered a yield loss compared with normal planting. In some cases, late planting yielded the highest. The most likely reason for this is the very dry July and early August experienced in 2011, which meant that beans planted at the normal time were trying to set pods when moisture stress occurred. Later-planted beans were still vegetative and so were not as adversely affected by this stress.

In 2012, the results may have been affected by prolonged dry conditions during early summer. Planting early generally provided no significant yield gains over the normal planting dates. It did, however, provide consistent and significant yield gains over late planting with all varieties. This demonstrates that there are fewer disadvantages...