

## Soybeans in Saskatchewan

Kevin Elmy PAg  
Friendly Acres Seed Farm

At Friendly Acres Seed Farm, we were looking for a crop to diversify into. We did not want to get into a crop that required a lot of market development but wanted a crop that was low maintenance and were able to use our present equipment. We came up with soybeans. Currently our rotation includes oat, winter wheat, winter triticale, canola, alfalfa, corn, and CPS wheat.

We started in 2001 with a conventional variety, 2002, 2 other conventional varieties, and in 2003 a different conventional variety. 2004 and 2005 we took time off because we could not find varieties that we thought would work. 2006, we found Quarry Seed at Brandon Ag Days and Ron explained to us why most soybeans were not working. We grew 30 acres in 2006, 240 acres in 2007, and scheduled to grow 410 acres in 2008. A significant amount considering we farm 1400 acres.

Soybeans are a C4 pulse crop so it fixes its own nitrogen. They are an excellent soil “scavenger”, able to get phosphate and potassium that most other crops cannot get from the soil. Iron, manganese, and zinc are the key micronutrients required.

From research from North Dakota, they are finding that narrow row spacing is returning higher yields. They are also finding that the timing of rolling does not influence yield, where the timing of rolling ranged from right after seeding to soybeans in the second trifoliolate. This shows how tough these plants are. Soybeans are covered in fine hairs that give them natural protection against drought and many insects. Soybeans will also tolerate flooding.

Being a C4, or warm season plant, it requires warmer soils to initiate germination unlike peas, which are a C3, or cool season plant. When seeded into cold wet soils, soybeans are prone to seed and seedling rots. Also soybeans are extremely sensitive to seed placed fertilizer. Research has shown a 0.5% decrease of plant stand with every pound of dry phosphate fertilizer seed placed.

Past failures also result from poor nodulation and varieties that were not adapted to our short season. The key to successful soybean production is double inoculation. From our trial on our farm, uninoculated trial was 50% of the yield of a single inoculated trial, either liquid or granular, and when we used both liquid and granular the yield was 3 times that of the uninoculated. Cruiser Max in Manitoba trials has shown a yield advantage plus quicker maturity, knocking 5 to 12 days off of the check treatment, plus adding extra yield.

CHU's are not a great measure of adaptation of soybeans. Daylight sensitivity and radiant intensity may be better ways of determining adaptation. In variety testing, watch for exaggerated yield depressions with earlier maturing varieties. Marginal areas should look for defensive soybean varieties, as compared to offensive ones, and day light sensitive ones.

With fertilizer and crude oil prices increasing, soybeans look even more attractive. They normally require no fertilizer, leave the soil in excellent tilth, and have little rotation concerns. Break even analysis of cash costs using current pricing is 8 bushels per acre, not including the residual nitrogen in the soil.