

How I Direct Seed on My Farm

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Direct seeding using narrow openers, with on-row packing, is one of the best farm choices we made. Joanne and I are farming today, making a living from our 1700 acre farm, because of the efficiencies and improved returns provided by direct seeding.

History

Joanne and I are the third generation farming on the NE 6-31-17-W2. The home farm, 640 acres, has been direct seeded since 1959. The first direct seeding implement was as a discer. Then in the late 1960's, a hoe drill was used. The hoe drill is the implement I began with. It was direct seeding but about 25% of the farm was summerfallowed and the stubble land had a tillage pass. The summerfallow was soon eliminated.

We stepped backwards to an air seeder in the '80's! The air seeder, using 14 inch shovels, was high disturbance. We harrow packed in a second pass after seeding. This system had many problems compared to the no till technology.

An air drill was purchased in the early '90's to begin low disturbance direct seeding. The technology, narrow openers, on-row packing, better trash clearance and depth control are great. Why didn't we change sooner?

The Farm

The only certain thing is change. The following profile is the farm today. Technology, economics, the markets, personal preference and many other factors will determine the future. Our farm is in the Moist Black Soil Zone. It is a Yorkton loam to clay loam soil 80% class 1 with 10 – 20% class 4 to 6 due to water. The normal rainfall is 12 to 14 inches. Snow cover through the winter is normal. The topography is undulating to hummocky. The crops grown are barley, canola, wheat, linola peas and grass seed.

At harvest we try to leave each field ready for seeding. The six row barley and canola are windrowed. The other crops are straight combined, if possible. We straight cut as high as possible. The header cuts 30 feet with each pass. The combine has a chaff spreader and straw chopper. The combine doesn't stop with material in it. Moving until empty of straw and chaff prevents piles. The wheat, canola and peas are desiccated pre-harvest with one litre of glyphosate, custom applied. This provides harvest management and weed control. We fall desiccate (pre-harvest) each field a minimum of once every four years.

The 40 foot air drill we use is single shoot with a tow-between tank. It has 10 inch spacings with 3.5 inch wide rubber covered packer wheels. The opener used is a carbide tip eagle beak that gives a 2.5 inch spread. Seeding speed is 4.5 mph. I repeat, 4.5 mph. NH₃ is fall applied using a narrow opener on 12 inch spacings. If the NH₃ isn't applied in the fall, as in 2003, all the fertilizer, in granular form, is applied with the seed for the cereal crops.

Seeding starts early, as soon as the fields are fit. Delaying seeding can be a mistake. Fall frost is often a limiting production problem in our area. Spring burn-off with 0.6⁺ litres of Roundup in 5

gallons water per acre is a standard practice. A broad leaf herbicide is applied only for special weed problems. The timing of the application depends on temperature and weed growth. Spraying is after seeding on early seeded fields and pre-seeding on fields seeded later.

Spraying is critical to our direct seeding farm system. Its importance means spraying has to be a convenient, comfortable operation. Our GPS equipped tractor, pull type sprayer and water supply is always ready for spring burn-off, in-crop weed control and post harvest weed control. The pre-harvest desiccating is custom applied.

Fertility, rotation and spraying combine for both disease and weed control. I walk into each more often than I did before direct seeding. This walk pays big returns. A direct seeding farming system provides more time to manage and relax. Operating the swather and combine is an opportunity to note problems in the field for next year.

Benefits

Direct seeding has provided an improved standard of living for us. The net return is improved compared to farming with tillage. The reduced costs per acre are often highlighted in research and publications. I like to measure the savings by cost per bushel or tonne not acre. Our improved net return is a result of higher yields, more consistent yields and reduced costs. This is all due to low disturbance direct seeding.

It has improved soil quality on the farm that will provide benefit into the future. Soil quality is difficult to measure in the short term. Yields are higher and more consistent and fertility is part of the improvement. Water management is a big part of the better yields. In dry years, there is less moisture lost through tillage and more snow saved from standing stubble. Seeded acres have increased with less flooding from spring snow melt and/or June thunder storms.

Reduced labour is a major part of the improved standard of living. The farm has one manager, equipment operator and labourer and that is me. This farming method reduces the labour required at seeding and harvest.

Residue management is easy. The narrow opener, wider row spacing and shank design are some improvements that allows us to work with this residue. Let the straw stand, or spread it evenly behind the combine. The narrow opener with on-row packing improves seed placement plus reduces volunteer crop and weed germination.

The Future

What is the next challenge? How do we influence positive change and adapt to it?

Fertility – the amount, source and how to apply it still needs attention.

Weed and disease control needs constant attention. At what price does fertilizer (ie nitrogen) become uneconomical in prairie crop production? At what cost does chemical weed control become too expensive for the return received from prairie crop production?