CROP ROTATIONS

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I'm Charles Schmidt, with my wife and three school age sons we farm at Chinook, Alberta. This is in the Special Areas of East Central Alberta. We farm over 9500 acres on a 20 mile long rise that runs north south and has soil that is more adapted to crops.

I was asked to talk about crop rotations. This page is not about the perfect crop rotation, but about my reasons for changing the well established pattern of wheat fallow wheat fallow. Understanding both the positive and negative effects of a change can help be realistic in resulting expectations. We have tried to diversify our crops, timing, practices, and a variety of variables to best take advantage of our potential yields.

This spring we witnessed some of the worst wind erosion imaginable. I feel, due to better practices, we only had a small amount blow - lentil chemfallow. We have been doing a pre-seed burn off and then within 48 hours we use a 61 ft. John Deere Air Drill to plant our crops. We experience an abundance of dry; therefore we face an intense seeding period to take advantage of adequate germination moisture. On the other hand we usually have a long dry fall that gives us a high quality commodity to market.

We face many challenges here. One would be to know our soils. Through the help of an agrology firm, AgriTrend, we have done a more intensive soil test which helps us to know not only the major nutrients of our soil but also the structure and other chemicals present. This testing has led us to do a lot of sub-soiling to bring the calcium to magnesium ratio into line. The result is that we have a better soil to work with. In our area over 74% of farmers don't fertilize at all. During a severe drought this is a good plan. But no one can predict with any accuracy, a drought at seeding time.

We have tried a wide range of crops and this year had good success on only 8 inches of rain during the growing season. We grew Wheat, Durum, Barley, Oats, Peas, Canary Seed and Mustard. Each has its strengths and weaknesses.

Insects, namely grasshoppers, have been a real plague the past three years and even this year we lost over 250 acres of barley to them. It seems a physically weak crop is more prone to damage or eradication. For grasshoppers, young oats is a favorite and near mature mustard in the pod is a culinary delicacy. They love to crawl up the stem and open a hole in every pod. Peas and canary seed are probably the most resistant to grasshoppers and sawfly but need more moisture. We have found sawfly about as bad as grasshoppers for the wheat, so we've been planting AC Abbey with good success. For sawfly, oats is the best cereal crop to grow.

By changing crops and seeding dates on various fields this helps to change growing conditions for weeds. Also, by using a pre-seed burn off, even on a "clean" field we've really cut back on the wild oats. Lately, the weed to contend with is Kochia. This is a hardy plant that can lead to harvest grief and grain storage problems if left unaddressed. By changing crop families we can change the chemical family also. This has helped to keep herbicide resistance at bay.

Traditional disease is a non-issue in the dry areas of Alberta but this year tan-spot and red smudge on durum were very serious. Given the right conditions, small problems can take a great crop and make it into a feed sample.

I feel that our farm is not alone in the labor struggle. We employ one full-time hired man who has been with us 14 years. The problem we face is to find casual labor to run extra equipment at peak times. One solution was to plant our crops so we could harvest over a longer stretch. Peas can go into cooler ground, then oats and mustard. Both are short seasoned crops and oats can be either combined or baled in early August. Mustard is best seeded near May 1st so it is finished flowering by late June, due to July heat. It is less stressful to run the combine in mustard while looking at the wheat and durum fields and knowing they are still 3-4 weeks from maturity.

After adopting some crop changes, then record keeping gets to be essential. With enough fields and crops to keep track of, a simple yearly map helps. We also keep a notebook in the sprayer, drill and combine.

Hopefully you can glean a few tidbits of insight from this that can affect some management choices you make.