

NORTH WEST ALLIANCE NWACI CONSERVATION INITIATIVE

Should Your Cropping Rotations Be Pushed Due To Market Changes?

Spring is fast approaching and there are many decisions to be made before seeding time. With the drastic improvement in the markets producers really have to question what they should plant this spring. High crop prices, low cattle prices and pest pressures such as clubroot in canola are weighing on their minds as well.

It is tempting to put the entire farm into canola year after year and take out pasture and hay land to grow annual crops, but does this make sense, would it be a short term gain for long term pain? Is it possible to extend cropping rotations as well as keep the operation profitable?

By enhancing the length of rotations and looking at alternatives to a back to back cropping system there are ways to optimize pest management, nutrient management, soil health and risk management. Lengthened rotations and the use of forages can assist with reducing weeds, diseases and insects. Most plant diseases produce spores which can only survive and reproduce in the

presence of a specific plant. For instance, Sclerotinia affects canola, but not cereals, and powdery mildew affects only legumes. If the disease can only reproduce on its specific host, then reducing the number of times you provide the host should cut back the presence of the disease. A prime example of this is the clubroot spore, half the spores die after seven years, so growing canola once every 5-7 years slows the disease where canola every 2-3 years will favour it. Nutrients can also be managed through a lengthened rotation especially when planting legumes such as peas and alfalfa which can provide a nitrogen benefit to proceeding crops. The average annual nitrogen contribution by alfalfa is 45 lb/ac, and can be as high as 107 lb/ac during optimum growing conditions. A 5-year alfalfa stand can provide considerable nitrogen for 2 following crops, and nitrogen benefits can last for up to 7 years. Soil health will also be improved with longer rotations. Organic matter and soil tilth will increase, reducing soil erosion and

moisture loss. Research has shown that wheat or barley grown after peas or canola usually performs better by 10 to 20 per cent (ranging from 0 to 50 per cent) than a cereal grown after a similar cereal crop. Other studies have shown an 11 to 34 per cent yield advantage when growing canola after a cereal compared to canola after canola.

A further benefit to a well planned crop rotation is it enables workload, labor and machinery investment to be spread out over a longer time span. It also spreads the environmental and marketing risks that can occur throughout the year.

By lengthening your crop rotations and considering the use of a perennial forage system you can diversify your risk and balance out profitability over the long term. It is tempting to go with the highly profitable crop of each year but ask yourself if it's worth the short term gains for the long term pains.

Things to think about this Month:

- Using Zero or Minimal Tillage systems
- How to Safely store Fertilizers
- How to Dispose of animal Health Care Products safely
- Fuel Storage —things to think about.

The North West Alliance Conservation Initiative (NWACI) is a partnership between 7 municipalities including, the county of Athabasca, M.D. of Lesser Slave River, Parkland County, Strathcona County, Sturgeon County, County of Thorhild, and Westlock County. This partnership also receives funding from the Alberta Environmentally Sustainable Agriculture (AESAs) program. The focus of the partnership is to promote and encourage the implementation of practices and techniques that will reduce the impact of agriculture on the environment. For more information or a no charge on farm consultation please contact Mike at 780-939-0602 or Jennifer at 780-939-0618 or www.nwaci.com.

Advantages to Using A Zero Tillage System

Direct Seeding Conserves Soil Moisture and Improves Soil Quality

By switching to a zero tillage system there are many beneficial results. This method will conserve soil moisture, reduce the wear and tear on equipment and reduce the fuel requirements. The standing stubble will trap snow and increase soil moisture in the spring. There will be less weed seeds likely to grow on the undisturbed soil. Soil erosion will also be significantly reduced. If a zero tillage system will not work for the operation reduced or minimal tillage is also an option. This method reduces the amount of tillage operations that pass over a field in a year. Weeds can be controlled either with herbicides or by using tillage equipment that helps maintain a good residue cover.



How to Safely Store Fertilizer

Ensure that the storage facility is secure and away from activities that could cause a spill. Make sure the facility is located more than 100m from water wells and more than 20 m from surface water bodies. Do not store fertilizer with fuel, food, seed, drinking water or protective equipment to prevent contamination. Monitor the storage site regularly. When storing dry fertilizers ensure that they are stored in an epoxy lined bin on an impermeable surface. For liquid fertilizer regularly inspect tanks, valves and plumbing. Around the primary storage container, install an impermeable synthetic or clay liner for secondary containment to stop any spills and leaks from entering soil or water. Use sight gauges and locks on valves and containers.

How to Dispose of Animal Health Care Products Safely

To dispose of veterinary wastes first refer to the label for disposal recommendations. For useable health care products return to the place of purchase or store in a secure storage area. Unusable items can be returned to the place of purchase or taken to a hazardous waste depot for disposal. Sharps need to be separated from other wastes. The sharps are materials capable of causing cuts or punctures. These items are like needles, syringes, scalpel blades etc. You need to ensure that sharps are separate from other wastes. They should be placed in a labeled puncture proof container and sealed with a lid. Do not burn the disposal containers take sharps to a disposal facility that is able to accept the waste. Contact a local veterinarian or hospital for information on disposal.

Fuel Storage — Things to Think About

Properly setting up a fuel tank site can eliminate and minimize the risks of handling fuel. If there is fuel spill or leakage a proper tank site can minimize contamination to soil, groundwater and surface water, along with fire hazards. Keeping minimum separation distances from a storage area is very important to minimize these risks.

Ensure that your fuel tank is:

- 1m from other fuel tanks
- 3m from any building
- 6m from an ignition source
- 6m from grass and weeds
- 30m from a forested area
- 30m from a water body
- 50m from a water well



Information from:

Beneficial Management Practices Environmental Manual for Alberta Farmsteads.

Alberta Agriculture and Food