

Some suggestions for the crop season 2008

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It is perhaps time to review the past season, learn from the past mistakes, if any, and plan for the next crop season. Here are some of my thoughts that might be of help.

Soil Sampling/testing: It may be a good idea to take soil samples from your fields, if you haven't done that already or if you haven't tested your soils during the past 2-3 years. Best temperature for soil sampling is 5-7°C, because at this temperature there is hardly any nutrient transformation. For details of soil sampling readers may refer to Soil Fertility Handbook or Agronomy Guide for Field Crops. Soil samples can be sent to any of the accredited labs in Ontario. However, if the farmers can collectively send the soil samples to A & L Lab London (<http://www.alcanada.com/main.html>), they may get 20% discount.

Fertilizer application: It is advisable to go by soil tests and OMAFRA recommendation tables in the Agronomy Guide for Field Crops. Soil labs often recommend fertilizer application even to soils that are high to excessive in P and K, which isn't really necessary, more so if such fields get manure application. Get the manure tested for its nutrients content and make adjustments in the fertilizer application program, if necessary. Since Thunder Bay District soils have shown deficiency of sulphur (S), it may be better to use a blend of urea and ammonium sulphate (80:20 on N basis) than urea alone to meet N as well as S requirements of all field crops. If such a blend has to supply 100kg N, it will require blending 174kg urea and 98kg ammonium sulphate. For surface application of N, through urea, broadcast urea when the air temperatures are below 15°C to minimize volatilization losses of N. Application of urea a day prior to rain/or frost too will help in minimizing N losses from urea. Use high analysis fertilizers for P and K such as 11-52-0, 0-46-0 and 0-0-62 to lower cost per unit of nutrients. Take care to apply micronutrients, such as boron (B) @1kg/ha and zinc (Zn) @14kg/ha, if the soil tests are low for these nutrients. Procuring fertilizers in the fall may be cheaper than procurement in the spring.

Crop Rotation: Rotating crops has several advantages including improvement in the soil quality and control of insect pests, diseases and weeds. Cereals after cereals or corn after corn (particularly after two years of continuous corn) or soybean after soybean should be discouraged. Corn/or cereals could follow soybean and vice versa. Grasses/or cereals or corn could follow alfalfa and vice versa. Avoid alfalfa or soybean after canola. Herbicides applied to canola can have an adverse residual effect on legumes. Try to limit the hay (grasses or alfalfa) cycle to 3-4 years only. Rip off the old weedy hay fields for rotation with other crops. Try to get more from fewer acres by reducing the hay cycle rather than having less from more acres with longer periods under hay. This will reduce cost per acre and wastage of time and other resources such as machinery. Grain demand is likely to be high. Go for cash crops; money earned can be used to buy hay, if need be.

Crop Diversification: Growers can add new crops such as chickpeas, winter wheat and canola or even durum wheat that have been tested and found to be high yielding at Thunder Bay Agricultural Research Station. Winter wheat has the ability to escape the likely dry weather during July-August, which adversely affects grain development in spring cereals. This might require buying a new combine header/or making adjustment in the combine headers. However, it may be worth it! Don't rely too much on a single seed company/or a single variety. Growers have wisely added new varieties of barley, such AC Klinck and Cyane, to their cropping systems. AC Klinck and Cyane may have the

same or higher grain yield, but definitely higher straw yield than Chapais/or Brucefield. Take care to treat the seed before seeding if it wasn't already treated. Buy small quantities of certified seeds every year to replace old seeds on farm. It doesn't really pay to use more than the recommended seed rates except in wild oats infested fields and under organic farming systems. For corn, prefer varieties with thick stem and discard varieties with thin stems. It is desirable to grow more than one variety of a single crop to reduce the risk of disease epidemics (if there is one) and crop failure in the entire area. This is applicable to all crops. Grow at least two varieties from two different companies, but don't grow too many varieties at the same time. Those who have been growing Pioneer corn varieties may like to add DeKalb varieties and those who have been growing DeKalb corn could add Pioneer corn (39T66 or 39T67, which have been tested at TBARS/or by Peter Aalbers). Short stature, broad leaved, Pickseed corn varieties with thick cobs didn't do well during dry summer of 2007 particularly in sandy soils.

Control of wild oats: Wild oats have been showing their ugly heads time and again. Integrated wild oats control measures relying more on the management practices than the herbicide usage is the key. Two years of harvesting barley for silage at an early stage (heads fully emerged) could reduce wild oat densities to levels similar to wild oat herbicide applications. Fall Rye, followed closely by winter wheat, is most competitive to wild oats. Wild oats infested fields could be allocated to hay crops, soybean, canola and corn. In the latter crops, these are easily visible and easier to control especially if RR varieties are grown. Spraying Venture L @ 1-2 l/ha in alfalfa and traditional soybean varieties can effectively control wild oats, quack grass and volunteer cereals. In the hay crops, frequent cuttings will not allow wild oats to seed. However, wild oats seeds can be dormant for several years, if they are buried deep. Therefore avoid deep ploughing wild oats infested fields. Wild oats infested fields could also be brought under pastures for grazing. Critical period for control of wild oats in spring wheat/cereals is between 2 to 4 weeks after emergence. Increasing seeding rates 20-30% above normal can increase the competitive ability of a crop. Work in USA, indicated that increasing crop plants density, from 50 to 100/m², reduced the average wild oat seed production by ~60 % in wheat and by 67% in barley. Achieve/and Puma Super are recommended for control of wild oats in spring wheat and barley (see product labels before use). Product cost for both the herbicides is ~\$18.00-18.50/acre. Other suggestions to control wild oats are:

- Resort to minimum tillage in wild oat infested fields; harrowing should be preferred to ploughing that could turn the seeds deep down to come up in future.
- Clean the implements before moving from wild oat infested fields to other fields.
- Narrow row spacing and optimum seeding depth will enable a crop to compete well with the wild oats and other weeds.
- While importing seed from other provinces, especially from Western Canada, and other countries, care should be taken to remove wild oats seeds, if any, from the crop seeds before seeding. *Remember such contamination of wild oat seeds could be from the herbicide resistant biotypes of the weed, which may be extremely difficult to control with herbicides!*

Best of Luck for the New Crop Season!