Field Crop Report

Ontario

Soil Management: Adam Hayes

Plant Cover Crops Following Cereals to Improve your Soil

If you have not planted cover crops before, planting them following wheat or other crops harvested in late summer is a good place to start. Cover crops can help improve soil structure, cycle nutrients, provide feed for livestock and much more. Cover crops are a key part of maintaining 30% soil cover 100% of the time. One key thing they do is extend the amount of time there are living roots in the soil. That, along with the other plant material, provides food to maintain or bolster soil life. Cover crops are not a magic solution for your soil problems, but when combined with other good soil management practices will help improve soil health.

Red clover is still the best cover crop option in winter wheat, as it provides a nitrogen credit to the following crop and produces significant top and root growth. Planting a cover crop after cereal harvest is the next best option. Many think that volunteer cereal growth is good, but a planted cover crop can provide up to five times the above ground biomass and root growth into the fall. It is also better than volunteer cereal growth at suppressing weed growth.

Cover Crop Selection: The cover crop chosen for a field will depend on why you want to grow the cover crop. You will also need to consider how it will fit into your cropping and tillage system and how much time there will be for the cover crop to grow. The OMAFRA website http://www.omafra.gov.on.ca/english/crops/pub811/8building.htm#cover (in the soil management section) provides comprehensive information on cover crop species selection and management. The "Agronomy Guide for Field Crops", OMAFRA Publication 811 also has cover crop information. The Midwest Cover Crop website http://www.mccc.msu.edu/selectorINTRO.html provides an Ontario cover crop selection tool.

When to Plant: Following cereals or any other crop, plant the cover crop as soon as possible to achieve the most growth. Another great opportunity to plant cover crops is following corn silage harvest, as there is little cover left to protect the soil. Annual cover crops can be planted up until six weeks before the expected killing frost. After that point planting a winter cereal as a cover crop is the best option. .

How To Plant: If volunteer cereal growth or weeds are present, consider spraying to prevent the spread of weeds and competition with the cover crop. Ensuring that the straw was evenly spread at harvest will improve cover crop establishment. A drill, planter or air-seeder can be used. Cover crops can be no-tilled or planted in tilled ground. Less tillage may be needed for residue management, as the cover crop can help the process of residue breakdown. Placing the seed in the ground will provide the best opportunity for quick establishment. Seed can also be flown on, broadcasted or broadcasted and worked in, or applied with a liquid manure application.

Above: For seed mixtures, plant to the depth recommended for the smallest seed size.

Options: A simple way to start is with one or two species. A spring cereal alone or with radish or a clover is a good way to start. The radish and spring cereals will be killed by frost. As experience grows consider more complex mixes that include grasses, legumes and brassicas. Other options include oats or barley with peas, which can be used for forage, or winter cereals for over winter growth.

Nitrogen and Cover Crop Growth: Spring cereals and the brassicas require nitrogen to grow as do corn and cereals we grow for grain. If manure has been applied, then there will likely be enough nitrogen for good cover crop growth. If the cover crop follows a winter wheat crop, then there may be very little growth without adding 30 to 50 lbs/acre of nitrogen. Legume cover crops should be inoculated if they haven't been grown in the field before.

Termination: Before planting a cover crop it is important to think about what management it may require. Many cover crops, such as spring cereals and radish are killed by frost and as such don't require a herbicide treatment. Others such as the winter cereals and clovers will survive the winter and will need to be killed in the fall or following spring. Some will go to seed, so they will need to be mowed or managed before viable seed is produced. Other methods that can be used to manage or terminate the cover crop are tillage, using a roller crimper or grazing.

Above: Oats and radish can provide significant growth.

Weather Summary

WIN Weather Innovations Incorporated

Location	June 25 - July 01 2014	Temperature (°C)		Rainfall	Heat Units	Total Since May 1	
		Max	Min	(mm)	CHU	Rain	CHU
Outdoor Farm Show	2014	27.5	17.7	7.2	195.4	149.4	1126.2
	30 Yr. Avg.	25.2	13.9	15	169.2	165.4	1105.9
Windsor	2014	28.5	19.4	8.4	208.6	205.2	1355.4
	30 Yr. Avg.	26.5	15.3	16.5	180.9	153.2	1226.4
Trenton	2014	27.6	17.4	2	194	207.6	1170.1
	30 Yr. Avg.	24.5	13.2	17.2	162.6	161.7	1043.4
Mount Forest	2014	26.2	16.9	12.9	188.5	160	1066.2
	30 Yr. Avg.	24.1	12.8	15	158.4	168	999.9
London	2014	27	18.6	12.2	202.1	151.3	1195.6
	30 Yr. Avg.	25.4	14.1	15.3	170.6	166.6	1120.4
Hamilton	2014	27.3	17.2	3.3	192.7	140.5	1109
	30 Yr. Avg.	25.3	14.3	15.1	171.6	154.6	1109.1
Ottawa	2014	28.5	17.6	0.3	197.2	241.5	1216.7
	30 Yr. Avg.	25	13.9	22.4	168.3	174.8	1107.9
Elora	2014	26.2	16.6	12.7	187	149.5	1050.8
	30 Yr. Avg.	24.7	13.1	14.7	162.7	163.4	1039.9
Peterborough	2014	26.5	14.8	2.6	174.9	184.8	1085.5
	30 Yr. Avg.	24.4	12.9	17.7	160.3	163.2	1028.4