Breaking Ground
(in Northeastern Ontario) *Spring 12*

A Publication of the North Eastern Ontario Soil & Crop Improvement Association (NEOSCIA)

FIRST TAPPING CEREMONY 2012

'First Tapping' ceremony ~ Deerhurst 2012
By Katya & Ken Riley, Brooklands Farm, Bracebridge

As a harbinger to the Ontario Maple Syrup Producer's Association (OMSPA) summer tour that will be held in Muskoka this year, the "First Tapping" ceremony was held at Deerhurst Resort's sugar bush in Huntsville on February 25, 2012.

The event was well attended by maple syrup producers, local folk and regional elected politicians who were proud to show-off the heritage of the District. "Savour Muskoka" provided delicious local sausage on the bun while OMSPA members provided demonstrations and tastings of the much loved maple sugar candy and taffy on the snow.

This ceremony signaled the start of harvesting for the first agricultural crop of the year. In Ontario, over 3,000 "sugarmakers" make over 1 million litres of Canada's original sweetener. OMSPA President, Ray Bonenburg, said "the tradition of making maple syrup in Ontario runs deep in most communities. It is also an excellent venue to celebrate spring, reconnect with nature, and provide quality time with family."

For more information on the upcoming OMSPA summer tour (July 12-14), please go to <www.ontariomaple.com> or contact Bill & Lori Hubbert at either 705-384-7847 or <bhubbert@vianet.ca>. •

NOTE: ***Sponsors/Advertisers needed for coming year. $500 for 4 issues!***

This newsletter is published 4 times per year. Articles can be submitted in either English or French and should be submitted to the Communication Coordinator *(see below)*. Please supply translation, if available.

Material in this newsletter is based upon factual information believed to be accurate. Action taken as a result of this information is solely the responsibility of the user. We reserve the right to edit articles.

Send articles to:
Graham Gambles
Box 586, Temiskaming Shores, ON P0J 1K0
Tel: (705) 672-3105
Fax: (705) 672-5959
E-Mail:
gamblesgraham@yahoo.ca

OSCIA
Grassroots Innovation
Since 1939

N.E.O.S.C.I.A. - Executive

President:
Darren Gray. . . . . (705) 647-9465
Secretary/Treasurer:
Neil Tarlton. . . . . (705) 692-7276

Ontario Soil & Crop Association Regional Director

Algoma, Manitoulin, Sudbury, Nipissing, Parry Sound, Muskoka, Cochrane, Temiskaming:
Mack Emiry . . . . . (705) 865-2249

District Soil & Crop Assoc. Contacts

Algoma:
Harold Stewart. . . . . (705) 842-0392
Cochrane:
Dan Cook. . . . . (705) 272-3964
Manitoulin:
Marca Williamson . . . . . (705) 859-2528
wfarms@amtelecom.net
Muskoka:
Ken Pearcey . . . . . (705) 385-2844
Nipissing West/Sudbury East:
Steven Roberge. . . . . (705) 594-9370
Parry Sound/Nipissing East:
Klaus Wand . . . . . (705) 724-2314
Sudbury West:
James Found. . . . . (705) 969-4597
Temiskaming:
Dennis Jibb . . . . . (705) 563-8405

Ministry of Agriculture, Food and Rural Affairs

Ontario

Northern Ontario Regional Office
Ontario Ministry of
Agriculture, Food and Rural Affairs
P.O. Box 521, Hwy. 64
Caldwell Township Building, Verner, ON P0H 2M0
TOLL FREE / General Inquiry 800-461-6132
FAX . . . . . (705) 594-9675
firstname.lastname@ontario.ca

Regional Manager, Northern Ontario
Mary Ellen Norry Car

Regional Administrative Coordinator
Diane Unger

Client Service Representative
Monique Roberge

Agriculture Development Advisor (North Region)
Julie Poirier Mensinga

THESSALON
1 Collver Rd., RR #1, Thessalon, ON P0R 1L0
Agriculture Development Advisor (Algoma) . . . . . .Dave Trivers

GORE BAY
Box 328, 35 Meredith St., Gore Bay, ON P0P 1H0
Agriculture Development Advisor (Manitoulin and West Sudbury) . . . . . Brian Bell

NEW LISKEARD
Box 6008, 280 Armstrong St., New Liskeard, ON P0J 1P0
Agriculture Development Advisor (Temiskaming and Cochrane) . . . . . .Daniel Tassé
Agriculture Development Advisor (North Region) . . . . . Barry Potter
Beef Cattle Production Systems Program Lead . . . . . .Tom Hamilton

Herbicide Evaluation to control smooth bedstraw in forages (2009-2011)

Purpose: to demonstrate the efficacy of a selective herbicide "Milestone" to control smooth bedstraw in forage stands.

Background: Smooth Bedstraw (Galium mollugo) has become an invasive weed in several districts of north eastern Ontario. This perennial weed is showing up in older hay and pasture fields in association with bird's foot trefoil seed. It has been reported that contaminated bin run trefoil seed was the primary vector to spread this weed throughout several townships and now districts. The weed is very invasive also along roadside ditches. It is also not palatable to livestock on pasture. When the fields are heavily contaminated producers have had to kill the entire vegetation with a high rate of glyphosate and plough the forage stand to break up the massive root mass of the bedstraw. This option has been a last resort since it is very expensive to re-establish a forage stand.

Cornell University has worked with the herbicide "Milestone" and Milestone + 2, 4-D in the control of smooth bedstraw. The results of their studies are very strong.

Methods: The purpose of this project is to look at; 1) application rates low vs. high rates 2) timing of herbicide application on the weed 3) short and long term control 1yr, 2yrs and 3rd yr and 4th economics of using a selective herbicide to rejuvenate a pasture or hay field.

Communication Plan: the demonstration sites will be visited by area producers from soil and crop tours and the results will be presented at annual meetings in the newsletter "Breaking Ground" and soil and crop annual reports.

Locations: Two districts will participate in these demonstration plots Algoma and Temiskaming. Both districts will have 2 sites to offer replication and to assure a 3 year evaluation (2009, 2010 and 2011)

Site Selection: fields with high bedstraw pressure have already been identified. Land owners will be asked to sign a land lease agreement for the plot area required for 3 years. OMAFRA staff Dave Trivers and Daniel Tassé will be responsible to select the area of the field with good weed uniformity and coverage.

Treatments: evaluate 2 application rates 100ml/ac (low rate) and 200ml/ac (high rate) of Milestone at 2 different crop –weed stage 1) early season vegetative (early June) and 2) late flower-early seed (mid august) .

Plot Set up and treatment sizes: the treatments will be approximately 4m wide by 10m long. The plots will consist of 4 treatments plus check strips. Replication will be done if the field has too much variability. A back pack sprayer (2m boom, Co2 type) will be used to apply the treatments.

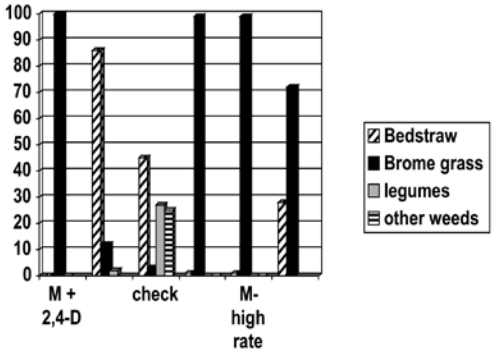
Assessments: the weed (Smooth Bedstraw) population will be documented prior to the application of the treatments. For the first year an assessment of the efficacy of the herbicide will be done 30 and 60 days after the treatments have been applied. For year 2 and 3 the assessment will be done in early spring (end of May) and late summer (end of August). Plant population and weed count will be done by OMAFRA staff and or summer students.

Results: The visual observations were quite noticeable in the first year (2009) of application.

The herbicide '' Milestone'' worked very well in controlling the established smooth bedstraw. This selective broadleaf herbicide also suppressed other broadleaf weeds and other legumes in the stand.

The grasses were untouched and dominated the plots. Brome grass, timothy and quack grass made up the forage stand in the treated plots. No significant differences were observed in the low rate versus higher rate of the herbicide. The addition of 2, 4-D had no impact as a tank mixed. The herbicide 2, 4-D alone had no control on the smooth bedstraw. In year 2 (2010) another herbicide was evaluated in another section (range). The product ''Trophy'' was applied and the results were poor. This herbicide had no suppression on the smooth bedstraw. The objective was to evaluate a herbicide that might leave the desirable legumes but at the same time remove the smooth bedstraw weed. In the last year (2011) of the trial sections of the plots were clipped and plant segregation count was done to evaluate the control level of the herbicide '' Milestone'' on the first range. The results are shown in the chart below.

Thank You to the following partners: Ontario Soil and Crop Improvement Association (OSCIA), North Eastern



Continued on page 3

High tunnel more than doubles strawberry yields in a cool climate

Becky Hughes, NLARS, University of Guelph

A 3-bay high tunnel was installed at the New Liskeard Agricultural Research Station with funding from the Agricultural Research Institute of Ontario and the NOHFC Public Sector Emerging Technology Program. The 26 x 30 m structure was erected over a planting of dayneutral strawberries and fall-bearing raspberries in August 2010.

These structures modify the growing environment on a field scale by extending the growing season in the spring and fall, and increasing the air and soil temperatures.

One of the trials already established when the high tunnel was covered compared four dayneutral strawberry cultivars. The cultivars were planted in May 2010 in the high tunnel area and outside in double rows on raised beds covered with black mulch with drip irrigation under the mulch. Each plot consisted of 20 plants with the center 10 picked for data. Blossom clusters were removed for the first four weeks and runners were removed throughout the trial.

High Tunnels

Harvesting began in early July of 2010. Even though the high tunnel was not covered until mid-August that year, marketable yields were two to four times greater in the high tunnel. This was due to a longer harvest season and fewer unmarketable berries in the high tunnel. Picking outside ended in early October with lots of unmarketable berries due to repeated

Continued on page 4

Herbicide Evaluation to control smooth bedstraw in forages

Continued from page 2

Soil and Crop Improvement Association (NEOSCIA), Temiskaming Crops Coalition (supplies and tools) Graham Gambles- regional communication coordinator, Chandel Gambles- OMAFRA summer student 2009, Mike Cowbrough OMAFRA Weed Management lead and New Liskeard Agricultural Research Station (NLARS)

Project Contacts:

1. Daniel Tassé, OMAFRA New Liskeard 1-800-461-6132 or 705-647-2085 email: daniel.tasse@ontario.ca
2. Graham Gambles, OSCIA Regional coordinator 705-672-3105 or by email at gamblesgraham@yahoo.ca
3. Dave Trivers , OMAFRA Thessalon 1-800-461-6132 or 705-842-1582 email dave.trivers@ontario.ca

Location of Project Final Report: Daniel Tassé, OMAFRA New Liskeard 1-800-461-6132 or 705-647-2085 email: daniel.tasse@ontario.ca •

NOTE: This is the third of 3 regional on farm multi-year field research projects that were conducted by NEOSCIA with funding from OSCIA. The other two examined canola management and alternative forages for the North.

High tunnel more than doubles strawberry yields in a cool climate

Continued from page 3

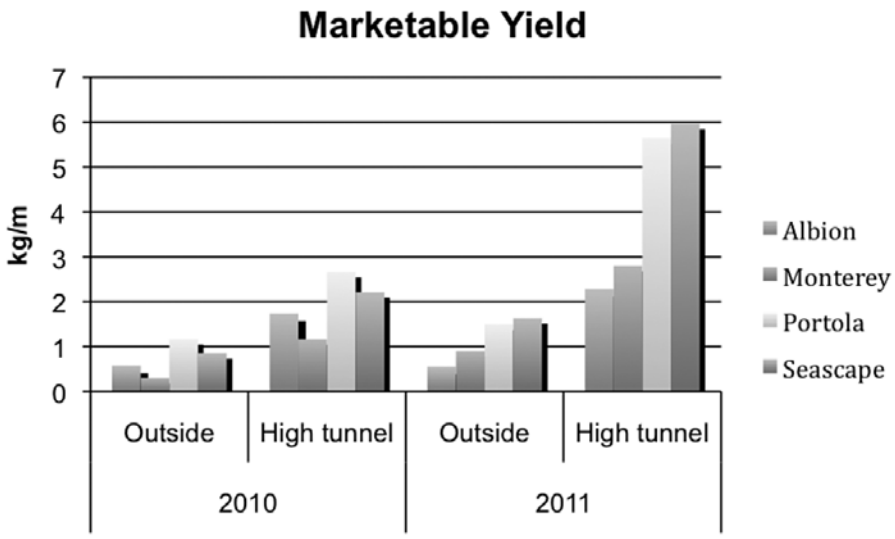
frosts, while picking in the high tunnel continued until October 26th. At that time the poly cover was removed from the high tunnel and a straw mulch covered by a floating row cover was applied for the winter.

The floating row cover and straw were removed and the poly cover was installed on the high tunnel in early May 2011. Picking started in mid-June with Seascape in the high tunnel. Marketable yields in the high tunnel were increased three to four times compared to outside in the second picking year. This was due to the extended picking season with harvest starting a week earlier in the high tunnel. Picking continued throughout the summer ending in late September in the field and in the third week of October in the high tunnel. There were also more and larger berries on all four cultivars in the high tunnel.

Of the four cultivars, Seascape and Albion are the two usually grown in Ontario. Albion is less winter hardy than Seascape. In our location it consistently produces lower yields but higher quality and larger berries. Albion yields are increased in southern Ontario with the use of additional fertility but this has not been tried in our area where winter survival is a concern. Seascape is more winter hardy and adaptable. Its berries are ready for harvest earlier in both the first and second picking years and the yields are higher.

Monterey and Portola are new cultivars also originally from California. Monterey produces high-quality berries but it was late and had low yields in our area. Portola is a strong dayneutral, flowering and fruiting throughout the season. It produced yields similar to Seascape in this trial and had larger berries. It was ready to pick after Seascape and just before Albion. The fruit is light red to orange depending on when it is picked and is very shiny. Delaying picking in our area until the fruit turned red (2-3 days) improved its quality.

Although we have had the high tunnel for less than two picking seasons, it has significantly increase the yields in our dayneutral strawberry crops. However as flower initiation in dayneutral strawberries in inhibited by temperatures over 25 °C and flowers will freeze at temperatures less than 0 °C, the tunnel has to be managed carefully to achieve the ideal conditions. Also in trials in the warmer climate of Cedar Springs in southwestern Ontario, high tunnels have consistently decreased yields in dayneutral strawberries.



Continued on page 5

ASCIA 2011 Annual Meeting

Sharon Lane, Regional Correspondent to Breaking Ground

Harold Stewart, President of the Algoma Soil and Crop Improvement Association, welcomed a full hall January 18 for the 2011 annual meeting at the Bruce Station Hall.

Mac Emery, a director of both OSCIA and NEOSCIA, reported on the Crop Caravan tour with Joel Bagg. He informed us that Graham Gambles is trying to arrange a bus trip to Lac St Jean, Quebec for July 23 to 27. He also reported that OMAFRA has a committee looking into crop damage from wildlife and has made recommendations for compensation for loss of livestock. Some discussion for compensation for crop damage by sand hill cranes has also taken place. Mac mentioned that Agricorp Insurance has a self-reporting system for its members, but that members need to record dates and damage to crops. He concluded with the possibility that there might be an information session in Massey in March/April on cereal crops.

Luc Vine spoke of the Environmental Farm Plan and Growing Your Farm Profit Program. There is still money available for the GYFP Program, but this is the last year. The EFP will continue.

Les Hillstrom, Vet Committee, reported that vetinarians are still needed.

Errol Caldwell representative of Rural Agricultural Innovation Network (RAIN), asked for project ideas. The Heritage Corporation is focusing

Continued on page 14

High tunnel more than doubles strawberry yields in a cool climate

Continued from page 4

Seascape remains the cultivar recommended in cooler climates, however growers should try Portola on limited scale. High tunnels look promising for dayneutral strawberry production in northern Ontario and we will continue to research high tunnel berry production.

This research project was funded by the Canadian Agri-Science Clusters, Growing Forward, the Ontario Berry Growers Association and the OMAFRA/University of Guelph Production Systems Program. •



CROP TALK

OMAFRA Field Crop Specialists – Your Crop Info Source

Ontario Ministry of Agriculture, Food & Rural Affairs, Crop Technology Branch

Agricultural Information Contact Centre: 1-877-424-1300
Publication Order Centre: 1-888-466-2372
Northern Ontario Regional Office: 1-800-461-6132
OMAFRA Web Site: www.ontario.ca/omafra

Additional Information from OMAFRA

En françcais!

L'inforation du Ministère de l'agriculture it di lalimentation de l'Ontario est disponible sur le site web du MAAARO en françcais au www.omafra.gov.on.ca

Cropline 1-888-449-0937

Brought to You by the Following OMAFRA Crop Specialists

Bonnie Ball, Soil Fertility Specialist

Scott Banks, Emerging Crops Specialist

Tracey Baute, Field Crop Entomology

Horst Bohner, Soybean Specialist

Christine Brown, Nutrient Management Program Lead

Mike Cowbrough Weed Management Program Lead

Brian Hall, Canola & Edible Beans Specialist

Adam Hayes, Soil Management Specialist - Field Crops

Peter Johnson, Cereals Specialist

Jack Kyle, Grazier Specialist

Ian McDonald, Applied Research Coordinator

Gilles Quesnel, Field Crops, IPM Program Lead

Helmut Spieser, Agricultural Engineer

Greg Stewart, Corn Industry Program Lead

Albert Tenuta, Field Crop Pathologist

Editor: Joel Bagg, Forage Specialist

Compiled by: Linda Hill, OMAFRA, Brighton

Grain Storage - Problems to Avoid

by Helmut Spieser, Agricultural Engineer, OMAFRA

"Maintaining grain in good condition in storage doesn't just happen, but requires careful, routine inspection and good storage practices." This is crucial to successful storage of grain for extended periods of time. Good storage practices are not just about putting good quality grain into a weather-proof container. Keeping good quality grain over for a long time requires good management.

The quality of the grain loaded into storage is as good as it will ever be. Over time, the quality of this grain will only decrease, and seldom (if ever) improve. The best you can hope for, is to maintain grain quality at the same level as when the grain went into the bin.

If you have grain stored on your farm you should be monitoring these bins on a routine schedule. Sometimes it's easy to forget to check the bins because of other jobs which require your attention. Blowing snow, renewing your grower pesticide certificate, getting ready for the sap run and other things may distract you from the monthly bin check. Consider telling your farming partner to remind you to check the bin. After all, when you move that grain out, it's worth dollars.

Monthly Bin Check Ups:

1. Turn on your aeration fan.
2. Climb up and look inside the bin. Look for signs of moisture on the underside of the roof. If water droplets or ice are present, you need to aerate your bin. Moisture from the grain has been carried into the attic space and condensed on the roof metal.
3. Sometimes snow can be driven into the top of a storage bin. If there is a light dusting, don't worry. When you run the aeration fan this snow will sublimate and be discharged as harmless water vapour. When much greater amounts of snow are found, shoveling may be required to remove it from the bin.
4. Take a big sniff. Do you notice any off-odours? Your nose will pick up strange odours at very low concentrations. The air should smell like clean grain.

Look at the grain surface. Does it look the same as the last time? If it looks dull or off-colour, investigate further.

Continued on page 12

Ministry of Agriculture, Food and Rural Affairs

Ontario

Let's Make Hay!

by Joel Bagg, Forage Specialist, OMAFRA

Farmers are full of optimism. Corn and soybean prices hit unprecedented highs in 2011. Although there has been some volatility in the markets, many farmers are responding to high anticipated prices by again increasing their intended acres of corn and soybeans. It's no secret that there was a loss of forage acreage last year, but it tended to be some of the less productive hay fields. Many old hay fields are making way for tile drainage and renewed crop rotation.

Forages still have an important role as a profitable crop! There was a time lag behind grain and oilseed prices, but record high hay prices have resulted from low inventories. Livestock still needs to be fed. Beef prices are up and hay export demand to the US is strong. Hay inventories are scarce for this time of year. Not too many years ago we saw lots of hay move at 5 – 6 cents/lb, but now there are reports of 9 – 12 cents. I keep hearing the comment, "where will all the hay come from?" Managed properly, hay can be very competitive with other cash crops. Here are a few things to consider as spring approaches.

Keep Forages In Your Rotation

There are significant benefits to keeping forages in your crop rotation. If you jump ship, keep in mind that volatile grain prices can change much more quickly than your ability to get forage back into your crop rotation.

1. ***Nitrogen Credit***
   Forage stands with greater than 50% legume content enable the grower to deduct 100 lbs/ac (110 kg/ha) of N from the following corn crop's nitrogen requirements. That is currently equivalent to over $70/acre. Stands that are one-third to one-half legume get a N credit of 50 lb/ac (55 kg/ha).

2. ***Rotational Yield Benefit***
   Research shows that in addition to the nitrogen credit, there is a significant yield benefit to corn following alfalfa of 10 - 15%. That is typically equivalent to well over $100 per acre of additional corn. The nitrogen credit and rotational yield benefit to corn more than offset the cost of forage establishment in a rotation.

3. ***Soil Health***
   Soil health benefits include building soil organic matter, improved soil structure, water infiltration and reduced soil erosion. Research clearly shows that alfalfa plots have the highest organic matter levels!

Check For Alfalfa Winterkil

This Spring There are some winterkill risk factors coming together that are similar to 2009. It will be wise to check alfalfa fields early this spring for signs of winterkill or stand loss. With that nice harvest weather we had back in September, many farmers cut during the Critical Fall Harvest Period, increasing the risk. Late fall weather was very wet and warmer than normal. Alfalfa likes dry, cool conditions in late fall in order to winter harden properly and prepare for the winter. Poor winter hardening reduces root reserves and leaves plants more susceptible to damage from freezing. Saturated soils are always bad for alfalfa, and can even result in alfalfa heaving, similar to 2009. Also, there hasn't been a lot of snow cover this winter to insulate crowns if a cold snap occurs.

There is nothing worse than having lots of cattle to feed and then being caught off guard by low forage yields due to winterkill. Walk alfalfa fields early this spring, especially those that are slow to green-up, and assess for plant health, including root and crown disease and heaving. Windshield assessments can be deceiving. Using a shovel, dig alfalfa roots, rinse them off in a pail, use a knife to cut open the root and crown. Watch for crown and root rots, brownish discolouration, spongy texture and lack of secondary roots and nodulation. Plant health can be more significant than plant density to a successful yield. As a guideline, the minimum number of healthy plants per square foot should be 12 - 20 for 1st year stands, 8 - 12 plants for 2nd year stands and 5 plants for a 3rd year or older stand. Refer to "Alfalfa Stand Assessment" (www.omafra.gov.on.ca/english/crops/facts/info_alfalfa_stand00.htm).

Apply Nitrogen to Grass Stands

Nitrogen can dramatically increase the yield of grass stands, as well as forage protein levels. Optimum rates depend on the cost of nitrogen, anticipated value of the hay, thickness of stand, moisture conditions, and whether it is pasture or hay. Good grass stands with less than one-third legume, can generally benefit from at least 70 kg/ha (63 lbs/acre) of actual nitrogen (Refer to Table 3-6, OMAFRA Publication 811, Agronomy Guide). The first application of nitrogen for hay should be made at green-up, as soon as possible in the spring when soil conditions are suitable.

Don't Put Off Building That Hay Storage You Need

There are tremendous losses in hay quality with poor storage, yet we still see hay outside on the ground, uncovered. This just doesn't make any sense with today's high hay prices and land costs! It is fairly easy to pencil out a hay storage, particularly the less expensive fabric covered structures ($8 – 12 / sq ft). Why spend 6 cents/lb to make hay, and then leave it to the exposed weather to turn it into something of low nutritional value that is unmarketable?

Capitalize On Hay Market Opportunities

Opportunities to profitably market hay have never been better. Domestic and US demand for quality hay is strong. Quality reigns supreme. Premium prices will never be received for a poor quality product. Some skills in hay making are required. Produce the hay the customer wants to buy. Talk to hay dealers. For the most part marketable hay means:

Continued on pages 8 & 10

Is It Time To Feed The Beans?

by Horst Bohner, Soybean Specialist, OMAFRA and Dan Docking, OSCIA

For many Ontario soybean growers, applying fertilizer to a soybean crop has not been a normal production practice in the past. In general, potassium and phosphorus were only supplied when soil tests were low. In recent years, crop yields have increased to the point where nutrient removal is greater than what is being replaced. Compounding the issue of increased soil nutrient mining is that some Ontario producers have switched to shorter crop rotations leading to more soybeans. The result is that an estimated 20% of Ontario fields may be low for potassium.

For the last 3 years, an OMAFRA fertility project has been underway to assess various fertilizer strategies for soybeans. These trials were on varying soil types with different levels of soil fertility, ranging from "low" to "high", based on OMAFRA recommendations. Refer to Table #1.

Table 1: Soil Test Values for Fertility Trials (2009-2011) Yield Response

Location	Soil Test (PPM)		Soil Fertility Level for P or K	Tillage
	P	K		
Dufferin 2009	25	103	"Low"	Spring Cultivate
Monkton 2009	7	118	"Low"	Spring Cultivate
Lucan 2010	8	147	"Low"	Spring Cultivate
Stratford 2010	47	200	"High"	No-Till
Bornholm 2010	19	89	"Low"	No-Till
Stratford 2011	46	178	"High"	No-Till
St. Thomas 2011	12	138	"Medium"	No-Till
Monkton 2011	27	137	"Medium"	No-Till
Bornholm 2011	25	81	"Low"	No-Till
Fonthill 2011	9	54	"Low"	No-Till

Yield responses to added fertilizer were relatively small. Results from 2009-2010 are shown in Table #2. Note that the fertilizer treatments from 2009 and 2010 are slightly different than those in 2011. Table 2 shows the increase in yield for each treatment, or 'advantage,' over the untreated check. Table 3 has the treatments from the 2011 season, which are slightly different from the treatments in 2009-2010.

Table 2: Yield Summary for 5 Field Scale Fertility Trials (2009-2010)

Treatment	Average Yield (bu/ac)	Advantage (bu/ac)	LSD (5%)
Untreated	48.7	-	c
3 Gallons 6-24-6	50.8	2.1	b
40P + 70 K (lbs/ac) Incorporated	51.0	2.3	ab
25P (lbs/ac) with seed	51.8	3.1	ab
40P + 70 K (lbs/ac) Incorporated + 3 Gallons 6-24-6	52.3	3.6	a
40P + 70 K (lbs/ac) 2X2 band	52.3	3.6	a

Table 3: Yield Summary of 4 Field Scale Fertility Trials (2011)

Treatment	Average Yield (bu/ac)	Advantage (bu/ac)	LSD (5%)
Untreated	56.0	-	d
20 P + 40 K (lbs/ac) broadcast	56.5	0.5	bcd
20 P + 40 K (lbs/ac) 2x2 band	56.4	.4	cd
20 P + 40 K (lbs/ac) 2x2 band + 50 N (lbs/ac)	57.7	1.7	ab
20 P + 40 K (lbs/ac) 2x2 band + 50 N (lbs/ac) + BioForge	57.7	1.7	abc
25 P (lbs/ac) with seed	57.3	1.3	abcd
2 – 20 – 18 (lbs/ac)	57.2	1.2	abcd
2 – 20 - 18 (lbs/ac) + Inoculant	57.5	1.5	abc
20 P + 40 K (lbs/ac) 2x2 band + 50 N (lbs/ac) + BioForge + 2 – 20 - 18 (lbs/ac) + Inoculant	58.3	2.3	a

Continued on page 13

Let's Make Hay!

Continued from page 7

1. Green

For the horse market, it's all about the colour green. That means the hay must be made under good drying conditions and stored inside and off the ground. Avoid any sun bleaching.

2. Square Bales (Large or Small)

While small square bales usually receive the premium prices, there is a growing demand for large squares. Large squares are easier to store, transport and feed. Large squares provide the capacity to make more hay when the weather allows. Making large round bales typically limits you to a local, lower priced market.

Continued on page 10

Comparing the Performance of Various Herbicide Programs in Non-GMO, Food Grade Soybeans

by Mike Cowbrough, Weed Specialist, OMAFRA

Minimizing yield losses in non-GMO, food grade soybeans in comparative research trials over the past 4 seasons, has been consistently achieved. This was done by implementing a 2-pass herbicide program that relies on a broad spectrum pre-emergence herbicide providing a foundation of weed control. A post-emergent herbicide program followed to deal with weed escapes or late emerging species.Table 1 summarizes the grass and broadleaf weed control with various herbicide programs.

Table 1. Average and range of broadleaf and grassy weed control with various herbicide programs applied in comparative research trials located throughout Ontario*.

Herbicide Program	Grass Weed Control (%)			Broadleaf Weed Control (%)		
	Avg.	MIN	MAX	Avg.	MIN	MAX
Boundary (pre)	97	89	100	78	55	88
Boundary + Broadstrike RC (pre)	99	96	100	82	66	90
Boundary + Classic (pre)	98	93	100	80	59	88
Conquest LQ (pre)	87	56	100	82	64	89
Conquest LQ + Frontier Max (pre)	95	81	100	84	70	92
Conquest LQ + Valtera (pre)	97	85	100	89	75	96
Cleansweep (post)	88	68	98	80	71	86
Frontier Max (pre); Cleansweep (post)	99	98	100	91	84	95
Dual + Sencor + Lorox (pre)	99	99	99	95	89	99
Pursuit (pre)	81	60	97	90	67	100
Pursuit + Valtera (pre)	94	88	99	99	84	100

*Locations: Elora, Ridgetown, Shipka, Winchester and Woodstock.

Scouting Report On "Foundation" Herbicide Programs

BOUNDARY (Dual II Magnum at 0.46 L/ac + Sencor at 233 g/ac)
Strengths: pigweed, mustard and annual grasses
Weaknesses: velvetleaf, ragweed, and triazine resistant lambsquarters

Putting it in a position to win:
It is rare that Boundary on its own will provide adequate season-long control. Plan on either tank-mixing with a broadleaf herbicide or a follow-up post emergent herbicide application to deal with later emerging or escaped weeds. Increase rates of Boundary when tackling eastern black nightshade or heavy grass weed pressure.

Tank mixing with Broadstrike RC:
Broadleaf weed control is improved as Broadstrike RC addresses many of Boundary's shortfalls. There may be support programs with this tank-mix. Contact your local retail agronomist or Syngenta sales representative for details.

CONQUEST LQ (Pursuit at 126 mL/ac + Sencor at 250 mL/ac)
Strengths: velvetleaf, pigweed, mustard and many annual grasses
Weaknesses: Pursuit resistant eastern black nightshade, triazine and Pursuit resistant lambsquarters and barnyard grass

Putting it in a position to win:
Conquest LQ is a solid broad-spectrum herbicide. However, there are significant holes due to herbicide resistant weed populations that diminish the effectiveness of Conquest LQ. These gaps can either be addressed by tank-mixing or following up with a post emergent herbicides that targets weed escapes and late germinating species.

Tank mixing with Frontier Max, Prowl H20 or Valtera:
You would consider tank mixing with Frontier Max if heavy annual grass pressure exists, or if Pursuit resistant eastern black nightshade and/or Pursuit and triazine resistant pigweed are the target species. Prowl H2O would be tank-mixed if heavy annual grass pressure exists or Pursuit and triazine resistant lambsquarters are a concern. Valtera would be tank-mixed when Pursuit and triazine resistant pigweed, lambsquarters and eastern black nightshade are the target species. There may be support programs with the Frontier Max and Prowl H2O tank-mixes. Contact your local retail agronomist or BASF sales representative for details.

Continued on Page 15

Does ESN® SMART NITROGEN® Improve Corn and Spring Wheat Yield?

by Scott Banks, Emerging Crop Specialist, Kemptville OMAFRA

ESN®, is a commercial fertilizer product that has the nitrogen granule covered in a thin polymer coating. This coating is designed to delay the release the nitrogen based on warmer soil temperatures and available soil moisture level. The concept is that the nitrogen will be held until conditions are more optimal for crop uptake. The Ottawa-Rideau Regional Soil & Crop Improvement Association completed a 3 year project to answer the question, "does ESN® SMART NITROGEN® improve yield in corn and spring wheat?" ESN is also promoted to increase grain protein, so this was also measured in the spring wheat.

Spring Wheat Protein Levels

When the standard rate of nitrogen (90 lbs/ac) was applied as the Urea:ESN blend compared to 100% urea, only 1 of 2 sites showed statistically significant higher grain protein levels (0.5% higher protein).

However, the spring wheat protein levels in this project were all above the maximum protein premium of 12.5% at standard nitrogen rates. Therefore, a blend of Urea:ESN may have a protein benefit only in spring wheat fields that have a history of low protein levels. For example, in a field yielding 60 bushels per acre, increasing the grain protein 0.5%, from 12% to the 12.5% maximum protein premium would add another $13.07 per acre. Therefore, the urea:ESN blend would provide an economic benefit of $4.59 per acre ($13.07 premium – $8.47 additional product cost) in fields that have a history of low protein in the spring wheat.

Yields

Over the three years of this project, there has been no statistically significant difference in yield between the urea;ESN blend treatments as compared to urea treatments at the same rate of nitrogen on the spring wheat or grain corn (Table 1).

Table 1: Corn and Spring Wheat Yields and Grain Protein Differences Between Urea and ESN Blend as Compared to Urea

	Corn	Spring Wheat	
Year	Yield Difference* (bu/acre)	Yield Difference* (bu/acre)	Protein Difference* (%)
2009	-0.9	1.1	0.6
2010	-1.1	0.9	0.2
2011	-0.8	-1.1	-0.6
Average	-0.9	0.3	0.1

*Yield Difference = ESN Yield less Urea Yield (bushels/acre)
Note: the Yield Difference between the ESN:Urea blend and Urea treatments are not Statistically Different.

Cost of ESN

The additional cost of ESN per acre was $8.47 per acre for spring wheat and $8.29 per acre for grain corn (Table 2). This is based on the current price of ESN at $900 per tonne and urea at $750 per tonne with the urea and ESN blend and fertilizer rates used in this project.

Table 2: Additional cost per acre of ESN as compared to Urea

Crop	N actual Rate (lb/ac)	Product	Additional Cost of ESN $/ac
Spring Wheat	90	50:50 Urea:ESN	$8.47
Corn	110	60:40 Urea:ESN	$8.29

More Research Underway

Further small plot research looking at more rates and combinations of ESN as compared to urea fertilizer products is being conducted at the Kemptville Research Farm and the Winchester Research Farm of the Kemptville Campus – University of Guelph. Data to date supports the findings of this trial.

The final report is available on the Ontario Soil & Crop Improvement Association "Crop Advances" website at www.ontariosoilcrop.org/en/resources/cropadvances.htm . •

Let's Make Hay!

Continued from page 8

3. No Dust Or Mould

Use good hay making equipment and techniques. Watch moistures at baling and be prepared to use a hay preservative as necessary. Hay should be stored in a well ventilated storage to allow for moisture to continue to drop. The horse hay market is very tolerant of advanced maturity, but has zero tolerance for dust or mould. Refer to "Making and Marketing Horse Hay" (www.omafra.gov.on.ca/english/crops/facts/makinghorsehay.htm). •

Saguenay/Lac St Jean Educational Farm Tour. ~ July 23-27

Crop Fertilizer Decisions Made Easier

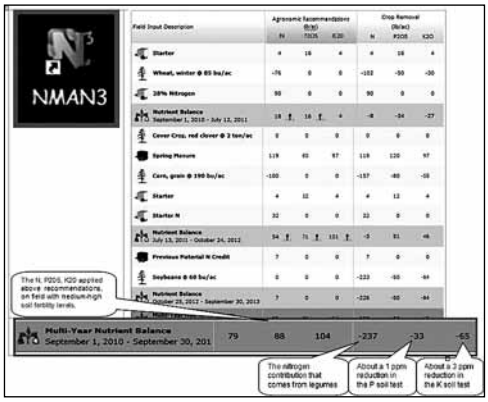
by Christine Brown, Nutrient Management Specialist, OMAFRA

Do you know how much phosphorus and potassium is leaving your fields during a rotation? Are your nutrient reserves slowly being depleted as average crop yields increase? The answer to these and many questions is just a click away.

In a rotation of silage corn followed by grain corn, followed by 3 years of alfalfa forage mix, it is not impossible for crops to deplete the soil P test by 10 ppm and the potash soil test by 50 ppm. In lbs/acre of fertilizer, that is over one-third of a ton MAP and three-quarters of a ton of 0-0-60 per acre, assuming nothing beyond liquid starter fertilizer was applied at planting.

An interactive version of the OMAFRA field and horticulture crop fertilizer recommendations (including the built-in N-Calculator) will help determine nutrient needs. It also provides a simple method of field and farm record keeping.

NMAN3 Field Management Plan is the newest version of the Nutrient Management Planning software created for Ontario farmers, and is available FREE.



This easy-to-use tool has been modified for crop production without regulations. The NMAN3 software can be used on-line or can be downloaded. It is location specific, with the latest updates for average crop yields and crop heat unit ratings. French, English, Metric, Imperial and US units can interchanged on the go. Each field's information can be filed for post-season modifications or updating.

Have you ever wondered if an application of manure would be economical, and what the expected nutrient contribution could be? The databank of nutrients from manure analysis is also built into the software. For example, if a spring application of liquid hog manure was applied at 5,000 gal/ac and incorporated, the contribution in available nutrients would be about 120 -120 - 100 of N - P205 - K20. The program also helps determine which field will economically benefit the most from that application.

NMAN3 along with Ag Maps www.ontario.ca/agmaps (agricultural information atlas) allows for simplified record keeping and decision making. It's easy, it's free, and it can be downloaded by google-ing "NMAN3" NMAN3 Software Application. •

Reducing Soil Erosion in Areas of Concentrated Flow

by Greg Stewart, Nutrient Corn Specialist, OMAFRA

Snow melt and early spring rains can contribute significantly towards erosion and phosphorous runoff. Soil movement is often greatest in areas where water flow is concentrated. This is the reason permanently grassed waterways have been promoted. However, grassed waterways can be troublesome in terms of field operations and maintenance.

In attempts to reduce erosion risks, we have investigated the use of compost-filled filter socks. Can the use of filter socks slow and filter concentrated surface water flow in annual crop during the erosion susceptible non-crop growing months, such as spring runoff? Is it practical to use these filter socks based on their ease of transport to and within fields, ease of effective positioning within erosion sensitive zones, ability to filter or slow surface water, and ease of removal or reuse if possible?

Methods

Filter socks consisting of 12-18 inch diameter mesh filled with bark compost were sourced from Filtrexx Canada Inc., Brantford, Ontario. Seven field sites were set up across Southern Ontario during the fall of 2011. Socks were transported to field sites on skids by pickup truck or trailer, were cut to size and moved to erosion sensitive areas within the fields by a Kubota RTV-900. Socks were positioned to trap, filter and deflect water, primarily where erosion has been an issue. They were secured by hammering wooden stakes on angles into the ground. Different methods of positioning the socks were made in order to investigate the impact of filter sock placement.

Figure 1. Filter socks in position. RTV used for transport in background.

Continued on Page 13

Grain Storage - Problems to Avoid

Continued from page 6

5. Check the static pressure, or the working pressure of the fan, in the plenum under the aeration floor. Has this pressure changed from last month? If it has gone down, there is no cause for concern. If the static pressure has gone up, something has increased the resistance of the air as it moves through the grain mass. Investigate deeper into the grain mass.

6. Record your notes in a monitoring log book. Next month you can see how things have changed in the various bins.

Aeration of stored grains is done to keep the whole grain mass at a uniform temperature, as well as maintain the grain mass temperature within 5oC of the average outside air temperature. In this way convective air movement is not possible. As bin surfaces are warmed by the sun or mild air, air currents start to move in the grain mass. Moisture from the grain is carried up and condenses on colder surfaces. Spoilage can occur if this convective air movement is not arrested. Routine aeration of the bin contents will prevent convective air movement

Basics of Aeration

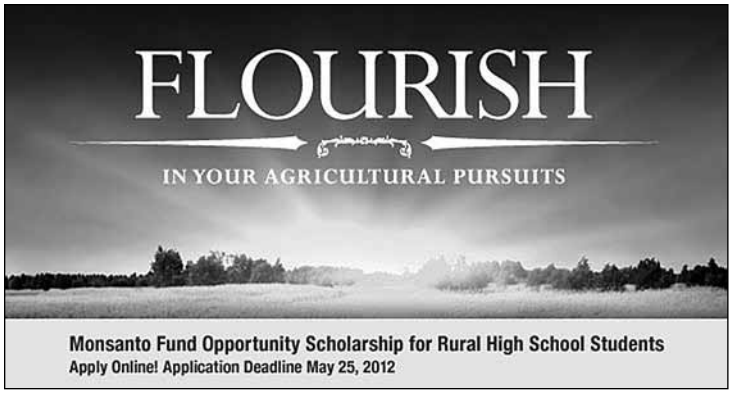
1. Bring the whole grain mass to the same temperature.
2. Operate the fan only when relative humidity levels will not add moisture to the grain.
3. Operate the fan for sufficient time to totally change the whole grain mass temperature.
4. Changing the whole mass temperature may require a number of days.
5. Relative humidity levels of night-time air can add moisture to small grains and beans.
6. The aeration time required to completely change the mass temperature is as follows: hours of aeration = 20/ CFM per bushel.

Winter 2012

So far this winter, we have seen temperature fluctuations that we don't typically see in December, January and February. Outside temperatures have drifted above and below freezing for extended periods of time, so things may be a little out of the norm in the bins as well.

Successful grain storage requires routing inspection and aeration to avoid spoilage.

The key to preventing uncontrolled air movement in your bins is to keep all the grain within 5oC of the average outside air (ambient) temperatures. With fluctuating ambient temperatures, this temperature differential could exceed that. Aerate your grain on cold evenings to get it down to your normal mid-February temperature. If you are feeding grain regularly from a storage bin you are in essence continuously seeing the quality of that grain. Don't forget to check the bins where you are not removing grain on a routine basis. Grain can go out of condition quickly. With careful and diligent monitoring you should see the warning signs of possible spoilage problems and be able to take appropriate action to prevent further quality reductions. •



Monsanto Canada's Commitment to Education

Monsanto Canada, with support from the Monsanto Fund, is proud to support post-secondary education opportunities for farm families. By assisting young people from farm backgrounds in their pursuit of a college or university education in agriculture, we are investing in their future careers - and in the future of the agriculture industry in Canada.

Monsanto Canada is Helping Build Careers in Agriculture

The Monsanto Fund Opportunity Scholarship Program is for Canadian high school students from family farms who have successfully enrolled at a Canadian educational institution (degree or diploma) in a first-year agriculture program.

If you have applied for entry into a college or university, but have not yet been accepted, you can still apply for a Monsanto Fund Opportunity Scholarship. However, if you are awarded a scholarship, you must provide an acceptance letter from your educational institution.

Successful applicants will each be awarded a scholarship valued at $1500, based on demonstrated academic standards and leadership in the community. Selection will be made by an independent panel.

Go to www.monsanto.lca for the application and more information.

Is It Time To Feed The Beans?

Continued from page 8

Results

1. If soil tests were adequate, soybean yields gains to applied fertilizer were relatively small. Response to starters and broadcast treatments were much higher when soil tests were low. There was a small advantage to banding fertilizer and to liquids, compared to broadcast application.

2. Even with very high yields, the high fertility site showed no response to fertilizer, except for the 2 X 2 band of 40 P+ 70 K.

3. MAP with the seed (in furrow) and 3 gallons of 6-24-6 were the only economically profitable treatments in the 2009-2010 study. There is concern that MAP with the seed may cause fertilizer burn, so caution must be exercised if this approach is used.

4. In 2011 there were no treatments that were profitable. This is probably due to the excellent growing conditions late in the season. The treatment with the highest yield response was a 2x2 band of 20 P + 40 K, 50 lbs of broadcast N, BioForge seed treatment, 3 gallons/acre mixture of 2-20-18 liquid fertilizer, with Optimize liquid inoculant.

5. Nitrogen fertilizer showed no economic response.

A general trend observed in Ontario is the decline of soil test values. This is likely because producers have not altered their fertility programs to take increased yields of their crops into consideration. Adding nutrients to the soil in order to build the base fertility is something that will need to be addressed to maintain high yields. It all comes down to knowing what your soil test values are. By having a firm grasp on the current state of your farm's soil fertility, you will be able to assess the likelihood of an economic yield response to "feeding the beans". We will continue this study to determine if recommendations need to change. So far, it seems that the source and the timing of P and K application are not critical for soybeans. The important thing is to feed the beans if soil test values are low. As an absolute minimum, soil test levels should be at 10 ppm for P and 100 ppm for K. •

Reducing Soil Erosion in Areas of Concentrated Flow

Continued from page 11

Preliminary Results

When received by skid, socks can be maneuvered easily. Skids served well for temporary storage, as well as for transportation from storage to fields. Once at field sites 12 inch diameter socks can be maneuvered by two people, although 18 inch socks were much more difficult. Socks are easily cut to desired length, and both sizes were easily transported across fields by ATV. Towing standard sock mesh though fields did show evidence of ripping small holes. Sock integrity could play an important role in durability and reuse.

Preliminary observations following a heavy fall rain suggest that blocking and pooling of water occurs at zones of concentrated flow. Improper setup (insufficient length, positioning, or leveling on ground) also demonstrated the ability of water to flow below/around socks.

Figure 2. Filter sock accumulating water across a zone of concentrated flow during a rain in December, 2011

Filter socks will be monitored over the winter, primarily during snow thaws and heavy spring rains. Differences in erosion control effectiveness by sock positioning, and ease of disposal will be investigated in the spring. •

A List of Licensed Laboratory Resources**

** Links and contact information are a service and do not imply endorsement of information or products.**

The following is a list of laboratories that are currently licensed to perform drinking water tests in Ontario (last updated January, 2011). They hold valid license classes under the Ontario Ministry of the Environment for microbiological, organic chemical, radio analytical, physical/other and/or inorganic chemical analysis. When selecting a lab, ensure the lab is accredited for micro-biological testing and is open to outside clients. Please visit the Ontario Ministry of the Environment website for an up-to-date listing of licensed laboratories in Ontario: http://www.ene.gov.on.ca/en/water/sdwa/licensedlabs.php.

When testing water used for irrigation or water used for agricultural chemical or commercial fertilizer application, make sure the lab knows the sample is for agricultural use, not for drinking water. •

ASCIA 2011 Annual Meeting

Continued from page 5

on research and cash crops. RAIN has asked FedNor for funding for a GIS platform in the Algoma region. The Penokean Hills Farms have received help from RAIN. According to Errol, the Agriculture and Food Symposium in November at Algoma University was well attended. In the area of Endangered Species, the Ontario Ministry of Natural Resources has implemented a three-year transition for farmers who have Bobolinks nesting in their hay fields. The Bobolink is on the threatened list.

The Agricorp representative gave information on its program and mentioned that the rates for 2012 have not been set yet. He explained the procedure to be part of the Risk Management Program and that for the Livestock Risk Management Program farmers need to get their information in on time for the last quarter.

OMAFRA representative Dave Trivers gave out OMAFRA Connects with the up-coming events in the Northeastern Ontario area.

Murray Cochrane introduced Dave de Vries of Agriculture Solutions, a company with high quality natural fertilizers. Dave works with farmers to get better crops. The mission of Agriculture Solutions is "to help you grow quality food without damaging the Earth." He started his presentation by asking "Why are you here?" According to Dave, most farmers want a better return on their investment, and they can get this by lowering their expenses (fewer chemicals and less fertilizer), selling more (higher yield) and increasing prices (better quality product).

Dave starts with the soil and works with it to have the environment in balance and creates a self-sustaining system. He suggested that the "true purpose of agriculture is to recycle life." Dave told his audience that the best system is a self-sustaining one as opposed to one dependent on chemical fertilizer. Productive soil requires living biomass (microbes, bacteria, fungi, nematodes) and nutrients (minerals). Farmers need to stimulate biology to keep plants healthy. He stated that Biological Farming is a long-term program, works in harmony with nature and produces sustainable, nutritious crops

His definition of Biological Farming is conventional and organic techniques with chemistry, physics and biology. According to Dave, the benefits are healthier crops, increased yield, reduced insect and disease damage, and reduced chemical dependency. Agriculture Solutions products are available at the Algoma Ag Centre in Echo Bay.

Jonathan Stewart, the second guest speaker for the meeting, gave information on the new proposed Canola Crushing Plant to be located in the Bruce Station area of Central Algoma. Construction on the building has started and the mill will be relocated from Germany next summer. The mill will crush canola seed into industrial grade oil and meal. Canola will be a cash crop for Algoma farmers. The crushing plant will benefit local farmers by reducing costs by having their seed crushed locally and eliminating transportation cost for feed (meal) from Southern Ontario. Jonathan encouraged area farmers to grow canola. More information can be found at www.canolacouncil.org. A "canola day" on how to grow and other topics pertinent to the seed will be offered in the near future. A dryer for canola seed and grains is also part of plan for this operation.

Ray Prestedge presented the final report of the 2012 meeting for Algoma Community Pastures on the weed wicker purchased. It will be rented to ASCIA members to use. Ray mentioned that rental of the machine would be 1/10 of the cost of spraying an herbicide.

The annual meeting concluded with the election of officers for 2012.

ASCIA's Award of Merit for 2011

At the January 18, 2012 Annual Meeting for Algoma Soil and Crop Improvement Association, Dr. David Croskery and his wife Zahita were awarded the Award of Merit for 2012. All Central Algoma area farmers know Dr. Croskery, as he has been their vetinarian for over 29 years.

Dr. Croskery comes from a farm background as his grandfather was the agricultural representative for Carlton County, and his father operated a farm in Southern Ontario. After graduating in 1969 from the University of Guelph, Dr. Croskery came to Northern Ontario on a camping trip and subsequently took over Dr. Maurice Foster's practice in Desbarats in 1970. The Goods joined his practice and bought it in 1999.

In 1973, Dr. Croskery bought a farm on Gordon Lake Road and raised Charolais cattle. Over the years, he added two other farms to his holdings. He is one of the first farmers to use an electric fence to keep his herd from polluting the waterway on his farm. Dr. Croskery has lead in environmental concerns in farming.

Over the years, Dr. Croskery has been a member of the Cattlemen's Association, Algoma Cooperative Livestock Sales, Duck's Unlimited and the Algoma Community Pasture Association. He can be found at the Thessalon Cattle Sale three times a year.

Larry Campbell, a neighbour and friend, gave the audience a summary of Dr. Croskery's achievements and presented him with a plaque. Beth West gave Zahita Croskery a bouquet of flowers. •

Saguenay/Lac St Jean Educational Farm Tour. July 23-27

Comparing the Performance of Various Herbicide Programs in Non-GMO, Food Grade Soybeans

Continued from page 9

PURSUIT (and various other imazethapyr generics at 168 mL/ac)

Strengths: velvetleaf, mustard and many annual grasses
Weaknesses: Pursuit resistant eastern black nightshade, lambsquarters, pigweed and foxtail. Barnyard grass.

Putting it in a position to win:

Pursuit still provides solid broad-spectrum weed control where resistant weeds aren't a concern. However, Pursuit (group 2) resistant weed populations are quite wide spread in southern Ontario, therefore Pursuit should not be solely relied upon. Resistant weeds can either be addressed by tank mixing with an effective herbicide or following up with a post emergent herbicide that targets weed escapes and late germinating species.

Tank mixing with Frontier Max, Prowl H20 or Valtera:

You would consider tank mixing with Frontier Max if heavy annual grass pressure exists or if Pursuit resistant eastern black nightshade and pigweed are the target species. Prowl H2O would be tank-mixed if heavy annual grass pressure exists or Pursuit resistant lambsquarters are a concern. Valtera would be tank-mixed when Pursuit resistant pigweed, lambsquarters and eastern black nightshade are the target species. There may be support programs with the Frontier Max and Prowl H2O tank-mixes. Contact your local retail agronomist of BASF sales representative for details.

Common ragweed and eastern black nightshade are significant challenges:

Since any nightshade found in a food grade soybean crop puts it at risk of losing its premium (due to risk of seed staining), 100% control of this species is needed. This is very difficult and almost impossible to achieve especially when a field has moderate to heavy pressure of this weed. The best approach would be to use the highest rate of Dual II Magnum, Frontier Max or Boundary and then following up with a post emergent application of Reflex + Turbocharge prior to nightshade reaching the 3-leaf stage.

There has not been a single "one-pass" herbicide program that has provided over 90% control of common ragweed. Therefore, a post emergent application of Reflex + Turbocharge is required.

For more information on products and product rates, refer to each individual product label and OMAFRA Publication 75, Guide to Weed Control.

This project was funded in part by the Grain Farmers of Ontario. Comparative trials research was conducted by University of Guelph researchers Dr. Clarence Swanton, Dr. Peter Sikkema, and Dr. Francois Tardif. •

2013 Nuffield Farming Scholarship Applications Open

(Innisfail , AB – March 8, 2012)

The Canadian Nuffield Farming Scholarship Trust is accepting applications for their 2013 program. Applications are due by April 30, 2012 and forms can be downloaded from the Nuffield Canada website at http://www.nuffield.ca.

Three scholarships of $15,000 each are available for 2013.

Nuffield Farming Scholarships are awarded to enthusiastic individuals, with a passion for agriculture and a desire to expand your knowledge, pursue new ideas and to share your findings with others. Applicants should be in mid-career, be between the ages of 30 and 45 (although exceptions are made) and must have a minimum of five years agricultural business or farming experience plus the management ability to step away from their current duties. The Scholar must travel for a minimum of ten weeks, with a minimum leg of six consecutive weeks. Scholarships are not for those involved in full-time studies or for the purpose of furthering research projects.

"The Canadian Nuffield Farming Scholarship provides innovative Canadians with the funding to travel internationally to expand their personal horizons while exploring agricultural issues and opportunities in a global context," said Barb Stefanyshyn-Cote, Chair and 2003 Scholar. "We are focused on developing the practical, managerial and commercial capacities of each scholar to enable them to be better farmers, business managers and leaders and to make a significant contribution to the future of Canadian agriculture."

The scholarships are awarded to men and women who are judged to have the greatest potential to create value for themselves, their industries and their communities through the doors which will be opened and the opportunities provided for life-long learning and improvement. The scholarships are awarded on the strength of the applicants' vision, enthusiasm and determination to pursue their goals.

A Nuffield Farming scholarship is a life changing experience. Scholars receive a ' golden key ' to the best production, management and marketing systems in every corner of the world. In addition to embracing the ' world ' s best ' in agriculture, scholars gain life-long friends form around the world, and a deep understanding, and global perspective, of the politics, cultures and challenges of world agriculture.

A key part of the scholarship is the opportunity for winners to study a topic of interest to themselves throughout their travels. Scholars must complete their project within two years of winning the award and are expected to produce a written report and present their findings at the Nuffield annual general meeting as well as to others in their industries.

Canadian Nuffield Scholars are also required to participate in the Contemporary Scholars Conference (CSC) where they will meet with scholars from other countries including the United Kingdom , Ireland , Australia , New Zealand and France to exchange ideas and experiences, and join a network of people who are at the cutting edge of primary industry.

Applications must be received by April 30, 2012. Application forms are available from the Nuffield website www.nuffield.ca.

For more information on Nuffield Canada , visit www.nuffield.ca or for questions about the international element, visit www.nuffieldinternational.org.

For more information:
Rod Bradshaw
Secretary, Nuffield Canada
secretary@nuffield.ca
(403) 224 2633

or

Karen Daynard
Program Manager
Email: karen@nuffield.ca
Phone: (519) 836-2583

Nuffield

Canada



BULLETIN
GRANDES CULTURES

MAAARO – des spécialistes en grandes cultures

Des renseignements cartographiques utiles

par Adam Hayes, spécialiste de la gestion des sols, grandes cultures, MAAARO

Portail de l'information géographique Agri Cartes
Le Portail de l'information géographique Agri Cartes est un nouveau service qu'a lancé l'automne dernier la Section de la géomatique du ministère de l'Agriculture, de l'Alimentation et des Affaires rurales de l'Ontario. Cette nouvelle page sur le site Web du MAAARO, à www.ontario.ca/agricartes, propose une variété de cartes pédologiques et de ressources. Elle comprend quatre sections qui contiennent une foule de renseignements.

1. **Atlas de l'information agricole**
   L'Atlas de l'information agricole est un site Web interactif de cartographie. C'est un outil permettant d'obtenir de l'information agricole ou de créer des cartes. Il permet de visualiser des cartes comportant des données de base sur les routes et les municipalités, des photographies aériennes, des données de l'Inventaire des terres du Canada, des groupes hydrologiques de sols, le drainage souterrain, le drainage des sols, les bassins hydrographiques et d'autres aspects. Il suffit de cliquer pour ajouter ou enlever l'une ou l'autre des couches de données que l'on peut visualiser. Il y a des outils qui permettent de mesurer la longueur et la superficie et de marquer des endroits sur la carte. Les cartes sont également imprimables, ce qui est pratique quand on a besoin d'une carte d'une ferme ou d'un champ.

2. **Visualisation et téléchargement de données géospatiales**
   Cette partie du site Web permet à l'utilisateur de visualiser l'emplacement de marchés fermiers, des bureaux du MAAARO, de détaillants de matériel, etc. sur des cartes Google. L'utilisateur peut aussi télécharger ces fichiers en format kml ou Shapefile.

3. **Cartographie de l'Inventaire des terres du Canada (ITC)**
   Les cartes de l'Inventaire des terres du Canada fournissent des renseignements sur les catégories de potentiel agricole des terres (1 à 7) en Ontario. Les éléments des cartes sont en couleur et utilisent les noms de routes actuels.

4. **Ensembles de données des programmes du MAAARO**

   a) **Cartographie sur le drainage**
   Cette section du site Web propose des renseignements et des liens concernant les données sur le drainage agricole du MAAARO.

   b) **Cartes et rapports sur les sols**
   Cette section fournit des liens vers une page du projet Sols Ontario. Son objectif consiste à intégrer les données actuelles sur les sols dans une base de données numériques d'une grande précision spatiale pour tout l'Ontario, qui sera uniforme et facilement accessible en format numérique et sur papier. Un lien vers le site Web Information sur les terres de l'Ontario est également fourni; ce site propose d'importants ensembles de données sur les sols. Un autre lien dirige l'utilisateur vers le site Web du Service d'information sur les sols du Canada d'Agriculture et Agroalimentaire Canada. Ce site contient des versions en PDF de la plupart des cartes et rapports sur les sols de l'Ontario. Il suffit de cliquer sur « Voir l'étude ». Le dernier lien mène au site Web de Service Ontario, où on peut commander des cartes des sols ainsi que des rapports et d'autres publications sur les sols.

   c) Ensembles de données sur l'aménagement du territoire
   Cette section aborde le projet d'Inventaire des opérations agricoles, qui couvre actuellement une partie de la province. Il donne des renseignements sur les fermes et l'utilisation du sol, notamment sur les champs, les bâtiments de ferme, les clôtures et les fossés de drainage. Des renseignements détaillés sur les types de culture, l'orientation des rangs, l'emplacement des fossés et des bâtiments de ferme, les types d'élevage et les méthodes d'irrigation et de travail du sol sont fournis. Cette section décrit aussi l'Inventaire des ressources agricoles, qui a été dressé en 1983. Il fournit une

carte de l'utilisation générale des terres à l'époque : zones urbaines, boisés, cultures (maïs, pâturages, foin, etc.). Le dernier lien mène à une page sur la cartographie des cultures spéciales et d'Inventaire des terres du Canada pour le Programme de tarifs de rachat garantis pour l'énergie renouvelable.

Ces ressources sont le fruit d'un travail soutenu visant à créer des outils à employer à différentes fins. Certaines sont destinées aux agriculteurs, et d'autres sont conçues surtout pour les spécialistes en aménagement, les experts-conseils et d'autres intervenants qui disposent du logiciel nécessaire pour reporter les données sur des cartes. Certaines de ces ressources sont achevées, bon nombre sont mises à jour et améliorées continuellement et d'autres sont toujours en cours d'élaboration.

Consultez ces ressources pour déterminer celles qui sont les mieux adaptées à votre situation. •

Saguenay/Lac St Jean Éducation Visite de la ferme. Juillett 23-27

Entreprendre la saison de pâturage

par Jack Kyle, spécialiste des animaux en pâturage, MAARO

« Quand puis-je envoyer mes bovins au pâturage? » À l'approche du printemps, cette question est sur toutes les lèvres. Si vous mettez vos bovins à l'herbe trop tôt, il n'y aura pas assez de graminées pour nourrir le bétail. Lorsqu'on leur impose un retard de croissance en début de saison, les graminées seront moins productives pendant toute la saison de pâturage. Si vous attendez trop longtemps pour mettre les animaux à l'herbe, vous utilisez plus de fourrage entreposé. Comme le foin coûte environ deux fois plus que le pâturage, cela peut avoir des conséquences financières considérables.

Importance de l'état des graminées au moment de la mise à l'herbe

Au début, la croissance des graminées est très lente. Les nouvelles feuilles sont petites et produisent peu d'énergie par photosynthèse. La plante tire donc le gros de son énergie des réserves de ses racines. Les températures froides limitent aussi la croissance. Il est souvent suggéré d'attendre que la graminée ait trois feuilles avant le pâturage. À ce stade, la photosynthèse dans les feuilles génère suffisamment d'énergie pour alimenter la plante, qui pourra se rétablir après le pâturage et produire rapidement de nouvelles feuilles.

Ingestion accrue de matière sèche

Pour parvenir à un rendement optimal au pâturage, l'animal doit pouvoir prendre des bouchées complètes d'aliments de goût agréable et riches en éléments nutritifs. S'il ne peut prendre que de petites quantités à la fois, il lui faudra prendre plus de bouchées pour se nourrir adéquatement, de sorte qu'il ne présentera probablement pas un rendement optimal. Les bovins passent environ le tiers de la journée à manger, le tiers à ruminer et à digérer et le reste à se reposer. Dans le cas des bovins, ces trois périodes totalisent chacune environ huit heures. Les ovins, quant à eux, consacrent environ 12 heures par jour à l'alimentation. Il faut plus de temps pour digérer du fourrage de qualité inférieure; moins la qualité du fourrage est bonne, plus l'animal mettra de temps à ruminer. Ainsi, il passe moins de temps à manger et à se reposer.

Si la saison de pâturage présente une humidité allant d'abondante à excessive, les graminées seront exubérantes mais pleines d'humidité. L'animal devra alors consommer plus de livres de pâture pour ingérer la même quantité de matière sèche que si la teneur en humidité était normale. Par conséquent, les années où la croissance est abondante, il est très important de faire tout en son pouvoir pour encourager l'ingestion de matière sèche. Idéalement, elle devrait représenter environ 2,5 % du poids corporel. Il faut un apport d'environ 1,75 % du poids corporel en matière sèche pour assurer la survie de l'animal; l'excédent assure sa croissance et son gain de poids. En d'autres termes, il faut que l'animal prenne une « deuxième portion » à chaque repas. Comme pour nous, pour que l'animal prenne cette deuxième portion, il doit avoir vraiment faim, ou les aliments doivent avoir très bon goût. Un fourrage de qualité qui goûte bon est le meilleur moyen d'accroître la consommation et de maximiser le rendement au pâturage.

La gestion du fourrage tout au long de la saison de pâturage afin que les animaux puissent prendre de grosses bouchées de fourrage de haute qualité permettra d'optimiser le rendement du bétail. Commencez la saison du bon pied avec des graminées qui connaissent une bonne croissance, en vous assurant d'utiliser tous vos pâturages avant qu'ils ne parviennent à maturité et que la qualité du fourrage ne diminue. Consultez « Le sursemis sur sol gelé - Une méthode économique » à www.omafra.gov.on.ca/french/crops/facts/98-072.htm. •

Spécialiste de la paille ?

par Peter Johnson, spécialiste des céréales, MAAARO

La paille est devenue une culture très importante dans l'industrie des céréales. Chaque année, on me demande, « Devrais-je vendre ma paille? Combien vaut-elle? ». Or dès que Johnson propose un éventail de prix, tout le monde se met en colère! La paille est tellement présente sur le marché local que chacun demande un prix différent. Que s'est-il passé pour que la paille devienne un produit aussi coûteux et prisé?

Le passé

Revenons un peu en arrière. Revenons même en 1985, année où je suis arrivé au MAAARO. Nous avions 590 000 acres de céréales mélangées, 520 000 acres d'orge, 280 000 acres d'avoine et 30 000 acres de blé de printemps, pour un total de 1 420 000 acres de céréales de printemps. Ces superficies étaient déjà à la baisse : 200 000 acres de moins qu'en 1981. Il y avait 505 000 acres de blé d'hiver. Au total, on comptait 2 millions d'acres de paille tout au long des années 1980.

Le présent

Comparons ces chiffres à deux de 2011 : un grand total de 335 000 acres de céréales de printemps (90 000 acres de céréales mélangées, 110 000 acres d'orge, 55 000 acres d'avoine, 80 000 de blé de printemps). Ouf! Jusqu'où peut-on descendre? Le blé d'hiver a connu sa deuxième culture la plus importante de l'histoire, à 1 095 000 acres. La superficie totale de paille a atteint 1 330 000 acres.

L'avenir

Qu'arrivera-t-il en 2012? Il n'y aura pas de forte augmentation de la superficie de céréales de printemps, le maïs étant à 5 $ le boisseau. Celle de blé d'hiver est d'environ 700 000 acres. Ensemble, cela fait environ 1 million d'acres, la moitié de ce que nous avions dans les années 1980. Est-il donc étonnant que la demande de paille soit forte?

Autres facteurs

Les fermes laitières donnent plus de paille à manger aux vaches, qui ont besoin de fibres alimentaires. Nous exportons plus de paille aux fermes laitières de la côte est américaine, car leur superficie de paille a chuté de façon encore plus spectaculaire que la nôtre. Si ce n'était du fait que le nombre d'animaux d'élevage en Ontario est à la baisse et que moins de gens se servent de paille pour les litières, le prix de la paille grimperait en flèche!

Comme l'offre est limitée, il semble que le prix de la paille demeurera élevé. Alors, combien vaut la paille? Excellente question! Elle vaut cher! Malheureusement, le spécialiste provincial des céréales a fait un si bon travail qu'il est devenu SPÉCIALISTE DE LA PAILLE! •

Merci de votre abonnement au Bulletin grandes cultures. Pour nous aider à améliorer nos services, nous vous demandons de bien vouloir nous faire part de vos commentaires, qui seront pris en considération pour l'orientation de nos publications de cette année. Cela ne devrait vous prendre qu'une à trois minutes de votre temps. Pour commencer, veuillez cliquer ici

http://www.surveymonkey.com/s/bulletingrandescultures2012

Savvy Farmer Offers Free Version of Software

Guelph-based The Savvy Farmer Inc. recently announced the launch of Savvy Farmer lite, a free version of its popular Savvy Farmer software. The "lite" version allows growers and other pest control professionals fast access to pest control information including:

1. listings of all products that control any weed, insect, disease, or nuisance animal problem in over 750 crops including field crops, fruits and vegetables.
2. product rates of application .
3. all product labels, including co-packs and newly registered products.
4. identification photos of over 1,000 pests, including weeds, insects, and diseases

This new service "was created in response to farmers who want quick and easy access to pest control information but do not feel they need the added features found within the full Savvy Farmer paid software," Savvy Farmer president Warren Libby said in a release.

"While Savvy Farmer lite contains fewer features than the Advanced version, we believe many farmers will find it an extremely convenient tool that they will refer to often. Since there is no subscription required, users can bookmark the site on their computer or tablet and use it as often as they want, free of charge."

The free service operates as a cloud-based application; therefore its data can be updated every day. "It's a rare day that there isn't new information to add to Savvy Farmer... and we work hard to be the most complete and current source of pest control information in Canada," said Libby.

The company will continue to offer more "in-depth" information through its subscription-based Savvy Farmer Advanced and Savvy Farmer Pro services. These versions of Savvy Farmer offer deeper information on treatments including all tank-mixes, advanced tools to customize treatments, additional information, mobile access, and electronic record-keeping capability.

Savvy Farmer lite can be accessed at www.savvyfarmerlite.com. Information on all Savvy Farmer software can be found at www.savvyfarmer.com.

Grassroots Innovation
Since 1939

OSCIA NEWS

A NEWSLETTER TO UPDATE OSCIA MEMBERS, PRESIDENTS, SECRETARIES, TREASURERS, DIRECTORS, AND OMAFRA AGRICULTURE DEVELOPMENT CONTACTS

Table of Contents

Ontario Soil and Crop Improvement Association
1 Stone Road West, Guelph ON N1G 4Y2
Phone: (519) 826-4214 or 1-800-265-9751
Fax: (519) 826-4224
E-mail: oscia@ontariosoilcrop.org
http://www.ontariosoilcrop.org

Seed Bytes - Global Status of Commercialized Biotech/GM Crops: 2011

Dr. Clive James, of the 'International Service for the Acquisition of Agri-Biotech Application' (ISAAA) provides an update on advancements in biotech crops around the world. This is one of the best perspectives I have seen. Remarkably, the biotech adoption by resource poor, small scale farmers in developing countries is dramatic. Take the time to check out the 28 minute video: http://www.isaaa.org/

Harold Rudy, Secretary-Manager, Ontario Seed Growers' Association

◇

Message from the President - Joan McKinlay

Life feels different these days. The market prices are telling us that they want our products; in fact they want a lot of our products. These are the days that we were waiting for and the pressure is on to rise to the challenge. As we make plans for inputs and finalize decisions about acreages and what crops we will be growing I think that it is important to not lose sight of good crop rotation decisions. If you have been practicing this all along then you are in the best shape possible for this year. If not then be sure that you know what you are missing. Ideally forages need to be included in a rotation in some form. A recent research report listed at www.ontarioforagecouncil.com reviews the literature on long term rotational effects and documents that forages produce a 5- 20% yield increase in the following crop of corn which lasts into the second year. Along with assisting in breaking weed, disease and insect cycles the breakdown products of forages decomposing creates the "glues" that produce good soil structure. Remember how the area over the tile lines looks greenest in a dry year but also in a wet year. This area has a better soil structure which helps to "weatherproof" our soils. We can't control or even predict the weather patterns but we can prepare and have a contingency plan in place. Caring for the soil is not only good for the environment but also good for your own bottom line. Hope you were able to attend one of the recent soil workshops.

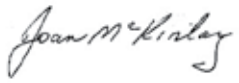
We enjoyed a very successful Annual Meeting in February in the new London location. Two comments that were made by speakers keep bouncing off each other in my mind. Greg Kitching did a presentation on precision agriculture the past, present and future. He commented that they have gone from engineering creations that were "gee whiz to the creators" but hard to use in practice, to user friendly, field tested machines that can be customized to do what you want

them to do. John Heard from Manitoba Agriculture showed us a list of "barriers to the adoption of precision agriculture" that was made up in the 1990's. We have addressed almost all on the list except really "knowing what we want to do with these machines". This can only be fine tuned by research and demonstration to determine what inputs really need to be put where.

OSCIA is positioned well to address both of these two topics. We represent all crops and livestock producers. We can certainly address the benefits of crop rotation, the effect that our actions have on the environment and we can keep the dialogue open with the researchers and most importantly the funding organizations to highlight where our research needs are, as responsible producers. In the face of strong market signals we can evaluate not only the production information but the larger long term and environmental effects. Most importantly, we offer forums where these issues can be discussed. Information comes from many sources but knowledge comes from discussion and thought. OSCIA is also involved in putting this knowledge into practical terms.

We are very encouraged with the renewed interest across the province in demonstrations and on farm trials and in the strengthening of many local associations. We are beginning the next three year Partner Trials run by the regions this year. We look forward to seeing what will be "test driven". The results of the past Partner projects and Major projects can be found at www.ontariosoilcrop.org under the 'Crop Advances' button. They are searchable for your convenience.

Just as crop rotation relieves stress on your soils, remember to keep a good balance within your life as well to relieve stress on your gray matter and family. Take the time for safety and be sure that you are having fun. Remember that we do this because we love it.



ATTENTION SEED GROWERS

OSGA Field Day, June 26, 2012
David MacKellar Farms, Alvinston ON

CSGA Annual Meeting
July 10-13, 2012, Calagary, Alberta

OSCIA Staffing Changes

We welcome four new individuals who will each contribute to OSCIA's program delivery success.

Harold Stewart - EFP and GYFP workshop leader and program representative for Algoma district. Harold has called the Thessalon area home for his entire life and has been involved with the agricultural community in various ways throughout. He will fill the position left vacant when Luke Vine elected to step back from OSCIA program duties to devote his full attention to growing his farm business.
Harold bought his own farm in 1996 and ran it quite successfully with the help of family members. After completing his professional career with Bell Canada in 2012, he accepted the position with OSCIA to utilize his many skills, stay connected, and help in the delivery of outstanding environmental and farm business program opportunities that he genuinely believes in.
Contact: algoma@ontariosoilcrop.org

Christine Schmalz - Environmental Programs Coordinator in the provincial office. Christine initially worked with OSCIA between 2008 and 2010, stepping away to complete her Masters studies at Carleton University in public policy with a specialization in sustainable energy. With interests in environmental programs, she brings her skills to the EFP, associated cost-share programs and the coordination of several special projects. Some examples currently include in-field research to develop an improved understanding of how grassland species at risk interact with agricultural BMPs as well as exploring new program design tools for delivering and evaluating environmental incentive programs.
Contact: christine.schmalz@ontariosoilcrop.org

John Laidlaw - Program Manager for Business Development for Farm Businesses in the provincial office. John joined us in January and holds both a M. Sc. and a B. Sc. (Agr.) from the University of Guelph with both degrees specializing in agricultural business and marketing research. Previous employment was with Farm Credit Canada. OSCIA will surely benefit from John's wealth of experience, fresh outlook and enthusiasm.
John takes over from Bill Bearss who expertly stepped in on an interim basis when Mike Terpstra moved on in his career.
Contact: john.laidlaw@ontariosoilcrop.org

Amie Melnychuk - Administrative Assistant in the provincial office. Amie started with OSCIA in October 2011 and brings refined remote sensing and IT skills to the Association. She grew up in rural Manitoba, moved to Guelph for a BSc. in Environmental Science and Natural Resource Management, and is in the final stages of completing her Masters degree at the University of Guelph in Agricultural Remote Sensing. Over recent months, Amie has expertly contributed her considerable talents to the scrutiny of environmental project applications and claims. She will soon turn her attention to more IT duties, and help direct a special project that investigates the environmental benefits to agriculture associated with precision agriculture technologies
Contact: amie.melnychuck@ontariosoilcrop.org

A fond farewell to **Bruce Kelly**, who left OSCIA after nearing seven years of devoted service as our expert Program Reviewer in the provincial office. In December Bruce accepted a position in the federal government working in policy development for rural development. We wish him continued success and good fortune in his career path.

◇

LB Thomson Award Recipient - Don Lobb

Don Lobb, an innovative Ontario farmer credited with spearheading the no-till movement becomes the first national recipient of the L. B. Thomson Conservation Award.

The award is administered by the Agri-Environmental Services Branch (AESB) of Agriculture and Agri-Food Canada (AAFC) and was presented to Lobb by Jamshed Merchant, deputy minister AAFC-AESB at the Ontario Soil and Crop Improvement Association's (OSCIA) annual conference in London, early February.

The presentation to Lobb marked the first time a recipient for the award has been named from outside the prairie provinces, and Harold Rudy, OSCIA executive director was pleased the organization could host the first national presentation. "With Don Lobb's long-standing work with on-farm soil management and conservation tillage research, he was a logical and most deserving recipient," said Rudy.

Lobb, a 1960 graduate of the Western Ontario Agricultural School at Ridgetown College, owned a successful farming operation from 1962 to 1997 in central Huron County and Merchant said Lobb was "ahead of his time" when he began converting his farm from conventional tillage to no-till in the late 1970s, "and treated no-till as a production system rather than simply a tillage practice."

His farm became a model for sustainable land use for both agriculture and nature and attracted visitors from six continents. Over the years Lobb worked with and provided on-farm sites for more than 50 major university, government and agri-industry research projects. Many of the projects were post-graduate studies and much of the work focused on changes to quality and management of soil and the management of crops in a conservation setting.

Lobb also played important roles in the development of the Canada/Ontario Soil and Water Environmental Enhancement Program and was prominent in the development of the Environmental Farm Plans through the National Soil Conservation Program.

"The list of accomplishments is long and impressive, but what stands out most with Don has been his ability to educate and influence others with his unwavering vision and his enduring pioneering spirit," said Merchant.

The Soil and Water Conservation Society, the Soil Conservation Council of Canada, the Ontario Institute of Agrologists, the University of Guelph and Environmental Canada have previously recognized Lobb's efforts.

"If our children's grandchildren were sitting in front of us, could we each proudly justify the soil management practices that we use today?" he asked.

◇

VISIT OUR WEBSITE

www.ontariosoilcrop.org

Premier Website for Applied Research on Soil & Crop management

2011 Crop Advances are now available on the OSCIA website at:
http://www.ontariosoilcrop.org/cropadvvol8.htm

Des céréales pour améliorer les sols…des sols améliorés pour des céréales à hauts rendements

Denis Lèvesque, Technologue
Director Service technique sols et fertilisants, synAgri

Cet article est la suite d'une série d'articles publié dans le Producteur Plus depuis 2004 pour faire la promotion et démontrer la possibilité d'obtenir des rendements élevés de céréales, autant d'avoine, d'orge que de blé. Après plusieurs essais contrôlés et la mise en place par Synagri en 2011 d'un groupe de producteurs d'avant-garde dans Lanaudière sous le vocable d'Experts-Céréales, nous connaissons plus que jamais les facteurs contributifs à des rendements et à une qualité supérieurs de céréales, et nous connaissons plus que jamais les facteurs limitatifs qui rendent l'opération hasardeuse et non rentable.

L'économie de la culture des céréales au Québec est difficile. Les rendements moyens entre 2002 et 2009 diminuent pour l'avoine et le blé alors qu'ils stagnent pour l'orge (figure 1). Cependant, les coûts de production augmentent année après année. La situation en Ontario n'est guère plus reluisante. Les rendements économiques nécessaires pour rentabiliser la culture des céréales en excluant la vente de la paille qui devrait rester au champ pour maintenir le bilan humique et le potentiel des sols sont nettement plus élevés que les rendements réels (figure 2). La recherche de rendements économiques plus élevés est obligatoire.

L'expérience du groupe Experts-Céréales dans Lanaudière a démontrée que plus les techniques prônées pour obtenir des rendements et une qualité élevés sont appliqués, plus les résultats sont au rendez-vous. Les rendements maximum obtenus en 2011 par les producteurs participants sont de 4.8 tm/ha (1.9 tm/ac) pour l'avoine, 6.5 tm/ha (2.6 tm/ac) pour l'orge et 6.7 tm/ha (2.7 tm/ac) pour le blé. Taux de semis adéquat, application d'une dose contrôlée d'azote avec des fractionnements raisonnés, utilisation d'endurcisseur de paille et de fongicides protégeant la feuille étendard et l'épi demeurent les facteurs permettant d'augmenter rendements et qualité. La tendance est claire.

Pourtant, les résultats des parcelles contrôlées et du groupe Experts-Céréales ont montrés que l'application de ces techniques de pointe n'est pas une garantie de résultats satisfaisants, et qu'ils sont à l'occasion décevants. Dans quelques articles précédents du Producteurs Plus et du Zoom maïs-soya, nous avons énoncé les pré-requis nécessaires selon Fred Below de l'Université de l'Illinois pour obtenir des rendements de maïs supérieurs. Nos divers résultats démontrent que ces pré-requis sont les mêmes pour obtenir des rendements supérieurs de céréales. Selon Below, l'absence de compaction en profondeur, un drainage de surface et souterrain efficace, des sols ayant un bon pH et une fertilité élevée pour tous les éléments incluant les éléments mineurs, un bon contrôle des mauvaises herbes et des insectes sont tous des pré-requis mais pas des facteurs contribuant à un rendement élevé.

Aux facteurs cités précédemment qui contribuent à l'obtention de rendements et de qualité plus

élevés, soit un taux de semis supérieur et adéquat, l'application d'une dose contrôlée d'azote avec des fractionnements raisonnés, l'utilisation d'endurcisseur de paille et de fongicides protégeant la feuille étendard et l'épi, s'ajoutent la qualité des opérations, particulièrement du semis qui doit permettre une levée rapide et uniforme.

La majorité des sols québécois sont naturellement peu profonds, compacts, mal drainés et acides. La gestion des sols doit permettre de les améliorer afin de les rendre productifs. Le chaulage, l'apport d'amendements organiques et jusqu'à un certain point l'enrichissement sont des opérations courantes afin d'améliorer la productivité des sols. Par contre, l'augmentation du profil du sol par un travail profond adéquat est grandement négligé. Nos expériences ont démontrées hors de tout doute que le facteur le plus limitatif à l'obtention de rendements plus élevés et économiques, même sous régie régulière, est l'incapacité des racines de céréales à atteindre une profondeur suffisante. Cette situation est la cause principale de pertes de rendement de céréales par l'augmentation des épisodes et de l'intensité d'échaudage.

La période critique pour l'échaudage dure environ 10 jours entre le stade de grain laiteux à grain pâteux de Zadoks 70 à 85 (figure 3). L'augmentation de poids du grain pendant cette période critique provient uniquement de l'augmentation de la matière sèche qui vient de la migration des réserves des feuilles et des tiges vers les grains. Lorsque la température élevée (30oC) combinée à des vents secs provoquent un déséquilibre entre les pertes d'eau par évapotranspiration et la capacité des racines d'absorber de l'eau, cette migration des réserves vers le grain est impossible et il sera « échaudé ». L'échaudage sera plus grave si le coup de chaleur survient au début de la période critique plutôt qu'à la fin. Les pertes de rendement dû à l'échaudage peuvent être très importantes. Pour diminuer les risques d'échaudage, des sols profonds permettant un développement et une pénétration rapide des racines dès l'implantation du plantule au printemps pour donner accès aux réserves d'eau profondes du sol pendant la période critique d'échaudage sont nécessaires.

Le potentiel de rendement des céréales est en partie déterminé par le développement rapide et en profondeur des racines après le semis (figure 4). Le potentiel de rendement lorsque la nappe d'eau est descendue à 80 cm (30 pouces) pendant les premières semaines suivant le semis est 3 fois celui d'une nappe d'eau maintenue à 20 cm (8 pouces). À 40 cm (16 pouces) le potentiel de rendement est doublé. Un sol ayant une couche indurée entre 25 cm (10 pouces) et 40 (16 pouces) limitant l'écoulement rapide de l'eau en excès vers les drains au printemps a le même effet. Hors une majorité de sols québécois ont une couche indurée naturelle ou provoquée par la machinerie à ces profondeurs, limitant le développement des racines au printemps et favorisant l'échaudage à la fin de l'été. Plus les semis sont hâtifs dans des sols peu profonds, plus les risques d'échaudage sont augmentés. Un semis plus tardif n'est pas la solution car le retardement de la maturité augmente les chances que la température soit favorable à l'échaudage au stade grain pâteux. L'augmentation de la profondeur du profil de sol est la seule solution.

L'utilisation de la sous-soleuse est la seule alternative efficace.

Comme mentionnée dans la dernière édition du Zoom maïs-soya, le sous-solage est nécessaire dans bien des sols mais est une opération très dangereuse pouvant détruire la structure du sol en profondeur plutôt que de l'améliorer. Le soc de la sous-soleuse ne doit jamais travailler en sol trop humide, même si à la surface le travail semble adéquat. La culture de la céréale est souvent la seule alternative permettant de sous-soler en sol assez sec en profondeur. Dans le sud du Québec, la rotation maïs-soya permet rarement d'obtenir un sol assez sec en profondeur même si l'humidité à la surface semble convenir. L'introduction de céréales dans la rotation permet de travailler le sol en août alors que normalement l'humidité en profondeur est adéquate. Dans les régions à saison de croissance plus courte, l'orge hâtive est requise pour la même raison.

Une fois le profil de sol amélioré par le sous-solage sous de bonnes conditions suite à une culture de céréales, on peut envisager d'introduire dans la rotation une céréale cultivée plus intensivement pour obtenir des rendements et une qualité plus élevés après une culture de canola ou de soya selon la région. Même sans intensification des méthodes culturales, l'approfondissement du sol favorisera des rendements plus élevés.

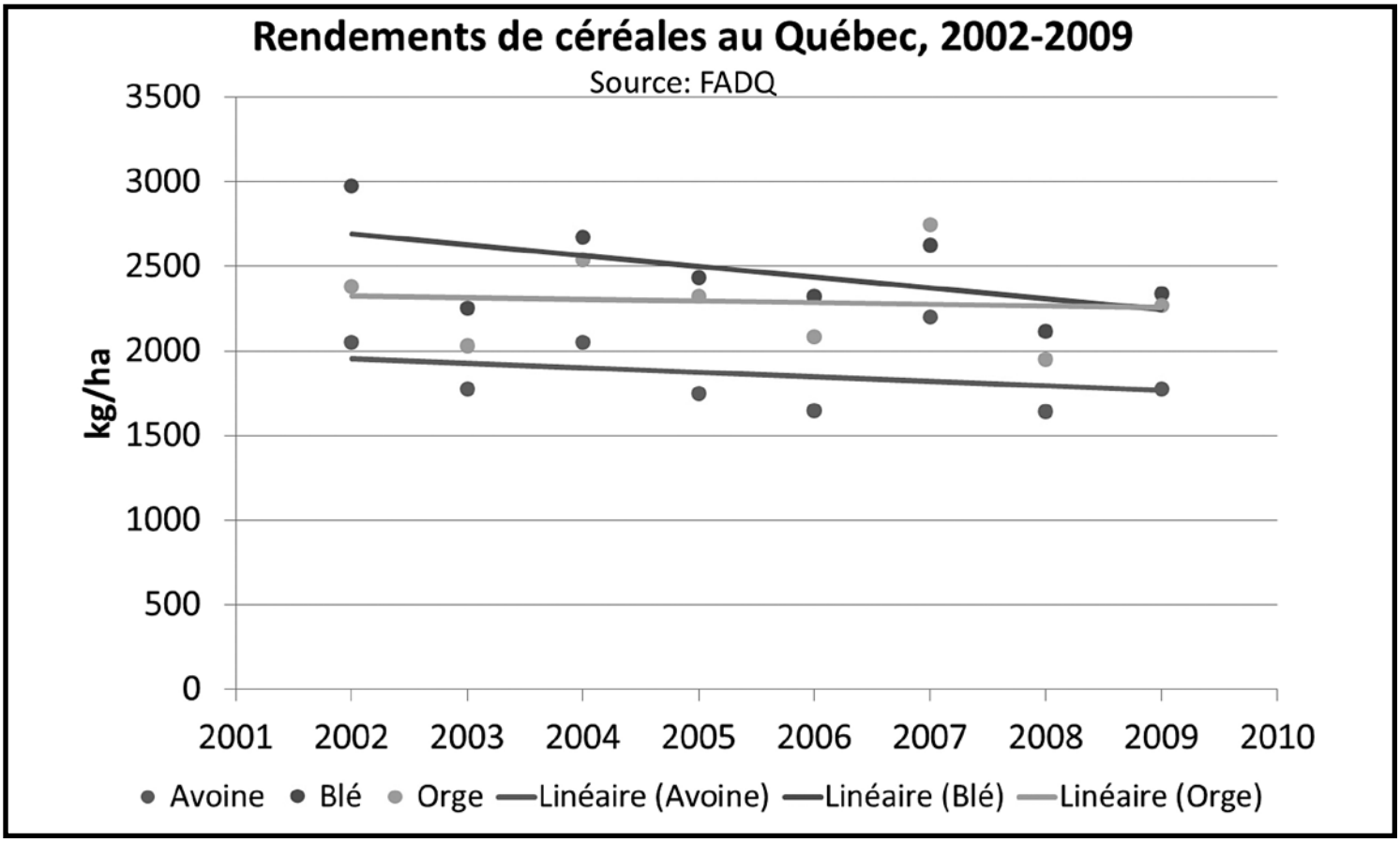
Négliger de sous-soler lorsqu'une couche indurée même partiellement imperméable est présente est un gage d'échec pour la culture de céréale les années de pluies excessives. Il en est de même pour le canola, et les rendements de maïs-grain seront affectés sous ces mêmes conditions. Voici une histoire vécue confirmant cette affirmation.

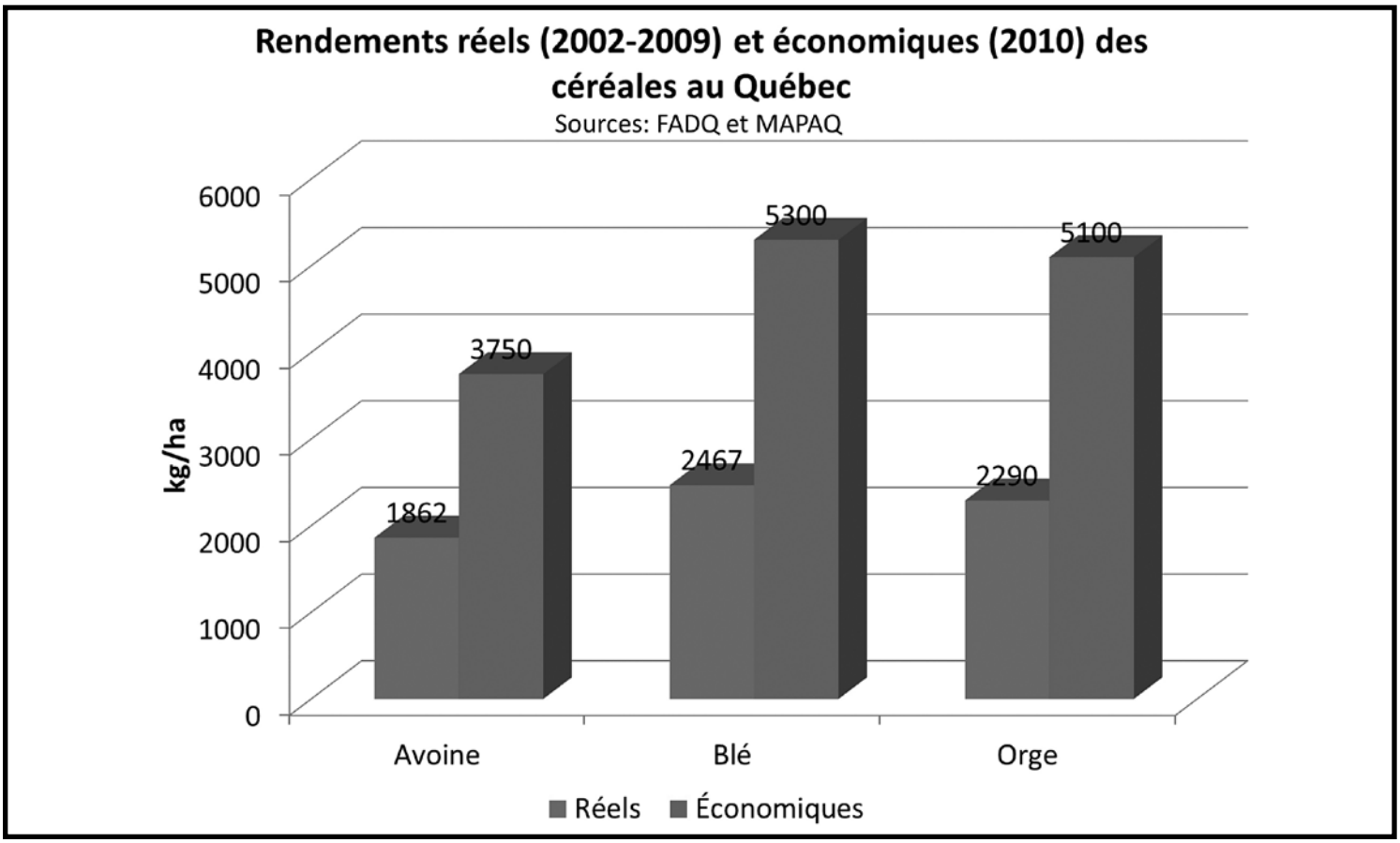
En 2010, j'ai été invité à visiter un champ d'orge exceptionnel au Saguenay. Ce fut ma première rencontre avec Clément Gagnon, le père, et Philippe le fils de la Ferme H.P. Gagnon à Laterrière, deux agriculteurs avant-gardistes tournés vers l'avenir. Le rendement moyen d'un champ de 25.4 hectare a été de 8.2 tm/ha (3.3 tm/ac) malgré une interminable et intense sécheresse. Pour des fins de comparaison, le rendement moyen de maïs de la région de Saint-Hyacinthe selon la Financière Agricole du Québec pour 2002-2009 est de 8.2 tm/ha et le rendement moyen d'orge au Saguenay Lac-Saint-Jean pour la même période est de 2.5 tm/ha (1.0 tm/ac). L'étude de l'analyse de sol démontrait que ce rendement exceptionnel n'est pas attribuable à une fertilité supérieure. Le creusage de fosses pédologiques a fait voir un important développement de racines jusqu'à 60 cm (24 pouces) de profondeur, un masse racinaire assez exceptionnelle. L'utilisation d'un semoir Limken Compact-Solitair 9 avec application d'une bande d'engrais entre les rangs de semence à 5 cm (2 pouces) plus profond que la semence est un avantage important (figure 5).

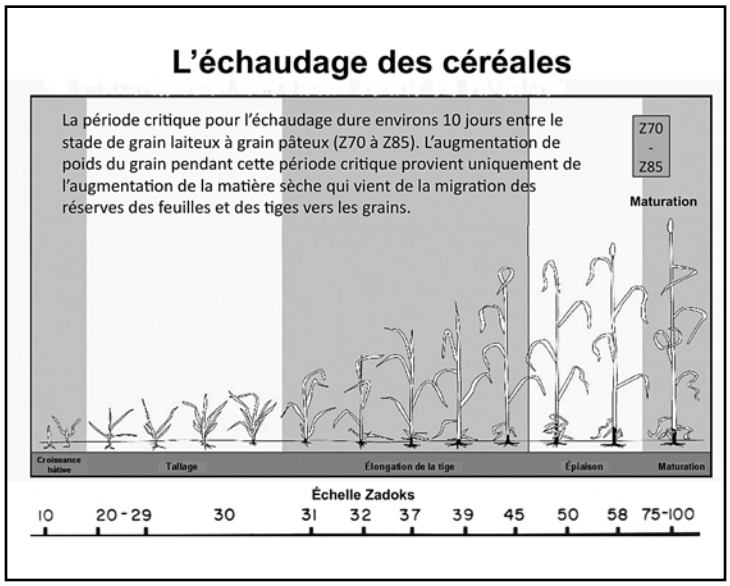
Suite à ces résultats, j'ai réussi sans difficulté à convaincre les deux producteurs à produire du blé intensif en 2011 en suivant tout le protocole (taux de semis élevé, fertilisation élevée adaptée, endurcisseur de pailles, 3 fongicides, fertilisation foliaire anti-stress avec l'herbicide). La croissance malgré une saison très humide et un semis tardif effectué le 31 mai à cause de l'excès d'humidité dans le sol était supérieure à la normale pour la région. La récolte au 10 octobre a donné un rendement très décevant : 4.1 tm/ha (1.7 tm/ac). Le rendement moyen 2002-2009 de blé pour la région est de 2.5 tm/ha (1.0 tm/ac). Bien que presque le double du rendement moyen régional, un rendement de 4.1 tm/ha avec les dépenses encourues n'est pas rentable. Que s'est-il passé entre l'orge de 2010 et le blé de 2011? Il est évident que le semis tardif est en cause, mais malgré tout, le bon comportement de la culture tout au long de la saison était plus prometteur que les résultats obtenus. À la récolte, la quantité élevée de parties d'épis brisés portant des grains non remplis était la preuve d'un échaudage important. Le semis tardif peut être un facteur mais il y a plus.

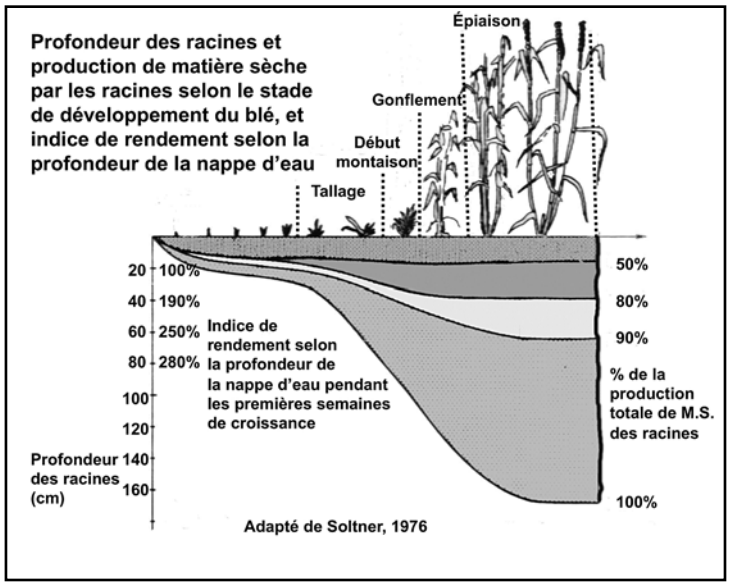
De nouvelles fosses pédologiques en 2011 ont montré un système de racines à une profondeur maximale de 30 cm (12 pouces). La série de sol est loam Bourget (Bg), un sol bien structuré permettant un développement profond des racines. Pourtant en 2011, année de précipitations excessives tôt au printemps qui se sont prolongées une bonne partie de l'été, les racines ne se sont pas développé. Un examen plus attentif du sous-sol en 2011 a permis de détecter une couche de loam limono-argileux d'une épaisseur approximative de seulement 8 cm (3 pouces) qui était très peu visible en 2010, mais qui aurait dû être vue. Cette couche indurée, moins perméable a ralentie la descente de l'eau vers les drains au printemps. L'étude de la coupe du sol de la carte pédologique (figure 6) de la région montre un loam limoneux profond bien structuré et perméable de 90 cm (35 pouces), mais avec cette petite couche mince de loam limono-argileux moins perméable à 20 cm (8 pouces) de profondeur, assez lors d'excès d'eau prolongés au printemps pour limiter le développement hâtif rapide et profond des racines de céréales nécessaire pour limiter l'échaudage en août. La solution? Un sous-solage sous de bonnes conditions de sol sans humidité excessive à 40 cm (15-16 pouces) de profondeur pour s'assurer de briser cette couche et favoriser un écoulement plus rapide de l'eau en excès. Un automne exceptionnel a permis à Clément et Philippe Gagnon une bonne partie de leur loams Bourget. Les rendements de canola et de céréales déjà nettement supérieurs à la moyenne régionale devraient encore s'améliorer!

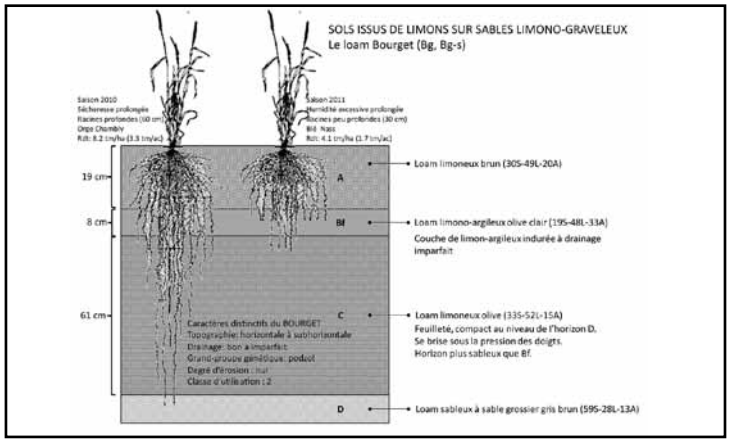
Un sol profond permettant un développement hâtif rapide et profond des racines est un des pré-requis les plus important pour l'obtention récurant de rendements supérieurs, même sous régie conventionnelle. •


Rendements de céréales au Québec, 2002-2009
Source: FADQ
kg/ha
3500
3000
2500
2000
1500
1000
500
0
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
Avoine
Blé
Orge
Linéaire (Avoine)
Linéaire (Blé)
Linéaire (Orge)


Rendements réels (2002-2009) et économiques (2010) des céréales au Québec
Sources: FADQ et MAPAQ
kg/ha
6000
5000
4000
3000
2000
1000
0
1862
3750
2467
5300
2290
5100
Avoine
Blé
Orge
Réels
Économiques







IiON INNOVATION AGRICULTURE FORUM

by Graham Gambles, Regional Communication NEOSCIA Coordinator

On March 23/12, Nipissing University hosted an initial meeting of this newly formed organization that has the potential to lead northern agriculture into a new 'high tech" future. About 2 dozen invited guests attended, including farm representatives from Nipissing, Sudbury, and Temiskaming districts, as well as a cross section of students, business leaders, and government agency representatives.

With Dr.John Kovacks acting as lead facilitator, the group was reacquainted with the current status of the weather stations and remote sensing projects that the University was conducting with the assistance of NEOSCIA and area farmers.

Two representatives from Agriculture Canada in Ottawa were also on hand to speak on new research that could be developed in the north and used to assist farm management. One opportunity is to evaluate the installation of horizontal soil moisture probes that could allow farmers to better understand the effect of tile drainage (and drought stress) on crops. These could be installed at increments to a depth of over 1 meter near any of the Nipissing weather stations.

A second project would be a tie-in to the current trend toward "Precision Planting", grid sampling, and modern field management. It uses "Crop Scan" and "Greenseeker " technology. Through the use of satellite remote sensing and the recognition that increased plant chlorophyll production is directly related to nitrogen application (and thereby related to Yield), it is possible to optimize crop nitrogen use with (remote) optical sensitivity equipment. More testing is essential, possibly here in the north, but primary crops evaluated would be corn (due to its large leaf) and canola, due to its known demand for nitrogen.

IiON will meet again on October 25 at Riverside Place in Temiskaming Shores. •

Northern Ontario Agri-Food Education & Marketing Inc.
1540 Hwy 17E Wahnapitae ON POM 3CO
PH: 705-694-4396 FX: 705-694-2030
noront.agrifood@sympatico.ca www.norontagrifood.org

Alpaca Farmers Members of NOAFEM

A number of NOAFEM members farm alpacas & llamas and send their products to the Royal Agricultural Winter Fair (RAWF). There are two breeds of alpaca: **huacaya** and **suri**. The difference is in the fleece. The huacaya's fleece is fluffy & has a natural crimp and is used for yarn and knitting whereas the suri's fleece looks like dread-locks and is used for weaving material that can be made into suits for men and women by companies like Armani.
Alpaca fibre is finer and warmer than wool, water repellent and hypoallergenic. Alpaca farming is popular because it has a low impact on the environment. In addition to selling products made from the fleece, dams and sires for breeding can fetch between $1,500 and $4,000.

Denise Martel selling Alpaca products at RAWF

Meadowview Alpaca Farm owned by Denise & Robert Martel of Bruce Mines has 122 huacaya alpacas. The Martels have their own booth at the Royal. They send their fleeces out to be made into yarns, socks, and other items, which they sell at the Royal as well as at Johnson Twp Farmers' Market in Desbarats, Algoma Winter Farmers' Market, Wellington Mall, Sault Ste Marie and from their farmhouse on Carter Side Road, Bruce Mines. The Martels have a video that can be viewed at www.youtube.com/watch?v=8MrTG2qZZeA showing other events they host.
Norma Wall of ***Misty Haven Alpacas*** in Corbeil uses her fleeces to make rovings and yarn that she hand-dyes. She then knits scarves, hats, mitts, socks and shawls and sends them to the Royal to be sold in NOAFEM's booth. Both the Martels & Norma sell breeding stock.

Georgia Kelly-Chong bouncing on alpaca rovings at the RAWF

NOAFEM Booth displays knitting on top shelf at the RAWF

Alpaca Springs Farm, Powassan owned by Linda & Harold Beatty produce skeins of yarn, felt insoles, socks, hats, mitts & toys. Sally Kennedy, ***Stourie Brae Alpaca Treasures Algoma***, Echo Bay sent quilts filled with alpaca fibres, & hand-knit sweaters. Monica Veit, ***Sonny's Llama Farm***, provided premature & new -born baby hats and felt for crafters. Meadowview & Misty Haven will be in Elliot Lake May 4, 5 &6 for Wasoon (Weaver's Guild Conference) at the Lester B. Pearson Civic Centre selling their products.

Earlton Farm Show 2012

by Shelly Rahme, Project Coordinator, Earlton Farm Show

The Earlton Farm Show will be held at the Earlton Arena on April 13th from 10 am to 9 pm and April 14th from 7:00 am to 4 pm. This year we ask that instead of paying admission, you kindly bring a donation for the local food bank's. Food bank representatives will accept donations at the door. Join us on Friday for our special launch which includes a buffet lunch and preview of our live auction items. Live auctions will be held Friday and Saturday afternoon.

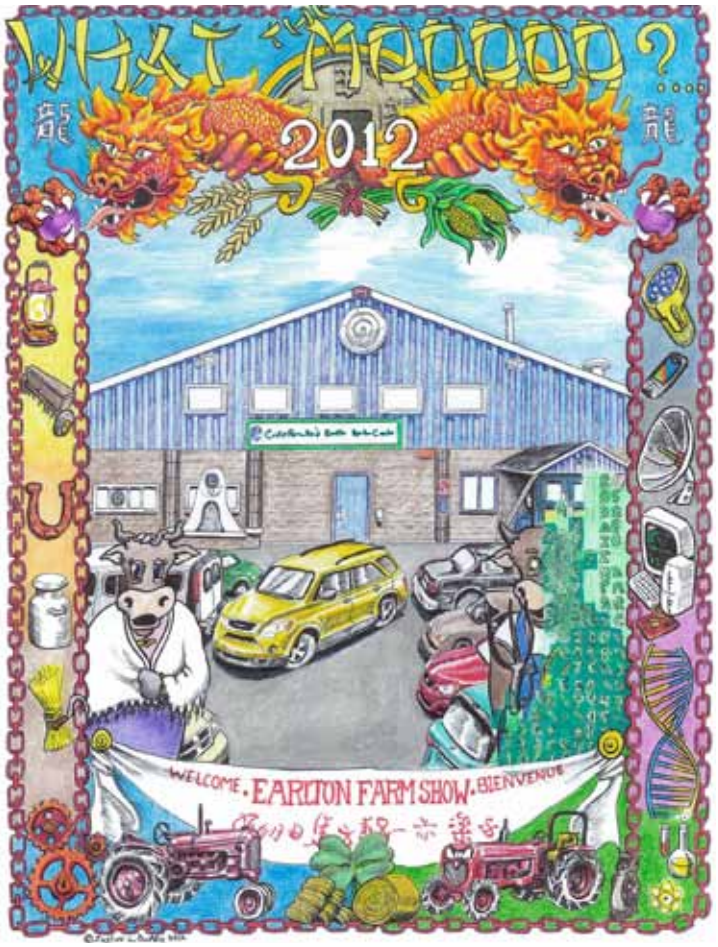
Families, children and attendees of all ages will enjoy the small animal display. Come view over 60 agricultural exhibits from fencing, to seeding equipment to maple syrup. A series of agricultural experts will present on Friday and Saturday. These presentations are open to everyone.

The annual Earlton Farm Show Forage and Seed Competition will feature up to 30 classes of hay, silage, grain, and small seed. The competition is open to neighbouring districts including; Cochrane, Nipissing, Temiskaming, Sudbury, Algoma, Manitoulin Island, Muskoka Parry Sound. This year we will also be pleased to have our close neighbours in Temiskaming, Quebec entering the competition.

Forage and seed entries from each district will receive 1 to three points depending on quality. The region with the most points receives the Golden Pitchfork. Grand and Reserve Champion awards will also be given to the top showman in the silage, haylage and seed categories. Hay & silage entries will be judged based on nutritional analysis plus look, smell and content. Grain colour, sheen, size and cleanliness will determine seed finalists.

The EFS Forage and Seed Show is re-structuring the awards. We hope to rejuvenate the spirit of competition this year with by offering exceptional prizes. If you are interested in participating contact Harold Leaton 705 647-6291 or Daniel Tasse at OMAFRA in the New Liskeard office or bring your samples to show before 6 p.m. on Friday, April 13th.

Come on Saturday for the special Morley Shepherdson Memorial Breakfast from 7:30 am to 9:00 a.m. We are pleased to commemorate Morley who passed on January 15th, 2011. Morley was a leader in the beef cattle industry and received the Centennial Award from the Province of Ontario for his contributions to agriculture. •



This month's artwork comes from Justin Burre of Englehart. View more of his work at http://justin-burry.tripod.com

NEOSCIA Bus Tour To Saguenay Quebec

by Graham Gambles, R.C.C. (NEOSCIA)

After a year of planning, the 5 day educational tour to the Lac St.Jean farming region is set. (See the insert in this issue of BG.) This is the first inter-provincial tour by NEOSCIA and the Quebec venue is ideal for farmers from Northern Ontario. This "sister" region has similar climate, similar soils, similar crops, and similar isolation. However, they have grown in a manner that is not identical to Northern Ontario! Let's find new opportunities for our region based on the experiences found in Quebec!

This tour is available to ALL farmers from Northern Ontario (whomever is in the Breaking Ground "catch basin"). Seats on the coach bus are $675 each (highly subsidized by Agribusiness). Note that translators will be available to assist the English speaking members of this tour in communicating with the primarily French on-farm hosts. Most off-farm visits will be conducted in English.

Contact Graham Gambles at 705-672-3105 (gamblesgraham@yahoo.ca) for more information or visit the NEOSCIA booth at the Earlton Farm Show. (Note that as of April 01, 31 of the 55 seats have been spoken for!) •