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Breaking Ground

(in Northeastern Ontario)

FALL 09

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

Temiskaming IPM a Huge Success

by Darlene Bowen and Bob Norris



The first ever International Plowing Match held in Northern Ontario thrilled organizers when 80,000 visitors passed through the gates during the five day event. Before opening even arrived, a record 2100 RV sites were full to overflowing with RV's and motor homes of every size and description from all over Canada and Northern USA . In addition to being the first fully bilingual IPM, this was the first event not administered by a regional government. It was instead; a board of volunteers made up of both Agri business and commercial business people who had the foresight to envision the opportunities possible from hosting this international event. While there was no government infrastructure in the organization, the event brought together the district of Nipissing, Temiskaming, Cochrane and Abitibi – Temiscamguein a collaboration to showcase and promote the lifestyle and culture of Northeastern Ontario and Northwestern Quebec

The army of volunteers numbered 1500 from all walks of life. The board of directors cannot thank everyone enough for the spirit, commitment and pride shown by volunteers from across the north and around the province as we put our best foot forward to display the north as we opened our doors to everyone who visited.

One of the constant remarks from those attending was the strong organization and positive attitude of our volunteers. There was no question that our volunteers lived by and delivered our motto of "A warm

Continued on page 4

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.

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FedNor Minister Tony Clements and NEOSCIA President Janet Parsons Announce Funding for NEOSCIA "Intern" Position

By Graham Gambles



NEOSCIA recently received approval to hire a "Youth Intern" with support of \$27,500 provided by the Government of Canada under the FedNor program. NEOSCIA received additional support from the Temiskaming Agricultural Development Agency (TADA) to the level of \$3000, to complete the package.

The FedNor program is designed to provide meaningful full-time work experience for recent post secondary school graduates. The goal is to assist young people in finding gainful employment in the north, and encourage them to become long term members of the northern workforce.

After a province-wide search for the most appropriate candidate, the NEOSCIA search committee chose Kelly Bird as our Intern for a 12 month period, starting in early August of 2009. Kelly graduated

from McMaster University in Hamilton this spring. Her career goal is to work in communications, preferably doing PR and promotions.

Since her arrival, she certainly has had the chance to expand on her interests! After a rapid introduction to northern agriculture, Kelly was put to work in the development of the

NEOSCIA and adjoining Temiskaming Crop Coalition (TCC) displays for the Earlton IPM. These displays featured a weather station, provided by Nipissing University, that promoted the new partnership between these organizations. Also featured was a limestone display that enhanced the link between Miller Minerals and the TCC. The partnership between TCC and Temiskaming OMAFRA was highlighted with a 2009 research project that evaluated the use of calcium chloride on forage fields as a preventative for "Milk Fever" in dairy cattle. The display was rounded out with a feature on the 3 regional projects that NEOSCIA has undertaken over the past decade. (Alternative forage species, the Canola-Sulphur fertilizer relationship, and Bedstraw control.)

Kelly is now working on a display to be

presented at the Royal Winter Fair. She will also be developing the NEOSCIA Trade Show and Agricultural Conference in Earlton come April. She will be the primary co-ordinator for the next 3 issues of Breaking Ground. She is working with TCC in the development of a "Blog" and is assisting in a TCC "remote sensing" research project. (She is available to assist ALL District executives in developing projects for their areas.)

Her largest project will have 2 main thrusts. She will be trying to telephone ALL people who receive Breaking Ground in order to develop a "Customer Profile" of our readership. The call should take 5 or 10 minutes. As part of the call, she will be asking questions on the potential for providing underused farm products such as excess hay, straw, and forest resources as a source for pelletized biomass for the developing "Alternate Energy" industry.

We are sure that you will enjoy meeting Kelly, either in person or by telephone. Remember, she is working not just for the NEOSCIA but for all Northern farmers. In return, let her know about upcoming employment opportunities in YOUR area. That is the payoff for her coming year of promoting our northern agricultural industry. She requires full time employment after completing her term, and you may be able to help.

Contact Kelly at the New Liskeard OMAFRA office at 705-647-2089, or by internet at internneoscia@ntl.sympatico.ca

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Approved By OMAFRA'S "Growing Forward" Program

Temiskaming IPM 2009



John Rowsell and Becky Hughes of NLARS select stone for site landscaping.



Northern College sets up its Diamond Drill in the Mining Display area.



NLARS Horticultural Technician, Candy Keith, enjoys the excellent floral display in the Cochrane District tent.



Nipissing University students Autumn Gambles and Kelly Snobelen erect a weather station as the center piece of the NEOSCIA display.



Carol Duke of Terza Farms displays her flour mill.



Inside the Temiskaming District tent.



ONR's unique "IPM Express Train" from North Bay offloads its first passengers at the edge of the exhibition site.



Break time in the traditional horse ploughing competition.



Welcome to the Temiskamingue First Nations display tent.

COMING EVENT

The Temiskaming Crop Coalition (including the Grain Growers, Wheat Growers, and Soil & Crop associations)

will hold their annual meeting on Friday, Nov. 20/09 at the Grand Blvd. Restaurant in Earlton, starting at 9:00am. For more info, call Morley Shepherdson at 705-647-7108.



The Kirkland Lake Horticultural display.

Breaking Ground (in Northeastern Ontario)

Temiskaming IPM a Huge Success

Continued from page 1

welcome awaits". We again want to thank the farmers and farm organization from across Northern Ontario for their support and contribution towards the feeding our volunteer army.

Attendance at the IPM 2009 created startling realizations for many people. We heard from hundreds of visitors who came over the hill at New Liskeard that they had no concept of what agricultural industry lay before them. Many of these were first time visitors, others were folks who had not been north for 25 years and they could not believe the development that has transpired in the interim. All in all the IPM 2009 accomplished its mission of showcasing Northern Ontario to the rest of the world.



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Breaking Ground (in Northeastern Ontario)

Dan Tasse's Sequential Growth Plot



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Canola Council and TCC Crop Tour

by Chandel Gambles, Crop & Agriculture Project Research Assistant. - OMAFRA, New Liskeard

In an effort to provide time efficiency for the farm community, the Temiskaming Crop Coalition (TCC) chose to join with the Canola Council in providing a double tour of crop test projects in the Earlington area. The event was held on Friday, July 23, and was attended by about 60 canola farmers from the south and a wide range of farmers from the North. There were lots of industry and government reps mixed in.

As any good farm event should, this tour started with a huge luncheon that took place in one of Dave Schill's drivesheds. Then it was off to the Canola fields.

Schill North-Land Farms, located just north of Earlington, is the Canola Production Center for the Ontario Canola Growers Association. The purpose of the site is to evaluate and determine the economics of the different technology systems and varieties within these systems that are available to the canola producers of Ontario. Plots include three Bayer Invigor varieties treated with the Liberty system, four Dekalb varieties treated with Glyphosate, and three Pioneer va-

rieties, also treated with Glyphosate. Another Pioneer variety was evaluated for Sclerotinia resistance. All varieties were twice replicated in 1.3 acre plots. Speakers from each company addressed the crowd.

Other speakers also addressed the afternoon gathering. One of these represented "ONTRACE", an industry-led, not for profit organization that exists to deliver integrated, flexible and affordable traceability systems for the agriculture and agri-food industry. The benefit for the farmer is that formal traceability allows a producer as well as an entire sector of the industry to avoid misplaced liability for a public issue. It also allows government to more effectively and efficiently deal with emergency management within the industry.

Prior to the evening TCC crop tour, an excellent BBQ was held at Koch Grain Elevator Inc. The bus tour then started with a stop at Ferguson Farms, where host Kevin Pratt showed off a huge trial of Canola that had been sprayed with Liberty and Assure. Koch Farms was next where Pioneer reps showed a number of

varieties of sclerotinia resistant canola.

Dave Schill grows more than just Canola, and he gave a tour of a spring wheat field that had been planted in mid November last year to determine the viability of fall dormant frost seeding, designed for early germination in the spring of /09. The goal is to reduce the spring work load while producing higher quality wheat. We can't wait to see the results of this one!

Matt Bowman showed off a number of varieties of soybean and Kevin Runnalls compared Jordon and Nice oats. Huge corn trials were viewed at Ferme Loranlee and at IPM host Ferme Rivadale.

Although the bus did not make it to the last two sites, OMAFRA staff spoke about the NEOSCIA Regional test plot into the control of Bedstraw by the use of "Milestone", and representatives of Nipissing University addressed their partnership with NEOSCIA in the placement of two weather stations, one in mid-Temiskaming and the other near Verner.

The evening ended with - you guessed it - a little more food!

Temiskaming IPM 2009

Continued from page 3



A log and stump mulcher in the forestry exhibit demonstrates new technology that turns a forest into a field in 3 passes.



Manitoulin waterways display.



Temiskaming silage corn trial at IPM



New Invention; wind energy turbine for smokestacks and communication towers.



OSCIA News...

September 2009

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

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OSCIA 2010 ANNUAL MEETING

Date: February 2 & 3, 2010
Place: Sheraton Fallsview
Niagara Falls

Message from the President

Congratulations to Barry Hill (OSCIA 1st Vice President) and his wife Cheryle for hosting a very enjoyable and successful summer meeting. Brantford and the Brant County area is very rich in history. Both Barry and Cheryle are a wealth of knowledge. As tour guides, they did an excellent job of narrating the tour and exposing us to their local history and culture, and we thank them for their warm hospitality.



Murray Cochrane

OSCIA Directors conducted a full day of business as part of the summer meeting. Congratulations to Barry as he was acclaimed as the President-Elect for OSCIA and will officially begin his one-year term at the OSCIA Annual Meeting in February 2010. OSCIA Executive, Directors and staff will continue to be challenged with exciting new crop technology and new programs. OSCIA is investing more time in working with research and extension in considering the implications to soil quality if biomass is removed for energy production. OSCIA wishes to strengthen its relationship with research and extension and is in discussion with both OMAFRA and University of Guelph on outreach opportunities through Knowledge Translation and Transfer (KTT), which is part of the OMFRA/U. Of G. agreement.

Since our last newsletter, the next generation of the Environmental Farm Plan and associated cost-share programs has been introduced as part of the Growing Forward Program. Funding is limited and very strict deadlines are in place. Similarly, Growing Your Farm Profits as part of the Growing Forward Business Development for Farm Businesses initiative is under way. OSCIA wishes to thank Agriculture and Agri-Food Canada, OMAFRA and the Ontario Federation of Agriculture (on behalf of the Ontario Farm Environmental Coalition) for their contributions and support. ♦

Breaking Ground (in Northeastern Ontario)

2009 Ontario Forage Masters Program

Members from 22 local SCIA's participated in this year's Ontario Forage Masters Program.

Results are being tabulated and distributed to the contact persons as they arrive. Only a few county results have yet to come in.

The first-place winner in each county is being invited to enter the final provincial competition to determine the 2009 Ontario Forage Master. This event is taking place in conjunction with the Royal Agricultural Winter Fair in November.

If you are a participant in the program and have not yet received information of your results, please contact the organizer in your county.

Complete results will be posted on the OSCIA website when all county results are in.

Once again, we wish to thank our sponsors:



OSCIA Regional NM Outreach Grant

OMAFRA has allocated funding to support new communication activities of regional SCIA's that promote the adoption of NM BMPs to the non-regulated (NM Act) farm population.

Up to \$4,000 per project is available on a first-come, first-served basis to support regional activities directly related to increasing awareness and adoption of nutrient management regionally.

This grant is available to all regions each year. Contact the provincial office at 1-800-265-9751 with questions. ♦

OSCIA Summer Directors' Meeting

The 2009 OSCIA Summer Directors' Meeting began on a Sunday with socializing among the Directors, their families, OSCIA Past Presidents, provincial office staff, local dignitaries, and friends and family of the Hills, and of the Brant SCIA.

The following day, while family members toured area attractions, the Directors conducted the business meeting.

Results of the membership survey conducted recently were reviewed by the Board in detail. with

recommendations that your feedback be the focus of the next Directors' meeting.

Updates were provided on numerous projects and programs that OSCIA administers. The OSCIA Directors will be meeting in late September for a strategic planning workshop.

The final day of the summer meeting included a tour of Brantford and surrounding area, including a tour of the Brant Major Grant project site for tillage of red clover establishment in winter wheat. The project's objective is to determine the impact of pre tillage ahead of wheat planting on wheat performance and red clover establishment.



Ian McDonald, Applied Research Coordinator, Field Crops, OMAFRA, provides details of the research plot to OSCIA Directors.

The Hills are to be commended for the superb job in organizing this major event on OSCIA's calendar. ♦

OSCIA / OMAFRA Grant Guidelines

The 2010 Grant Guidelines are currently being prepared for the coming year.

Although there will be many similarities to 2009, local and regional SCIA's must take care in reading the entire section regarding the grant they are contemplating to ensure they fully understand what the benefits and obligations are.

Local and regional SCIA members are encouraged to begin the thought process now, and include discussions at upcoming events on the type of trials they wish to undertake in 2010.

The 2010 Grant Guideline package will be mailed to local and regional SCIA presidents and secretaries in the Fall. ♦

Breaking Ground (in Northeastern Ontario)

the air in the upper eight inches of well-drained soil is completely renewed approximately every hour!

PLAN TO GROW YOUR FARM PROFITS

- Angela Leach, Program Manager

As farmers, you are certainly no strangers to planning. Whether it's next season's crop and or a barn renovation, planning is just something you're always doing. What about the big picture? How will the farm look in 5 or 10 years? How will it be managed, what will be produced, and how much profit will be made? These questions are often in the back of your minds, so why not put it to paper?

Well I believe there are 3 common reasons why only a small percentage of farm businesses have written plans: lack of time; dislike for paperwork; and uncertainty of how to start the process. You're in luck. The Growing Your Farm Profits (GYFP) is exactly what you need.

Time tends to be a limited commodity on the farm. Whether it's responding to the "surprise" in the barn, a change in weather or helping with the kids' 4-H project, the days seem to go by quick. It's no surprise that there is limited time dedicated to proactive business planning. When you sign up for the GYFP workshop, you are planning to spend at least 2 days to consider the long-term vision for your farm. Like family gatherings, if you don't book the date, it won't happen. Make the time to do some planning. Better yet, have your business partners attend with you. The workshop provides a great opportunity to begin thinking about future plans together. That may save you time in the long run.

Whether it's collecting information for regulations, for your accountant, or to track production stats, there's no end to paperwork. The business plan therefore remains in the back of your mind. Attend the GYFP workshop and write your thoughts down. But don't fret; the workshop is not about writing essays or a detailed business analysis. Yes, there is a binder to complete. Like the Environmental Farm Plan, the binder is primarily about a self-assessment focusing on 8 areas of business management. Throughout the workshop, there will be many discussions on popular topic areas. GYFP offers a valuable mix of providing paper-based tools and the opportunity to learn from your peers. Paperwork is only one element of the entire process.

Farmers are masters of many skills. However, strategic business planning may not be one of them. It's not a popular topic for farm meetings. Your parents probably didn't teach long-term planning when explaining technical farm skills; and media has created the view that planning is a long and complicated process. Again, the GYFP workshop will help you. The workshop follows a logical approach to planning: assess your current management practices; prioritize future goals; identify resources that can help meet your goals, and develop action plans. The process is straightforward and flexible

so that you can make it suit your operation. Business planning does not have to be complicated. The Workshop Leaders will help you along the way.

Start the planning process by registering for the workshop. Determine exactly what your business requires. Plan for your future. Then we will help you find resources to begin implementation. Cost-share funding will help pay for training and/or the cost to hire an advisor if that is what you need.

Visit www.ontariosoilcrop.org, or contact your local OSCIA representative to register for the next workshop, or call 1-800-265-9751. ♦

BIOTRACTOR - On-Farm Evaluation of Biodiesel Use in Agricultural Equipment

A project aiming to identify some of the practical problems accompanying biodiesel use on family farms and to provide consumer education and awareness in the agricultural community was conducted on farms in Ontario from August 2005 to March 2007. The project was under the joint leadership of OSCIA and Agriculture and Agri-Food Canada.

Project partners included UPI Energy LP, Environment Canada, Kemptville Campus U of G, and six regional SCIA's. Funding was provided by Natural Resources Canada under the Biodiesel Targeted Measures Program.

A complete 18-page informative report including details, graphs, and photos can be found on the OSCIA website at <http://www.ontariosoilcrop.org>. Follow the links through 'About OSCIA - Demonstration Projects - Biodiesel', and click on the link for the final report. ♦

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•Farm\$mart conference (save \$15)	= 275%
•Eastern Ont. Crop Conference (save \$5)	= 300%
•free lunch at local SCIA annual meeting (\$15)	= 375%

check out OSCIA's new website!!

- new look - easy access
- google agricultural news, weather and more

www.ontariosoilcrop.org

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OMAFRA Web Site: www.omafra.gov.on.ca*Additional Information
from OMAFRA**En français!*

L'information du Ministère de l'agriculture et de l'alimentation de l'Ontario est disponible sur le site web du MAAARO en français au www.omafra.gov.on.ca

Potash Basics Revisited

by Keith Reid, Soil Fertility Specialist, OMAFRA

In the past three years, potash has gone from the cheapest ingredient in the fertilizer blend to the most expensive. This has many growers rethinking their old attitude towards potash of "put on lots...it's cheap". This is not to suggest that potash is not important for crop production. It is critical for maintaining proper moisture balance in the plant. It plays an important role in disease resistance, standability, crop yield and quality. However, we have opportunities to fine tune applications.

Step 1 - Know What Your Soil Can Provide

Most soils contain a lot of total potassium (K) – up to 40,000 pounds per acre – but most of this is bound up in unavailable forms. Slowly available forms that are released gradually as the soil weathers will make up 2-10% of this total. Only 1-

Continued on page 11

Cold Temperatures Delay Nodulation and Reduce Nitrogen Fixation

by Horst Bobner, Soybean Specialist, OMAFRA

The 2009 growing season has been one of the coolest in recent memory. Cool, wet conditions cause numerous problems for soybeans, including slow growth, low pod set, increased disease, and lower yields. Nitrogen fixation was also significantly inhibited or delayed by the cool soil temperatures.

Soybeans are a subtropical species. For optimal symbiotic activity, the soil temperature should be between 25-30°C. Poor nitrogen fixation is most evident in first-time soybean fields. There were numerous first-time fields where ample inoculant was applied, but nodulation did not occur. In other cases, nodulation did occur but not until early-August. Poor nodulation occurred across a wide geography, from North Dakota to Pennsylvania. It also occurred with several different inoculant products, so it was not a product failure. In a few cases, even second-time soybean fields failed to nodulate properly. Biological nitrogen fixation is essential for both first-time fields and fields with a history of soybeans, since it converts gaseous nitrogen in the air (N₂) to a form of nitrogen the plant can use.

How Does Nodulation Occur?

When soybean plants need nitrogen, they secrete chemical signals (flavonoids) into the soil from the roots. These signals are picked up by the rhizobia, which in return send a chemical signal back to the root. The signals sent back are lipochitooligosaccharides (Nod factors) which elicit nodulation in the plant. Within 10-14 days of colonization, a nodule will become visible. The return signal prepares the root for infection by the bacterium. Infection can only occur where root hairs are present. The Nod factor causes root hairs to curl and pick up rhizobia and allows them

to invade the root. As the bacterial cells divide, they form a small tumor-like structure called a nodule.

Why Was Nodulation Poor This Year?

There are a number of factors that influence nodulation, nodular growth, and nitrogen fixation. These factors include too much or too little moisture, soil nitrate levels, soil pH, diseases, organic matter, soil temperature, as well as the rhizobial quality. Extremely cool temperatures along with excess moisture are largely to blame for poor nodulation this year. The onset of N₂ fixation in soil temperatures between 17 – 25 °C was delayed by 2.5 days for each degree decrease in temperature in McGill University research (1). Below 17 °C, each degree delayed the onset of N₂ fixation by 7.5 days. A root zone temperature of 17 °C seems to be the critical temperature for soybean nodulation and N fixation. By 49 days after inoculation, plants at temperatures between 17 – 25°C were fixing some nitrogen, but plants at 15 °C were not fixing any nitrogen. A decrease of only 2°C, from 21°C to 19°C, made an important difference in the time to onset of N₂ fixation, total N accumulation within the plant, and overall growth. Other research shows that nodulation can cease when temperatures fall to 10°C (2) and that a root zone temperature of 15 °C restricts both infection and nodule development, and delays the onset of N₂ fixation by 4-6 weeks (3). Plants with a root zone temperature of 15 °C had only fixed 9% of the nitrogen fixed by plants at 25 °C, 6 weeks after inoculation.

This helps us understand why some soybeans did not nodulate until late-July or early-August this year. No till fields, espe-

Continued on page 11

Cold Temperatures Delay Nodulation and Reduce Nitrogen Fixation

Continued from page 10

cially those with large amounts of crop residue, suffered more from a lack of nodulation, because these soils are generally cooler by about 2°C.

Soil Nitrate and N Fixation

High nitrate levels also caused some problems. Nodule formation is inhibited by the high soil nitrate levels. If the soybean plant picks up too much nitrogen early in the season, it will delay or prevent nodulation. The reduction of atmospheric N₂ to ammonia is energetically expensive, and costs more photosynthate than simply taking up nitrate. Therefore, the plant will naturally consume nitrates before attempting to nodulate. Nitrogen fertilization (at amounts greater than very small "starter" fertilizer rates) does not pay in soybeans because of the inability to develop and sustain N₂ fixation in the presence of soil nitrates. Applying nitrogen fertilizer simply reduces the amount of N₂ fixed from the air.

What About Next Year?

Temperatures in Ontario in June and July are usually sufficient for proper nodulation, so under normal conditions this will not

be a significant problem. In first-time soybean fields, use two inoculant products, such as a peat and a liquid, at the high rate with good coverage. This helps to increase the number of live bacteria available for nodulation. Insecticide / fungicide seed treatments

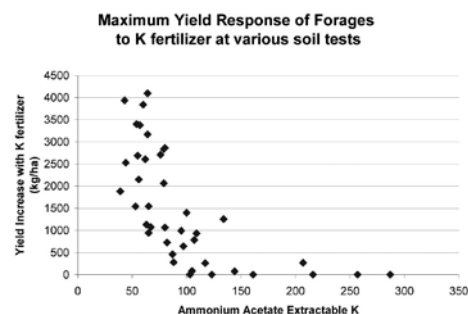
will impact the viability of inoculants. Refer to the inoculant label. In fields that have had a well nodulated crop in the past, shallow spring time tillage can increase soil temperatures. In our 2009 trials, the use of an inoculant also significantly increased the number of nodules, even in fields that had previously grown a well nodulated crop.

- (1) Zhang F, Lynch D. H, and Smith D.L. (1995) Impact of low root temperatures in soybean on nodulation and nitrogen fixation. *Env. And Exp. Botony*, Vol 35, no3 pp. 279-285.
- (2) Maatthews D.J. and Hayes P. (1982) Effect of root zone temperature on early growth, nodulation and nitrogen fixation in soya beans. *F. Agric. Sci* 98, 371-376.
- (3) Lynch D.H. and Smith D. L. (1993) Soybean nodulation and N₂ fixation as affected by period of exposure to a low root zone temperature. *Physiol. Plant.* 88, 212-220

Potash Basics Revisited

Continued from page 10

2% will be immediately available to the crop, either as K in the soil solution or held on exchange sites. Soil testing measures this available portion. In general, tests from within the past three years provide an accurate picture of what is in the soil. The exception is on very sandy soil, where crops are grown that remove large amounts of potash, such as alfalfa, silage corn or tomatoes. These soils should be sampled more frequently.



Dr. Bob Sheard, University of Guelph

Low testing soils will respond to added potash almost every year. Yield losses from inadequate potash can be large, so it is a false economy to cut K rates on low testing fields. High testing soils will still occasionally respond to added potash, but only rarely would the response be large enough to pay for the fertilizer. This is

clearly illustrated in the chart "Maximum Yield Response of Forages To K Fertilizer At Various Soil Tests". A similar pattern of response can be expected with grain and oilseed crops.

Do I Need More K On Clay Soils?

Some jurisdictions recommend higher rates of potassium on clay soils than on loams or sands, so we often get questions about why Ontario does not include this in our recommendations. There are two reasons why the recommendations for a clay soil might be higher:

1. the recommendation is based on building up soil tests (and it takes more potash to raise the soil test in a clay soil), or
2. there is evidence that crops actually respond to higher rates of K on the particular clay soils within a region.

One neighbouring state that does recommend higher potash rates on clays is Ohio. However, their field trials showed different response patterns depending on the part of the state. In southeast Ohio, the clay soils needed more potash fertilizer to reach optimum yields. In northern Ohio, on the lacustrine soils that are most similar to our soils in Ontario, there was

no difference in potash requirements with clay content. Ohio decided to have one recommendation system for the whole state that included the clay content factor. Their trial results actually supported the Ontario studies that showed no difference in K requirements on clay soils.

The clay minerals in Ontario soils actually contain a huge reserve of potash that is slowly released. It could be argued that we will suffer less yield loss from cutting back on potash on clay soils than on lighter soils. The caution is that you need to know the fertility status of any soil before you start cutting back.

Are There Other Sources of K That I Can Use?

High potash fertilizer prices focus our attention on alternative sources of this element. A rich source of potassium is livestock manure, particularly from cattle.

For example, liquid dairy manure contains about 30 lbs available potash per 1,000 gallons. Applying this manure to meet nitrogen requirements will also provide enough potash to meet the requirements of even the most deficient soil. Sewage biosolids, on the other hand, have almost no potash.

Increasing Accuracy of DON Measurement In Grain Corn

by Ken Janovicek, University of Guelph & Greg Stewart, Corn Lead, OMAFRA

Corn ear moulds can result in the production of mycotoxins that negatively impact grain quality, particularly as a feed source for swine. Deoxynivalenol (DON) has been identified as one of the key mycotoxins of concern. The acceptable maximum DON concentration has recently been reduced from 2 to 1 ppm by many corn processors in Ontario. Management decisions, such as hybrid choice, are important for reducing the chance of high DON concentrations. However, proper corn sample collection and analysis are important to ensure a low chance of false high DON readings.

Study Description

A project funded by the Ontario Corn Producers Association was conducted in the summer and fall of 2007 to evaluate DON sampling protocols for twenty-one 40 ton truck loads of Ontario corn. Ten samples were obtained per truck load using either grain probes or tailgate swiping. Two sampling methods were studied:

1. Each of the 10 truck load probe or swipe samples were well blended and then divided into smaller sub-samples. One of the smaller subsamples was analyzed to estimate the DON for the probe or swipe. DON concentration for the whole truck load could be obtained by averaging the DON from each of the 10 samples collected per truck.
2. Equal portions of grain from each of the 10 probes were mixed into a single composite sample. The composite was thoroughly blended, and then a single sample was drawn to provide an estimate of truck load DON concentration.

Sample Number Needed for Accurate Assessment

DON concentration for a single sample was within a range of 65 to 150% of the average of all 10 probes per truck, 9 times out of 10. Table 1, "DON Concentrations Of 10 Probes Collected From 2 Truck Loads of Ontario Corn", shows the variability in DON concentrations. Similar variability was observed in each of the 21 truck loads in this study. It is clear that use of single probe sampling protocols provide an unreliable assessment of DON concentrations for the truck load as a whole.

Increasing sample number decreases the error associated with estimates of DON concentration. Increasing samples to 4

per truck reduced the range in DON concentration estimates by half, with a range between 80 to 125% of the actual concentration, 9 times out of 10. Taking more than 4 samples will further reduce the error, but reductions in the size of the errors are small, so it may not be worthwhile to collect more than 6 samples per truck. Single samples can almost always identify truck loads of corn with actual DON levels of 0.5 ppm or less as having concentrations that are less than the 1 ppm limit. Similarly, a single sample will almost always identify loads that are actually 1.8 ppm or higher as exceeding the 1 ppm limit. For loads with actual DON concentrations that are within 0.5 to 1.8 ppm, accurate assessment of DON will require at least 4 to 6 samples per truck. For example, for a truck load with actual DON concentration of 0.8 ppm, there is about a 1 in 5 chance of a DON estimate that exceeds 1 ppm using a single sample. If six samples are taken, the chance of wrongly obtaining a DON estimate that exceeds 1 ppm is reduced to less than 1 in 50.

Sample Composition

Blending multiple samples taken from a truck can provide a reasonably accurate estimate of DON concentration. The accuracy of a DON concentration estimate obtained from blended samples can be improved by ensuring that equal amounts of corn are taken from the individual probes or samples and that the composite sample is thoroughly blended before a sample is taken for analysis. Averaged across the 21 trucks of this study, the blended composite samples provided an estimate of truck load DON concentration that was similar to the estimates obtained by averaging the DON concentrations from each of the individual probes or samples.

Assessment of Different Labs

Samples were also sent to 4 Ontario labs to determine the accuracy between labs. One of the labs did estimate DON concentrations that significantly differed from the other 3 labs. When this lab re-analyzed the samples, their results did not differ from the other 3 labs. Reasons for incorrect analysis are not clear, but could have been due to sample preparation or test kits. Lab analysis accuracy can be improved by routinely including samples of known DON concentration.

Review or accreditation of lab protocols could help standardize results produced by the various labs.

Summary

Assessment of DON concentrations should be based on collection of 4 to 6 samples per truck. Samples should be collected in a manner representing the entire load and thoroughly blended. Collecting less than 4 samples can significantly increase the chance of incorrectly rejecting a truck load for DON concentration above 1 ppm when concentrations are actually less than 1 ppm. Similarly, it could significantly increase the chance of incorrectly accepting a truck with actual DON levels that exceed 1 ppm. Collecting more than 6 samples will increase accuracy of estimates, but the improvement may not be worth the effort required to collect the samples. Labs should conduct the analysis using a protocol that is verifiable and repeatable.

Table 1. DON Concentrations Of 10 Probes Collected From 2 Truckloads of Ontario Corn In Summer 2007.

Probe	Load A	Load B
	- DON (ppm) -	
1	2.3	1.8
2	1.7	1.0
3	1.9	1.4
4	3.4	2.1
5	1.3	1.5
6	3.0	0.9
7	2.1	1.0
8	1.7	1.0
9	1.4	1.3
10	2.6	1.6
Average¹	2.1	1.4
90% Confidence²	1.4 - 3.2	0.9 - 2.0
Composite Sample³	2.3	1.3

1. Average of DON concentrations for probes 1 to 10.

2. Expected range in DON concentrations for 9 out of 10 individual probes or samples taken from the truck load.

3. DON concentration based on analysis of a single composite sample. The composite sample was made up of 10 equal sized grain samples obtained from the 10 individual probes.

Rotational Grazing

by Jack Kyle, *Grazier Specialist, OMAFRA*, Lindsay

What is rotational grazing? As I talk to farmers across the province about grazing management, I have come to realize that rotational grazing means different things to different people.

The dictionary definition of rotation is "to change or alternate in a particular sequence; regular variation". To a crop producer, rotation means a different crop or sequence of crops in a field over a number of years. When we talk about rotation in relation to grazing, the most important factor is the state of the grass growth. The guiding principal of rotational grazing is to give the grass crop every opportunity to grow and produce forage for the livestock. The rotation refers to the movement of the livestock from one paddock to another during the grazing season.

According to the University of Guelph and OMAFRA Beef Cow-Calf Benchmarking Study, the biggest cost component is feed. When asked about grazing practices, over half of the participants reported that they were rotational grazing. However, there was a big range in the results that they were achieving.

Grazing & Rest Periods

The concept behind rotational grazing is to harvest the grass quickly and then give the forage time to recover and re-grow. This is accomplished by giving the livestock enough grass for the prescribed feeding period and then moving them to a new field.

The more frequent these moves, the more productive the pastures will be. The maximum length of time in a paddock should be 5 days. Why 5 days? Grass starts to re-grow five days after it is harvested. When does a hay field begin to greenup after being cut? There is usually new growth started in 5-6 days. In a pasture, this new growth is candy to the livestock and they quickly re-graze it. This re-grazing depletes the root reserves of the plants, reducing plant vigour and subsequent growth.

An optimal rotational grazing system has the livestock moving to fresh grass every 1 to 3 days. If the grazing period is longer, there will be reduced performance by

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Simple Ways to Check the Health of Your Soil

by Adam Hayes, *Soil Management Specialist, Field Crops, OMAFRA*

As humans, many of us try to look after our health and go to the doctor regularly for a check up. Farmers take soil samples from their fields to check the fertility status every three years. Those who have implemented best management practices for their soil often wonder if their efforts are paying off. Good soil management can pay off in more consistent and higher yields. But, how do you know how healthy your soil is?

Cornell University in New York State has developed a Soil Health Assessment and set up a lab to do the analysis. OMAFRA is currently evaluating this for Ontario conditions and commercial viability.

However, there are some simple assessments that can be done on-farm by the farmer or an agronomist. Ten easy soil health assessments include - soil structure, soil compaction, soil organic matter, soil colour, soil life, drainage, water-holding capacity, plant growth, root growth and nutrient levels.

Soil Structure

Soil structure is an important indicator of soil health. A well structured soil allows water and roots to move through it easily and facilitates good air exchange. A simple way to check soil structure is to cut a square of soil the width of a shovel and about 15 cm (6 in.) deep. Pick it up and drop it from waist height. If the soil breaks into many small aggregates or particles (about 12 mm or ½ inch or less) then it is well structured. If it doesn't break down much and there are a lot of larger chunks of soil, then it has poor soil structure.

Soil Compaction, Organic Matter & Colour

Detection of soil compaction has been discussed a lot, so it will not be covered here. Soil organic matter can be analyzed from samples that are taken for nutrient analysis. Samples from fence rows or neighbouring woodlots can be used for comparison. Soil colour is a fairly easy visual assessment to do. Soil colour should be relatively uniform across the field. If moisture levels are the same, darker soils

will generally have higher organic matter levels. Areas that have experienced erosion or tillage that has mixed in subsoil will usually be lighter in colour.

Soil Life, Drainage, Water Holding Capacity

Soil life plays an important role in organic matter breakdown and nutrient cycling, as well as several other functions. Counting the number of earthworm holes (middens, small piles of soil and residue) found in a square metre is an easy way to estimate soil life. Ten or more per square metre is a good population. The smell of the soil is also an indicator of soil life. A sweet forest smell is good, while a swampy smell indicates a less than ideal situation. Good soil drainage is essential to a healthy soil and for good crop production. The soil has an adequate water holding capacity if the crop does not suffer during moderate dry spells.

Plant Growth, Root Growth, & Soil Nutrients

The crop should be a dark green colour. Growth should be rapid and relatively uniform. Yield maps are a good indicator of differences in crop growth in the field. Crop roots can tell a lot about the soil and crop growth. Carefully dig up the plant roots. There should generally be a uniform distribution of the roots. Roots that take a sudden turn likely encountered a compacted area or a soil texture change. Nutrient levels can be assessed with a standard soil test and can be corrected with nutrient applications.

Basic Soil Health Assessments

It is fairly easy to get some basic assessments of soil health. They can be done any time of the year, although certain times may be easier than others. Adequate soil moisture will make it easier to do some of the assessments. The newly revised OMAFRA Publication 811, *Agronomy Guide for Field Crops*, has more information on these assessments and on other aspects of soil management. It is available for purchase, or on the web at www.ontario.ca/crops.

OFA Report

by Neil Tarlton

On behalf of the Nipissing West-Sudbury East FA, as well as the Manitoulin FA, the following resolutions were presented at the recent OFA convention, encouraging the initiation of a hunting season for sandhill cranes.

From Nipissing west Sudbury east FA. Oct 1st 2009

Whereas the population of Sand hill cranes in the Verner area has gone from about zero 10 years ago, to a very substantial number now.

And whereas the population of Sand hill cranes west of us is of an even higher number and for a greater period of time.

Be it resolved that the OFA lobby the MNR of Ontario and the Canadian wildlife service that the time has come to launch an open hunting season for sand hill cranes.

From Manitoulin North Shore FA Oct 2nd 2009.

Whereas the population of migrating Sand hill cranes traversing the north shore and Manitoulin is very large.

Whereas the flock is clearly large enough to be self sustaining even with some population culling by hunting.

And whereas the now very high population of sand hill cranes does cause significant damage to seeded crops.

Be it resolved that the OFA lobby the MNR of Ontario and the Canadian Wildlife Service to institute a hunting season and bag limit for the hunting of sand hill cranes.



Rotational Grazing

Continued from page 13

both the livestock and the grass. Think of the pasture field as a feed bunk. Would you expect livestock to perform well if the feed bunk was only filled every five days? Fresh feed encourages consumption and increased consumption means increased performance.

Number of Paddocks Required

For each group of livestock that you have on pasture, there should be a minimum of 10 paddocks to give the grass an opportunity to recover from the grazing. Twenty paddocks will go a long way to encouraging increased animal intake. Thirty paddocks will allow you to realize the full potential of both the pasture and the grazing livestock. This may seem like a lot of paddocks, but with the use of electric fence, including some temporary or portable fence, it does not need to be insurmountable.

Cattle trained to electric fence and accustomed to moving every 1-2 days to

fresh grass will meet you at the gate for their next move. Increased Season Long Carrying Capacity Grass growth varies during the season. Rapid growth occurs in May and June. Much slower growth happens during July and August, when temperatures tend to be higher and moisture is less available. Pasture managers who use an effective rotational system find that they have increased grass growth and carrying capacity throughout the season and a dramatically reduced need for feeding hay.

Rotational grazing means fresh grass every 1-3 days and a sufficient rest period for the grass to grow to the optimum grazing height (20-40 cm). Rotational grazing at this level will provide the most high quality forage at the least cost.

Refer to the following websites:

www.omafra.gov.on.ca/english/crops/field/forages.html

www.ontarioforagecouncil.com

www.foragebeef.ca

“Northern MAPLE”

NEOSCIA Intern, Kelly Bird, meets “Northern MAPLE”, the NOAFEM cow at the 2009 IPM.

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SAFETY Live with it

L'effet des pucerons du soya sur le rendement aux stades reproductifs avancés

par Tracey Baute, chargée de programme, entomologie des grandes cultures, MAAARO-Ridgetown

Le dépistage du puceron du soya a duré plutôt longtemps cette saison. Dans certaines régions, l'insecte est présent depuis la mi-juin et ne semble pas encore prêt à lâcher prise. Beaucoup de producteurs se demandent combien de temps encore ils devront surveiller les pucerons et les combattre pour protéger les rendements et quand ils pourront enfin arrêter d'inspecter les champs.

La recherche a démontré que les rendements sont préservés lorsque le seuil actuellement recommandé de « 250 pucerons et plus par plant » est respecté au cours du stade R1 (début floraison) jusqu'au stade R5 (premières graines) du soya.

La situation se modifie, cependant, une fois que les plants de soya ont atteint le stade R6, bien qu'on doive reconnaître qu'on n'a pas effectué autant de recherches sur les champs qui sont traités au stade R6. Les essais réalisés indiquent qu'il faut beaucoup plus de pucerons par plant avant qu'il y ait un effet sur le rendement. Des essais à la ferme effectués en 2004 et 2005 en Ontario ont démontré que les traitements effectués au début du stade R6 des fèves soya n'avaient pas d'effet significatif sur le rendement à moins qu'il y ait au moins 1000 pucerons par plant. Cette réponse a en outre été observée au début du stade R6. Une fois que les plants ont atteint le stade R6 et les stades ultérieurs, les plants se referment et ne réagissent pas aux traitements d'insecticides. De plus, une fois que le stade R6 est atteint, on doit tenir compte des périodes d'attente de pré-récolte associées aux insecticides foliaires homologués. Matador ou Silencer peuvent être appliqués jusqu'à 21 jours avant la récolte, alors que Cygon ou Lagon doivent être utilisés pas plus tard que 30 jours avant la récolte.

Comment déterminer si les plants de soya sont au stade R5 ou R6?

Le stade R5, ou premières graines, correspond au stade où les gousses situées sur les quatre noeuds du haut contiennent une graine minuscule qui commence à se développer.



Le seuil de 250 pucerons et plus par plant sur 80 % des plants est encore valable dans le cas des champs dont les plants de soya sont à ce stade.



Chaumes de blé, mauvaises herbes et trèfle rouge

par Mike Cowbrough, chargé de programme, lutte contre les mauvaises herbes, grandes cultures, MAAARO

« De l'azote bon marché », cela semble bien paradoxal, sauf si vous avez une belle parcelle de trèfle rouge qui suit une récolte de blé. Le défi consiste toutefois à obtenir une bonne pousse, qui laissera au printemps suivant des nitrates dans le sol provenant du trèfle rouge, tout en luttant contre les mauvaises herbes, et en gérant les repousses spontanées de blé et finalement la culture de trèfle rouge. Tout cela est nécessaire pour assurer le succès des semis, de l'établissement et du rendement de la prochaine culture de maïs, l'année suivante.

Gestion du trèfle rouge

Le labour d'automne représente la seule méthode efficace de travail du sol pour le contrôle du trèfle rouge. Les producteurs qui préfèrent travailler le sol plus superficiellement ou pratiquer le semis directs devront avoir recours au désherbage chimique. Des recherches réalisées par l'Université de Guelph ont démontré, de façon constante, que l'herbicide le plus efficace et le plus rentable contre le trèfle rouge est le dicamba (c.-à-d. Banvel II ou Oracle) à 250 mL/acre (voir la figure 1). Dans bon nombre des ces essais, le dicamba a été appliqué de la mi à la fin octobre. Cette période est également propice pour lutter contre les mauvaises herbes vivaces (à l'aide d'un mélange en cuve de glyphosate + dicamba). Le but est de s'assurer que la température de l'air au moment de l'application est supérieure à 10 °C, et que les températures nocturnes suivant le traitement demeurent idéalement à 5 °C et plus.

Peut-on réduire les doses de dicamba ou utiliser du 2,4-D à la place?

Non. Lorsqu'on a diminué les doses de dicamba à 125 mL/acre, les résultats sur le trèfle rouge ont été inacceptables (voir la figure 2). Le 2,4-D (660 g/L) n'a jamais été efficace contre le trèfle rouge dans le cadre de recherches publiques lorsqu'il était appliqué au taux de 500 mL/acre.

Tableau 1. Traitements contre le trèfle rouge et coût relatif de diverses stratégies de gestion automnale.

Traitement	Taux	Témoin*	Indice de prix**
dicamba	250 mL/ac	99 %	77
glyphosate + dicamba	500 mL/ac + 250 mL/ac	99 %	133
Labour d'automne		95 %	177
Amitrol	1670 mL/ac	90 %	97
glyphosate + amitrol	670 mL/ac + 1000 mL/ac	90 %	134
glyphosate (540 g/L)	1000 mL/ac	85 %	113
2,4-D Ester (700 g/L)	500 mL/ac	65 %	44

Source : Peter Sikkema, Ph. D., Clarence Swanton Ph. D. et François Tardif Ph. D.

* L'échantillon témoin a été évalué en avril dans le cadre d'un traitement automnal.

** Par rapport au coût moyen (100) de tous les traitements dans le tableau 1.

Et les repousses spontanées de blé?

Étant donné que le dicamba n'est pas efficace contre le blé spontané, le glyphosate devra être mélangé en cuve. La plus faible dose de glyphosate à une concentration de 540 g/L (Roundup Weathermax) mentionnée sur une étiquette qui peut être mélangée en cuve avec dicamba contre les repousses spontanées de céréales est de 0,5 L/acre.

Désherbage des mauvaises herbes annuelles

La floraison et la montée en graines des mauvaises herbes annuelles commencent habituellement peu après la récolte de blé. Certains producteurs ont alors fauché avec succès le trèfle rouge pour contrer la floraison des mauvaises herbes annuelles. Le trèfle rouge repousse ensuite et offre une couverture qui réduit les repousses de

mauvaises herbes annuelles et la germination de nouvelles pousses. À défaut de faire ce qui précède, il faudra travailler le sol une fois ou appliquer un herbicide.

Il faudra donc prendre une décision. Souhaitez-vous réduire le plus possible la présence de semences de mauvaises herbes (et donc intervenir maintenant) ou maximiser la croissance du trèfle rouge (et donc intervenir à la fin septembre ou en octobre)?

Figure 1. Trèfle rouge en avril à la suite d'un traitement au dicamba effectué à la fin octobre au taux de 250 mL/acre.



Figure 2. Trèfle rouge en avril à la suite d'un traitement au dicamba effectué à la fin octobre au taux de 125 mL/acre.



Figure 3. Trèfle rouge en avril à la suite d'un traitement avec du 2,4-D ester effectué à la fin octobre au taux de 500 mL/acre.



Dommages dus au gel dans le maïs à ensilage

par Joel Bagg, spécialiste de la culture des fourrages, MAAARO, Lindsay

Continued on page 18

Par suite de dates de semis tardives, de faibles accumulations d'unités thermiques de croissance (UTC) et d'épisodes de gel précoces, il arrive que le maïs meure avant d'avoir atteint le stade de maturité normal pour l'ensilage ou que des cultures de maïs grain n'atteignent pas une maturité suffisante pour fournir un rendement maximal ni une qualité optimale et la teneur en eau souhaitable. Les producteurs peuvent alors envisager de récolter ou de vendre une partie de ce maïs sous forme de maïs à ensilage. Le truc pour retirer le plus possible d'une culture de maïs à ensilage endommagée par le gel est de la récolter au bon taux d'humidité.

Qualité des éléments nutritifs

Du maïs au stade de l'apparition de la dent qui n'est pas encore tout à fait parvenu à maturité et est endommagé par le gel peut faire du bon maïs à ensilage. Le profil énergétique n'est pas le même dans le cas du maïs à ensilage non parvenu à maturité que dans celui du maïs normal. Le maïs immature a des grains moins riches en amidon, mais les tiges renferment davantage de sucres en raison de l'arrêt de leur translocation. Par ailleurs, la texture des grains est plus douce et l'amidon est plus digestible. Il n'est habituellement pas nécessaire de conditionner le grain du maïs à ensilage immature et humide. La teneur en fibres y sera plus élevée, mais

ces dernières demeurent moins lignifiées et plus digestibles que dans l'ensilage de maïs parvenu à maturité. En général, le maïs à ensilage qui n'est pas tout à fait à maturité présente des teneurs en fibres et en protéines brutes légèrement plus élevées et des teneurs en énergie légèrement plus faibles que le maïs à ensilage normal.

Pour obtenir un ensilage de maïs de haute qualité, le maïs doit avoir dépassé le stade pâteux dur ou celui du début de la formation de la dent. Du maïs très peu avancé, au stade laiteux ou au début du stade pâteux, donnera un ensilage renfermant une plus faible proportion d'amidon et plus de fibres. Des recherches ont démontré que la digestibilité du maïs à ensilage au stade pâteux peut être de 3 % inférieure et que les teneurs en fibres au détergent neutre (NDF) de 8 % plus élevées que pour le maïs normal. Des recherches menées à l'Université du Wisconsin indiquent que la récolte avant le stade pâteux dur ou le début de l'apparition de la dent donne une production réduite de lait par tonne d'ensilage. L'ensilage obtenu à partir de maïs très peu avancé et d'une qualité moins qu'idéale peut être servi aux animaux ayant de moins grands besoins nutritifs. L'entreposage de l'ensilage de moins bonne qualité dans un silo distinct, comme dans un silo boudin, est une solution à envisager. Il est probable que le maïs qui n'est pas parvenu à maturité donne moins d'ensilage; il faudra donc ensemer davantage de superficies pour remplir le silo et combler les besoins de l'exploitation en fourrages. Le maïs au stade pâteux donne un rendement à l'ensilage qui correspond à environ 65 à 85 % du rendement de l'ensilage normal.

Analyse des éléments nutritifs en laboratoire

Il est important de faire analyser avec précision, en laboratoire, l'ensilage de maïs pour calculer avec exactitude les valeurs énergétiques et équilibrer les rations. Les analyses chimiques humides, plutôt que les analyses NIR, sont recommandées pour le maïs à ensilage immature ou endommagé par le gel, car ce type de maïs est très différent du maïs normal. L'énergie digestible de l'ensilage de maïs dépend principalement des quantités relatives d'amidon et de NDF, et de leur digesti-

bilité. Dans le passé, on évaluait l'énergie à partir de l'ADF et la prise alimentaire à partir de la NDF, mais à elles seules ces valeurs ne prennent pas en compte la digestibilité. Le maïs à ensilage qui n'est pas parvenu à maturité contient moins d'amidon, mais davantage de sucres végétaux fermentescibles. Auparavant, on utilisait l'analyse de la fibre par détergent acide (FDA) pour estimer l'énergie, et la méthode par détergent neutre (FDN) pour évaluer l'ingestion alimentaire, mais ces techniques ne permettent pas de mesurer la digestibilité des fibres. De nouvelles méthodes permettent de calculer l'énergie digestible de l'ensilage de maïs avec plus d'exactitude à partir des PB, des NDF, de la dNDF, de l'amidon, des cendres et des lipides. Il est également possible de calculer la digestibilité de l'amidon à partir du taux d'humidité, des cotes de conditionnement du grain (kernel processing scores, KPS) et d'autres tests de digestibilité effectués en laboratoire.

Importance de la teneur en eau de la plante entière

La récolte doit absolument se faire au moment où la plante entière a atteint la bonne teneur en eau si l'on veut obtenir de l'ensilage de maïs de bonne qualité. Mais si le maïs a été endommagé par le gel, il est difficile de savoir quand le récolter étant donné que l'on ne peut alors se fier à la « ligne d'amidon ».

Il faut absolument éviter de récolter le maïs à ensilage endommagé par le gel lorsqu'il est trop humide. À une teneur en eau supérieure à 70 %, des fermentations causées par Clostridia provoquent la formation d'acide butanoïque avec des pertes de fermentation élevées et la production d'une odeur rance et fétide. L'acide butanoïque diminue la consommation d'ensilage, provoque l'acétonémie et réduit le rendement des vaches. On peut avoir recours à une analyse de fermentation si l'on soupçonne une fermentation quelconque et des problèmes liés à l'alimentation animale. Le suintement entraîne par ailleurs une perte d'éléments nutritifs hautement digestibles et il est dommageable pour l'environnement. L'ensilage gelé ou très humide peut être difficile à décharger en hiver. Voir la fiche technique 07-048 du MAAARO, *Récolte du maïs à ensilage à la*

Temiskaming Crops Coalition (TCC)

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Domages dus au gel dans le maïs à ensilage

Continued from page 17

bonne teneur en eau <http://www.omafr.gov.on.ca/french/crops/facts/07-048.htm>

Assèchement après un gel

Même si le feuillage semble s'assécher rapidement lorsqu'il est mort ou a gelé, le gros de l'humidité se trouve dans la tige et le grain. Du maïs ayant été exposé au gel paraît souvent plus sec qu'il ne l'est en réalité, et plusieurs commettent l'erreur de le récolter à une teneur trop élevée en eau.

Le maïs soumis au gel avant d'être parvenu à maturité ne s'assèche pas beaucoup plus vite que le maïs qui n'a pas gelé (la teneur en eau de la plante entière diminue d'environ 0,5 % par jour), et il faut parfois prévoir bien des jours de séchage pour en corriger la teneur en eau. Ce faisant, les plants qui sont morts perdent des feuilles et les sucres s'échappent des feuilles gelées. Les pertes de rendement et les moisissures augmentent avec le temps, mais les producteurs doivent aussi prendre en considération les pertes par fermentation et les problèmes causés par l'acide butanoïque si l'ensilage est mouillé. Le plus souvent malheureusement, quelques jours après un gel meurtrier, tout le monde veut récolter en même temps.

En cas de doute quant à la teneur en eau de la plante entière, hacher un échantillon pour déterminer le pourcentage de matière sèche. Surveiller la variabilité de l'humidité dans les champs. Il faut noter

que les testeurs Koster et les fours à micro-ondes tendent à surestimer la teneur en eau d'environ 3 %, car il est très difficile d'éliminer les résidus. S'assurer de permettre une fermentation complète (environ 3 semaines) avant de le donner aux animaux. Un échantillon pour lequel on obtient un pourcentage d'humidité de 68 % en contient en fait environ 71 %. Au cours d'une année normale, ces 3 % d'écart correspondent à un décalage de la récolte de presque une semaine. Si l'on utilise un testeur Koster ou un four à micro-ondes, il est important de prendre le temps de bien faire sécher l'échantillon. Plus l'échantillon est haché fin, plus il séchera facilement et plus les résultats seront précis. Il est encore mieux d'expédier l'échantillon par service de messagerie 24 heures à un laboratoire d'analyse de fourrages qui évaluera sa teneur en eau par séchage au four.

Nitrates et hauteur de coupe

Après le gel, si le feuillage est mort mais que les tiges et les racines sont vivantes, les nitrates risquent de s'accumuler à la base des tiges. Cette hausse de la teneur en nitrates augmente les risques de toxicité par les nitrates et les risques de formation de gaz des silos. En augmentant la hauteur de coupe de 30 cm (12 po), on réduit le rendement en matière sèche d'environ 15 %, mais on augmente la qualité de l'ensilage étant donné que la

portion inférieure de la tige est la partie de la plante qui affiche la digestibilité la plus faible et la plus forte teneur en nitrates. Ne pas ajouter de l'azote non protéique (ANP) à du maïs à ensilage très peu avancé, sous peine de voir les suintements concentrer l'ANP dans la partie basse du silo. Pour plus d'informations sur les gaz de silo et des méthodes pour ajuster les teneurs élevées en nitrates, consulter la publication 811F du MAAARO, Guide agronomique des grandes cultures.

2009 Performance Trials for Winter Wheat
<http://www.omafr.gov.on.ca/french/crops/facts/wwperf-09.pdf>

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NOAFEM plans *Quest for New Farm Value – Value Plus Workshop!*

Are you looking, or do you have a business idea, for your farm? Not sure how to make your idea a reality? Local stakeholders along with the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) are offering up to 10 *Quest for New Farm Value* workshops throughout the province this fall/winter.

Northern Ontario Agri-Food Education & Marketing Inc. (NOAFEM) is pleased to be the host for the Quest for New Farm Value Value Plus™ workshop on November 27 and 28 at Days Inn (corner of Elm and Lorne Streets) in Sudbury .

Over two days, the participants will identify their specific value-added idea, put their idea into action, explore market channels, build a business plan, explore how to finance the stages of the business, price the product properly and manage risk. Workshop leaders include Ontario farm business owners, entrepreneurs and advisors who will share lessons learned and best practices.

Since launching the workshops in 2007, the Quest for New Farm Value workshops continue to receive positive feedback from participants who are looking to implement business ideas that are marketable, profitable and contribute to the long term viability of the farm operation,” says Dorene Collins with the Business Management Unit of the Ontario Ministry of Agriculture, Food and Rural Affairs.

Limited to only 25 registrants, interested participants are encouraged to register as soon as possible. Through the generous sponsorship of the Canadian Farm Business Management Council, OMAFRA, FedNor, and The Ontario Trillium Foundation (The Ontario Trillium Foundation is an agency of the Government of Ontario), the two-day course is being offered at \$75 per person. Registration includes two fun-filled days of learning, work-book, related print resources, refreshments and lunch.

This training opportunity is eligible for cost-share funding through the Growing Forward Business Development for Farm Businesses program. For more information on program requirements, please visit www.omafra.gov.on.ca/english/about/growingforward/busdev.htm or call 1-877-424-1300.

To register, contact Northern Ontario Agri-Food Education & Marketing Inc., 1540 Hwy. 17E, Wahnapiatae, ON P0M 3C0, www.norontagrifood.org, e-mail noront.agrifood@sympatico.ca, phone 705-694-4396, or fax 705-694-2030.

Here are just a few testimonials from the last year's workshops:

“Invaluable – well worth the investment – very supportive and nourishing opportunity being with experienced like-minded people”

“Great information on planning your business from start up to exit including growth opportunities”

“Wow, this was really well done ... One of the best seminars I've been to”

“Great course and many valuable contacts and ideas were gained”

St. Joseph Island resident grows 2009 Giant Pumpkin



Siegfried (Siggy) Hecker poses with his Giant Pumpkin, which weighed in at 462 pounds.

DESBARATS – Desbarats Farmers' Market, one of four weigh-in centres for Northern Ontario Agri-Food Education & Marketing Inc.'s Giant Pumpkin Contest only had one entry but it proved to be a winner. Siegfried (Siggy) Hecker R.R. 1, Richards Landing on St. Joseph's Island brought in a pumpkin weighing 462 pounds.

New Liskeard Fall Fair had a huge increase over 2008, with 16 entries total, including the second largest pumpkin (258 pounds) which belonged to Hal Brown, RR 1, New Liskeard. The other weigh-in centres were Central Manitoulin Public School Fair, Mindemoya, and Anderson's Farm Museum, Lively.

International Plowing Match

By: Kelly Bird

On a gray and cloudy Wednesday September morning, at approximately 8:20 A.M., I was one hundred and fifty feet above the ground, hovering in the sky, harnessed onto the Hyrdo One Bronto Arm looking over the 2009 International Plowing Match held in Temiskaming. As I glanced over the vast area of landscaped terrain, that was covered with massive wedding size tents, over two thousand motor homes, farm equipment, livestock and a variety of antiques, I came to realize how massive the IPM is, and more importantly, how significant the IPM was to Northern Ontario.

The International Plowing Match is not just a plowing competition, it is a cultural and community event, bringing friends and family together, that often only come together for the one week the IPM is held every year. Specifically, the Temiskaming IPM, brought eighty thousand visitors from all over Ontario, Quebec, and the Northern States. Personally, I met countless people from the Kitchener, Orangeville, and London area, who have never been farther north than North Bay. They were in awe over the flat land, rich soil and beauty of the Temiskaming area, the main comment being



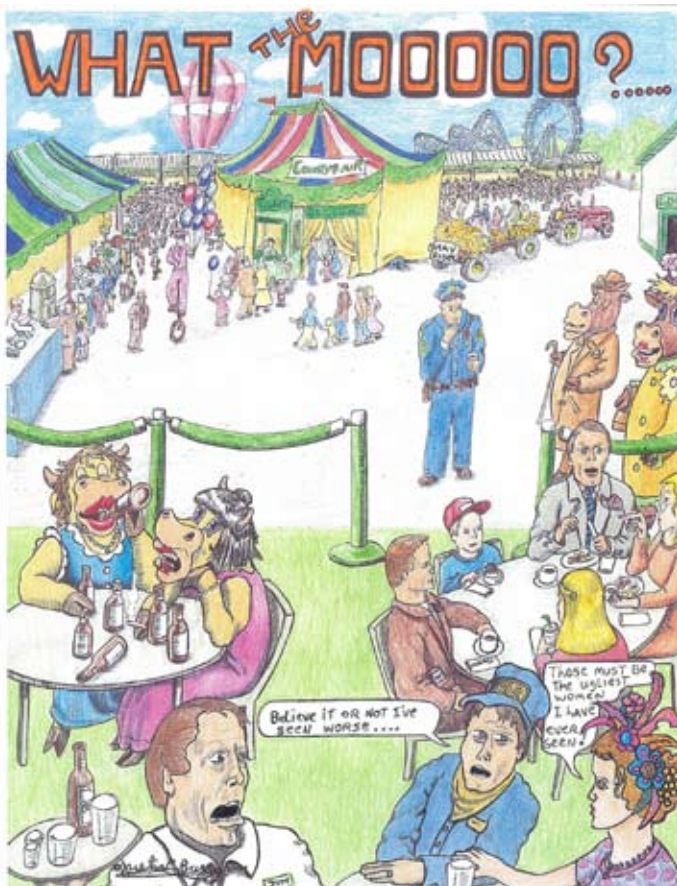
"It looks just like down south. Who knew?"

The International Plowing Match, is also a time to reminisce and partake in an activity I recently have come across, that I refer to as "Farmer Talk". I met many people who grew up in the North and moved to southern areas of Ontario and just happened to take their holiday the exact week of the IPM. In addition, I heard countless beautiful stories about being a farmer, owning a farm, growing up on a farm, and although being a farmer is challenging and requires a great amount of time, the joy it brought to their lives is unforgettable.

Though I spent the majority of the five days in the NEOSCIA booth, I had some time to check out the IPM grounds. My personal highlights from the 2009 IPM, were the square dancing antique Massey tractors, Tiny the thirty-four thousand pound Steer (I was told not to call it a cow), the piglets in the educational tent, and the quilt tent. As well as the mini horses, milking "Maple" the Northern Cow, the antique cars, the antique steam operated equipment and it must be mentioned, two dollar, two scoop, moose track, ice cream cones in the dairy food tent. To be honest, the list could go on and on, however, the IPM offered so much to see, and I did not have enough time to see it all.

My favourite antique car, had to be the Austin 1931 Saloon, blue in color, and comes with a sun roof, it is owned by Marcel And Sylvie Corriveau in North Bay. It is important to note, that the Austin cars appear to be always made very small. I also had the opportunity to assist in the operation of 1922 Chalifoux, steam operated Drag Saw. The saw is owned by Andrea Boileau.

Overall, the Temiskaming 2009 International Plowing Match was a true reflection of the North; warm and friendly people, environment and atmosphere. The three years of planning by far paid off; the IPM surpassed all my expectations and thousands of others. It was a fabulous bilingual event and will hopefully bring back visitors from the south and all over Canada to further explore what Northern Ontario has to offer in agriculture, mining, forestry and tourism.



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