Breaking Ground
(in Northeastern Ontario) WINTER 08/09

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

Murray Cochrane for President

by Sharon Lane, Regional Correspodent to "Breaking Ground"

Murray Cochrane, first vice-president of Ontario Soil and Crop Improvement Association (OSCIA), was born and raised on a mixed farming operation at Ivy, south of Barrie, Ontario. He attended the University of Guelph where he met his wife, Norma Seabrook of Thessalon Twp., and in 1980, they moved to her parent's farm west of Thessalon. Norma and Murray are the third generation to farm at this location. Norma's grandfather bought the farm in 1916. The Cochranes were dairy farmers until 1995 when they switched to a cow /calf beef operation. They currently finish about 1/3 to _ for freezer trade sales, and the rest are sold at the fall Thessalon Cattle Sale. They also grow horse hay as a cash crop. The majority of the forages, small grains and corn are fed on their farm.

Murray has been a director for the Algoma Soil and Crop Improvement Association (ASCIS) since 1985 as well as a member of both the Algoma Cattlemen Association and the Algoma Milk Committee. He has been a director of OSCIA since 2002, representing Algoma, Manitoulin and Sudbury districts. His presidency is expected to be ratified at the annual meeting of the OSCIA in Niagara Falls in February 2009.

Commencing at the annual meeting in February, the eight local Soil and Crop Improvement Associations in the Northeastern Region will be represented by one director. A committee, chaired by Janet Parsons, has come up with a business plan to deal with the distances and improve communications in the Northeastern Region. Part of the business plan was to create a "caravan of excellence" that would bring specialists to each of the eight districts in the region to discuss such topics as nutrient management and hoe skills on growing crops like corn soybeans, forages, small grains and

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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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"Growing Your Opportunities" Conference

by Sharon Lane, Regional Correspodent to "Breaking Ground"

Northern Ontario Agri-Food Education & Marketing Inc. sponsored "Growing Your Opportunities" conference in Sudbury, November 29, 2008 with an overflowing crowd. The keynote speaker, Margaret Webb, the author of Apples & Oysters: A Food Lover's Tour of Canadian Farms, spoke on "Who's Your Farmer?"

Ms. Webb said that everyone could answer the question "Who's your doctor?" or "Who's your financial planner?" or even "Who's your personal trainer?" but no one could answer "Who's your farmer?" To her, the farmer is the most important person in the food chain.

The reality of the farmers situation was brought home to her during the August 2003 Blackout in Toronto. She thought that it was fun at first being able to see the stars and using candlelight; then she started to worry about not being able to buy food, not being able to get money and the safety of Toronto's water. She went to the family farm only to realize that the crops were gone, the beef cattle were gone and her mother's garden was gone. The crops were replaced by genetically modified ones. The beef cattle were now in large feedlots. Her vegetables had to come from foreign countries. Canadian farmers do not produce a great deal of our food. Canada has a $4 million food deficit.

In 2007, the book The 100-Mile Diet: A Year of Local Eating was published and people accepted the idea whole-heartedly. Webb realized that people wanted local food and were willing to pay for it. Farmers' Market began to be popular. Chefs wanted local Canadian ingredients for their menus. But, according to Ms. Webb, the local farmer was missing because of the economic challenges; they were going bankrupt or leaving the family farms. She stated that the average age of a farmer in Ontario today is 53. The way of the future is "environmentally sustainable farming". Clean farming practices reduce the cost to governments. Organic farming actually produces more food, meets the climate challenge and vitalizes rural communities. In referring to Hugh MacLennan's book Two Solitudes, she says today the two solitudes are not the English and French but the urban and rural; the city folks are disconnected to their food source, the farmer.

Ms. Webb feels that the large industrialized farmers are only concerned about their input costs and the yield so they use genetically modified seed, chemicals, drugs and growth hormones. They are not concerned about the taste of the food, or the damage they do to the environment or people's health.

Ms. Webb quoted a startling statistic: only 7% of the $1 that is spent for food is for the actual food; the rest is for the middlemen.

The city people and the farmers must work together to have local organic food. It will probably mean coming up with new ways and new models. According to the keynote speaker, farms in the future must be small, biodiverse and environmentally sustainable.

COMING EVENTS

- Wed., Jan.21/09 (a.m.) ***Algoma Soil & Crop Improvement Association*** will hold its Annual General Meeting at the Bruce Station Hall. Contact Harold Stewart (705-842-0392) for specifics.
- NEOSCIA will hold its ***43rd annual Conference & Trade Show*** on April 3&4, 2009, at the Earlton arena. Known locally as the Earlton Farm Show, this event attracted over 1400 people last year. Almost 90 vendors participated in the traditional Trade Show and the new Maple Syrup & Crafts Show. Farmers from ALL DISTRICTS are encouraged to participate in the Forage, Seed, & Potato Show.

Best Wishes for the Season

from the Northern Ontario Staff of OMAFRA

RESOURCES • E-Bulletin

Parry Sound, Nipissing, Sudbury East
Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA)
Northern Ontario Regional Office (NORO)
Toll Free: 1-800-461-6132
Fax: 705-594-9675

Please note that the target publication date of this bulletin is the first Friday of each month. Submissions for the bulletin and requests to subscribe/unsubscribe may be forwarded to: shanna.james@ontario.ca.

Upcoming Local Events:

1. 11th Annual Beef Industry Convention
January 8-10, 2009
Four Points Sheraton, London
Hosted by Ontario Cattle Feeders' Association

Visit *www.ontariocornfedbeef.com* for more information.

2. Sudbury Cattlemen's Association Annual Meeting
January 17, 2008
10:00 a.m.
Days Inn, 117 Elm St., Sudbury

3 East Nipissing Parry Sound Muskoka Cattlemen's Association Annual Meeting
January 24, 2008
10:00 a.m. – 3:00 p.m.
Magnetewan Friendship Centre, Magnetwean

Upcoming Provincial Events:

1. Southwest Agricultural Conference
January 6, 7, 2009. Ridgetown.

For more information, call 1-866-222-9682 / 519-674-1596 or visit: *http://southwestagconference.ca*

2. FarmSmart Agriculture Conference
January 17, 2009.
University of Guelph.

For more details, visit *http://www.uoguelph.ca/farmsmart*

3. Ontario Canola Growers Annual Meeting
January 22, 2009.
Nottawasaga Inn, Alliston, On.

Keynote Speaker, Dr. Andrew Schmitz, agricultural economist and author. For more information visit *www.ontariocanolagrowers.ca*

4. Managing Excellence in Agriculture Conference
January 28-30, 2009. Niagara Falls

Visit: www.farmcentre.com/EventsAnnouncements/Events/ManagingExcellence

5. Step Up to Leadership
January 30 – February 1, 2009

6. Ontario Soil and Crop Improvement Association Annual Meeting
February 3, 4
Sheraton Fallsview Hotel, Niagara Falls *http://www.ontariosoilcrop.org/*

7. Canadian International Farm Show
February 3-5, 2009.
International Centre, Toronto.

Visit: *http://www.canadianfarmshow.ca*

8. Skills to Grow Workshop
February 6-7, 2009. Guelph.

Visit: *www.tractionskills.ca*

9. Ontario Fruit & Vegetable Convention
February 18-19, 2009.
Brock University.

Visit: *http://www.ofvc.ca/*

10. Eastern Ontario Crop Conference
February 19, 2009. Kemptville Campus, University of Guelph, Kemptville.

11. Ontario Cattlemen's Association Annual General Meeting: "Close to Home"
February 25 - 26, 2009

DoubleTree International Plaza Hotel, 655 Dixon Road, Toronto.

12. East Central Farm Show
March 4-5, 2009 Exhibition building, Lindsay Fair Grounds, Lindsay

13. Ottawa Valley Farm Show
March 17-19, 2009.
Lansdowne Park, Ottawa.

Visit: *http://www.ottawafarmshow.com*

14. Agrisuccess Workshops

Farm Credit Canada (FCC) in partnership with Canadian Farm Business Management Council (CFBMC) will again offer workshops this winter to develop your skills in areas such as financial management and Commodity marketing Management.

PRE-REGISTRATION IS REQUIRED.

To find one near you and to register, call FCC at 1-888-332-3301 or sign up at *www.AgriSuccess.ca* or at your local FCC office.

Resources

1. New & revised publications

Available through Northern Ontario Regional Office @ 1-800-461-6132

Factsheets

1. Nutrient Management Act 2002, Site Characterization Study for the Construction of Permanent Nutrient Storage Facilities,
Agdex 729

2. Managing Commodity Price Risk Using Hedging and Options,
Agdex 840

E-Resources and newsletters:

1. Ontario Hay listings
http://ontariohaylistings.ca/

2. OMAFRA Environmental Management Newsletter,

http://www.omafra.gov.on.ca/english/nm/newsletter/emn.htm

3. OMAFRA Agricultural Business Update:

http://www.omafra.gov.on.ca/english/busdev/news/index.html#agbus

4. OMAFRA on Organic newsletter:

http://www.omafra.gov.on.ca/english/crops/organic/news/news-organic.html

5. OMAFRA Horse News and Views

www.omafra.gov.on.ca/english/livestock/horses/news.html

6. OMAFRA Website:

http://www.omafra.gov.on.ca/

7. Agricorp

http://www.agricorp.com/en-ca/news/dates.asp#dateID_445

8. ***OMAFRA Financial Resources and Support Services for Families***

Call: 1-800-461-6132 or pick up at the office in Verner.

New Business

1. Green Facts – Permit To Take Water - Adapted by Rebecca Shortt, OMAFRA Water Quantity Engineer

All Ontarians deserve access to a clean, safe and sustainable supply of water. To protect a sustainable supply, Ontario has the Permit To Take Water (PTTW) program to

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Women's Issues:
Rural Women's Health in Canada

Proposed Book Edited by: Beverly D. Leipert (University of Western Ontario), Belinda Leach (University of Guelph), and Wilfreda Thurston (University of Calgary)

We are preparing a proposal to develop an edited collection on rural women's health in Canada. The book is intended to fill the gap in published scholarship from a Canadian perspective. This volume will complement existing books from other countries, such as the United States, Australia, and England, thus providing an opportunity for comparative scholarship. The proposed book will provide information about: 1) the current state of rural women's health in Canada, 2) rural population health from rural women's perspectives, and 3) issues that must be addressed to ensure the well-being of rural women within the context of family, community and broader contexts. Our position is that rural women play a critical role in rural family and community health, and that the health of rural women has been a marginalized area of study. This book, by focusing specifically on the Canadian context, will provide direction for discussion of practices, policies, and scholarship that promote rural women's well-being. It will be of interest to an international audience in rural, gender, and health studies, to name a few.

The proposed book has four goals. It will:

1. Present a national perspective on the nature of rural women's health in Canada, while respecting and considering internal and regional diversity;
2. Demonstrate an inter-disciplinary and social determinants of health focus on rural women's health;
3. Form a basis from which to approach policy analysis and future research; and
4. Provide a resource for senior undergraduate and graduate students, faculty, health care practitioners, and policy makers.

We are currently seeking chapter proposals. We invite contributions that focus on the health of women in, for example, rural, remote, resource extraction, Aboriginal, Mennonite, maritime, and agricultural communities. We also welcome contributions that address theoretical, methodological or specific practice or policy issues. We envision the following sections:

1) Health Status – including statistics, epidemiological studies, and qualitative research that explore rural women's health, disease, and the determinants of health.

2) Health Issues – for example, access to health services, violence, participation in health policy development, rural women and empowerment, health promotion for rural women

3) Theory and methodology – innovative new and enriched established theories and research methodologies that enhance understanding and the study of rural women's health, rural gender, and diverse rural women's sub-populations.

Please submit:

1) A one page description of your proposed chapter, including a title and brief description of the content. All author names need to be included with the corresponding author clearly identified.

2) A half page summary of the first author's interest and experience in rural women's health.

Due Date: January 28, 2009 in electronic format to bleipert@uwo.ca

For copies of this proposal, see the following websites:

http://www.fmd.uwo.ca/ruralwomenshealth/index.htm

http://www.ucalgary.ca/gender

Cochrane SCIA Annual Meeting

The Cochrane District SCIA held its annual meeting at the Cochrane Legion Hall on the evening of November 26. 18 members attended. Dan Tasse of OMAFRA provided a slide show that outlined the results of the Cochrane District OAT field trial that has run for the past three years. Terry Phillips of the Temiskaming Ag-Centre spoke on the purchasing specifications of Quaker quality milling oats. Graham Gambles, Regional Communications Coordinator for NEOSCIA, presented a slide show from the Guelph head office that showed the direction that OSCIA has taken over the past year.

Elna Blackburn spoke briefly on the history of the Cochrane SCIA, and noted that 3 of the farmers who attended the inaugeral meeting of the organization in 1939 are still with us at Cochrane. Two of them are still farming, and are current members of the organization after 70 years! They are Andy Dodds of Clute and Hedley Blackburn of Hunta. Along with Honourary member Dave Hackett of Cochrane, (who retired 2 years ago) all three got their start on farm trials by growing half-acre plots of Chippewa Certified seed potatoes in 1939. Hackett was eventually crowned the Royal Winter Fair "Potato King" in the 1950's.

At its height of popularity, Cochrane SCIA boasted 87 members across the entire District in 1965. In 2009, the 70th year since formation, Joe Hoogenhoud will act as President with Cindy Squirrell filling the position of Secretary.

Attention Beef Farmers:

There is still money available under the Ontario Cattleman's Age Verification Program. You can qualify for $3.00 for each of your 2007 age verified calves and $5.00 for each of your 2008 age verified calves.

For More Details contact Deb Garner (705)563-2761, or dgarner@ontera.net

Also, if you haven't collected your $750 cost-share rebate from the Quality Starts Here-Verified Beef Program, the deadline is December 2008.

Temiskaming Crops Coalition (TSCIA) Annual General Meeting

Held at Earlton on Friday, November 28/08, this meeting attracted about 30 members. Among the highlights were a review of the Cochrane and Temiskaming summer field trials, included elsewhere in this issue. Wheat Board representative, John Vanderspank, gave a talk on wheat markets and the general outlook for 2009. Steve Kell of Parrish & Heimbecker spoke at length on the financial situation and markets for grains and oilseeds. A new board of Directors was elected, with the positions to be defined at the first meeting of the new team.

Sudbury District SCIA Annual General Meeting

Held in Hanmer on Nov. 27/08, this AGM attracted 18 members. OSCIA Provincial Director Murray Cochrane gave a summary of the organizations benefits and programs. OMAFRA rep Shanna James gave an outline on several government programs. Tamara Pasadowski from Laurention spoke on a study into Spanish River Carbonatite (enclosed in this issue).

Graeme Spires of MIRARCO spoke on the "Major Grant project", determining The Impact of Various Soil Amendments on Soil Quality & Crop Yields. He also presented a slide show on the Green Mines/Green Energy project that Mike Soenens of SDSCIA is participating in with VALE-INCO. A summary of the project is included in this newsletter.

Jim Found was elected president with Mike Soenens as VP. Mack Emiry was nominated to the position of Provincial Director for the North-East region of OSCIA. He accepted.

Thunder Bay Agricultural Research Station

Dr. Tarlok Singh Sahota CCA

High Yielding Crop Varieties 2008

Spring barley: Oceanic (6,057 kg/ha), Cyane (5,984 kg/ha) and Synabelle (5,979 kg/ha) in the OCCC performance trial. Both Oceanic and Synabelle are marketed by Semico Inc. and yielded lower than Cyane last year. Grain yield of Chapais (4,550 kg/ha) was below expectation and 1,434 kg/ha lower than that of Cyane. It is time to say Good Bye to Chapais!

In another trial, comparing eastern and western barley varieties, Cyane produced the highest grain yield of 8,344 kg/ha. Binscarth, a silage barley variety from Manitoba, was the second best at 6,721 kg grains/ha. Brucefield had the highest (8,087 kg/ha) silage yield followed by CDC Coalition (7,060 kg/ha) and Millhouse (6987 kg/ha) – a hulless two row food barley that equaled Chapais in grain yield.

- Hard Red Spring wheat: Batiscan (5,563 kg/ha), Waskada (5,265 kg/ha) and Sable (5,237 kg/ha) in the OCCC performance trial. Batiscan is distributed by Semican Inc. and Waskada by SeCan Association.
- Durum Wheat: Strongfield (4,268 kg/ha), western durum variety, was statistically at par in grain yield with Ontario's durum (Hallmark: 4,203 kg/ha) or hard red Sable (4,466 kg/ha).
- Winter wheat: Unlike previous years, a couple of hard red winter wheat varieties from Ontario (AC Sampson: 7,312 kg/ha and AC Morley: 6,384 kg/ha) left CDC Falcon (5,958 kg/ha) behind in grain yield this year!
- Winter rye: Dakota registered the highest grain (8,724 kg/ha; ~2,000 kg/ha higher than Ontario's Common No. 1) and biomass (~21,000 kg/ha) yield. Grain yields from AC Hazlet, AC Remington and Prima were close to/or higher than 8,000 kg/ha.
- Oats: Three new oat varieties, AC Morgan, AC Jordan (6,794 kg/ha) and AC Ronald, from the west, surpassed our standard variety (AC Rigodon that gave the highest grain yield, 5,080 kg/ha, in the OCCC oat performance trial) in grain yield.
- Soybean: RR Rosco (1,822 kg/ha) followed closely by T54002R (1,683 kg/ha). Considering both the forage yield at green pod stage and the protein content, 90M01 could be the best variety for soybean forage production (~7 tonne dry matter yield/ha with 15-16% protein)!
- Field pea: Polstead produced the highest grain yield (6,000 kg/ha) followed by Sorento (5,887 kg/ha). CDC Tucker and Fusion had nearly 5,500 kg/ha grain yield. Field pea could be a good addition to the cropping systems in the Thunder Bay district!
- Galega: improved its yield over time and equaled 95% of alfalfa yield this year.

More information will be available in the TBARS Annual Report 2008! Become a member to get a free copy of the report and also a couple of other publication!!!

OSCIA News…

November 2008

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

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Ontario Soil and Crop Improvement Association
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Web site: http://www.ontariosoilcrop.org

OSCIA 2009 ANNUAL MEETING

Date: February 3 & 4, 2009
Place: Sheraton Fallsview Niagara Falls

Message from the President

Pat Lee

The September meeting with the Regional Communications Coordinators in southern Ontario was as successful as the previous meeting held in Kingston in July. A lively exchange of ideas and discussion of responsibilities took place.

I can report that all regions are in the process of selecting their provincial Directors to attend the OSCIA Annual Meeting in February. The Executive are in the process of completing arrangements for this event.

We wish to congratulate this year's county winners of the Ontario Forage Masters program. The final competition is being held in conjunction with the Royal Agricultural Winter Fair in Toronto. The Ontario Forage Master's final competition is sponsored by Pickseed Canada, Agri-Food Laboratories, Dey's Equipment Centre (Tillsonburg), and the OSCIA.

The Board of the OSCIA is pleased to congratulate Brent Kennedy on his promotion from Manager of Agricultural Development Branch of OMAFRA to Director of their Client Services Division.

Brent sat on the OSCIA board for close to ten years in an ex-officio capacity. His extensive knowledge of the Association and its activities was apparent in the guidance he provided. The board will certainly miss the support and counsel that Brent brought to the table. We wish him well in his new role.

Seed Fair Grants are available to local associations for the fall and winter of 2008/2009. Ten grants are available on a first-come, first-served basis for those associations who have a firm date set for the event.

This year's corn harvest is well under way following a bountiful soy crop. Soil and Crop projects will soon be completed for this year, and results tabulated.♦

Local Annual Meetings

Need a gift idea for your local annual meeting? What about an OSCIA vest and matching hat?

Double-sided fleece vests with the OSCIA logo embroidered, and embroidered OSCIA hats are available for your local association to use at upcoming winter meetings as gifts for a special member or speaker, or as fundraising items at upcoming local annual meetings. Also available are OSCIA member gate signs, Tru-Chek rain gauges, and copies of the 2008 Crop Advances books highlighting results from all the 2008 OSCIA / OMAFRA trials across Ontario.

These items are available to local and regional associations on a cost-recovery basis by contacting the provincial office.♦

Promote Your Local Association

OSCIA has four new stand-up displays that highlight the grassroot involvement, membership, and activities of local Soil and Crop Improvement Associations.

These displays work well as a group, and can also be very effective when displayed individually.

This item can be provided to local and regional SCIAs by contacting the provincial office.♦

Visit the OSCIA website
www.ontariosoilcrop.org

2008 Ontario Forage Masters Program

The presentation for the 2008 Ontario Forage Master will take place on November 12. Watch for results on the OSCIA website. In the meantime, the top three winners of each county can be found at www.ontariosoilcrop.org, under the Forage Masters menu.

The person selected as the ***2008 Ontario Forage Master*** will represent Ontario at the Forage Spokesperson Competition held as part of the American Forage and Grasslands Council conference in June 2009 in Grand Rapids, Michigan.

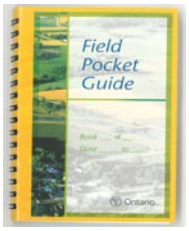
Once again, OSCIA is grateful to the generous sponsorship of this program from the following sponsors:

Special thanks to Dey's Equipment Centre of Tillsonburg for their sponsorship of the final competition.♦

Field Pocket Guide

Thank you for your feedback!

The Field Pocket Guide is currently distributed free of charge to producers who visit OSCIA displays at regional agricultural conferences, as well as at EFP workshops that are held across the province.



This Fall, your feedback was invited to ensure that it continues to suit your needs. Thank you for your comments. A draw was made from the names of contributors, and on October 10th, the prize of a $50 gift card was awarded to Larry Davis from Burford.

Look for a new and improved 2009 version coming soon!

Nutrient Management Outreach Grant

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

Up to $4,000 per project is available on a first-come, first-served basis to support these activities.

All regional SCIAs are encouraged to take advantage of this opportunity.

Complete details were distributed at an earlier date, and are yet available, along with application forms, on the OSCIA website www.ontariosoilcrop.org.

Get your members involved!♦

Nutrient Management BMP Demonstration Grant

OMAFRA has allocated funding to promote innovative demonstration and validation field projects related directly to improving the management of nutrients on

agricultural lands, and targeting any producers not regulated by the NM Act.

To date, half of the funding has been allocated for approved projects:

- Exploring the NM Ramifications of ESN Nitrogen Fertilizer in Winter Wheat Production - Middlesex SCIA
- Manure on Pasture: Getting It Right - New Liskeard Agricultural Research Station
- Demonstrating Agronomic Efficiency, Apparent Nutrient Recovery and BMP in Sweet Potato, Asian Vegetables, and Broccoli - Simcoe Research Station
- Vegetated Filter Strip Monitoring Project - Upper Thames River Conservation Authority
- Greenhouse Water Run-off Recycling and NM - Soil Research Group

A total of ten grants were made available.♦

Cover Crops Conference

The Midwest Cover Crop Council (MCCC) is a diverse group of farmers, researchers, extension, and agri-business personnel. MCCC evaluates cover crops for: adaptation into all types of crop rotations, impact to producers bottom line, and environmental improvements.

For more cover crop information and relevant publications, visit the Council's website at http://www.mccc.msu.edu/.

The MCCC will be hosting a meeting in Windsor ON on February 10-11, 2009. For more information on the conference, please contact Anne Verhallen, OMAFRA Soil Management Specialist, Horticulture (anne.verhallen@ontario.ca or phone her at 519-674-1614).♦

OSCIA Grant Deadlines

The deadline for local and regional associations to submit their claims for association grants is November 30, 2008.

Local and regional associations are encouraged to submit applications (claims) for projects that are complete.♦

OSCIA Awards

Soil and Water Conservation Farm Award:
The purpose of this award is to recognize, reward, and acknowledge farmers who practice excellent soil and water management on their farms, as well as provide high profile to the basic principles of conservation. This is a resin all-weather sign measuring 16" x 19".

Recognition Certificate: This certificate is designed to recognize individuals in your community who have contributed to the organization. When requesting the certificate, please indicate the recipient's name and date of presentation. This is a paper certificate, suitable for framing, measuring 8½ " x 11".

These awards are ideal for presentation at annual meetings. Both are available by calling Evelyn Howse at the provincial office (1-800-265-9751). Please allow 2 weeks for preparation and shipping time.♦

Bioenergy & Manure Management-Related Information

Visit http://gis.lrs.uoguelph.ca/AgriEnvArchives/bioenergy/bioenergy.html

Check it out!

Agriculture in Action

Business, livestock and crop specialists in the Agriculture Development Branch of OMAFRA work diligently to advance the many facets of agri-business in Ontario. Highlights of numerous initiatives undertaken in 2007-2008 are presented as a resource guide in Agriculture in Action, Agriculture Development Branch Research and Programs.

New and existing members of OSCIA may not be aware of the breadth of information and resources available for their use.

Check out the website at http://www.omafra.gov.on.ca/english/ag.html.♦

THE FARM LINE

Last January, OMAFRA announced a one time grant to The Farm Line Support

Service to assist the agricultural community with the crises affecting the pork, beef, tobacco, and horticultural sectors. This groups Board of Directors has embarked on a significant exercise in strategic planning, board restructuring, and developing an improved communications plan. As part of this process, the board has hired Shirley Munro as the new manager. The next step will be a round table discussion among agricultural representatives, related service providers, and representatives of the Ontario Farm Women's Network. Call Shirley at 1-613-264-8175 or e-mail to manager@thefarmline.ca

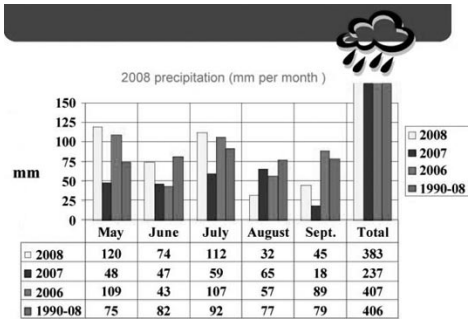
2008 Temiskaming Crops Coalition Annual Report

Prepared by; Daniel Tassé OMAFRA New Liskeard

Summer of 2008 ….days without rain!

May 14 days without and 17 with rain June 7 days without and 23 with rain July 10 days without and 21 with rain August 16 days without and 15 with rain September 13 without and 17 with rain

Source: Environment Canada- Earlton site



	May	June	July	August	Sept.	Total
2008	120	74	112	32	45	383
2007	48	47	59	65	18	237
2006	109	43	107	57	89	407
1990-08	75	82	92	77	79	406

Source: weather data NLARS /Environment Canada Earlton site

	2008	2007	2006	2005	2004	
May	145	270	373	281	202	
June	546	538	502	610	464	
July	478	598	644	606	622	
August	525	566	541	634	525	
Sept.	*	163	121	369	280	
Total	2,151	2,135	2,181	2,500	2,093	

*up to September 18th 2008 due to a killing frost

Soure:www.farmzone.com

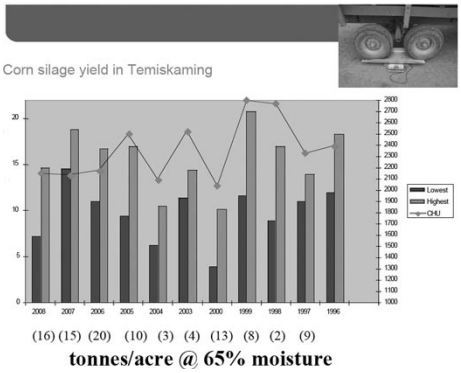
**note: May 1 to first <-2.0 °C*

2008 Corn Silage Plots at RayGill

- Field history; 2007 corn, 06 hay
- Tile drained at 50ft perpendicular to plots
- liquid manure @5,000gal/ac
- Soil test (May 08)
- pH 7.5
- Phos 67 NR, potassium 338NR
- No starter fertilzer
- 100lbs of 46-0-0
- Seeded May 29th
- Herbicide applied July 4th

- Herbicide applied July 4th by Temiskaming Ag Center
- Corn plants were at the 8 leaf stage= limited selection and probably some yield loss
- Herbicides;
  - Accent 13g/a
  - Pardner @.4L/ac
  - Ag Surf 1L/1000 of spray
  - Aatrex (480) @ 300ml/ac

Thanks to Temiskaming Ag Center



2008 Temiskaming Grain-corn at Kevin Runnalls

- Seeded: may 16th, 2008
- Herbicide program: conventional
- Harvested: October 28th ,2008
- Weighed with Temiskaming Crops Coalition Weigh wagon
- Moisture and bushel weights from Temiskaimg Ag Center .

Corn Plots at Kevin Runnalls

Hybrid	Moisture	Yield @ 15.5%	Bushel weights
Pickseed 2230 check #1	48%	2,232 lbs or 40 bushels	43 lbs /bus
Pickseed 2240	53%		45 lbs /bus
Elite 20T18RR	50%		47
Elite 46T07RR	51%		50
Pickseed 2230 check #2	45%	2,783 lbs or 50 bushel	46
NK N06-C1	55%		43
Pioneer 39B93	47%		43
Pride A4001	46%		45
Pickseed 2230 check #3	46%	2,650 lbs or 47 bushels	45
Maizex 130	45%		44
Maizex 1266BT	46%		45
Dekalb 27-45	54%		47
Dekalb 27-79	45%		47
Pickseed 2230 Check #4	43%	3,802 lbs or 68 bushels/ac	47
Pickseed 2230 at 15 in spacing	41%		47

Herbicides evaluation at Bert Jibb

- Evaluate 9 herbicides for the control of cleavers in cereal crops
- Project was in cooperation with Mike Cowbrough (OMAFRA) and Peter Sikema (RCAT)
- 7 and 28 day visual evaluation for weed control and crop injury

Herbicides evaluation at Bert Jibb

- Field info:
- Winter wheat Ac Harvard
- Seeded Sep 18th 07
- Fertility ; 150 lbs 46-0-0 (spring)
- Herbicide application rest of the field; Refine xtra May 24th 08
- Herbicide applied to plots; June 3rd,08

Crop stage; flag leaf Zaddock 39

Herbicides evaluation at Bert Jibb

Treatment	Crop injury (9 days)	Weed control (28 days)	Crop injury (28 days)	Weed control (60 days)	Observations
1) No treatment	None	None	None	None	Sticky cockle and cleavers infestation
2) 2,4-D ester	None	Poor – not controlled	None	Poor	
3) MCPA ester	None	Poor – not controlled	None	Fair	
4) Target	Slight < 5%	good	Plants shorter	Excellent	Wheat plants are stunted / shorter
5) Estraprop	Slight < 5%	good	None	Excellent	
6) Lontrel	None	Poor – not controlled	None	Poor	
7) Buctril M	None	Poor – not controlled	None	Poor	
8) Refine M	Moderate 15-20%	good	Plants are shorter	Fair	Wheat plants are stunted / shorter

Thank you to the 2008 cooperators

- RayGill Farm c/o Raymond and Gilles Plante
- Kevin Runnalls
- Bert Jibb
- Ferguson Farms c/o Kevin Pratt

Thank You also goes to the

- Temiskaming Crops Coalition
- the seed suppliers
- Temiskaming Ag Center
- New Liskeard Ag Research Station

2008 Temiskaming Corn Silage Plots at Raygill Farms c/o Raymond and Gilles Plantes New Liskeard

Supported by: Temiskaming Crop Coalition — Prepared by: Daniel Tassé, OMAFRA New Liskeard

Seeded May 29th, 2008 | Harvested: October 22th-23rd (145 days after seeding) | Killing frost was on September 18th

Final plant population: 30,000-32,000

				Feed Analytical Report from Agri-Food Lab / NIR20 + Milk 2006					
Hybrids	***Corn eeat unit rating***	***Moisture at harvest***	***Yield adjusted at 65% moisture***	***Protein % DM***	***ADF%***	***NDF%***	***TDN5***	***Net Energy of Lactation MCAL/kg***	***Milk per acre***
	CHU	***%***	***Tonne/Acre***						
1) Maizex MZ 130	2,300	63.1	10.49	8.86	22.5	43.67	69.61	1.57	1579.00
2) Dekalb 27-44 check #1	2,200	61.10	12.31	8.34	26.48	45.45	67.39	1.52	1418.00
3) Dekalb 27-32	2,175	59.58	12.27	9.12	23.49	43.39	69.06	1.56	1515.00
4) Dekalb 2,350	58.09	11.04	7.99	23.03	41.10	69.31	1.57	1525.00	
5) Elite 46T07	2,300	65.53	*9.8	9.21	21.65	46.30	70.08	1.59	1612.00
6) Dekalb 27-44 check #2	2,200	61.30	12.35	8.46	22.07	47.18	69.85	1.58	1515.00
7) Elite Focus	2,200	n/a	10.24	n/a	n/a	n/a	n/a	n/a	n/a
8) Pioneer 39B90	2,200	59.91	14.24	7.84	22.94	46.65	69.36	1.57	1525.00
9) Maizex 1766	2,300	63.77	12.22	8.40	24.60	48.17	68.44	1.55	1547.00
10) Dekalb 27-44 check #3	2,200	61.71	11.57	8.73	24.08	46.34	68.73	1.55	1525.00
11) TMF 2N055	2,300	65.76	13.21	9.83	29.34	49.69	65.80	1.48	1257.00
12) NK N05-C	2,250	59.94	12.72	9.06	23.10	42.49	69.27	1.57	1450.00
13) Pickseed 22-72	2.275	58.40	13.72	8.30	22.48	44.25	69.62	1.58	1515.00
14) Dekalb 27-44 check #4	2,200	60.81	13.16	8.55	24.24	42.22	68.64	1.55	1515.00
15) Pickseed Silex BT	2,300	61.82	14.67	9.63	22.08	45.46	69.84	1.58	1547.00
16) Pride A4741	2,300	63.20	7.27	7.92	28.55	49.20	66.24	1.49	1418.00
Average of Check #1, #2, #3, #4			12.35						
Range (10%)			11.11 - 13.58						
Plot variavility within suitable limits			Yes						
Average of all hybrids		61.60	11.34	8.68	24.04	45.44	68.75	1.55	1495.53

One load of each hybrid was weighed with the axle scales repesenting 9,660 square feet or .222/ac
The length of the field was measured for each of the 4 check hybrids

*Notes: bear and raccoons damage were more prominent in the Elite 46T07RR plots (+/- 10% damage)

2008 Cochrane oat plots

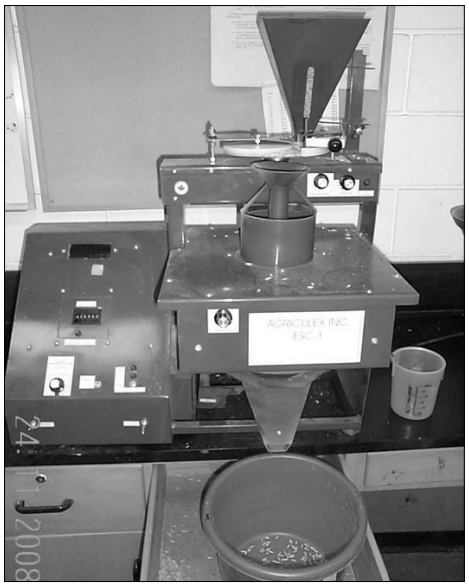
- The objectives of this project; to evaluate different seeding rates of oats and their impact on yield and quality

1. lower seeding rate: target 200plants/m2 (or 800,000 seeds/ac)
2. medium seeding rate: target 250 plants/m2 (or 1M seeds/ac)
3. higher seeding rate: target 300 plants/m2 (or 1.2Mseeds/ac)

OMAFRA recommendations between 200-300 plants/m2

We also split the plots in two to evaluate 2 nitrogen rates; lower rate 45lbs and higher rate 65lbs of actual N

Seed size information



- AC Rigodon 22,049 seeds/kg and 45.5 grams TKW
- Triple Crown 26,693 seeds /kg and 37.5 grams TKW
- OAC Markdale 21,758 seeds /kg and 41.6 grams TKW
- Lachute 20,448 seeds/kg and 44.5 grams TKW

** This information is useful before you seed not too much after the work is done!*

Recommended seeding rates

Variety	Seeds /lbs	Low (800,000/ac)	Med (1,000,000)	High (1,200,000)
AC Rigodon	10,022	100lbs/ac	120lbs/ac	140lbs/ac
OAC Markdale	10,879	90lbs/ac	110lbs/ac	130lbs/ac
Triple Crown	12,084	80lbs/ac	100lbs/ac	120lbs/ac
Lachute	10,224	90lbs/ac	120lbs/ac	140lbs/ac

Field variability
Adjusted to a moisture level of 13.5%

Treatment	Higher N rate Yield per acre
AC Rigodon 110 ck1	2,258 lbs or 1.02T
OAC Markdale-110	2,703 lbs or 1.23 T
Triple Crown – 110	2,703 lbs or 1.23 T
Lachute – 110	2,661 lbs or 1.21 T
Ac Rigodon- 110 ck2	2,854 lbs or 1.29 T
AC Rigodon -120 lbs	3,145 lbs or 1.43 T
OAC Markdale -120	2,722 lbs or 1.23 T
Triple Crown – 120	2,845 lbs or 1.29 T
Lachute- 120	2,517 lbs or 1.14 T
AC Rigodon 110 ck3	2,855 lbs or 1.29 T
AC Rigodon- 130	2,614 lbs or 1.18 T
OAC Markdale-130	2,473 lbs or 1.12 T
Triple Crown- 130	2,642 lbs or 1.20 T
Lachute- 130	2,462 lbs or 1.17 T
AC Rigodon 110ck4	2,467 lbs or 1.12 T
Average of plots	2,608 lbs or 1.18 T

Average of the 4 checks = 2,608 lbs

+/- 10 % variability is acceptable

Therefore

90% of 2,608= 2,347 lbs

110% of 2,608= 2,868 lbs

Seeding rates - conclusion

- Most of the seeding rates were above the OMAFRA / research recommendations
- seed cost per acre were higher
- no yield advantage to increase seeding rate. The plots confirmed that we should aim at the 800,000 – 1,200,000 seeds per acre for the best economical yield.

Nitrogen rates -conclusions

- Cost of Nitrogen $612 per tonne ($15.27/bag) for 34-0-0 2,205 x 34% = 750lbs actual N = $.82/lb
- **Higher rate200lbs** of 34-0-0= 68lbs of N, cost $56/acre average yield was 2,608 lbs
- **Lower rate was 130lbs** of 34-0-0 = 45lbs of N, cost $37/ac Average yield was 2,001 lbs

Conclusion: extra N cost $19 per acre more for an additional yield of 607 lbs. If oats are trading at $245 per tonne ($.11/lb) = $66/ac -$19 fertilizer = ***net $48/acre***

Quality ? Excellent!

Variety	Grade	Average moisture at harvest %	Average bushel weight
AC Rigodon	#2	15.3%	45lbs
OAC Markdale	#2	15.6%	44lbs
Triple Crown	#2	15.6%	43lbs
Lachute	#2	15.4%	43lbs

Standard test weight for oats; 34lb/bu at 13.5% moisture

Canola Plots at Ferguson farms

- Field information:
- 45 acres tilled at 50ft
- 2-4 acres plots
- 2007 wheat, chiselled plowed
- pH 7.4, phosphorous 35, potassium 137, Magnesium 526
- Seeded with 20' great plain with 5gal/ac 6-24-6 Alpine
- 200 lbs of 46-0-0 at seeding
- 100lbs of ammonium sulphate applied June 9th

Canola Plots at Ferguson farms

	Dekalb 71-45RR	Dekalb 72-55RR	Dekalb 71-25RR
Plot size	4 acres	4 acres	37 acres
Seeding date	June 7th 2008		
Herbicide	1/2 litre Round-up June 24th		
Swathing date	September 11th		
Combine date	October 13th		
Yield (adj. @10%)	2,150lbs	2,048lbs/ac	1,771lbs/ac
Moisture at harvest	11.3%	9.6%	10.2%
Dockage	2.9%	1.4%	3.9%
Test weight	50.2lbs/bushel	51.4lbs/bushel	51.7 lbs /bushel

ALGOMA CANOLA YIELD

Certified Crop Advisor Terry Phillips reports that Desbarats grower Paul Oikari undertook a Canola trial this past summer with three Dekalb products. The results are as follows:

Dekalb 71-25: 1.333 mt/ac (2933.33#/ac)

Dekalb 72-55: 1.360 mt/ac (2992.47#/ac)

Dekalb 71-45: 1.290 mt/ac (2838.71#/ac)

In all three cases, yields were recorded on harvested strips measuring 28' X 578' (.372 ac). For more information, contact Paul at 705-782-6823.

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.omafra.gov.on.ca

Additional Information from OMAFRA

Cropline 1-888-449-0937

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

Fertilizer, Fall or Spring?

by Keith Reid, Soil Fertility Specialist, OMAFRA

Applying fertilizer as close to the time the crop needs it generally provides the greatest benefit. The longer the fertilizer sits in the soil, the greater the chance it will either be lost to the environment or get tied up in less available forms. There are exceptions, however, where the advantages of fall application out-weigh the risks.

Time Availability

Time availability is one of the chief advantages of fall application. There is never enough time in the spring. Applying the fertilizer in the fall could mean getting the crop in two or three days earlier.

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'Aromatic Gold' – How to Take a Sample to Determine Value of Manure

by Christine Brown, Nutrient Management Lead, OMAFRA

One of the least sought-after tasks on the farm, manure sampling, is also one of the most profitable!

Manure supplies nutrients for crop growth, organic matter for soil conditioning, and decreases the need to purchase off-farm nutrients. Manure analysis will give a tangible depiction of the amount of nutrients available.

The nutrient content of each type of manure will vary, depending on livestock genetics, feed ingredients, type of bedding, and the amount of washwater or other liquids. These factors affect the amount of N, P and K in the manure.

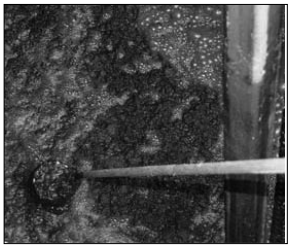
Samples, especially of liquid manure being applied to a corn crop, can be separated by storage or by field. The nutrient concentration can vary from top to bottom, depending upon the uniformity of agitation. Phosphorus is generally higher in the solids portion of manure, while potassium is generally higher in the liquid portion. Ammonium-nitrogen is highest in the liquid portion.

A manure storage should be sampled each time the storage is emptied for several years, until the results are consistent. This will also help create a database of the nutrient content generated in your farm operation.

Analysis should include total nitrogen, ammonium-nitrogen, phosphorus, potassium and dry matter content. Copper and zinc analysis are also useful for operations supplementing these micronutrients in the ration.

How to Sample Liquid Manure

1. Agitate manure storage thoroughly



2. Collect random sub-samples of manure from various depths in the storage.

3. The sample should take place while the storage is being emptied (i.e. every 10 loads or every 30-60 minutes from a drag hose pump)

4. Use a clean plastic pail to collect samples.

5. Mix 10-20 sub-samples thoroughly in a larger pail and transfer a small sample to a plastic jar (supplied by laboratory). Fill jar only half full to allow room for gas buildup. Store in a cool place until sending the sample to the lab.

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Fertilizer, Fall or Spring?

continued from page 13

Application equipment is also more available in the fall. However, you should check the equipment over carefully when you get it. Most blenders do equipment overhauls during the winter, so during the fall the spreader will have had a full season of hard use since the last thorough going-over.

Price & Tax Implications

Fertilizer price savings from fall application are much more difficult to predict, particularly this year. Last fall, the market signals all pointed to significant price increases over winter. This year, the signals are much less clear. In any case, you can manage the tax implications by pre-paying fertilizer for spring application, rather than taking delivery now.

Potassium

Potassium can benefit from fall application on light textured soils which are no-tilled, by allowing winter precipitation to move the potassium down into the root zone. Where very high rates of K are being applied on sandy soils, as might be the case for processing tomatoes, fall application can reduce the risk of salt injury to the crop by allowing the chloride to leach over winter. In heavy clay soils, there can be some tie-up of potassium between the clay layers, and fall application allows more time for this process to occur.

Phosphorus

Phosphorus immediately begins to react with minerals in the soil to form less soluble compounds. On a high testing soil where you are applying nutrients to maintain soil test rather than for immediate crop response, this is not a problem because the tie-up is balanced by the release of previously applied phosphorus. However, on very low testing soils and if the fertilizer is broadcast, by the time crop growth begins next spring most of the fertilizer you applied could be tied up in unavailable forms. Banding to reduce the contact with the soil would help to reduce the rate of tie-up. However, if you are going to the trouble of banding P, it may as well be applied as a starter.

Of course, there will be some loss of both phosphorus and potassium if soil is eroded off the field.

Nitrogen

The one nutrient where the risks of fall application clearly outweigh the benefits is nitrogen. With Ontario conditions, there is too much risk of N loss over winter for this practice to be economically or environmentally acceptable.

There is no single correct answer as to whether you should apply fertilizer this fall. You will have to balance your own factors in making the final decision

Is That Fertilizer a Good Deal?

by Keith Reid, Soil Fertility Specialist, OMAFRA

It looks like we are heading into a year of volatility in the fertilizer markets, which will mean growers are looking for pricing opportunities. It is easy to do price comparisons when you are comparing the same product from different suppliers, but comparing two different products is not as straightforward.

Convert To Price Per Unit of Nutrient

The solution is to convert the price per tonne (or per litre) into a price per unit of nutrient.

The math is pretty simple with a hand calculator as long as you know the price per unit weight of the material, and the fertilizer grade. For example, you know that the local price for urea is $920/tonne, and you find a supply of ammonium sulphate (210-0) for $500/tonne. The price per tonne is attractive, but should you buy?

$$\frac{\text{Price per tonne of material}}{\text{Fertilizer grade X 10}} = \text{Nutrient Cost (\$/kg of nutrient)}$$

By this calculation, the nitrogen from urea will cost ($920/460) = $2.00/kg. Using the same calculation, the ammonium sulphate will cost $2.38/kg, so urea is still a better buy. If you are more comfortable dealing with imperial units, simply divide the prices per kilogram by 2.2 to get the price per pound.

Liquid Fertilizers

Liquid fertilizers, particularly starters, are a bit more complicated, since they are often priced by volume so the specific gravity (density) of the material needs to be considered. To determine the price per kilogram of nutrient in a liquid, divide the price per litre by the liquid density multiplied by the percent nutrient in the material.

$$\frac{\text{Price per litre of material}}{\text{Density (kg/l) X Fertilizer Grade/100}} = \text{Nutrient Cost (\$/kg of nutrient)}$$

Price per litre of material Nutrient Cost ($/kg of Density (kg/l) X Fertilizer = nutrient) Grade/100

A 6-24-6 liquid fertilizer is priced at, for example, $1.50/litre. Density of liquid fertilizers can be found in OMAFRA Publication 811, Agronomy Guide, or at www.omafra.gov.on.ca/english/crops/ pub811/2fertmat.htm#table228. The density of this fertilizer is 1.329 kg/litre, so the price of the phosphate in this fertilizer is $4.70/kg. Using the calculations above for granular fertilizer, the phosphate from MAP at $1500/tonne is 2.88/kg. The MAP is obviously the more economical nutrient source in this example.

It is a good idea to run through these calculations when approached by someone making you an offer you cannot refuse. Some simple math can reveal that in the end you are not getting that good of a deal for what you are buying.

(modified from an article by David Henry and Robert Mullen that originally appeared in the C.O.R.N. Newsletter)

Canola BMP Trial - Raising the Yield Bar

by Brian Hall, Canola & Edible Beans Specialist, OMAFRA

Sharp increases in production costs have farmers looking for ways to squeeze every bushel they can out of their crops. To pave the way to higher canola yields, the Grey Soil & Crop Improvement Association in conjunction with the Ontario Canola Growers launched a canola Best Management trial in 2008. Foliar fungicide was tested alone and also in combination with boron and insecticide.

Fungicide, Boron & Insecticide Applications?

Boron is of interest to canola growers because canola requires more boron than other field crops. The University of Guelph reported a significant response to boron in 2007 trials. Insecticide application at flowering has improved yields in years when high populations of seedpod weevil and/or tarnished plant bugs have occurred. Plots were monitored for growth, nutrient deficiencies, and pests. Soil and tissue samples were collected and results are being analyzed.

The average yield achieved by co-operators was an incredible 2,583 lb/acre (2,935 kg/ha), with several co-operators breaking yields of 3500 lbs/ acre (3,977 kg/ha)! Canola yields improved only slightly with increasing inputs.

2008 Canola Best Management Trial, Grey SCIA & Ontario Canola Growers

Location	Yield lb/acre			
	Check (no treatment)	Proline	Proline + Boron	Proline + Boron + Matador
Alliston	1870	1765	1752	1940
New Liskeard	2264	2251	2196	2164
Owen Sound	3221	3445	3555	3470
Grand Valley	2718	2708	2649	2718
Sturgeon Falls	2842	2791	3048	2993
Palmerston	2549	2609	2684	2671
Durham	2360	2339	2412	2388
Meaford	3036	2989	3253	3166
Chatsworth	3158	3410	3535	3343
Average Yield lb/ac	2583	2592	2640	2657
Yield Increase vs check (lbs/ac)		9	57	74
$/ac Return over Check		-31	-22	-21

1.0 lb/ac = 1.136 kg/ha

No Economic Benefit

None of the treatments increased $ returns over the check treatment (no foliar application). Sclerotinia (white mould) was present in all plots at moderate levels. Visual differences were evident between the check (no foliar application) versus those that received a fungicide application. Surprisingly though, fungicide treatment only improved returns at 2 (Owen Sound, Chatsworth) out of 9 sites. It is not clear why the fungicide did not improve yields more, given that there was significant sclerotinia pressure. One reason may be that sclerotia levels in the soil were very low following several years of low pressure and the disease did not gain a foothold until later in the season.

No Significant Yield Improvements

The addition of boron or insecticide did not significantly improve yields. Populations of seedpod weevil and plant bug were low in 2008.

This highlights the value of a scouting program and using thresholds to make decisions on product application.

Canola growers definitely had weather on their side this year, with moderate temperatures and adequate (or too much) rainfall combining to produce record canola yields. Overall, results of the trial showed little benefit to any of the treatments this season, but what about next year?

Is Biomass Heat a Future Enterprise for Your Farm?

by Ian McDonald, Applied Research Coordinator, Field Crops, OMAFRA

The Show Me Energy Co-operative (www.goshowmeenergy.com) in Centerview, Missouri, was toured in early October by Scott Banks and Ian McDonald, OMAFRA, along with Dr. Bill Deen and Ken Janovicek, from the University of Guelph. What the Show Me Energy Co-operative is accomplishing is a bright example of how farmers and rural communities can seize opportunities to benefit from the emerging bioeconomy.

Biomass Pelletization Plant

At the Co-operative, 400 producers have each invested a minimum of $2,500 to build a biomass pelletization plant. Approximately $8 million was capitalized to build the plant with the capacity to process 150,000 tons per year of biomass into pellets. The plant was started in May 2007 and shipped its first pellets in July 2008. Members are on track to recoup their investment by the end of the second year.

Two qualities of pellets are produced at the plant. The pellets for the home owner market are bagged in 40 lb (18 kg) plastic bags. A more industrial pellet product is shipped in bulk or in large totes. Customers include home owners and small businesses who have installed pellet stoves, furnaces or boilers alone or in tandem with their current heating system, to reduce their heating costs. Larger customers include a University that has installed large biomass burners for their campus heating system. An electrical utility is also purchasing pellets to co-fire with coal to produce electricity.

The Show Me Co-op has some very forward thinking and shrewd people on their Board. They are planning to develop a company that can sell the concept as a turn-key operation to other farmer groups throughout North America.

Feedstocks

The Co-op only accepts biomass from its members. Members can deliver any biomass source, but are obligated to tell the plant what the biomass is and deliver it to the plant as required. Any biomass shortfalls are made up by out-sourcing. Typical feedstock includes poor quality round bale hay, grain, soybean straw, corn stover, and seed cleanings. The members are getting $70 per ton plus delivery. The most interesting off-farm source of biomass received was ground up currency from the US Federal Reserve. The members are all located within 80 miles of the plant, but a much closer radius of biomass supply would support the plant.

Processing

The biochemistry of the feedstocks has been studied to enable recipes to be made from the different feedstocks available that will produce the pellet quality they are targeting. Three large coverall sheds are filled with different types of biomass. Each has a large hopper at the end that is kept full by a front end loader. The hay is processed through a grinder and blower system. The control room can meter the volumes of various feedstock sources to the mixer. This ensures that the right volumes of the various materials come together to give the consistency of feedstock into the pelletizers in order to form the best pellets possible. Two big Swedish pelletizers, each driven by two 200 hp electric motors, extrude the pellets.

Sustainability

Another very positive aspect of the Co-op is their philosophy on sustainability. They believe the health of the land is critical to the long term sustainability of their enterprise. They are working with the University of Missouri to determine the level of residue removal from the fields that is sustainable. Considerations include feedstock type, soil type, and topography. The members are required to sign a contract ensuring a specified level of residue cover on their fields is maintained. Checks are made by the Co-op to ensure members are adhering to their commitment.

Opportunities

Heating requirements for buildings and hot water across Ontario are huge. Solid fuels could be used to meet these heating needs by creating farm and farmer Co-op based enterprises within local and regional communities. Some Ontario farmers are already looking at these types of markets to broaden their farm enterprises. With the high level of need in rural communities alone, there is a great opportunity to expand the pelleted biomass fuel concept across Ontario.

Bio-Energy Crops Research

by Ian McDonald, Applied Research Coordinator & Scott Banks, Alternate Crops Specialist, OMAFRA

Various crops are being looked at around the world as a source of "green" energy. In North America, the most immediate use of these crops is for burning to heat greenhouses and homes. Research continues to search for a significant breakthrough in developing cost effective technologies to convert biomass crops into ethanol through cellulose ethanol production.

The main bio-energy crop species being looked at are switchgrass and miscanthus (x giganteus). Both these grass species are warm season grasses. Switchgrass has a very small seed and is slow to establish. Miscanthus is a sterile hybrid, so it must be propagated by planting underground stems, called rhizomes. Establishing a stand with rhizomes is relatively expensive compared to planting seed. Once established, both switchgrass and miscanthus are productive for more than 10 years.

We recently had the opportunity to tour a couple of research stations in the United States that are researching different bioenergy crops.

Michigan State University

Michigan State University researchers are looking at establishment of switchgrass with and without a companion oat crop. The objective is to look at the potential of having an oat forage crop to harvest in the establishment year when there is normally very little switchgrass yield to harvest. The switchgrass establishment success will be compared to direct seeded plots to determine the impact of the companion oat crop on switchgrass establishment.

Another researcher is comparing a one- versus two-harvest switchgrass system per year to evaluate the total biomass yield potential and quality for burning or cellulose ethanol production.

A third research project is researching the yield response to various nitrogen rates under both switchgrass harvest systems to determine the most economical nitrogen rate.

University of Illinois

Illinois State University is researching planting, harvest, storage, transport, conversion to biofuels and carbon se-

Bio-Energy Crops Research

Continued from page 16

questration of bio-energy crops. Illinois field trials in 2005 and 2006 by Dr Frank Dohleman has shown switchgrass dry matter yields of about 5 tons/acre (11.3 tonnes/ha) and miscanthus yields of 14 tons/acre (31.7 tonnes/ha). Their current research is now focusing on miscanthus because of its greater yield potential.

Miscanthus is a sterile hybrid, so it must be propagated by planting underground stems, called rhizomes. The harvesting of rhizomes from existing miscanthus stands and the planting of new stands is a very labourious process. Research into mechanization of harvesting and planting of the rhizomes to reduce the time and labour to establish this crop. In Europe, where Miscanthus has been grown for more than a decade, patented farm equipment can plant about 50 acres of Miscanthus rhizomes a day.

In Ontario

Currently there is on-going bio-energy crop research at several stations across Ontario. Research programs are looking at potential bio-energy crops species, such as miscanthus, switchgrass, big blue stem, prairie cord grass, common reed (phragmites), hybrid corn and hybrid sorghum. There are breeding programs to develop higher yielding varieties. Agronomic research is looking at establishment, weed control, fertility, harvest timing (fall versus spring) and handling systems.

There are about 600 to 700 acres in of switchgrass in Ontario currently in production. Some of this production is already being used for heating. There is a small company starting up in eastern Ontario that is looking to contract with farmers to grow switchgrass for greenhouse heating. In the short term, most of the bio-energy crops will be utilized by burning to produce heat for greenhouse operations and home heating, to offset natural gas and other fuels. Long term, bio-energy crops may be used in a cellulose conversion process to produce ethanol, as cost effective conversion methods are developed.

NEOSCIA Members *Classifieds*

Are you a member of your local Soil & Crop Improvement Association in Northern Ontario? If so, that membership entitles you to one free classified ad each year. Subsequent ads will cost $10.00 per issue. Next deadline is **March 01, 2009.**

Note that the editor may "shrink" the amount of info in any given ad due to space limitations in a specific issue.

For more information, Contact Graham Gambles, editor, at 705-672-3105 or e-mail to gamblesgraham@yahoo.ca

FOR SALE

FOR SALE: 83 Gelbvieh cows, majority are purebred. (Bred Gelbvieh.)

Contact: Brian & Cheryl Huff at 705-647-8624.

'Aromatic Gold' – How to Take a Sample to Determine Value of Manure

Continued from page 16

6. Consider taking another sample when applying to a different field to document the analysis for each field.

7. When results from the manure analysis are received, keep records and adjust any additional nutrient applications to the field.

Solid manure is more difficult to sample because there is no agitation process, resulting in variations within solid storages. For this reason it is recommended that samples be separated by field rather than storage.

How to Sample Solid Manure

1. Samples of solid manure can be taken from the spreaders during application or from the top, middle and bottom of the storage.
2. On clean concrete or a plywood surface, take sub-samples (a forkful) of manure from several different loads throughout the application or from the different areas of storage.
3. Chop and mix the sub-samples together using a fork or shovel.
4. Divide the larger sample into four equal parts and discard three.
5. Continue to mix and subdivide until you have a sample that will fit into a plastic bag or sample jar.
6. Place sample jar into a plastic bag and ship to lab as per liquid sample.
7. Repeat sampling procedure if a portion of the manure will be applied to a different field or if the dry matter content is significantly different (dry vs "soupy").
8. Each storage system (or areas within the same storage with different dry matter contents) should have its own sample taken to reflect dry matter and specific nutrient content.

Manure samples should be stored in a cool place until they are shipped to a laboratory. Shipping a sample so that it arrives at the laboratory on a week day is recommended to ensure immediate processing. Sending samples through the post office is not recommended.



BULLETIN
GRANDES CULTURES

MAAARO – des spécialistes en grandes cultures

Info Culture
1-888-449-0937

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

Fin de la saison pour la lutte contre les mauvaises herbes

Helmut Spieser, ingénieur, application de pesticides et entreposage de céréales, et Gilles Quesnel, spécialiste de la lutte intégrée contre les ennemis des grandes cultures, MAAARO

Quels sont les travaux qui restent à faire à la ferme après les récoltes? Il y en a probablement beaucoup. Mais, avant l'arrivée des grands froids, il faut préparer les pulvérisateurs pour l'hiver et effectuer le dépistage des mauvaises herbes hivernantes dans les champs qui seront cultivés sans labour l'an prochain.

La préparation et le nettoyage protégeront votre pulvérisateur du gel, et il sera prêt à servir le printemps prochain. Nettoyer l'intérieur et l'extérieur de l'appareil pour enlever la poussière et les salissures. Ce qui est encore plus important, enlever autant de résidu chimique que possible. Ne pas laver le pulvérisateur près d'une pelouse ou d'un autre endroit sensible. Employer un mélange de 50 %

Continued on page 20

Rendements du soya, 2008

Horst Bohner, spécialiste di la culture du soja, MAAARO

En 2008, le rendement du soya allait de décevant à fabuleux. Certains producteurs ont eu les meilleures récoltes de tous les temps, mais d'autres ont eu des rendements inférieurs la moyenne. Il est encore trop tôt pour connaître les chiffres définitifs pour cette année, mais dans les secteurs situés au nord de London, la production a généralement été très bonne. Dans certains comtés, il n'est pas rare de trouver des rendements de plus de 60 boisseaux/acre. Cela dit, les secteurs de l'extrême SudOuest ont encore produit des rendements inférieurs la moyenne. Quelles sont les raisons de cet écart? En un mot, la pluviosité.

Dans la culture du soya, le principal facteur limitant est généralement le manque d'humidité pendant les stades de croissance les plus importants. Ce printemps et cet été, bien qu'on ait eu peu de chaleur et d'ensoleillement, la quantité de pluie reçue été plus que suffisante dans la plus grande partie de la province. À cela se sont ajoutées les excellentes conditions météorologiques en automne et la faible incidence des pucerons, de sorte que les rendements ont été excellents dans les régions où il plu en juillet et en août. Au sommet des plants, la formation tardive d'un amas de gousses encore fait augmenter les rendements (voir la figure 1). Les régions qui ont eu des résultats décevants sont généralement celles où il n'a pas plu la fin de juillet et en août, ou qui ont été touchées par les maladies (moisissure blanche ou nématode kyste du soya).

Vous n'avez même pas besoin de le dema nder. Les semis peuvent être hâtifs, la rotation est adéquate et le potentiel de rendement est spectaculaire. Pourquoi ne pas essayer?

Suite à du maïs d'ensilage

En 2008, le rendement du soya allait de décevant fabuleux. Certains producteurs ont eu les meilleures récoltes de tous les temps, mais d'autres ont eu des rendements inférieurs la moyenne. Il est encore trop tôt pour connaître les chiffres définitifs pour cette année, mais dans les secteurs situés au nord de London, la production généralement été très bonne. Dans certains comtés, il n'est pas rare de trouver des rendements de plus de 60 boisseaux/acre. Cela dit, les secteurs de l'extrême SudOuest ont encore produit des rendements inférieurs la moyenne. Quelles sont les raisons

Figure 1 Formation tardive d'un amas de gousses au sommet du plant

Qu'en estil du travail du sol?

On considère parfois que 'est le semis direct qui affaiblit les rendements. Pour connaître l'effet des divers systèmes de travail du sol sur les rendements une année donnée, il faut faire des comparaisons directes. Certains producteurs ont mis à l'essai le travail du sol en un passage au printemps (travail préalable) pour le soya. En 2008, dans sept essais en grandeur réelle avec réplicat, le travail préalable avec la herse Salford RTS a donné un gain de rendement moyen de 2,3 boisseaux/acre. Ce chiffre concorde avec les résultats précédents, soit un gain moyen de 1,8 boisseau/acre sur une période de 3 ans. Le travail du sol apporte une légère amélioration du rendement, généralement de un à deux boisseaux par acre seulement. Cette année ne semble donc pas faire exception.

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Rendements du soya, 2008

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Stress hydrique

La sécheresse peut réduire les rendements si elle survient à n'importe quel moment du développement, mais il y a deux stades où les cultures sont plus sensibles. La présence d'eau en quantité suffisante est cruciale pendant la germination et pendant les stades reproducteurs. Si la sécheresse survient pendant la germination, elle réduit la densité des peuplements. Si elle survient pendant les stades reproducteurs, les graines seront moins nombreuses, plus petites et de qualité moindre. En présence de stress hydrique, il apparaît un flétrissement des feuilles très visible, et dans les cas extrêmes le plant peut mourir. Néanmoins, pendant la saison de croissance, un stress hydrique modéré ne produit pas de symptômes apparents sur le plant. Pendant les stades de croissance végétative (mai et juin), le manque d'humidité n'a généralement pas de conséquences si l'eau était présente en quantité suffisante au moment de la levée.

C'est pendant les stades reproducteurs que la culture de soya est la plus sensible. Le plant besoin de bonnes quantités d'eau dès le début de la floraison et jusqu'au gonflement des graines, et les mois de juillet et d'août sont donc déterminants pour ce qui est des rendements. Cette année, on bien vu comment une humidité suffisante pendant cette période pouvait mener des rendements de plus de 60 boisseaux/ acre.

Le rendement du soya est le résultat du nombre de plants par acre, du nombre de gousses par plant, du nombre de graines par gousse et de la taille des graines, toutes ces composantes étant déterminées dans cet ordre. Si le stress hydrique ne touche qu'un certain stade de croissance, il se répercute sur la composante correspondante. Par ailleurs, l'abondance d'eau pendant un stade donné produit une amélioration de la composante en question. Un stress précoce survenu pendant les stades reproducteurs mène une diminution du nombre de graines. Cependant, si l'humidité revient, cette diminution est compensée par l'accroissement de la taille ou de la masse des graines. Si le stress apparaît plus tard, il produira une diminution marquée de la taille des graines, qui est la dernière composante du rendement être déterminée pendant les stades reproducteurs. Voir le tableau 1, Rendement, nombre et masse des graines, effet du stress hydrique.

Tableau 1 Rendement, nombre et masse des graines, effet du stress hydrique.

Moment du stress hydrique	Rendement (g pot 1)	Nombre de graines (nbre pot 1)	Masse des graines (mg graine 1)
Témoin	29,3 a	240 a	120 b
R1R5	24,1 b	129 c	190 a
R5R7	16,9 c	196 b	90 c

Les moyennes suivies de lettres différentes ont des différences significatives, ppds (P = 0,05). Reaper and Purcell, 1999

Les variétés de soya cultivées en Ontario ont une croissance de type indéterminé, et elles ont donc une période de floraison prolongée allant de la fin juin au début d'août. Les pertes dues l'avortement des fleurs au début des stades reproducteurs peuvent être compensées par la production de fleurs et de gousses plus tard dans la saison. Si l'humidité est insuffisante pendant toute la période de floraison, les pertes de rendement seront importantes. Après la floraison, cellesci ne pourront être compensées, même en présence de bons apports en eau.

Stratégies de réussite

Comme l'irrigation n'est pas économique, il n'existe aucune stratégie permettant d'amoindrir le stress hydrique lorsqu'il est présent. Cependant les pratiques suivantes permettent de réduire ses effets:

1. Mise en terre assez profonde pour permettre une humidité suffisante pendant la germination;
2. Mise en terre précoce pour favoriser la formation d'un réseau racinaire profond et dense;
3. Mise en place de rangées étroites produisant un couvert végétal complet tôt dans la saison;
4. Excellente maîtrise des mauvaises herbes pour réduire la compétition;
5. Bon programme de rotation des cultures et de fertilisation;
6. Attitude prudente dans la lutte contre les maladies et les insectes;
7. Choix de plusieurs variétés arrivant à maturité à différentes dates pour étaler les risques dus aux effets d'une sécheresse sur une variété donnée.

RESOURCES • E-Bulletin

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manage water takings. Large water takers are required to get a PTTW from the Ministry of the Environment. A PTTW is a permission to use a large volume of water. The PTTW process is designed to protect the rights of water users and their neighbours, promote "fair sharing" of water volumes and protect the natural environment from adverse water taking impacts.

Who is required to obtain a PTTW?

Anyone taking more than a total of 50,000 litres of water in a day (with some exceptions) must obtain a PTTW.

Who is not required to obtain a PTTW?

Permits are not required for water taken for emergency fire fighting, private domestic use, watering of livestock or takings of less than 50,000 litres in a day.

Water takings in Ontario are managed by the PTTW program which is governed by Section 34 of the Ontario Water Resources Act, R.s.O. 1990, c.o.40 and the Water Taking Regulation O.Reg. 387/04.

The Ontario Fruit and Vegetable Growers Association in partnership with the Ontario Federation of Agriculture are now providing services to assist farmers with their PTTW applications. For more information contact George Shearer at 519-763-6160.

General information regarding the PTTW program is available at your local OMAFRA office or by contacting the Ministry of the Environment directly at 1-800-565-4923 or *www.ene.gov.on.ca/envision/water/pttw.htm.*

Fin de la saison pour la lutte contre les mauvaises herbes

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d'eau et d'antigel de bonne qualité pour protéger la tuyauterie du gel. La plupart des fabricants recommandent l'antigel pour automobile et non pour véhicule récréatif. Dans le système de tuyauterie, ce mélange isole les surfaces métalliques de l'air et empêche ainsi l'oxydation et la rouille sans endommager les joints d'étanchéité.

Étapes du nettoyage et de la préparation pour l'hiver :

- Laver complètement l'extérieur du pulvérisateur avec du détergent sous pression;
- Nettoyer complètement l'intérieur de la cuve avec un produit nettoyant pour cet usage;
- Faire circuler la solution nettoyante pendant dix minutes dans les agitateurs, le dispositif de chargement sans danger de pesticides et le (les) buse(s) de nettoyage de la cuve, si l'appareil en est équipé;
- Enlever et nettoyer complètement les bouchons d'extrémité sur toutes les parties des rampes d'aspersion. Rincer avec suffisamment de solution nettoyante pour enlever tous les résidus de produit;
- Enlever tous les filtres, les tamis de buses, les buses et soupapes de non-retour à diaphragme et les laver dans la même solution nettoyante. Une brosse avec dispositif de rinçage peut être utile pour éliminer les matières accumulées sur les écrans;
- Replacer tous les filtres, les écrans, les buses et soupapes de non-retour à diaphragme;
- Mélanger 23 litres (5 gallons) d'antigel et d'eau (le volume de la tuyauterie des gros pulvérisateurs peut atteindre 112 livres ou 25 gallons). Faire passer le mélange dans tous les circuits de l'appareil, en particulier celui de l'agitateur, pendant dix minutes, puis le faire sortir par la rampe d'aspersion et les buses.
- Replacer les bouchons d'extrémité des rampes d'aspersion;
- Vider complètement le réservoir de marqueur de mousse et les conduites de solution qui vont jusqu'aux extrémités des rampes d'aspersion. Avec de l'air comprimé, chasser tout liquide restant dans les conduites de marqueur de mousse;
- Remiser le pulvérisateur dans un bâtiment propre et sec.

Dépistage des mauvaises herbes

Une fois le pulvérisateur remisé pour l'hiver, il est temps de se tourner vers les champs qui seront en culture semis diect l'année prochaine pour y trouver les mauvaises herbes hivernantes. Cet automne, un examen rapide devrait permettre de repérer les espèces annuelles (stellaire moyenne), bisannuelles (carotte sauvage) ou vivaces résistantes (pissenlit). Pour pouvoir évaluer précisément l'incidence des mauvaises herbes hivernantes, il faut effectuer un dépistage et noter la densité des diverses espèces présentes dans chacun des champs.

Si vous notez ou cartographiez (ou les deux à la fois) les espèces hivernantes à la fin de l'automne (densité et emplacement), il vous sera plus facile de déterminer vos besoins en matière de lutte contre les mauvaises herbes dans le futur..Vous pourrez également vous appuyer sur cette information pour mettre sur pied votre programme de lutte de la prochaine saison, ce qui vous donnera une longueur d'avance au cas où il faudrait procéder à la destruction chimique en présemis.

Essai de pratiques de gestion optimales du canola, augmenter le rendement

Brian Hall, spécialiste de la culture des haricots comestibles et du canola, MAAARO

Confrontés à un fort accroissement des coûts de production, les producteurs cherchent à améliorer leurs rendements par tous les moyens. Pour préparer le terrain en vue d'une augmentation des rendements de canola, la Grey Soil and Crop Improvement Association, conjointement avec la Ontario Canola Growers Association, a lancé un essai sur les pratiques de gestion optimale du canola en 2008. Lors de ces travaux, on a testé un fongicide foliaire employé seul et avec du bore et un insecticide.

Des applications de fongicide, de bore et d'insecticide?

Les producteurs canadiens de canola s'intéressent au bore parce que les besoins de cette plante à l'égard de ce produit sont supérieurs à ce qu'ils sont pour les autres grandes cultures. Lors d'essais menés en 2007, l'Université de Guelph signalait que l'ajout de bore permettait un gain significatif. Les années de fortes populations de charançons de la graine du chou et de punaises ternes, l'application d'insecticides à la floraison a également permis d'améliorer les rendements. Dans les différentes parcelles, on a effectué un suivi de la croissance, des carences en éléments nutritifs et des ravageurs. Des échantillons de sol et de tissus ont été prélevés, et les résultats sont en cours d'analyse.

Essai de pratiques de gestion optimales du canola, augmenter le rendement

Le rendement moyen obtenu par les producteurs participants se chiffrait à 2 583 lb/ac (2 935 kg/ha), ce qui est impressionnant, et certains d'entre eux ont même atteint 3 500 lb/ac (3 977 kg/ha)! L'accroissement des apports n'a généré qu'une faible augmentation des rendements.

Aucun avantage économique

Aucun des traitements n'a apporté d'avantages économiques par rapport au traitement témoin (aucune application foliaire). Sclerotinia (moisissure blanche) était présente en quantité modérée dans toutes les parcelles. Les différences étaient très visibles entre les témoins (aucune application foliaire) et celles qui avaient reçu une application de fongicide. Cependant, chose surprenante, le traitement au fongicide n'a permis d'accroître les revenus que dans deux sites sur neuf (Owen Sound et Chatsworth). Les raisons pour lesquelles le traitement n'a pas apporté une amélioration plus importante ne sont pas claires, étant donné la pression importante exercée par Sclerotinia. L'un des facteurs en cause peut être que les quantités de Sclerotinia présentes dans le sol étaient minimes après plusieurs années de pression faible, et que la maladie ne s'est réellement installée que plus tard dans la saison. Aucune amélioration significative des rendements

L'ajout de bore ou d'insecticide n'a pas permis d'améliorer les rendements de façon significative. En 2008, les populations de charançons de la graine du chou et de punaises étaient peu nombreuses, ce qui montre bien qu'il est préférable de s'appuyer sur un programme de dépistage et des seuils avant de décider de faire un traitement au pesticide.

Cette année, les conditions météorologiques ont été favorables aux producteurs de canola avec des températures fraîches et des pluies en quantité suffisante (ou excessive), ce qui explique les rendements record. Globalement, l'essai a permis de montrer que cette saison, aucun des traitements n'avait eu d'effets bénéfiques; mais qu'en sera-t-il l'année prochaine?

Localité	Rendement (livres/acre)			
	Témoin (aucun traitement)	Proline	Proline + Bore	Proline + Bore + Matador
Alliston 1 870	1 765	1 752	1 940	
New Liskeard	2 264	2 251	2 196	2 164
Owen Sound	3 221	3 445	3 555	3 470
Grand Valley	2 718	2 708	2 649	2 718
Sturgeon Falls	2 842	2 791	3 048	2 993
Palmerston	2 549	2 609	2 684	2 671
Durham	2 360	2 339	2 412	2 388
Meaford	3 036	2 989	3 253	3 166
Chatsworth	3 158	3 410	3 535	3 343
Rendement moyen, lb/ac	2 583	2 592	2 640	2 657
Gain de rendement par rapport au témoin (lb/ac)		9	57	74
Revenu gagné par rapport au témoin ($/ac)		-31	-22	-21

1,0 lb/ac = 1,136 kg/ha

An evaluation of potential longer term effects of one time applications of Spanish River Carbonatite on soil quality and crop growth in the Sudbury area

Tamara Posadowski, Amanda Bromley, Graeme Spiers

Concern for the potential detrimental effects of the excessive use of chemical fertilizers on agricultural lands and the environment has encouraged many farmers to investigate alternative methods to managing and/or improving the fertility of their soils. Spanish River Carbonatite (SRC), an agromineral fertilizer, has been evaluated as one of the alternatives. In the current study, the effects of SRC on both soil quality and longer term crop yield were assessed, with examination of soil chemical properties such as pH, organic matter content, cation exchange capacity and available nutrients. The effects on crop growth parameters such as crop yield and plant nutrient content were also evaluated. Plots on four farms across the Sudbury area were monitored, with six, one-acre plots on each farm. Three plots had SRC applied in the fall and spring of 2001 and 2002 respectively. In summer of 2007 the soil and crop samples were collected and analyzed. The soil chemistry data allowed comparison of control and SRC applied plots sampled both before (2001) and post-SRC application (2007), and between control and treatment plots in 2007, several years after the initial application. The different crop samples (hay and barley depending on the individual farm) were only compared between control and test plots for the 2007 crop year. Examination of the soil chemistry results indicated no consistent long-term effect from SRC application at 1 ton per acre for any measured soil chemical property, perhaps a reflection of the only one-time application of the agromineral product. A slight improvement in crop yield of forage and alfalfa was observed on two farms. However, no significant improvement for crop yield was measured for the other two farm sites, and no significant differences in plant nutrient content were measured in the crops from any of the four farm

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Farming Energy Crops on Tailings

Alan Lock[1], Graeme Spiers[1] and Bryan Tisch[2]
1 MIRARCO, Sudbury, ON and 2 CANMET-MMSL, 2 Natural Resources Canada, Ottawa, ON

Industrial and municipal organic residuals are being utilized to rehabilitate mine tailings to the extent that they can support the growth of biomass and "energy crops" such as canola, corn and switchgrass, which can be harvested to provide feedstock for biofuel processing plants. Experimental ½ hectare plots on mine tailings in Timmins and Copper Cliff were amended with approximately 1 metre (uncompacted) of organic residuals from the pulp and paper industry and corn and canola were planted in early July, 2008. A control site was established in Azilda on agricultural land to compare crop yield and quality between the experimental sites and traditional agricultural land. A third tailings plot in Onaping has been amended with municipal organic residuals and the first crops will be planted in the spring 2009.

The Mining Innovation and Rehabilitation Applied Research Corporation (MIRARCO), owned by Laurentian University, is leading this research in Northern Ontario under the Green Mines Green Energy (GMGE) initiative lead by Natural Resources Canada (NRCan). The research is primarily supported through mining and pulp and paper industries, municipal, provincial and federal governments, with advisory input from members of the OSCIA Sudbury Chapter.

This research initiative is focused on the potential impact of organic covers on tailings chemistry, tailings groundwater quantity, the quality and quality of biomass produced, overall feasibility (full scale), communications, public education and technology transfer. Because we are in the early stages of this research there is currently insufficient data to elucidate the potential impact of organic covers on these tailings. Field measurements and visual observations indicate crops grown on the experimental plots exceed or produce similar quantities of biomass compared to the agricultural control plot in the Sudbury region. The observed crop quality appears similar at both the experimental and control sites, but analytical results to confirm this have not yet been completed. Full scale farm management feasibility has been proven through tilling and seeding with standard agricultural equipment at the plot in Copper Cliff, but has so far proven difficult at the Timmins plot. Communications, public education and technology transfer efforts will continue through scientific articles, regional news publications, conference presentations, and meetings with interested groups, and possibly site tours. A more detailed review of this project can be obtained at

http://www.mirarco.org/press/news/GMGE_Canadian_Reclamation08.pdf

Corn field on September 23, 2008 at VALE INCO experimental plot amended with St. Mary's pulp and paper organic residual.

An evaluation of potential longer term effects of one time applications of Spanish River Carbonatite on soil quality and crop growth in the Sudbury area

Continued from page 22

plot sites. Further work is required to investigate the effectiveness of SRC as a soil amendment, perhaps including varied applications rates with annual monitoring, and admixtures of SRC with organic residual materials such as compost or manure to enhance the solubility of the minerals and nutrients within the SRC.

Murray Cochrane for President

Continued from page 1

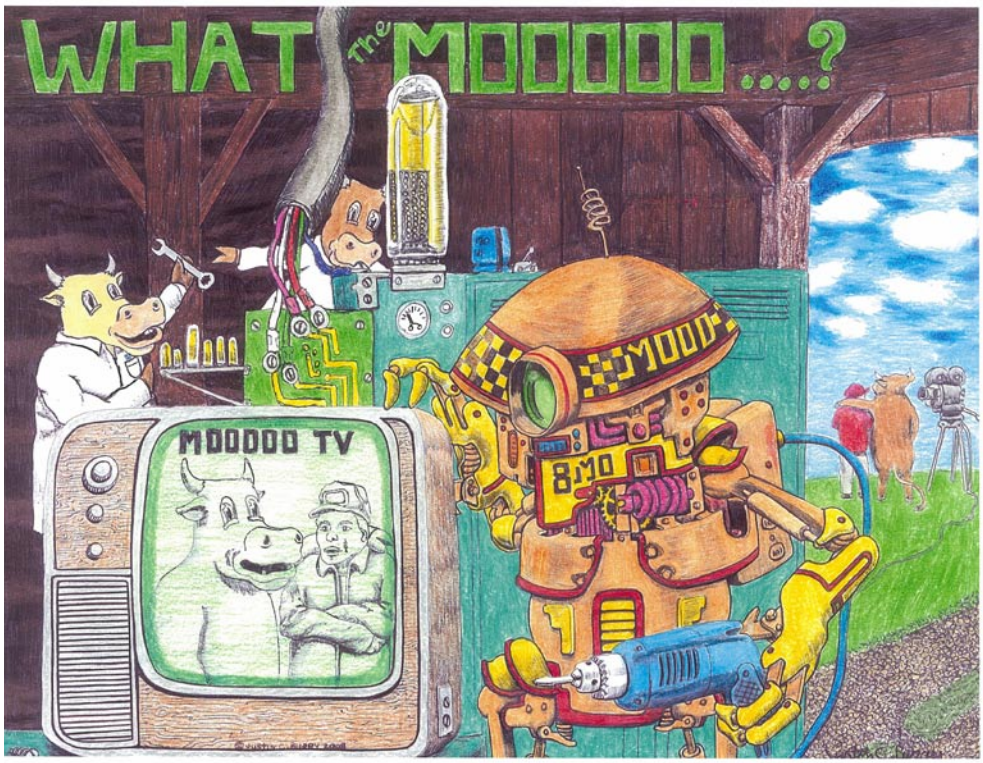
speciality crops.

Murray has envisaged that the Northeastern Region's newsletter, Breaking Ground, will be the medium for agriculture in Northeastern Ontario. He also believes that the Northeastern area is the new frontier of agriculture and biomass production. The Northeastern Region has millions of acres of unused or underused land that could produce switchgrass or willow for energy production.

Murray says that there are opportunities for farmers to work with local industries to produce biomass for the co-generation of energy. Some of these biomasses could be Reed-Canary grass, willow trees, straw or switchgrass. The companies have been using waste products (hog fuel) from the forestry industry, but as fuel gets more expensive and the distances further, the cultivation of biomass locally becomes more feasible. Agriculture in the future will not only concentrate on the production of food but will include fuel and fibre. One area of concern where he feels more research has to be done is on the long-term effects to soil fertility and organic matter from total plant removal.

Murray believes investment in agriculture infrastructure in the Northeast will open opportunities for farmers to expand, diversify their operations and market their products locally. Branding of products not only increases profit on the farm but also gives the consumer an option to buy locally from people he or she know and trust.

Algoma hosted the Provincial OSCIA Director Summer Meeting in August 2008, which was attended by people from literally all over the province and with the International Plowing Match being held in Temiskaming in 2009, the Northeast Region has the opportunity to showcase what it has, who they are and what it has to offer.



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

Provincially, OSCIA is anticipating the next chapter of the Environmental Farm Plan (EFP) that will go into effect April 1, 2009, supported through "Growing Forward", the next agricultural policy framework. Program intentions shared by OMAFRA officials suggest that the Third Edition EFP workbook, deemed appropriate through peer review, will continue to be one eligibility requirement to participate in the cost share program. In efforts to reach a broader group of farmers and get them ready for the new opportunities, county/district EFP workshops will continue over the winter.

OSCIA will also be in charge of program delivery this winter of a business management program, "Growing Your Farm Profits". The exercise includes participation at a workshop and completion of a self-assessment workbook and action plan from which farmers can plan business strategies. Details are being developed as OSCIA works with government and other partners. Up to 30 workshops across Ontario are planned between January and March 2009. OSCIA will share more information with farmers as it becomes available.

To the question of how to increase membership in the OSCIA, Murray says the association needs to "show value for membership". For example, for the last two years, the membership fee for the OSCIA allowed members free entry to and breakfast at the Outdoor Farm Show at Woodstock. He says that OSCIA and its activities and its communication benefits all farmers.

Murray says that OSCIA wants to build on a strong strategic partnership with the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) staff, researchers at the University of Guelph and the OSCIA membership so that the research results conducted at the university gets to the farmers.