Prairie Oat Growers Association | Manitoba Oat Growers Association | Saskatchewan Oat Development Commission | Alberta Oat Growers Commission

# THE Oat Scoop

NOVEMBER 2015

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## WHAT'S IN YOUR OATS?

What seems to be a straight forward simple question, when put to Axel Diederichsen, Curator of Plant Gene Resources Canada (PGRC), becomes an interesting lesson in history, biology, and marketing; strategic planning, cooperation, collaboration and sustainability. The answer is complex and involves plant breeders, genebank curators, pathologists, cytologists, taxonomists, agronomists and producers here in Canada and around the world.

Oat, as a crop of importance for temperate climates, has been, for much of the world, in decline over the past fifty years. Canada has maintained its oat production and continues to be a world leader in production and export of high quality oats. This factor along with the realization that none of the International Research Centres has oat as a mandate crop, Canada was tasked in 1977 to preserve the world base collection of oat germplasm by the International Board for Plant Genetic Resources (IBPGR) today referred to as Bioversity International.

Plant Gene Resources Canada embraced the task in close cooperation with oat taxonomists, oat pathologists and oat breeders. Rust resistance breeding in Canadian oat cultivars made use of the genetic diversity of exotic oat species collected by Canadians in the Mediterranean area and the Near East. PGRC at Saskatoon continued to obtain oat genetic resources from

the other world genebanks; collecting on missions to places like Ukraine and Italy. Today, the PGRC has the largest oat collection in the world with more than 27,000 accessions of 29 Avena (oat) species. Other important collections of oat can be found at St. Petersburg, Russia; Germany and the United States. PGRC Curator, Axel Diederichsen notes that oat is somewhat unique and different from other cereal crops, because oat is an important crop for northern areas of the world while diversity of wild species of oat occurs in the Mediterranean region where it is basically neglected as crop because it has little agronomic impact there.

Established in 1970 by Agriculture and Agri-Food Canada in Ottawa, PRGC relocated to Saskatoon in 1998. The facility stores seed two ways: long term storage of dried seeds -18 degrees, no humidity control (in sealed envelopes) and working collection which is +4 degrees, 10-

20% relative humidity (in paper envelopes). The institution acquires, preserves and evaluates the genetic diversity of crops and their wild relatives for crops of economic importance to Canada. Between 1998 and 2013 PGRC distributed a total of 16,061 Avena accessions of all species to 29 countries in the world, including China and Poland. It is a goal of PGRC to have its germplasm accessible to all.

The oat collection has been characterized, evaluated and results shared (via Grin-ca database) for botanical; nutritional (oil content, fatty acid composition); molecular (DNA); and resistance to stem rust as well as crown rust. The research conducted by PGRC and partners focussing on molecular, morphological and seed quality diversity provides a greater understanding of the structure of the oat genepool that can be used by plant breeders.

When asked why PGRC is important to the Canadian oat producer, Diederichsen responds "oat breeding is an ongoing activity and if you want to stay in the market, you need to adapt to change and any changes need genetic diversity". Aaron Beattie, Oat Breeder at Crop Development Centre, U of S agrees noting: "I feel the collection is a valuable resource for identifying genes that may have value to the oat industry (like disease resistance or other stress tolerance/quality traits). Maintaining the viability of the seed in the collection (throughout periodic grow-outs) is essential to keeping the collection."

From Beattie's perspective "the best thing that could happen to the collection is to add more phenotypic (e.g. disease data, quality data) data on the accessions so that when researchers or breeders look through-out the database they will get a better idea of what the different accessions could contribute to their breeding/research efforts. This would be a large undertaking and would require the participation of many groups."

Diederichsen also mentioned that the oat collection has been used extensively in recent years to re- examine rust resistance in the oat crop. Randy Kutcher, CDC pathologist, screens about 600 accessions in the PGDC collection every year (beginning 2013) and selects those that appear to have resistance to crown rust. His work involves testing at least twice or preferably three times in field nurseries, screening those consistently resistant in the field, under controlled conditions. This should give an idea of adult plant resistance from field evaluation in the crown rust nursery.

In the growth chamber he will evaluate the best accessions for resistance at the seedling stage, which, he suggests, is usually indicative of major gene resistance.

"When we have accessions that look promising (hopefully it will be a new source or sources of resistance to what is currently available) we will move it along to Beattie to see what he thinks of it and he may decide he wants to try to introduce that resistance into his program" says Kutcher.

Other recent and ongoing research projects utilizing oat germplasm from PGRC include Xiao Qiu, U of S, working on oil content of oat, and Jaswinder Singh, McGill, developing molecular tools for oat breeding.

The oat collection at PGRC is full of surprises. One oat species that was historically cultivated in many parts of Europe but has nearly been forgotten is the "sand oat' also known as "bristle oat" or "black oat". This species is presently important in Latin America and in Brazil it is widely used as intercrop for soil conservation. Diversity of this species may need attention as it holds potential for disease resistance and new usages.

Moving forward, Diederichsen is convinced that the PGRC oat collection is and will continue to be an instrumental resource for breeders and research scientists. "Nutrition is key, quality is key, farm sustainability is key, collaborative and cooperative networks are key, and PGRC is a willing and able partner in moving the industry forward."

Farm organizations are more than welcome to tour the facility and learn more about Plant Gene Resources Canada at Saskatoon.

# OAT SITUATION AND OUTLOOK

***Randy Strychar - OatInformation.com***

The 2015 Canadian crop is "really a mixed bag of quality and yield and the optimism we had in August has been tainted by harvest rain related issues like staining on hulls and material damage to groats" says Randy Strychar, OatInformation.com. Above average to average yields in Manitoba and Saskatchewan combined with below average yields in Alberta are reported. The good news, from the perspective of the milling industry, is that the bulk of commercial oats is sourced from Saskatchewan and Alberta.

From Strychar's perspective, US and domestic millers are "probably comfortable" with supplies until year end and both will be looking for January forward deliveries to fill their requirements "a time slot that the oat grower is not interested in selling, in fact the oat grower is not interested in selling oats at all."

The dilemma in the oat market, at the moment, is that oats are way too cheap versus wheat and barley. Milling oats, right now, are at feed grain levels. After reviewing rough returns on the farm, he predicts "we can see a 10 – 20% drop in acreage next year." Oats are so far behind wheat, on a per acre basis, that he can't see producers seriously looking to put oats in, especially on any scale. "Holding our own in terms of acreage is going to be a struggle unless oat prices start gaining on wheat. We've got tight supplies of 550,000 MT, versus the average of 750,000 MT with record lows of 355,000 and with poor net returns it will get even tighter in 2016/17." If oat values do not improve this winter, it will be difficult to maintain a supply base for oats.

"Pricing opportunities do exist, just not right now" so if oat growers don't have cash flow or storage issues, he recommends "wait it out if you can!"

When asked about transportation being a concern for the next year, Strychar thinks not, as total grain and oil seed stocks of 8 MMT need less transportation requirements that the 14 MMT handled previously. North-south grain movement doesn't require grain elevators, larger grain companies have shifted focus to 100 unit cars to port concentrating on canola, wheat and barley, and the demise of the wheat board have all impacted the way farmers move their product to market. Grower direct exports to the US account for 38% of all oat exports. This trend has been increasing for the past eight years, and Strychar expects to see it continue and expand. Majority is moved via shortline rail roads, as producers consolidate and cooperate in groups as small as five or as large as 50. Six hundred thousand MT of oats moved direct from the farm 2014/15. As Strychar comments," this looks and smells like a new shift to cooperative movement." Producers cite control of grain handling, information access, price structure and market access as rationale for moving in this direction, coming full circle to the cooperative movement of yesteryear.

Right now the Trans-Pacific Partnership will not impact Canada's oat industry. Although there are niche market opportunities in the region, the main importer, the United States, is a large volume market and profitable for oat industry players.

# GLOSSARY

Groat-hulled or crushed kernel of oats includes the cereal germ and fiber rich bran as well as the endosperm. Nutritious and very chewy, oat groats are often soaked before being cooked. Groat is also an old Scottish word referring to a cereal made from whole, hulless oats.

Instant oats-oats that have been cut, pre-cooked, dried, steamed and flattened to make them cook faster. This type of oat is often found in individual packages along with salt, sugar and flavourings that you add water to and microwave for breakfast fare.

Quick cooking oats-oats that have been cut before being steamed and rolled into thinner flakes. This process makes them cook quicker. They are used to produce great muffins, quick breads, cookies and more.

Rolled Oats-also referred to as old fashioned oats, they are whole oats which have been toasted, hulled, steamed then rolled. They are mainstay ingredients in granolas and muesli.

Steel-cut oats-oats that have been sliced once or twice into smaller pieces to help them cook in less time. Also known as Scotch oats and Irish oatmeal, steel-cut oats have a decidedly chewy, nutty texture.

Oat bran-made from the outer casing (layer) of the oat kernel, particularly high insoluble fibre. It is used as a hot cereal or sprinkled on cold cereal and as an ingredient in quick breads, casseroles and pancakes for added fiber.

# THE QUEST FOR HEALTHIER OATS

The use of oats and oat products to treat internal and external ailments dates back to ancient Egypt. Medical literature from as far back as Roman time cites oats for various treatments, often dealing with antioxidant, inflammatory or dermatologic conditions. Today oats is touted for cardio-protective effects, including inhibition of atherosclerosis (a disease of the arteries) and hypertension, as well, as continuing to demonstrate anti-oxidant, anti-inflammatory and antifungal properties of yesteryear. Oats are recommended by doctors and nutritionists because the fibre in oats has been proven to lower cholesterol.

With oats being an important crop for western Canada, it makes sense to have heightened research interests geared to not only breeding and agronomic attributes but also to understanding oats and oat composition in terms of nutrition and health. Human consumption markets around the world are seeking products that have demonstrated health benefits.

Beta-glucan, a water-soluble dietary fibre, found in oats has documented benefits including its ability to lower cholesterol and improve glycemic response which helps to control, or may even prevent, diabetes.

Avenanthramides are unique to oats and have shown strong antioxidant activity. In food products, they counteract the deterioration of food; while in the body they can reduce oxidative stress that is believed to damage or kill cells. These avenanthramides also exhibit anti-inflammatory activity and anti-proliferative properties (i.e. oats can prevent or stop the spread of malignant cells, into surrounding tissue). In addition, they are well known for their anti-itching activity and are widely used in skin lotions, creams and other personal care products. Avenanthramides may provide protection against coronary heart disease, colon cancer and skin irritations.

Oats have a higher oil content than other cereals, which provides a good energy source. The fatty acid content is about 20% palmitic, 40% oleic, and 40% linoleic acids. Oat oil also contains a small amount of epoxy and hydroxyl fatty acids, a concern for oat millers and processors. Seed damage during grain handling and transport can result in oxidation product which produces off flavours and some loss of


nutritional components. An oil profile in oats with increased oleic and decreased linoleic acids would partially eliminate these concerns in the oat supply chain.

The research community in Saskatoon consisting of oat breeders, pathologists, crop scientists, agronomists, and food scientists works together to gain a better understanding of oats, to increase production of the crop and satisfy end user requirements, both required for industry sustainability.

Xiao Qiu, a professor at the University of Saskatchewan's Department of Food and Bioproduct Sciences is very involved with oat research. Qiu's research program investigates the biosynthesis of bioactive compounds of plants and microbes and includes studies of beta-glucans, avenanthramides, and oat oil funded by ADF, WGRF, PepsiCo/Quaker and POGA.

For the healthier oil project, the team first analyzed 154 oat lines with various oil contents. Across all lines analyzed, there was a strong negative correlation between oleic and linoleic acid particularly in the wild oat species.

Genomic resources and DNA markers in oat are scarce so the team worked cloning FAD2 genes (FAD2 gene family is functionally responsible for conversion of oleic acid to linoleic acid in plants) from oat DNA and cDNAs (complementary DNA). These genes were analyzed for their functional properties.

Over the project a total of 122 SNPs (single nucleotide polymorphisms) in FAD2 genes were identified. From them, 11 DNA markers were developed and can be used for oat breeding. Oat Breeders can utilize these types of markers to screen germplasm in the lab quickly, making their breeding program more efficient and effective.

Qiu's work on the oil profile of oat combined with his and other oat scientists' work on the major nutritional attributes of oats plus consumers' quest for healthier lifestyle is good news for oat producers and processors.

# TAGGING IN OATS

Agricultural innovation is changing the face of agriculture. Varietal development was and continues to be a main stay implement for producing profitable crops for producers. New tools are being developed to further assist crop breeders and ultimately benefit producers, processors and eventually consumers. POGA, with funding assistance from The Government of Canada's AgriInnovation Program, and McGill University are working on one such research project "Transposon Mediated Gene Tagging in Oat." Dr. Jaswinder Singh's goal is to create an experiential oat variety with a transposon (class of genetic element that can jump to different locations within a genome).The transposon will be programmed to jump in and out of the genes turning them on and off. This will allow identifying specific genes by finding the location of the transposon. In this study, fatty acids and beta-glucan are the specific targets the research team has identified. This project hopes to lay the foundation for the development of a new method of identifying genes to improve oat breeding.

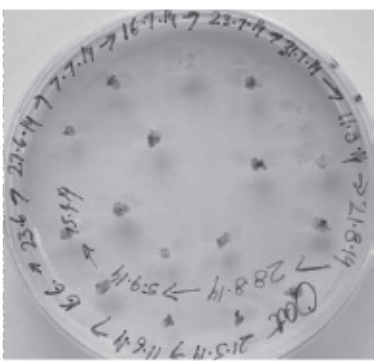
If successful, oat breeders will not have to grow out and observe the physical or biochemical characteristics of a variety, thereby shortening the time span to commercialization. Oat producers, in the future may be able to grow and market their products for specific health attributes using designer varieties and extract a premium for that product.

Candidate transgenic plants growing in soil.

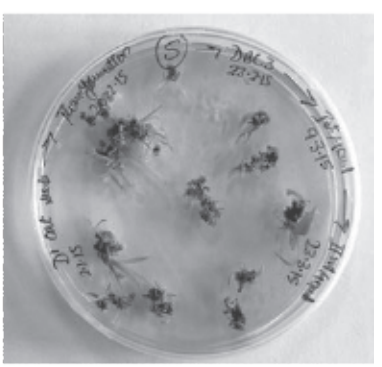
The project has been underway since May 2014, when the research team secured germplasm of Avena sativa, namely the oat variety Park, from Plant Gene Resources Canada (PGRC). Seeds were divided with some being propagated and others selected for callus induction (a process to create new proliferated tissue).

Some of these new calli (tissues) were used as targets for particle bombardment. In partide bombardment heavy metals (in this case gold), are used to break the cell wall. If the particles are coated in DNA, the foreign DNA will be brought into the cell through the breaks in the cell wall. If the cell walls are floating in a solution of DNA, a few will be picked up by the particles as they move through the solution, forcing the DNA into the cell. In both the cases, foreign DNA which has been customized for the organism being researched is primarily injected into the cells.

Mature oat seeds kept on different MSbased media. Germinating roots and shoots are clearly visible.



Regenerative calli obtained from mature embryo maintained on DBC3 media.



Tissues after second round of selection.

The transformation process (a process by which foreign genetic material is taken up by a cell) is complex, runs for several weeks and involves many steps like osmotic pre-treatment, bombarding with gold, incubation of desirable calli, and many rounds of selection Surviving calli are then selected for creation of transgenic oat plants or are tested, to see, if in fact, the transformation was successful.

To date, several candidates have been growing from experiment for further confirmation through molecular analyses.

# BUILDING A BRIGHTER FUTURE FOR ALBERTA OATS

In 2013, only 600,000 acres of oat were seeded in Alberta. The 5 year average yield is only 79 bu/acre, far below the crop's yield potential. Alberta's climate is suitable for oat production, however current agronomic practices and varietal choices have not produced the high quality required for premium prices from millers. Oats in Alberta are currently grown for feed and pony oat markets but are generally excluded from milling markets due to grain quality concerns. Milling oat quality is established by test weight, groat yield and by beta-glucan content. Most oats grown in Alberta have low beta-glucan levels for milling oats, thus grain buyers buy from other provinces first. It's believed that Alberta could have a much more profitable oat industry, particularity in the north central area.

With this idea in mind Dr. Linda Hall, University of Alberta, with cooperation from the Alberta Oat Growers Commission, POGA and the Alberta Crop Industry Development Fund (ACIDF), is working on enhancing the yield and profitability of central Alberta oat growers through the selection of varieties, optimizing nitrogen fertilizer and plant growth regulators (PGR). PGRs decrease stem length and thus the leverage of heavy seed heads, increase the mechanical properties of the stem and enhance root growth. They also help to reduce lodging and improve harvest-ability. Lodging is influenced by nitrogen fertilizer rate and form, available moisture and seeding rates and dates. Reduced nitrogen fertilizer may reduce lodging but negatively influences yield.

Dr. Hall and her team designed a two-factor field experiment in a randomized complete block design with 4 replicates. Factor 1: 5 oat varieties, Factor 2: four nitrogen fertilizer rates. Five cultivars: Morgan, Stride, Sea Biscuit, Morrison, and OT3066 combined with four N rates (10, 60, 100, 140 kg/h) of urea 46-0-0 were seeded (450 seeds m-2) at Edmonton and Barrhead. As N fertilizer rates increased yield and plant height increased. Some varieties (especially Stride) showed more lodging. Varieties differed in their response to N fertilizer: CDC Morrison generally had the highest yields but lowest beta-glucan content. Morgan yields were maximized with 50 or 100 kg ha-1 (depending on location).

Differences between sites influenced plant height, the presence of lodging and yield response to nitrogen. At all sites, increased nitrogen rates increased yield and, at two of three sites, also increased plant height. A large number of factors contribute to oats reaching its genetic potential including fertility, seeding time, seeding rate and variety choice. In addition, PGRs may also contribute to this but only after the other key factors listed here are properly managed.

To determine the influence of PGRs under high nitrogen fertilization on oat varieties to improve harvestablity was also undertaken at Edmonton, Barrhead, and Indian Head, SK. Again a two-factor field experiment in a randomized complete block design with 4 replicates. Factor 1: 3 plant growth regulator application stages, Factor 2: four nitrogen fertilizer rates using the oat variety Stride.

Crop year 2014 had abundant moisture and data results indicated use of plant growth regulators was positive. This year, with the very dry conditions, results did not support the use of plant growth regulators. Dr. Hall remarked "as plant growth regulator application is applied when the interlodes are just starting to elongate, a short window just after herbicide and just before fungicide applications, it's hard to bring out the sprayer one more time throughout the year particularly when crop is below average." The take home message from these two years is that before a grower purchases the product, consider growing conditions and which variety is to be grown (height considerations). When asked about the safety and effectively of plant growth regulators, Hall indicated that the PGRs being tested in these experiments are used extensively in other countries.

## RECEIVE THE OAT SCOOP *ELECTRONICALLY!*

Want to receive this newsletter in your e-mail box? Simply go to **www.poga.ca**, click on "*Sign Up to Receive the Oat Scoop by E-mail*" on the homepage.*

** After this is done, we will remove you from the print mail out list.*

Manitoba Oat Growers Association

## ANNUAL GENERAL MEETING

**Thursday, February 11, 2016**
Victoria Inn Hotel and Convention Centre
(as part of The CropConnect Conference)
**Winnipeg, MB**
Free Admission to the AGM

Agenda

| | |
|---|---|
| 2:55 pm | Welcome from MOGA President, Edgar Scheurer |
| 3:00 pm | MOGA Annual Business Meeting, Edgar Scheurer |
| 3:15 pm | Where do the check-off dollars go? What percentage goes to bettering the oat market? How is this impacting your farm? MOGA Board of Directors |
| 3:35 pm | Adjourn |

*Times and agenda topics subject to change, check poga.ca for updates*

CropConnect Conference

## February 10 & 11, 2016

**Victoria Inn and Convention Centre** | 1808 Wellington Ave, Winnipeg, MB

- **A tradeshow with access to crop specific information**
- **2 intense days with over 30 educational speakers**
- Keynote Speaker: **Michael Boehlje,** Economist, Center for Food and Agriculture Business, Purdue University
- Keynote Speaker: **Charlie Arnot**, CEO, Centre for Food Integrity
- Keynote Speaker: **Donald Cooper**, former owner, Cooper Canada
- Banquet Speaker: **Dave Hemstad**, 3 time Canadian Comedy Award nominee

Dave Hemstad, "When Lightning Strikes"

*For more information on the event or to register visit*
**cropconnectconference.ca**

Proudly brought to you by: Manitoba Canola Growers · Manitoba Corn Growers Association Inc. · MANFLAX · Manitoba Oat Growers Association · Manitoba Pulse & Soybean Growers · CNSA · Manitoba Wheat and Barley Growers Association

## ANNUAL GENERAL MEETING

**Monday, January 25, 2016**
Turner Valley Room, The Edmonton Westin
10135 100th Street
**Edmonton, AB** T5J 0N7
**Free Admission**

Agenda

| | |
|---|---|
| 6:30 pm | Complimentary drink, sandwiches and vegetables |
| 7:15 pm | Welcome from the Alberta Oat Growers Commission |
| 7:20 pm | AOGC Business Meeting |
| 7:35 pm | Director Elections / Director Acclamation |
| 7:45 pm | Alexander Fedko, the Government of Alberta - Oat Plot results in Alberta: Can another variety out-preform Morgan? |
| 7:55 pm | Chris Newbergher, Stony Plain Seed Cleaning Plant - A local perspective on oats and where the Alberta oat market is going |
| 8:30 pm | Adjourn |

*For those that stay through the end of the meeting, AOGC will provide another complimentary drink ticket. Please RSVP to info@poga.ca to ensure enough food is ordered.*

*Times and agenda topics subject to change, check poga.ca for updates*

## Director Nominations Open

Are you interested in becoming a director or do you know someone who is? Here's just a few of the benefits:

- Identify and direct research for the benefit of the entire industry
- Increased industry knowledge
- The opportunity to meet a large number of influential millers, buyers, and government officials across the province, nation and globally
- Increased information sharing with other growers
- Professional development
- Reimbursement for all travel, honorariums for time spent on the commissions' projects and committees

**To be eligible, a producer must have sold oats after July 31, 2013.**

Deadline for nominations is:
**5:00 PM TUESDAY, DECEMBER 8, 2015**

For nomination forms and further information contact:
**AOGC Administration Office**
PO Box 20106, Regina, SK S4P 4J7
**Telephone** (306) 530-8545 **Fax** (306) 546-2999 **Email** info@poga.ca

*POGA and Riverland Ag will be sponsoring a tour of the new Northgate Commodity Logistics Hub at Northgate Saskatchewan on Wednesday, December 2 , 2015. A bus will provide roundtrip transportation from The Temple Garden Mineral Spa in Moose Jaw to Northgate and lunch will be provided. Due to space only 50 people can participate. This event is free. RSVP early by e-mailing info@poga.ca or calling 306-530-8545.*

# POGA'S 18th ANNUAL CONFERENCE

Prairie Oat Growers Association

**THURSDAY, DECEMBER 3, 2015**
Temple Gardens Mineral Spa
24 Fairford St E
Moose Jaw, SK S6H 0C7

Prairie Oat Growers Association

## AGENDA

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|---|---|
| 8:00 am | **Registration and free breakfast available** – oatmeal, eggs, fruit, bacon, pastries, juice, tea and coffee. Meet our sponsors and enter the draw for $100 worth of FREE OAT GROCERIES. |
| 8:45 am | **Welcome and Introduction** – Art Enns, POGA President |
| 8:50 am | **Assessing North America Weather Trends for Now and in the Future** - David Phillips, Senior Climatologist, Environment Canada |
| 9:50 am | **Innovative ways to manage weeds in oats** – Chris Willenborg, University of Saskatchewan |
| 10:35 am | *COFFEE BREAK* |
| 11:05 am | **Gluten Free Oats: Update on Health, Safety & Regulatory Issues: What it means for oat producers** - Shelley Case, RD, Consulting Dietitian and Author of Gluten Free: The Definitive Resource Guide |
| 12:05 pm | **Greetings from the Saskatchewan Agriculture Minister,** Honourable Lyle Stewart |
| 12:15 pm | **Soup and sandwich lunch** – tour the sponsor's displays |
| 1:00 pm | **Enabling Supply Chains for Oats** – David Przednowek, Director of Marketing - Grain for Canadian National (CN) Railway |
| 1:45 pm | **New oat varieties from three of Canada's largest Seed suppliers** – Cosmin Badea, Canterra Seeds; Ron Weik, FP Genetics; and Brad Pinkerton, SeCan |
| 2:30 pm | **POGA Annual General Meeting** - Art Enns, POGA President |
| 2:45 pm | *COFFEE BREAK* |
| 3:15 pm | **Opportunities for new Entrants into Western Canadian Grain** – Colin Topham, Managing Director, Agrocorp |
| 4:00 pm | **Market Outlook for Oats and Other Crops** – Brenda Tjaden Lepp, Farmlink Solutions |
| 4:45 pm | **Wrap-up and Adjourn** – Art Enns, POGA President |
| 5:00 pm | **Social Hour** at the Temple Gardens Mineral Spa |
| 6:30 pm | **Dinner and speaker** – Samantha Stephens owner of OatMeals, the hottest new restaurant in New York City, dedicated to serving oats in a variety of forms as seen in the Wall Street Journal, ABC, NBC, CBS and Women's Health Magazine plus many more! *(Additional Cost of $50)* |
| 8:00 pm | **Adjourn** |

***Save money by pre-registering by November 29, 2015 at poga.ca!***

DAYTIME SEMINARS, BREAKFAST AND LUNCH **$20 early** *($25 at the door)*
OPTIONAL EVENING BANQUET **$50 pre-registration** *($60 at the door)*

**Times and agenda topics subject to change. For updates, pre-registration and credit card payments visit poga.ca*

*Note: For those arriving on Wednesday December 2nd, there will be a meet and greet beginning at 8:00 pm at the Temple Gardens Mineral Spa*

**Please book your hotel rooms early by calling 1-800-718-7727 and mentioning code 114277.**
**The discounted rate is only available until mid-November on a limited number of rooms!**

Saskatchewan Oat Development Commission

## YOUR CHECKOFF DOLLARS, HOW ARE THEY USED; AND EXAMINING GRAIN MILLERS PRE-HARVEST GLYPHOSATE POLICY

**TUESDAY, JANUARY 12, 2016**
TCU PLACE
(as part of CropSphere)
**Saskatoon, SK**
Free Admission to the AGM

Agenda

| | |
|---|---|
| 1:30 pm | Opening remarks from SODC chairman, Willie Zuchkan |
| 1:35 pm | SODC Annual Business Meeting, Willie Zuchkan of Foam Lake, Chair |
| 1:50 pm | Discussion about Grain Millers' policy on pre-harvest glyphosate application, including visuals and examples of product quality issues behind the decision, Terry Tyson, Grain Procurement Manager, Grain Millers Canada |
| 2:15 pm | Adjourn |

*Times and agenda topics subject to change, check poga.ca for updates*

## OCHRATOXIN A (OTA)

Ochratoxin A (OTA) is a mold species found in some grains. Unlike some other mycotoxins, OTA is not produced in the field, rather it is produced in storage when temperature and moisture conditions are high enough. OTA is not detectable to the eye or grading, nor is it completely removable through processing, which could result in detectable levels in processed food products.

Principles of good storage practices such as preventing infection by fungi and avoiding environmental conditions that encourage mold growth can reduce its formation.

The issue of Ochratoxin A in Canada's and the world's food supply is not new. The European Union has had regulations on the allowable amount in foods since 1998. Canada has been investigating and proposing maximum levels of ingestion from foods of 5 ppb (5ng/g) for oats since 2010. To date, compliance with voluntary limits is strictly a voluntary practice for the industry, although Health Canada and the CFIA continue to monitor grain based foods for OTA presence, and have the authority to enforce product recalls.

One of western Canada's industry players, Grain Millers Canada Corp, earlier this fall introduced a new program to procure an oat supply free of OTA. Terry Tyson, manager of procurement for the company, says the company initiated this program in response to one of their clients, who produces infant foods and requested oat flour without OTA. Infant food tolerance for OTA is extremely low. (0.5 ppb)

Grain Millers subsequently developed a protocol for oat producer suppliers which starts with a thorough cleaning of bins to be used for storing the oat harvest. Aerated bins are filled with the dried crop (naturally or manually dried) then must be monitored for temperature and moisture according to the standards and schedules set by Grain Millers.

Tyson says "oats are not typically the recipient of premium storage on the farm and delivery of that grain (contracted under this program) is not expected until the last half of the crop year; Grain Millers is prepared to offer premiums for those oats that meet the program specifications." He went on to say that this is a pilot program, and the industry may see more programs of this nature as customers increase their product specifications.

# MEET YOUR NEIGHBOURS!

## AlanBUTUK

"Harvest our way started off nice and dry with good growing conditions, then came the rains, and it got wetter and wetter" says Alan Butuk, a farmer near Insinger, SK. He was satisfied with crop quality, as the oat crop showed heavier weights than last year, but yields were a bit lower and they did take the last off wet then dried it to maintain the quality.

Butuk, who farms with his wife Sojna, parents Fred and Bev and his uncle John, has a standard rotation of canola, wheat and oats. This formula seems to work well for the operation.

From a market perspective, the Butuks' fall market contracts are full, and they are now waiting for other contracts to come due. Their market includes the US, where they have trucked in the past. The change in currency makes it more attractive, but they haven't transported any oats south yet this crop year.

He feels that if the world wants to eat oatmeal and other nutritional oat products western Canadian oat producers can produce and supply that market.

Butuk is a new director of POGA, and when asked about the role he replied "being new to the position, I am learning a lot more that I am contributing right now". He does think that oats is a good crop for the area, demand seems strong, and industry issues tend to be on the back burner for oats due to the size of the crop.

## RayMAZINKE

Morris, Manitoba area oat grower, Ray Mazinke, farms in the Pembina Valley region 50 km south of the province's capital and 40 km north of the community of Emerson. Mazinke, along with two brothers, annually put in and harvest 1,500 to 2,000 acres of oats. Rotations on his operation include canola, soybeans, a chunk of cereals (wheat, malt barley and oats) and corn. Factors determining the size of the oat crop to be planted include the wild oat situation that year.

Manitoba farmers experienced a different production year in 2015 in that wheat, barley and oats had lots of lodging. Seeding in the area was probably a week earlier than most years, and growing conditions excellent. However, Ray says "weak legs, and high yield potential (fast growth early on) followed by three major weather events, took the crops down; oats did handle the first event well but the other two proved too much and lodging happened." The lodging did impact, to some extent, yields, but most area growers experienced average to above average yields (120 bu/ac plus).

Like many growers in southern Manitoba, Mazinke plants oats that are shorter and have no reputation for lighter seed weights. Ronald, an older variety, and Summit which carries Ronald in its lineage are popular varieties. "These varieties are almost territorial in their use, and as you move west across the prairies, you will probably not see them" notes Mazinke.

When it comes to marketing his oats, Mazinke says "I am almost spoiled by my farm's proximity to Emerson Milling, Richardson's International, Patterson Grain and Cargill all of which are active in oat buying." This combined with the fact that oat production in Manitoba has been declining for the past decade or so, brings attention to his operation as a supplier of quality oats."

Mazinke is an active participant in the oat industry in western Canada, currently vice-chair of the Manitoba Oat Growers Association and a director on POGA.

## ChrisRUNDEL

Chris Rundel, his family, two brothers-in-law and their families and Doug and Brenda Hannah jointly own and operate the Hannah Farm, near Foam Lake, Saskatchewan.

"About half the farm was in oats this year," says Rundel, who handles much of the marketing for this 8000 acre operation.

The farm uses oats in rotation with canola, and wheat. The oat variety Dancer was a previous farm favourite, but after their own research trials with Triactor, the 2015 oat crop was predominately Triactor interspersed with several fields of Summit (which could be next year's variety choice for the farm, depending on this year's yields. At the time of this interview the oat harvest was still in progress). Chris says "shorter straw and higher yields made Triactor the variety of choice for this year." Summit appears to have the added benefit of heavier test weights – making it attractive for future plantings.

Farm fertilizer trials have resulted in a 50-pound application range, "which gives us value without pushing our test weights too low," states Chris. Foliar-applied nitrogen and other micronutrient package trials continue on-farm. Given that spring-applied fertilizer can be a "limiting factor," Chris says finding ways to "stage out" the fertilizer application though out the growing season is becoming more important.

Attending an Indian Head Research farm field day several years ago plus some experimental spraying on the farm with positive results has encouraged the operation to use fungicide. They found that fungicide application to oats greatly reduced lodging issues. Rundel says they don't yet know why the fungicide application helps "standability", but they intend to continue with this process." Regarding growth regulators, the farm has no short term plans to incorporate their use into the operation, simply because of the marketing issues associated with

the process. The risk at this point outweighs any potential benefits.

Rundel remarks that "the Hannah operation is fortunate to be geographically located near a major oat processor such as Grain Millers, in Yorkton, where we market a majority of our oats." They do, however, keep all marketing options open. "Like a lot of guys, in 2013, we loaded rail cars and we have sold and will continue to sell to other buyers when the price is right!" He's also on the look-out for other specialized markets such as "gluten free", or high Beta Glucan." We try to stay on top of the markets, so we can be sort of the first guys in the door."

## KeithGILCHRIST


Keith Gilchrist and his family, farm near Pickardville, Alberta, a community within Westlock County, about 60 km northwest of Edmonton. He is an active producer within the oat industry, acting as Alberta Oat Grower Commission (AOGC) chair since its inception in 2013, and holding the position of Vice-Chair for Prairie Oat Growers Association (POGA). POGA was established in 1998 by oat growers across the prairie provinces and it continues to act as an umbrella agency coordinating activities with and through the oat commissions in Alberta, Manitoba and Saskatchewan.

Oats is integral to his operation and this year has been tough on the oat crop at home and across the province. Gilchrist says the harvest has been, for the past six weeks, on again, off again thanks to the weather. He has heard about oat yields as high as 100 bu/ac to as low as 13 bu/ac close to home. Yields on his crop were about 65 bu/ac, roughly half of his normal harvest due to the dry conditions throughout the growing season.

His oat crop and that of neighboring farmers is being fed on farm rather than moving through the grain system. "With hay at $.10 to .12 /pound, and oats at $.08 to 08.5/ pound, it is cheaper to feed oats then buy hay for our livestock" says Gilchrist. "Some farmers will be using previous year's oats as well, to get through the winter with their livestock."

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