



Annual Report

2017/2018

Introduction

This annual report details the sixth year of Alberta Oat Growers Commission (AOGC) operations. This is the twenty-first year that oat growers from Saskatchewan, Manitoba and Alberta have worked together to give voice to the needs of oat growers.

Shawna Mathieson is now in her eighth year as Executive Director of the Prairie Oat Growers Association (POGA), AOGC, as well as the Saskatchewan and Manitoba oat commissions. She leads all the administrative duties of the three provincial organizations as well as POGA. In 2017, POGA also hired a quarter-time assistance. Cyndee Holdnick is a farmer and rancher based out of Manitoba and assists with the administration of the four commissions.

POGA

AOGC is the third largest funding partner in POGA, the prairie wide organization representing oat growers in Western Canada. POGA funding partners include the Saskatchewan Oat Development Commission (SaskOats), the Manitoba Oat Grower Association (MOGA) and the Alberta Oat Growers Commission (AOGC). MOGA and SaskOats are the equivalent oat grower check-off funded organization in their respective provinces.

All six Alberta directors are represented on the POGA board. There are also six directors from Manitoba and six directors from Saskatchewan on the POGA board.

The goal of POGA is to handle all administration duties of the provincial organizations and the overall approval and monitoring of projects of mutual benefit to SaskOats, MOGA and AOGC. Some projects continue to be provincially directed and therefore funded directly from the provincial organization. An example of this in Alberta is the project "Optimizing Oat Yield, Quality and Stand-ability in Central Alberta" led by Dr. Linda Hall at the University of Alberta and co-funded with ACIDF as well as the Alberta Regional Variety Testing Program.

Education

One priority of AOGC has been the education of our producers and industry on current oat initiatives, issues, and relevant regulatory changes. As such, we distribute the "Oat Scoop" newsletter a minimum of two times annually to the MOGA, SaskOats and AOGC membership and oat industry organizations. This newsletter is also available on our website, www.poga.ca.

AOGC also hosts an Annual General Meeting every year to encourage Alberta Oat Growers to learn about where their check-off is being used, talk to the industry and vote on important issues. These AGMs are held the day prior to FarmTech in Edmonton, AB each year; the next one will be on January 28, 2019 at the Edmonton Westin.

AOGC is co-host to the POGA annual conference, a day-long seminar on oat production and marketing held every third year in Alberta. In 2017, the conference was held in Banff, Alberta and, after the year end in 2018, POGA's annual conference was held in Saskatoon, Saskatchewan.

As a partner to the Prairie Oat Growers Association, AOGC Directors have been active ambassadors to the oat milling and processing side of the industry and have made many key contributions to promoting and advancing our oat industry.

Policy

AOGC has an ongoing dialogue with our provincial government. In November 2017, and again after the year end in November 2018, AOGC sponsored and participated in "Chops and Crops" in Edmonton to discuss several current issues affecting Alberta oat growers with members of the Government of Alberta. This has become an annual event for AOGC, and one that invites collaboration between various Alberta commodity groups and government personnel.

AOGC, through POGA, holds a membership in Grain Growers of Canada (GGC) which represents oat growers on many policy issues at the national level. Some concerns worked on through GGC this year included Bill-C49, the proposed federal tax changes and PMRA's proposed changes to neonics.

A current issue facing oat growers is the proposed mycotoxin standards in food grains in Canada. AOGC and POGA are actively providing input into these standards, have co-funded a publication of a study addressing these standards and are conducting further research, through the Canadian Grain Commission (CGC) to measure the occurrence of fungi and mycotoxins on oats. This project is co-funded with the Agricultural Development Fund (ADF) of Saskatchewan. In addition, AOGC, through POGA is funding a project titled "Mitigating mycotoxins in the Canadian food value chain," led by Food and Consumer Products Canada and partially funded by Western Grains Research Foundation and many industry participants. This project supports the development of the tools needed to manage the new reality of possible mycotoxin regulation, including tracking changes in mycotoxin profiles, developing rapid and reliable methods for sampling and testing Vomitoxin, also known as deoxynivalenol (DON) and Ochratoxin A (OTA) at wheat grain elevators using aspirated dust particles, developing best practices for post-farm storage and processing to minimize the development of OTA, developing independent capacity to reliably test for emerging mycotoxins, and developing reliable, rapid, cost effective tests to quantify the presence of fungi responsible for toxin production both in raw and processed grain. This project was completed in the 2017-2018 year.

AOGC, through POGA, is also represented at the Western Grains Research Foundation (WGRF), the Prairie Grain Development Committee (PGDC), The Crop Sector Working Group and has participated in industry-wide meetings such as the Value Creation meetings, CropLife Canada, Grains Roundtable and the Canadian Global Grains Symposium in addition to attending meetings with the Market Access Secretariat.

AOGC, through POGA, has taken a very active role in the transportation issues that have plagued Canada. One aspect of POGA's Ottawa mission was to express concerns over the expiration of the Fair Rail for Grain Farmers Act, which did expire on July 31, 2017. Bill C-49, the *Transportation Modernization Act*, was passed in May 2018. Other issues discussed in Ottawa with key delegates were the Carbon Tax, oat market access through NAFTA, the CPTPP as well as China and India (where specific market access requests have been submitted through Market Access Secretariat), the health benefits of oats, the national food policy, the Canadian Grain Commission

Surplus and science-based pesticide reviews. These discussions have been extremely important, and AOGC, through POGA, continues to see value in this mission.

Continued work on building key relationships, such as the Ottawa trip, has been vital to POGA's position, and thus AOGC's, within the industry and government agencies. POGA has been requested at various government meetings for input, often where only few commodity groups are invited. For example, POGA is one of a few commodities that has a representative on the Crop Logistics Working Group focused on Canadian Transportation issues.

Select POGA Directors and the Executive Director have also been active advocates to the oat milling and processing side of the industry by attending and speaking at the North American Millers Association's (NAMA) annual conference each year for the past ten years. Our strong industry support is demonstrated by our invitation to these meetings to provide a "producer perspective." Oats continues to be the only commodity group represented at this event. POGA also works with NAMA on a few projects. Examples include NAMA's joint "Crown Rust Marker Project" which is working to identify molecular markers for oat crown rust resistance with the US Department of Agriculture (USDA) and POGA sat the Oat Global Board as the sole grower voice in 2017-2018.

AOGC, through POGA, led a National Oat Strategy Session in the fall of 2017. The intention was to develop a plan for long term research and development goals in addressing items such as the miller's minimum beta glucan and total dietary fibre levels required, maximum oil allowed, producer yields, kernel size and quality, lodging goals, etc. The hope is to align industry and producer needs in oat breeding across Canadian programs so the maximum potential can be reached. The meeting was a big success, and a testament to the collaboration in the oat industry. This project was co-funded by the Industry Organization Development Fund (IODF) of Saskatchewan.

Research Projects

AOGC, through POGA, supports Dr. Lingyun Chen's, "Optimizing protein quality of Alberta oats and food application development," at the University of Alberta. The research looks to analyze oat protein quality for both functionality and nutritive values as impacted by variety and agronomy practices. Initial results show that fertility levels significantly impact the protein content in oats. This project was co-funded by the Alberta Crop Industry Development Fund (ACIDF).

AOGC, through POGA, also funds, "Product Development from Gluten-Free Oat Fractions," at the University of Alberta under Dr. Chen. Most fractionation methods extract one or two ingredients only, making the other non-desired fractions less usable. This project is working to develop a cost-effective process to allow for the extraction and utilization of all oat ingredient fractions. The hope is that if oats are easily fractionated in a cost-effective way, companies can generate more revenue and producers will benefit through increased demand and prices. This project was co-funded with ACIDF.

AOGC, and all prairie oat growers, benefit from SaskOats' multi-year commitment with the Crop Development Centre (CDC) in Saskatoon for \$80,000 annually, with the funds being targeted to agronomic studies, plant pathology, and plant breeding at the University of Saskatchewan. This funding is set to be refocused on only plant

breeding starting in mid-2019 due to the elimination of funding to the CDC by PepsiCo Quaker and the strong need to maintain this vital breeding program.

AOGC, through POGA, continues to fund and administer an oat breeding collaboration project with the industry and the Government of Canada under the AgriInnovation program. This project, called the Prairie Oat Breeding Consortium (POBC) is designed to fund the Western AAFC oat breeding program aimed at developing food and milling quality cultivars adapted to the western provinces. POGA agreed to fund 25% of the costs of this program in collaboration with a group of eight oat industry stakeholders. The Manitoba Oat Growers Association pays the full cost of the POBC membership. In addition, POGA, along with 5 other industry partners have agreed to fund a post doc student under Dr. Jennifer Mitchell Fetch at AAFC Brandon as part of a knowledge transfer plan. This person was hired in the spring of 2017 and the funding is in place for two years. The funding for the POBC expired on March 31, 2018 and POGA, once again, applied and was approved, for further funding. All breeding programs in Canada under the AgriInnovation Program (AIP) were reduced to a maximum of 50% funding. While this is large reduction in funding, Ag Canada did agree to maintain 50% of the original budget request therefore allowing this project to continue. The POBC members, including POGA, will now contribute 37.5% of the total project budget for the next 5 years.

AOGC, through POGA, contributes to Dr. Aaron Beattie's project, "Breeding for Resistance to Leaf Blotch Pathogens in SK Oats," at the University of Saskatchewan. This research looks to understand leaf blotch pathogens, understand the genetics of resistance in oats to leaf blotch, and identify and develop molecular markers for leaf blotch resistance in oat breeding. This project is co-funded with ADF.

AOGC, through POGA, funds "Investigation of Avenanthramides, a New Healthy Compound in Oat" at the University of Saskatchewan. This project hopes to improve the nutritional value of oat through increasing the level of avenanthramides, novel bioactive compounds in oat that have strong antioxidant, anti-inflammatory and anti-itching activities. POGA contributed \$90,000 over three years with the remainder of the funding coming from WGRF and ADF. This project was completed in the 2017-2018 year.

AOGC, though POGA, funds Chris Willenborg's project "Integrated Weed Management Strategies to Maximize Oat Production," at the University of Saskatchewan. This project is also co-funded with ADF. The objective is to examine weed control tactics for wild oat and kochia management in oat production.

AOGC, through POGA, also contributes to AAFC's "Organic Oat Breeding" Program led by Mitchell Fetch. The goal is to develop milling quality oat cultivars suitable for organic production in western Canada, and potentially across Canada. Organic oat markets continue to grow, and producers require improved cultivars to respond to their specific production system. POGA has committed funding for 5 years. This project is also co-funded by the industry and the Canadian Agricultural Partnership, AgriScience Program: Projects Component (APPC).

AOGC, through POGA, also provides financial support to Oat Advantage, a private oat breeding program in Saskatoon, for further oat breeding in Western Canada. The original funding supported four main goals 1) Improved oat line quality selection for low hull content 2) Improved oat line selection for variation of groat surface borne trichomes (hairs) 3) Improved seed purity in early generation harvest and 4) Steady flow of breeding material through winter nursery utilization. Progress was made on

all project objectives, including realizing better assurance of oat lines with plump groats and an ability to focus on oat lines that portion growing season resources into meaningful yield; determining, and being able to act on, the variability in oat groat trichome content, which can lead to new oat varieties with improved properties for grain handlers; and harvesting small oat bundles with nearly 100% seed purity. The original contract ended in 2017, and POGA has agreed to another 3-year contract to continue this important breeding work.

One strong recommendation from the 2015, "Future of Oat Forum," was to improve the Oat Grower Manual and have more extension studies. As such, POGA contracted Jim Dyck of Oat Advantage to update the online grower manual in 2017. The Saskatchewan Industry Organization Development Fund (IODF) co-funded this project and the updated version can be found on POGA's website.

AOGC, through POGA, funds two projects with Bill May at the Indian Head Agriculture Research Farm: the first, a project also funded by ADF along with other Saskatchewan commissions, is "Crop Sequencing of Large Acreage Crops and Special Crops." The objective of this project is to determine the effects of a proceeding crop using several large area plots and several special crops. The crops in this rotation will include Wheat, Oats, Canola, Pea, Canary Seed, Hemp, Quinoa, and Coriander. Moisture and residual N at beginning of second year, plant density, volunteers during growing season of second year (counts and biomass), grain yield and grain quality will all be assessed.

The second project at Indian Head, funded by the Agriculture Demonstration of Practices and Technologies (ADOPT) program, is, "Yield Response and test weight stability of Oat to Fertilizer N." The objective is to determine if the test weight of current oat cultivars vary in the stability of their test weight as nitrogen rates change.

A new project this year, also funded by ADOPT, is another fertility project "Managing Fertilizer use to Optimize Yield and Quality of Oat," by Lana Shaw at the South East Research Farm. This project will demonstrate the effect of four rates of nitrogen fertility on yield, quality, and lodging of milling oats. The information garnered by Bill May's project will be incorporated so as to not duplicate research.

AOGC, through POGA, also funded "Transposon-Mediated Activation Tagging in Oat," at McGill University. The objective of this five-year project was to lay the foundation for a new method of identifying genes to improve oat breeding. The project will create an experimental oat variety with a transposon, which is a class of genetic element that can "jump" to different locations within a genome. The transposon will be programmed to jump in/out of genes of interest, turning them on/off. This will allow identifying the genes of interest by finding the location of the transposon. This project was successful in developing transposon insertion lines, and showing improved genetic transformation in oat. The transposon-system itself is an important resource for gene identification through gene knockouts, gene activation and transposon-assisted gene editing through transposon footprints. The transformation system developed in this project is mandatory for the success of future CRISPR-based gene editing. This project was completed in the 2017-2018 year and was co-funded with the Government of Canada's AIP Program.

AOGC, through POGA is also funding, "Comparison of Quality among International Oat Sources," led by Dr. Ames at Agriculture and Agri-Food Canada. Dr. Ames conducted a direct comparison of quality between oats sourced from several major

oat producing countries. This information will give the world-wide oat industry valuable marketing information, as well as provide breeding direction for Canadian oat researchers. This project was completed in the 2017-2018 year.

AOGC, through POGA and SaskOats, committed to two new projects led by Jessica Pratchler with the Northeast Agriculture Research Foundation. The first, "Improved Integrated Disease Management for Oats in SK," aims to understand the effectiveness of fungicide applications, as well as genetic resistance to control foliar diseases in oats. The second project, "Improving Oat Yield with Intensive Agronomy", will look at balancing the increased fertility regime in oat production with lodging, disease and maturity implications. The goal is to help producers grow high yielding and improved milling quality of oat in an economical manner. These projects are co-funded by ADF and ADOPT.

AOGC, through POGA, contributes to the "*Canadian Agronomist.ca*". This website intends to fill the gap between researchers, agronomists and to some extent producers by implementing electronic technology/knowledge transfer utilizing email newsletters and posting of Research Summaries.

AOGC, through POGA, joined the farm safety campaign with a sponsorship in "Be Grain Safe." This project has developed mobile units which function both as grain entrapment units for demonstrations, as well as being rescue training units for emergency personnel. The awareness efforts are being directed towards producers, to remind them of proper safety protocols and to emergency personnel to be able to effectively handle grain entrapment situations; hopefully saving lives on the farm in Alberta and all of Canada.

Research – Product Development

AOGC, through POGA, is funding a product development project being completed at the University of Alberta by Dr. Chen, "Development of an Oat Based Beverage." This collaborative industry project will focus on developing two oat protein-based beverages. The initial oat-based beverage will be developed in collaboration with Oatdeal, based out of Saskatoon and will be a ready to drink oat protein enriched product. The second will be a nutritious oat-based beverage that possesses the necessary sensory and nutritional properties to improve the quality of life of patients who are undergoing radiation therapy.

An extension of the development of an oat-based beverage is the "Development of an Oat Coffee Additive (Coffee Creamer)." Approximately 65% of global consumers drink at least one cup of coffee per day, and 37 billion cups of coffee with non-dairy creamers are consumed annually. Consumer demands for nutrition, convenience and plant proteins/fibres is generating a new market opportunity within the coffee creamer market. Through this research, Dr. Chen hopes to develop a nutritious, functional oat-based coffee additive that combines protein, beta glucan and a probiotic into a functional and competitive lactose free coffee additive. This developed product will be the first of its kind on the market, and could generate a new market opportunity for, and consumer awareness of, oats. Both of Dr. Chen's projects are co-funded with ACIDF.

Research – Feed

A key recommendation from POGA's study of world oat markets highlighted the need to investigate the potential to recapture the USA oat feed market. AOGC, through

POGA, is part of a five-year project at the University of Saskatchewan to “Develop New Strategies to Efficiently Utilize Oat Grains in High Production Dairy Cows to Maximum Economic Return and Benefit to Prairie Oat Growers.” This project aims to identify the best oat variety or type of oat grain with the highest Feed Milk Value (FMV) for dairy cattle, to improve the FMV of oats through processing, and to find the maximum or optimum level of oats in high production lactation dairy cow diets thus, ideally, promoting more oats in dairy rations. The project is co-funded by the Natural Sciences and Engineering Research Council of Canada’s (NSERC) Collaborative Research and Development (CRD) grant.

Market Development Projects

AOGC, through POGA, received funding through AgriMarketing starting in the 2015-2016 year to advance the Canadian Oat Market in Mexico. Over the years, this project has seen a large increase of Canadian oats moving into Mexico. In June 2018 POGA representatives met with the largest oat millers in Mexico, comprising of over 97% of the market, as well as with Mexican government officials to continue this mission. The Facebook campaign has also been a huge success, reaching 1 in 3 Mexicans each year. The original funding through AgriMarketing and the contract with Emerging Ag ended March 2018, and POGA has secured an additional 3 years of AgriMarketing funding beginning in April 2018 and will continue to contract Emerging Ag to continue this successful project.

AOGC, through POGA, supported the “American Oats Marketing Campaign ‘Oats Everyday.’” The goal was to position oats as a tasty, versatile and healthy food ingredient in the USA market. It focused on small dietary changes to incorporate oats, as well as easy ways to substitute oats in recipes. The project had many successes along the way, including over 2.7M Facebook users, however due to reduced funding from partner sources the project ended on March 31, 2018. This project was co-funded through the AgriMarketing Program and Industry partners.

AOGC, through POGA, also contributes to the “Keep it Clean Cereals” Initiative led by Cereals Canada. This program targets Western Canadian producers and aims to provide producers with proper information to get their cereals ready for the export market by highlighting important export standards and expectations. This project is important, especially for topics like glyphosate, not only to remind oat growers of the possible issues of not meeting export standards but also ensuring other countries know the safe messages being delivered and how important it is for Canada. POGA also provided additional support in 2017-2018 for the creation of Keep It Clean videos to be shared on social media with key messages like proper glyphosate use.

AOGC, through POGA, contracted Emerging Ag to work towards getting raw Canadian oats into China. POGA members have met with government officials on this multiple times, including representatives from CFIA and AAFC. POGA also participated in a mission to China with the Honourable Ag Minister MacAulay in November 2017 and again after the year in 2018. If raw Canadian oats were allowed into China this could be a huge market potential for Canadian oat growers, which could significantly and positively impact the economic viability of this crop. While inter-governmental issues take time to work through, POGA is pleased with the progress made to-date, including having oats added to the China/Canada 2018 work plan in November of 2017. POGA continues to work diligently on this market potential. Beginning in April 2018 this project is being co-funded by the AgriMarketing Program.

Summary

AOGC has successfully contributed to the profile, representation and profit of Alberta oat growers. Since 2008, oat growers in Western Canada have spent about \$0.18 of every dollar on research and marketing. The great collaboration of industry, government and the oat organizations is displayed by the amount of research and marketing work that is able to continue for our small crop.

AOGC will continue to develop the strategic relationship with POGA and work towards multiplying the producer investments in AOGC with both industry and government partnerships to expand oat profitability and profile both locally and around the world.

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AOGC 2018-2019 Budget

Revenue

Check-off levy (\$.50/tonne on 304,900 tonne)	\$152,450
Check-off refunds @ 6%	<u>(\$9,147)</u>
	<u>\$143,303</u>

Expenses

Board of Directors	\$4,500
Communications	\$3,500
Levy Administration Fee	\$11,989
Producer Meetings	\$7,600
Proportionate expenses of POGA	\$72,045
Research and Development Grants	\$3,300
General and Administrative (Audit, Legal, Elections, memberships, etc.)	<u>\$2,600</u>
	<u>\$105,534</u>
Excess of revenues over expenses	\$37,769