



Annual Report

2015/2016

Introduction

This annual report details the fourth year of Alberta Oat Growers Commission (AOGC) operations. This is the Nineteenth 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 sixth year as Executive Director of the Prairie Oat Growers Association, AOGC as well as the Manitoba and Saskatchewan oat commissions. She leads all the administrative duties of the three provincial organizations as well as POGA.

POGA

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

All six Alberta directors are represented on the POGA board. Currently there are also six directors from Saskatchewan and six directors from Manitoba 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 AOGC, SaskOats and MOGA. 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.

Education

One priority of AOGC has been the education. To deliver on this initiative, we distribute the Oat Scoop a minimum of two times per year to every member of AOGC, SaskOats and MOGA.

AOGC also hosts an Annual General Meeting in Alberta 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. The 2015/2016 meeting was held in Edmonton, AB the day before FarmTech began. This is once again the plan in 2016/2017.

AOGC is co-host to the POGA annual conference, a day-long seminar on oat production and marketing seminar held every third year in Alberta. In 2017 this event is scheduled to be held at Banff Springs Hotel in Banff, AB.

Policy

AOGC, through POGA, holds a membership in Grain Growers of Canada which represents oat growers on many policy issues at the national level. 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 to measure the occurrence of fungi and mycotoxins on oats. 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, develop best practices for post-farm storage and processing to minimize the development of OTA, develop independent capacity to reliably test for emerging mycotoxins, and develop reliable, rapid, cost effective tests to quantify the presence of fungi responsible for toxin production both in raw and processed grain. The AOGC and POGA Executive Director, Shawna Mathieson, also attended the World Mycotoxin Conference in Winnipeg, MB in June 2016 to ensure the organization is staying abreast of new issues and solutions regarding mycotoxins.

AOGC, through POGA, is also represented at Western Grains Research Foundation (WGRF), The Prairie Grain Development Committee (PGDC), Saskatchewan Weed Committee, Canadian Field Print Calculator and The Canadian Roundtable for Sustainable Crops (CRSC).

AOGC, through POGA, has taken a very active role in the transportation issues that have plagued Canada. POGA President, Art Enns, presented to the House of Commons Standing Committee in Calgary in May 2016 and four representatives from the POGA board in addition to POGA staff, also travelled to Ottawa in April 2016 to meet with the federal government. One aspect of this trip was to express concerns over the expiration of the Fair Rail for Grain Farmers Act that, in June 2016 this was extended by 1 year. An additional goal was to get a post-doc student approved under Dr. Jennifer Mitchell Fetch at AAFC Brandon due to her upcoming retirement. Mitchell Fetch also does work on oats at the AAFC facility in Lacombe Alberta. AAFC has agreed to this position with the expectation that this person will be in place by the end of 2016. In addition, Enns, was asked to participate in a meeting with the Federal Minister of Transportation in July 2016 where POGA was the sole producer-only group represented. In addition, Executive Director Mathieson participated in a meeting with the Federal Minister of Agriculture and the Federal Minister of Transportation in Saskatoon, SK in October 2016. POGA also participated in a similar meeting with the Federal Minister of Agriculture in July 2016 regarding the new policy framework set to be released in 2018.

POGA directors, and our 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 annual conference each year for the past eight 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. In September 2016, Enns represented POGA at the Canadian Millers Association meeting held in Winnipeg.

AOGC has an ongoing dialogue with our provincial government. In November 2016 AOGC sponsored and participated in Crops and Chops in Edmonton to discuss several current issues affecting Alberta oat growers with members of the Government of Alberta.

Research and Market Development Projects

AOGC through POGA continues to fund and administer an oat breeding collaboration project with the industry and the Government of Canada under the Agri-Innovation program.

The Prairie Oat Breeding Consortium (POBC) funds a breeding program aimed at developing food and milling quality cultivars adapted to the western provinces. POGA, with a group of eight oat industry stakeholders, has agreed to fund 25 percent of the costs of this program which is held at the Brandon Research Centre in Brandon, MB under Dr. Jennifer Mitchell Fetch. The Manitoba Oat Growers Commission pays the full cost of the POBC membership.

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 will be contributing \$90,000 over three years with the remainder of the funding coming from WGRF and ADF.

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

AOGC, through POGA, received funding through AgriMarketing starting in the 2015-2016 year to advance the Canadian Oat Market in Mexico. The goals of this project include increasing the per capita consumption of oats and therefore increasing the amount of Canadian oat exports to Mexico in addition to securing a consistent and large percent of their current oat needs. As part of this, POGA will work directly with the government of Mexico regarding their food security and nutrition programs and with the Mexican nutrition and dietician's community to incorporate more oats into the Mexican diet. In 2015 Canada saw oat exports to Mexico approximately double from the prior three year average and reach a 5 year high. We hope to continue this success in the coming years to help diversify the market for Canadian oats. In addition, the International Relations and Marketing Branch (IRM) of Agriculture and Forestry invited AOGC to speak to a group of Mexican qualified buyers in Edmonton as part of a Food and Animal Feed Ingredients Buyers Mission. AOGC did present to this group and asked an oat buyer, Stoney Plain, to come speak from a shipper's perspective as well. We were told both presentations were very well received.

Finally, AOGC, through POGA, provides funding for two additional research projects at The University of Saskatchewan: Healthier Oat Oil Through Improved Stability,

and Fatty Acid Profile and Improving the Nutritional Value of Oat Through Increasing the Level of Water-Soluble Beta-Glucan. Both of these projects seek an oat with innovative nutritional and processing traits that will be desirable to consumers and industry while helping Canadian Prairie oat growers maintain (and potentially grow) their role as an important supplier of high value oat. Both of these projects were completed in 2015/2016.

Another project funded through POGA, being completed at the University of Alberta, is the project titled "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 OatDeal Coffee Additive (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 The University of Alberta 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 these projects at U of A will start in the 2016-2017 year.

AOGC, through POGA, along with two millers are also funding an oat variety trial with Gateway Research Organization (GRO) where 11 milling varieties and 4 feed varieties are being tested to determine if there are current, miller approved, oat varieties with higher beta glucan than Morgan oats that can out-perform the yield of Morgan oat production in Alberta.

AOGC also approved funding of \$3,300 per year through 2021 for the Regional Variety Tests led by The Alberta/British Columbia Grain Advisory Committee (ABCGAC) on the condition Ruffian and Morgan varieties are added beginning in 2017. This was approved by ABCGAC in December 2016.

Another project funded by POGA at the Indian Head Agriculture Research Farm is Crop Sequencing of Large Acreage Crops and Special Crops. The objective of this project is to determine the effects of a preceding 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.

AOGC, through POGA, is also funding "Transposon-Mediated Activation Tagging in Oat" at McGill University. The objective of this five-year project is 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. At the current stage, marker-assisted selection (MAS) breeding in oat is in infancy and new unique resources are required to deal with the large genome of oat. This research, if successful, will lead to the identification of genome location carrying important traits such as beta glucan and oil contents. It will then be possible to identify these traits at very early seedling stage then breeders can easily use these lines for further breeding programs.

A key recommendation from the POGA study of world oat markets highlighted the need to investigate the potential to recapture the USA oat feed market. AOGC/POGA then conducted a USA Equine Feed Study which clearly demonstrated the potential of these markets.

The Oat Sustainability Project (OSP), formerly called the Equine Feed Oat Project, is an initiative of POGA and was created in 2009 to research, educate and communicate information about oats to the equine industry.

To provide horse owners with important factual information, POGA commissioned a review of published research about oats used in horse feed. The review was performed by one of the leading equine nutrition experts in the industry, Dr. Laurie Lawrence, of the University of Kentucky, Department of Animal and Food Sciences. Dr. Lawrence reviewed over 260 published research documents covering nutritional value of oats in the equine diet and her research concludes that oats are one of the best grain to feed horses.

The OSP has been working with the equine industry via various methods, including partnerships with equine associations, publications and experts in the field. The OSP wishes to educate as many members of the equine industry as possible about the benefits of oats. In summer 2015, the OSP was redesigned to focus on online advertising, TV and social media to better target the market and at the end of July 2016 this project ended.

POGA has also has two additional equine research projects: "Can oat beta-glucan improve the responsiveness of the immune system in horses?" (Co-funded by The Government of Canada through the AgriInnovation Program) which was completed in March 2016. Unfortunately, the findings of this study, indicated that oat beta-glucan supplied in the form of a high beta-glucan oat cultivar or as a powdered concentrate had no advantage over traditional feed oats. Although oat beta-glucan did not appear to mitigate the response of the immune system to physiological stress, the project did demonstrate that horses were willing to consume an oat cultivar bred to be high in beta-glucan and were able to maintain health and body condition similar to that observed when fed regular feed oats or corn as the dominant cereal grain in the diet. Many oat producers have interest in growing oat varieties that are high in beta-glucan as a value-added product for the human food market. Knowledge that high beta-glucan oat varieties are also suitable for inclusion in equine feeds broadens the outlets available to farmers and millers who desire to invest in such varieties.

The last equine project currently being funded by POGA is "Oats Improve the Gastrointestinal Health of Horses" at Penn State University and co-funded by WGRF. This study is investigating whether the inclusion of whole oats at varying concentrations in the horse's diet will influence a comprehensive group of response

variables associated with the horse's gastrointestinal health. This project will be completed in the 2016-2017 year and is partially funded by WGRF.

Finally, in December of 2015 AOGC, in conjunction with POGA, hosted a "Future of Oat Forum" in Moose Jaw, SK. It covered the priorities in research, including breeding, production, and market development. This event included farmers, researchers, Federal and Provincial government representatives and oat millers, handlers and specialty providers. The forum is the basis for a new strategic plan to help the Oat Commission develop long term plans to benefit the oat sector and to steward funds with integrated long-term solutions in mind.

One strong recommendation from the oat forum was to improve the Oat Grower Manual and have more extension studies. As part of this, POGA has contracted Jim Dyck of Oat Advantage to update on the online grower manual in 2017.

In addition to these projects, POGA completed a Long Term International Strategy and submitted it to the Federal Government with long term plans to increase the International presence of Canadian Oats.

Summary

AOGC has successfully contributed to the profile, representation and profit of Alberta oat growers. Since 2008, oat growers in Western Canada have spent less than \$0.18 of every dollar spent 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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