the Oat Scoop

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Box 20106 Regina SK Canada S4P 4J7 Phone 306-530-8545 Fax 306-546-2999 Email info@poga.ca

"Organic" Oat Cultivar Among New Offerings

They don't have "official" names as yet but three new oat varieties are up for registration this year. Two are from the work of Dr. Jennifer Mitchell Fetch at the Agriculture Canada Cereal Research Centre (CRC) in Winnipeg, and one is from the Crop Development Centre, University of Saskatchewan, under Dr. Aaron Beattie.

The three varieties received voting approval from committee members of the Prairie Grain Development Centre (PGDC) at late February meetings in Saskatoon.

OT 8003, developed by Dr. Jennifer Mitchell Fetch, is the first variety put forward from her specific "organic" breeding program.

OT8003

After the first cross was made in 2005, Dr. Fetch says a process known as "bulk breeding" was used, for the second through fifth generations, and from which only the most plump and well-filled seeds were used to develop the next generation.

In general OT8003 would be considered a high yielding oat with high test weight, good thousand kernel weight with 96 per cent grouts rated as "plump". It also produces significantly higher levels of beta glucan and total dietary fibre, and higher protein than check varieties. On the disease side it has "improved" tolerance to barley yellow dwarf virus, but would not be considered resistant. The variety includes Pc91 rust resistance.

OT 2084

Dr. Fetch reports that OT2084 was derived from a cross made at the University of Minnesota, and was first propagated there. Similar to the organic variety described above, OT2084 is higher in oil content, desirable in feed oats, but less well-considered as a milling variety.

Co-op trials showed OT 2084 to have high test weight, significantly higher than AC Morgan.

OT 3061

OT 3061 was developed under the direction of Dr. Aaron Beattie at the University of Saskatchewan Crop Development Centre. It is a high beta glucan, low oil oat variety with excellent straw strength and resistance to smut and crown rust (Pc91) for production across Western Canada.

Having been voted acceptable by the PGDC, these varieties will have to await final Canadian food Inspection Agency approval before they become commercially available.

As with any seed choice, farmers are often urged to think about the end use when planting oats. The grower is advised to check with the processor or other buyers as the suitability of the variety they may choose to grow.

One Small Step for Equines?

Using the most recent census of US equines there are about 9 million horses in the USA (give or take). So analyst Randy Strychar wants us to consider what could be gained by recapturing even part of the lost US equine feed market.

For perspective, says Strychar, let's consider only half: 4.5 million horses. Consider that the average horse eats five pounds of concentrated feed per day, depending on the type of horse and its activity level. "But if we could just get one quarter pound more in that concentrated feed, daily, it could increase your demand in the equine feed market by about 186,000 tonnes annually.

If the scientists can do their job to find and identify beneficial beta glucan, or establish a beneficial link between oats and colic, and you could put two more pounds in there – that's half the ration. If you could make oats a more complete feed for the equine ("If we don't research it we won't know," he insists), you can get that up 1.62 million metric tonnes and that would make oats the *third largest export (grain) commodity in Canada*, (emphasis added) behind canola and wheat.

"This is not a small thing. This is a big thing for Canada. There's big potential for Canada down the road if we've got the foresight and the fortitude to move forward."

But farmers can't be expected to tackle it alone. Through their check off funds farmers already have put in three quarters of a million dollars, Strychar says.

"Things don't get done without money, so we are talking to the industry right now. We need help (because) everyone in the oat industry will benefit from it – a miller, a railroad, a trading company, an importer or exporter. And the board agrees everybody should share a part of the costs in this, both to help stem the decline of oat production… and also to help us with the growth."

Strychar says a three year budget has been allocated: $1.2 million in year one, $1.3 million in year two, and $1.8 in year three, which, in marketing circles is not a large amount, he notes.

So POGA has asked for support from the grain trade and millers based on 25 cents per tonne on the Canada side of the border and as little as one third of a cent per bushel on the US side. But Strychar emphasizes the importance of "engaging the entire industry, from top to bottom."

And to answer a large question hanging over the process, "My biggest concern after 30 years in the oat industry, it's not enough just to double the yield in oats. Without demand and without volume this thing is going to slide into special crops status. If the matter is left just with the oat millers and no further growth in demand from the equine side the millers will have to resort to simply contracting for what they need, and the rest will not happen," Strychar insists. But he cautions that the tipping point may be near – critical mass in the oat industry could go either way.

Standing Up for Oats

Producer Check-off Dollars In Action

The Equine Feed Oat Project (EFOP) (see www.equineoats.org) may be one of "the most important things" that could be done for oat growers of the future. That is the view of oat industry analyst Randy Strychar, speaking to the Prairie Oat Growers Association annual conference in Saskatoon in December, 2012.

EFOP followed a 2009 study by POGA to determine all the uses of oats in the world. "To no-one's surprise the two biggest components we have are the milling industry (human consumption) and the other was the equine industry." Another 2010 study examined why demand for oats in the equine market had dropped from about 1.1 million metric tonnes to 300 thousand tonnes.

Strychar, who is the action behind OatInsight.com, says the findings were a surprise. “A lot of people in the oat industry over the years thought it was simply price related. That turned out to be far from the truth. It was more complicated than oat prices being too high or too low compared to other commodities such as corn or barley, wheat mids or rice bran.”

EFOP was launched (in 2010), with the goal to recover lost oat market share. But Strychar says the POGA board of directors “took an extremely measured approach” to the problem. “They did not want simply to throw money against the wall and hope that something stuck, Strychar said. “We’ve taken up to two years just trying to understand what was actually happening in the marketplace. That includes meeting with all the people in the equine industry, nutritional researchers, feed companies, traders… to really cut through all the layers of what I really think are misinformation and misdirection… certainly longer than I would like.”

POGA was well acquainted with the milling industry, Strychar said, but the equine industry was a “brand new set of people for us to get introduced to.”

Bringing the oat commodity to this point was a steep and steady decline in seeded and harvested oat acres, and production all over the world. The reasons are many, but mostly related to competition for acres from other grain and oil seed commodities, driven in part by bio fuels (ethanol and bio diesel), as well as world demand for other crops.

Strychar says growth in demand for breakfast cereals and other (human) food uses shows “steady but not spectacular growth” -- one to two per cent per year – again emphasizing that it was lost consumption “on the equine” side which has upset the oat market.

A 2001-2002 drought on the Canadian oat area spiked prices comparatively higher to corn and other competing feed grains – corn, barley, wheat mids and rice bran – corn and wheat mids being the two biggest competitors to oats. “That set us on the downturn course we are experiencing now”, he said.

The switch to pelletized feed began at about the same time. Strychar explains, “The problem with that is the ‘least cost’ formulation. The feed manufacturers meet the nutritional profiles that have the cheapest price and they put them in the rations.”

Fear of starch?

Possibly one of the most insidious factors to deal with in the battle for equine feed market share might be characterized as “fear of starch”. The original research, done about 25 years ago, accurately showed that “horses with ‘metabolic issues’ and older horses shouldn’t be eating starch”. While that statement is accurate for the two categories, it represents a very small percentage of horse populations. And, “the internet being what it is”, says Strychar the idea spread that starch was somehow bad in feed rations, “and you can pretty much figure out where the rest went”.

With some diligent digging, Strychar says over a two year period he eventually received admission from “most of the major culprits” that the anti-starch sentiment had gone too far, but it will take some time to right the ship on the equines-and-starch issue. (One aspect could include new labelling requirements on equine feed bags!)

And that point, says Strychar, is where POGA has come to the forefront. Up until now, says Strychar, oats had no advocate. “In the US equine industry there was nobody to stand up and say Whoa! What’s going on here? Why are we losing demand! And that’s really what POGA has become, ‘the voice’ for oats in the equine industry, and to actually come forward with a solution!”

The rest of the story, says Strychar, comes from the declining numbers of on-farm feeding in Canada – about 10 per cent on average for all grains, but likely even a higher (loss) number for oats. “Farmers are finding less and less reason to put (oats) in the ground, harvest it and feed it to their animals. If they’re not going to feed it on farms and if they’re not going to sell it to the equine industry, farmers will grow less oats.”

Push the price envelope?

“But there is no sense in just growing more oats. You need value,” Strychar insists. The industry needs animal owners to seek out the premium feed source. To make the comparison to human behaviours, he asks, “Why does someone (at the grocery store) pay 20 or 30 per cent more for the name brand cereal (Quaker or General Mills brands)? It’s quality and reliability. That’s what we want to do, we want to push the price envelope. We want these equine owners to look at oats as a premium product and pay a premium price for it.”

“It’s do-able,” Strychar says. “We think we have the solutions for that where we can solve both the consumption and the price problem.”

In the same presentation, Strychar explains that an improved “nutritional profile” is possible through plant breeding, for both human and equine feed. “And we think we can do that.”

POGA sponsored a meeting in Chicago recently, which, for the first time ever, brought oat millers together with researchers and plant breeders. Everything was put on the table at that meeting, says Strychar, and there were no major conflicts over purpose, intent or marketing of oats. (What remains to be worked out is concern over fat content, since millers need lower fat content for their physical processing and the feed industry needs higher fat content for nutritional requirements).

But it will take time to halt and reverse the decline in both oat acreage and consumption. Nutritional research can take 18 to 24 months and plant breeding may take up to 10 or 12 years to achieve improved varieties.

A spin-off issue is that because oat supplies have become indeterminate with production spikes and dips following price variation, it is problematic for millers and other processors who count on assured supply. And that fact takes us back to “the alternative market”, says Strychar, “and that alternative market is the equine market.”

Asking millers to support development of the equine feed oat market is somewhat “counter-intuitive” Strychar admits, since it asks the milling industry to invest in a directly competitive industry – the horse feed market – and indirectly raise the price which they (the millers) would have to pay for oat supply. The question is, why would millers want to do this?

“Because without that equine market, you’re going to have very ‘unrobust’ market, and that’s what we’re trying to do. We’re trying to put some predictability back into it.”

The public relations and marketing to back up these efforts has begun in several ways, Strychar reports. One of the most important vectors has been research. POGA will fund up to seven projects recommended by the Equine Advisory Board (a 23-member cross-industry blue ribbon panel), including areas related to (prevention of) colic as well as beta glucan content.

POGA has been highly visible at US veterinarian and ferrier conventions and functions and has launched other print and electronic media activity, as well as on the now all-important internet.

These efforts even brought one of the most famous of all horses, the late Roy Rogers' horse Trigger and companion dog Bullet, into the equation (photo at right).

But the outreach for oats by POGA, Strychar says, now includes not only the research community, millers and equine entities, but now stretches to transportation and handling, importers and exporters.

Strychar concludes by saying the POGA board is well aware of the progress both canola and wheat have made by phasing appropriate research into commercial viability. "I see us sitting right where the canola industry was in the late seventies and early eighties. And I see that if we do this right and the researchers do their job, I think we have the potential to see huge growth in the oat market moving forward."

"It's one of the top five (human) foods, and based on (2010) study by Dr. Laurie Lawrence of the University of Kentucky, with 15 years of research from 235 publications, her conclusion says oats are still one of the best feeds for equines".

Why Horses Love Oats

There is a reasonable expectation you could increase oat sales in the United States equine market, says Dr. Lori Warren of the University of Florida, and she might have added, "But it won't be easy".

What she did say was, "What you need to do is explore new things that oats offer that haven't been looked at before."

Lori Warren is an expert in equine nutrition, who was speaking to the annual Prairie Oat Growers Association (POGA) meeting in Saskatoon in December.

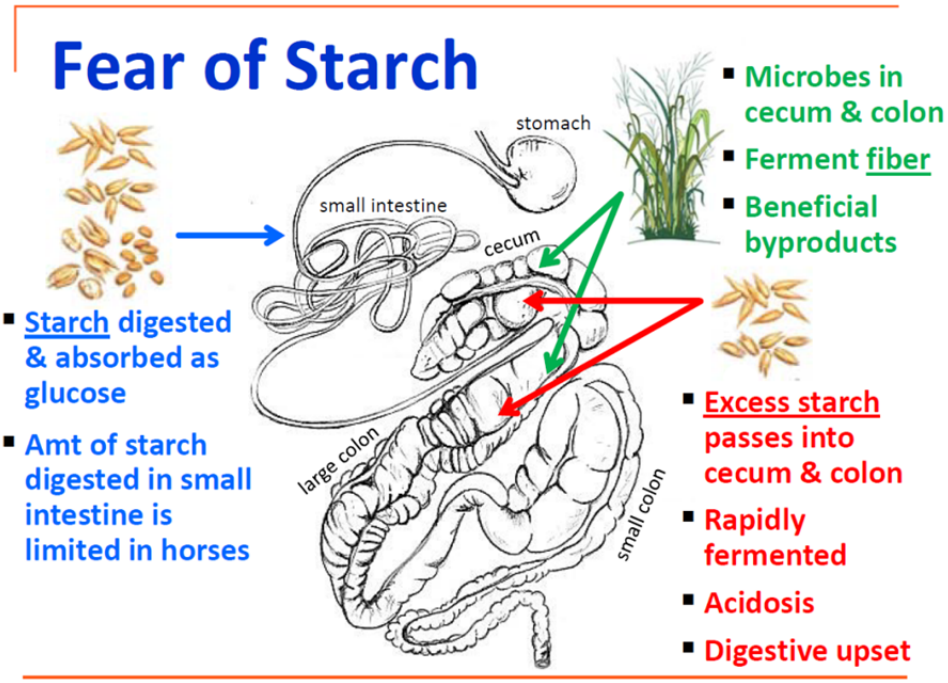
Lesson one, says Dr. Warren, is to understand the differences between feeding horses and other livestock such as beef cattle, dairy, or other animals. Dr. Warren noted that ninety per cent of US equine operations feed grain to their animals, but what and how they feed it is of prime concern to Canadian oat growers, if they want to capture lost market share and place more oats back into animal feed bunks.

According to surveys which she presented, only about 25% per cent of horse feed is grains or other non-concentrated sources of equine nutrition. The rest is hay and forages. Dr. Warren estimates only about 25 per cent of horses are fed 10 pounds of grain or more per day. These are mostly "high level", hard-working animals, including lactating brood mares or growing horses, and may include show or race horses, ranch or other "job" horses.

But to fully grasp and understand the US market, she said, it's important to know the market makers, who are mainly female. Dr. Warren told the POGA audience that 90 per cent of people who study advanced equine nutrition at the university are females, and most American horses are owned by females.

But many people get their horse feed and nutrition from veterinarians, and she went on to describe that "vet school" candidates may get as little as seven hours instruction on nutrition, and many would not have studied equine nutrition as undergraduates, prior to vet school. Dr. Warren also discussed other issues, including use (and possibly misuse) of feed additives, supplements, starch digestion in equines and various perspectives horse owners may have about their animals.

She concluded that POGA is on the right track in pursuing a broad-based effort to re-educate horse owners about equine nutrition and the true role oats can play in the diet of a horse.



And that is an issue that has been tackled by the Prairie Oat Growers (see accompanying articles about EFOP). POGA President Bill Wilton says it has become clear that almost everyone agrees, hands down, that oats are the best all-round horse feed – period!

However, at least one oat processor thinks POGA has a tough sell ahead, as it seeks to recapture the missing equine feed market share. Jim Rice of The Andersons of Maumee, Ohio, said following the Lori Warren presentation, "It's mainly about price, but maybe after today you learn something about maybe how to get some of the demand back into the oats." Rice is the Ingredient Manager for The Andersons. He noted, "With the economy today people are looking for a cheap product. Pelletized feed is a cheaper product," he said, "and it's hard to get the whole oats back in. We are seeing a decline in my (oat) sales."

Rice says the company sells bagged oats "whether they be whole oats, steam crimped and bulk oats into dealers in the south east and north east US, and we have seen a decline in demand." Again, he relates that decline to price factors.

But Rice also agrees that POGA's idea of "re-educating" potential oat users may bring positive results. He also agrees with Randy Strychar, who heads up POGA's equine feed development project (known as EFOP – Equine Feed Oat Project), that just getting one or two per cent oats back into the pelleted feed product would represent a "substantial" amount of oats sold.

Rice says The Andersons buy about 80 per cent of their oat supply out of Western Canada, predominately Saskatchewan. One or two per cent comes from Michigan, Ohio and Indiana, but very little oats is grown in those areas any more. About 10 per cent may come from Scandinavian suppliers.

Oat Theme Park Planned

Some oat varieties grow quite tall but one giant oat stem at Ituna, Saskatchewan will be more than quite unusual. The community, about 75km west of Yorkton, plans to mark the origins of the Prairie Oat Growers Association with a theme park which will feature an oat stem over 31 feet high, possibly as high as 36 feet! It will be one of the toughest oat plants ever, because it will be made of steel, fashioned by local artisan Dennis Muzyka. The Muzyka home farmyard at Goodeve, SK, near Ituna, features a giant wheat stem which Dennis created for a Century Farm family project about 10 years ago. Muzyka is also a shop teacher at nearby Melville Comprehensive High School.

Kris Spilchuk, who is a member of the local organizing committee, says the theme park will be a tribute to oats as an important and historical crop type in the region and will mark the place where the oat grower association came together in 1998. At that time oat growers from the three prairie provinces met there to officially form the Prairie Oat Growers Association (POGA).

POGA set as its motto and mission the goal to enhance the profitability of oats to prairie farmers. Initial funding was from memberships and a grant from the Alberta government. The milling and processing sector, as well as others with commercial interest in developing the oat industry, helped fund early POGA operations through sponsorship of an annual meeting and seminars. Many remain as faithful supporters and on some cases, partners to POGA and its projects.

In 2006 POGA was instrumental in establishing the Saskatchewan Oat Development Commission and in 2008, the Manitoba Oat Growers Association. In 2012 the Alberta Oat Growers Association was mandated. These agencies collect and administer 50 cents per metric tonne from oats grown on the prairies and sold commercially, a refundable check-off format which is now actively sponsoring and co-funding oat research both in agronomy and varietal development as well as marketing initiatives. (See www.poga.ca.) Today, POGA is the umbrella agency which co-ordinates work between the three agencies, and has contributed significantly to the oat stem project.

The local Ituna district committee expects to set a date for the official unveiling of the giant oat stem and theme park in summer of 2013. The oat theme park organizers will recognize contributions from corporations, individuals or other entities on a plaque to be placed on the oat spike base. For further information or to make donations please contact Kris Spilchuk at 306-795-2941 or email mkspilchuk@sasktel.net.

New Annual General Meeting Venue for SODC

The Saskatchewan Oat Development Commission (SODC) formally announced plans to change the structure and venue of SODC's annual general meeting, beginning next year. The new event, CropSphere, is a two-day conference that is a partnership between SODC, Saskatchewan Pulse Growers, SaskCanola and The Saskatchewan Flax Development Commission.

CropSphere will take the place of the previous events hosted by these groups during Crop Production Week. The driving force behind these changes is a belief that by working together the groups can deliver high-level, thought-provoking content for growers, as well as the timely and relevant crop-specific information producers have come to expect from the respective events.

Below are a few answers to commonly asked questions about the new format:

Why is SODC switching venues?
The Saskatoon Inn does not have the physical capacity to hold this event. CropSphere will be held at TCU Place in downtown Saskatoon (about halfway between Prairieland Park and the Saskatoon Inn). There will be a free shuttle running between TCU Place and Prairieland Park throughout the event as well as shuttles between downtown hotels and TCU Place. With the downtown location, there are also several more hotel options and dining options for attendees, in a variety of price ranges. Negotiated conference rates at downtown hotels will be displayed on the CropSphere website (www.cropsphere.com) later this spring. (Please note: the website will not be live until late spring/early summer.)

What will this cost me?
The registration for CropSphere 2014 will be $150 per person. If you are a member of a farming partnership there is the opportunity to register a second person at a discounted rate of $125. Access to the SODC Annual General Meeting will continue to be free of charge for growers. The full agenda will be available in the fall at www.cropsphere.com.

Included in the registration fee are: access to all CropSphere sessions, four meals (including one banquet with entertainment), coffee and snack breaks and two networking receptions.

Why has SODC partnered with other commodity groups?
SODC has partnered with SaskCanola, Saskatchewan Pulse Growers and The Saskatchewan Flax Development Commission in order to offer Saskatchewan growers a first-class event. The event will still feature sessions specific to oats, including market outlook and agronomy sessions. There will also be keynote speakers, networking opportunities during the day, and evening entertainment. Breakout sessions throughout the day will ensure growers can pick and choose which sessions to attend so they may gain as much personal takeaway as possible for their own business operations.

If you have further questions about CropSphere, please feel free to get in touch with Shawna Mathieson, Executive Director, email info@poga.ca.

Funding for POGA project: *Saskatchewan MP Tom Lukiwski (Regina-Lumsden-Lake Centre), second from left, stood in for Lynn Yelich, Minister of State for Western Economic Diversification to announce federal funding for a three-year Agri-Marketing Project by POGA. The funding provides $195,000 over three years for a three-pronged initiative to increase market demand for feed oats in the United States equine industry. Prairie Oat Growers Association President Bill Wilton, third from left, said, "POGA's research has identified the market segments where we need to concentrate and we are looking forward to putting our plan into action." The plan includes re-capturing equine feed market share, especially in the United States where recent surveys indicate there are up to nine million horses. At left is POGA director Jack Shymko of Ituna. For more information, go to www.poga.ca.*

Pony Oats: Old School vs New School

Do whiter oats make horses run faster? Depends who you ask, says Chris Newbergher of Stony Plain Seed Cleaning Plant, just west of Edmonton. Newbergher told the first annual meeting of the Alberta Oat Development Commission that it may be possible for millers to use slightly off-colour oats because they de-hull the groats, but in the pony oat/feed market, you are marketing the oat with hulls still on, even though the end product may be clipped and polished.

Newbergher describes the pony oat market as “highly aesthetic”. He emphasizes that horses do not select by colour, but the customer/buyers do. “For some reason we have customers who seem to think a whiter oat is more palatable to a horse than another oat. And if the oat is ten bucks a tonne more, the horse seems to run faster!” (Said with obvious tongue in cheek!)

This colour aspect can be tricky when marketing overseas, especially in Japan where buyers often say they want a “variety” which they think is called “white Canadian oats” Some even label their feed bags that way!

The off-shore market often is the most lucrative, provided you do your homework and, above all, paperwork. First of all, he says many foreign buyers will not accept bulk or containers of oats without Canadian Grain Commission (CGC) certification. “And we must always, always use their tables”.

“So you may bring some beautiful looking oats to us and they may look like number 1, and they may have lots of groats,” but if they do not comply exactly with the CGC’s tables they may be downgraded to #3! Customers usually have these tables and will hold you to them and most likely will ask for a discount based on the tables.

Unfortunately, for the grower customer, up to 35 per cent of the initial shipment may be lost in processing, even if the raw sample appears to have good over-all colour and test weight. That is because processing most likely will include cleaning, clipping (possibly several times), removal of off-colour materials and other factors. The resulting product may receive a higher grade level (possibly even taking a #3 to a #1) but farmers need to know that even 40 pound test (per bushel) weight oats on the CGC scale still is a 3CW rating. “That is a feed oat that many of our overseas customers will not accept.”

Newbergher says 40 pounds (test weight for oats) is old school thinking. Current bottom line is 44 pounds for a “decent oat”. Most oats that leave the country now are at least 48 pound test weight, “and for the higher markets, such as Japan, they want a minimum of 50 pounds and we frequently ship 52 pound oats to Japan.” The plant may have to find a way to add five or six pounds of test weight to meet or exceed the CGC standards and to satisfy the overseas customer.

There are several oat measurement scales afloat in the industry, two of which are known as Winchester and Avery. But Newbergher says the simplest and most reliable is the CGC’s standard, which is “grams per half litre” and that is what Stony Plain Seed Plant uses. He cautions growers, “Be careful with what information is given to you (about oat weights).”

The plant also must distinguish between “feed” oats and pony oats. “Bin run” oats with weed seeds, chaff and other dockage may be somewhat acceptable, but very high weed content, high moisture or insects could make the shipment “unsaleable.”

A quick plant “blow through” may remove enough material from samples to make it saleable, under what is known as nil dockage, but overseas buyers usually want “double cleaned” or “triple cleaned” oats, requiring several different types of machinery. In that process the bushel weight may be increased and the “aesthetic” appeal enhanced. The recent addition of colour sorting technology also allows cleaning to a higher spec. On the other hand, the colour sorting may also remove more off-colour product. (Photo next page: Stony Plain plant specialized equipment.)

Newbergher has seen base oat prices in the area rise from $1.25 to $1.75/bushel in 2006 to current base levels of $2.40/bushel. “And for pony oats, the base is now $3.00/bushel – that’s mind blowing to me!”

COLOUR SORTER

ROBOT

LOAD CELL BINS

In recent years, statistics show feed oats have risen 11 per cent per year, and pony oats 9 per cent, says Newbergher. So much for the notion that oats don’t pay, he notes. Newbergher estimates about 25 per cent of oats grown in Alberta are hitting the pony oat market.

Part of the feed and pony oat advantage lies in not being harnessed (literally) to certain varieties. “Some varieties (such as Mustang, Grizzly and other forage varieties – more recently Big Brown) usually don’t work for milling,” says the oat buyer, but his markets can use “just about anything” in various North American and overseas markets. Stony Plain’s main US market is more westerly states – largely due to transportation logistics.

And while the over-all North America trend has seen less feed oats going to US markets (see EFOP articles), the Stony Plain plant has seen an increase, suggesting to Chris Newbergher that marketing is an essential factor. Referring back to the “whiteness of oats”, he notes that “pony oat” usually must imply a higher quality oat. “It has nothing to do with science. Even when we have tested energy and protein levels of varieties and colours, there was no difference, but for some reason there is a perception (in Japan and some high-end horse markets) that the whiter the oat the better, and I beg to differ on that!”

Footnotes: Stony Plain Seed Plant was founded in 1954; bonded; invested in up-to-date equipment including colour sorters, gravity tables; handle 1.5 million bushels through the plant and more tonnage outside; robot unit checks shipments; load cells (bins on scales above ground) reduces the need for roll-across scales; have done 35 containers per week; bulk loading rail cars, bags, their own custom equipment.

AOGC Elects Directors

The Alberta Oat Growers Commission elected its first board of directors at the annual meeting held in Leduc on Feb. 28, 2013. The directors are:

Keith Gilchrist, Pickardville
Nick Jonk, Westlock
Gordon Pope, Ryley
Bruce Thomi, Woking
Anthony Van Rootselaar, Spirit River
William Winsnes, Ryley

It's about ceuticals and avenathramides

For many years oats has seemed to be the crop, in the words of legendary comedian Rodney Dangerfield "just can't get no respect". In part that's because oats are relatively easy to grow and may be grown in a shorter season. Often oats may be substituted for other (seemingly) more profitable crops, at the last minute, if the season gets too late.

But the work of an Edmonton-based company is turning some of that around. Ceapro Inc. currently manufactures its products in a government facility in Leduc. It is planning, later this year, to move into a larger manufacturing facility in the city of Edmonton proper. Its Chief Scientific Officer, David Fielder (right), told growers at the newly minted Alberta Oat Growers Commission (AOGC) first Annual General Meeting that Ceapro has been producing several products extracted from oats for over a decade, and these materials may wind up in cosmetics or other pharmaceutical-like products you might normally find in drug stores. Fielder says many of these "ceuticals" – neutraceuticals, pharmaceuticals and cosmaceuticals -- are converging in different ways, which blurs the claims between food and drug that a manufacturer of these products can make.

While these actives are found typically found in low concentrations, the soluble fiber components called beta glucan that helps lower your cholesterol levels in oat-based food products is used in the personal care industry.

Beta glucan plays a role in anti-ageing and wound healing, promoting new skin growth. Pure, liquid beta glucan that is dried looks "just like Saran™ wrap", says Fielder.

Fielder notes that Canadian consumers would be surprised to realize that a number of cosmaceutical products found in the average Alberta drugstore contain oat-based ingredients produced by Ceapro.

For example, beta glucan, which is the substance giving oats its reputation for "heart healthy", makes up only 4 to 5 per cent of the oat grain, but food manufacturers are interested in multi-metric tonne quantities per year of beta glucan, revealing a whole new vista of possibilities for oats. Adding beta glucan to sports drinks is an obvious commercial channel for oat extractions as well.

Ceapro is also working on a non-heat drying technology, developed at the University of Alberta, to produce powdered beta glucan. The process can create a range of granular, powder or fibrous products which may be suited to the new and innovative food applications.

In raw grain, high oil content may produce rancidity if not treated properly, but in its extracted state, oat oil is quite stable, says Fielder, and is used in the cosmetics industry to stabilize other less-stable oils. In the food industry oat oil may also be sued to improve the "loft" quality in bread and to extend the shelf-life of frying oils such as cottonseed oil or soybean oil.

But Fielder believes the really big new horizon for oats is in the area of inflammatory health care, where oat avenathramides play a significant role in reducing inflammation. They are also potent antihistaminic compounds alleviating redness and provide relief from irritation. (See August 2012 Oat Scoop). For that reason Ceapro is doing extensive work on eczema, psoriasis and related skin conditions. Products made with avenathramides in very low concentrations have shown to be very effective in treatments of some skin disorders, even insect bites and other skin sensitivities.

The avenathramide level in oats is tiny -- .001 per cent -- but they are extremely potent and also are highly effective anti-oxidants. In the cosmetic industry the substance is used in creams and lotions for “pre-sun” and “post-sun” products to counteract the effects of ultraviolet light.

In pharmaceuticals, avenathramides may be effective for certain aspects of cardio-vascular disease, by actually inhibiting the adhesion proteins, the “glue” which sticks to the arterial walls. This is considered one of the first stages of atherosclerosis.

In other studies involving our elderly population, avenanthramides may be effective in treating muscle tissue damage caused by exercising. These findings could be commercialized in food products containing avenanthramide fractions or perhaps in a neutraceutical tablet form within the next few years.

Among the challenges for extracting “actives” is the fact that they are present in such small amounts, there is natural variation within oat varieties, and the extraction process must deal with possible seasonal contamination from certain fungi, such as Fusarium.

Ironically, says David Fielder, because these desirable “fractions” in the oat make-up are derived from “defense mechanism compounds,” they find less of them in what we would normally consider to be the “best” commercial oat varieties. “They’re usually found in the lousiest looking oats possible!”

In the past year, Ceapro signed an agreement with Agriculture and Agri-Food Canada for the commercial development of a unique variety of naked and bald oats, which will be more suitable than conventional oats for their extraction processes and the ability to produce high levels of avenanthramides.

One final encouraging word to farmers at AOGC: Ceapro pays a significant premium to their growers compared to a typical commodity oat – but they do process very small amounts compared to most commercial oat processing operations. However this does offer the opportunity for Canadian farmers to expand into other niche markets for new value-added oat products.

So far there is no formal authorized food or medical claims for avenathramides, but this is one area that Ceapro has started working on now, says David Fielder.

This newsletter with all illustrations in colour can be seen at www.POGA.ca.

The Oat Scoop
PO Box 20106
Regina, SK
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