the Oat Scoop

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Keep It Clean!

With the beginning of a new crop year (Aug. 1) growers who may have been holding over oats from previous years may want to be careful if they decide to empty some bins. The President of Emerson Milling Inc. at Emerson, Manitoba, Real Tetrault, says it's good to be aware that oats in storage can lose their flavour over time, and that can be a problem.

"Sometimes a farmer will not sell his product through June, July and August (because of a price drop) and they hold it for another season until the price comes up to the level they think is good again.

But there is a limit to the life of good flavourful oats, and two years is certainly the limit. If you wait too long into the next summer you've already lost some of the flavour that oats has." Tetrault notes that longer-held oat "certainly mills differently".

Another concern, he says lies in the de-hulling properties of different varieties, so if you happen to be mixing previous years varieties you will get different milling percentages, "which will affect us."

"So we would prefer that farmers clean out their bins entirely, so that they can eliminate any problems with insects or other contaminants that may cause a problem for us, the millers, down the road."

Tetrault advises farmers who may be bullish to "buy the paper" on the futures market in order that they can deliver immediately but take advantage of a possible price increase ahead. It may seem strange to some, he says, to be sending "margin money" to Chicago (to hold their position on the futures), but if the price is decreasing, the value of the stored oats may be decreasing in price while sitting in the bin. So, securing a broker and acquiring some analysis on the oat markets may help with price and demand ahead.

With variance in milling quality, says Tetrault, most mills are specific about what varieties they prefer to work with – obviously choosing whenever possible, the bigger, plumper kernels and the higher milling yield selections.

It goes without saying that deliveries of contaminants or "wrong product" can be costly both to the miller and the farmer. Trucks may have to be rejected and in some cases, a farmer may lose a complete bin of oats. Treated seed mixed with deliveries can be a problem although it is not a frequent issue for the millers, as farmers are aware "that's a no-no".

Among contaminates that are sometimes at fault: piece of glass, fertilizer mixed with the product, or even a mixture of other grains. Tetrault says Emerson Milling has found barley to be particularly troubling, as it is hard to clean out. He recommends next-year oats not be planted on this year's barley ground.

Emerson Milling Inc. was first established in 1987.

In Search of a (More) Perfect Oat

"…All breeding progress comes through having the opportunity to select something that is different…"
--Oat Breeder Jim Dyck

Questions, questions, questions! Independent oat breeder Jim Dyck never tires of asking questions, especially questions about oats. And that is evident from the many different crosses he has made on his 80 acre research plot just east of the city of Saskatoon.

On July 30 Dyck and his family hosted Prairie Oat Grower (POGA) directors from the three prairie provinces for an on-site tour. POGA's mission to increase profitability of oats to growers fits perfectly with Dyck's view of the oat plant.

He believes that in spite of its well-known health benefits, versatility as a field crop, and all-around great feed stock for horses and other livestock, there are many benefits locked inside the kernel of "avena sativa" (a.k.a. oats) which have not been exploited.

Dyck is therefore working on several collaborative ventures, with the oat growers and several commercial companies, including processors and seed marketers, with the end goal to provide lines and/or varieties that have "low fat and decent beta glucan."

Beta glucan (BG for short) is one of the now known qualities which allow cereal makers to make "heart-healthy" claims for oats. But the process of "upping" the BG content may also lead to oat varieties with lower oil content, oil which may have nutritional value in livestock feed.

So, is it possible to create a variety, through selective crosses, which can give the best of both worlds, he might ask?

Research plot harvester, acquired by Jim Dyck of Oat Advantage, with support from POGA. POGA directors toured the plots just east of Saskatoon July 30.

Taking a close-up look at the oat kernel, Dyck directs our attention to an indent or crease. Could plant breeding alter that crease, filling out the kernel more completely, and possibly adding more bulk?

Given that there already are developed hull-less oat varieties, could altering the hull be another way to add bulk while maintaining the hull? The hull, for now at least, is preferred by the milling industry to stay on the oat as a protective measure, until they remove it in processing.

Oats are known to have an "itchy factor" caused by tricombe hairs. In his cross breeding of oat plants could it be possible to use a recently-discovered "baldness" gene, which, if bred into other lines, might provide a beneficial trait? In a related matter, oat handlers at times deal with a factor called bridging, which may also be related to the oat hairs issue.

Jim Dyck can also confirm the benefits that plant breeding has brought over the years. Since it's fairly trendy for some people who think they might be eating "healthier" by consuming "ancient grains", Dyck crossed the 1886 variety Banner with a 1902 variety, Swedish Select. The result, which he showed his touring audience, resulted in a somewhat "spindly, thin oat", mostly hull despite having the benefit of the same fertilizer and growth regime as other more modern

varieties. “You can see the progress which has been made,” in the recent breeding programs carried out through Ag Canada, universities and other researchers, he says.

Get excited

When you tour with Jim Dyck you cannot help but be infected by his enthusiasm for what he does. In discussing a plot with many different cultivar crosses, “You can spend hours in here walking up and down evaluating oat plants and making selections,” he enthuses.

“As the season progresses, sometimes the rust really starts to take hold. If there is one (plant) really devastated by rust and the one next to it is clean, then it’s an easy choice (to select for the next generation of breeding)”.

He takes the view “you just never know”, and so a plant which may show disease damage may also have some other desirable characteristics such as hairlessness and may be suitable for a regional or niche market. It may be harvested, despite the disease susceptibility, and grown into next year’s trials.

Jim Dyck of Oat Advantage explains and demonstrates varietal selection to POGA directors, including four new Alberta directors, who toured his test plots on July 30.

Several of the touring POGA directors were also taken by the vegetative display in some of the oat plants created by other Jim Dyck crosses, referring to grazing and haying possibilities.

Dyck explains that while some researchers may bypass mutations which produce somewhat “gigantic” plants (because the gigantism usually seems to dissipate), “I crossed this one (a field mutant) with CDC Weaver (oats) and created a stabilized population of this wide-leafed really neat oats.”

This plot might produce a million seeds, he notes, but so far he is not suggesting this newly created mutant cross will become a commercial crop. Several directors ask him the “what would happen” question – as in “what would happen if you turned the cattle in at this (leafy) stage? How fast is the re-growth pattern?” they ask.

But Dyck just leaves it to our imagination to think about where this gigantic, wide-leafed, late maturing variety might take us and reminds us, “All breeding progress comes through having the ability to select on something that is different and you can make a change. This mutant is like an opportunity, to try to bring it in.” Several lines from this “gigantic” phenomenon are also under test at the nearby University of Saskatchewan Crop Development Centre.

For his own purposes, Dyck says he will work with only the plumper grains which result from the myriad of crosses he has made, some of which he hopes will end up as varieties, eventually ready to put forward for registration.

Saskatchewan Oat Development Commission

Director Nominations Open

Are you interested in becoming a director or
do you know someone who is? Here are 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.

Deadline for nominations is Tuesday, October 15, 2013
For nomination forms and further information contact:
SODC Administration Office, PO Box 20106, Regina, SK S4P 4J7
Telephone (306) 530-8545; Fax (306) 546-2999; Email info@poga.ca

The Value of a Crop Survey to Farmers

You may ask, "Why should I become a respondent to a crop survey? What is the value of a crop survey to me?"

Crop surveys can play an important role in both production and marketing decisions. Survey information is valuable to farmers, and other members of the value chain. Having timely area, yield and production estimates for Canadian crops, and knowing how to use the forecasts can make a difference in the profitability of your farm or farm business.

The value of area, yield and production estimates

Crop yields are affected by weather, disease, pests, inputs, seed variety and other factors. This is why timely yield estimates are extremely important. National expected yields may not occur, throwing off your returns, even if your crop's yields are unaffected.

If estimates for Canada show seeded area and/or yields above those being traded by the market, more abundant supplies are implied. This tends to be associated with weaker prices. Having timely estimates helps you make adjustments to your marketing plan sooner rather than later.

A number of factors will influence the changes you make to your grain marketing plan

The overall supply and demand sets the scene. Other factors include the availability of cash contracts in the spot and forward markets and the use of futures and/or options. Along with your knowledge of your local market, this will influence how you adjust your marketing plans.

Why participate?

If you choose to participate in this survey, Informa Economics will send you an easy to read summary of the high-level results for Canada, helping you stay informed.

For more information please see: www.informaecon.com/canada/surveyrespondent.asp.

Informa Economics will also be drawing for a popular tablet computer after the July survey is complete. In order to participate in the draw you must be signed-up as a participant, and actively responding to the survey.

For further information contact Chris Ferris, Senior Grains Analyst, Canada, Informa Economics Inc. 1200-191 Lombard Avenue, Winnipeg, MB R3B 0X1. Direct line 204-925-7072, fax 204-925-7074, email chris.ferris@informaecon.com

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Notes from the Plant Breeder's Diary

On July 26 oat and barley breeder Dr. Aaron Beattie led the annual Crop Development Centre (CDC) field tour of oat research plots at the University of Saskatchewan. Aaron provided The Scoop with these notes from the day:

At the crown rust nursery, CDC cereal and flax pathologist Dr. Randy Kutcher indicated that he is evaluating breeding lines from our (CDC) program, as well as, some genetic mapping populations to identify molecular markers linked to new crown rust resistance genes.

He also talked about a study into fungicide application on oat. Basically there appears to be no yield advantage to applying fungicide if crown rust incidence is low, but if moderate to high pressure, then susceptible varieties like Morgan benefit from application, but resistance lines like CDC Morrison or Leggett do not.

Randy notes further that leaf spotting diseases were not severe enough at the site and in the years where the work was conducted to see a benefit to fungicide application (Melfort SK). Under more severe disease pressure such as in southern MB there could very well be a response to fungicides.

If a farmer grows oat frequently on the same field or adjacent fields, or if many farmers are growing oats in a regular rotation of 3 to 4 years, within a few miles of each other it is possible that leaf spot diseases will increase and therefore fungicide application may be of benefit.

Dr. Kutcher's team also conducts an oat survey each year. *Septoria avenae* and *Pyrenophora avenae* are the two most prominent leaf spotting pathogens and have been for many years. From the disease survey data from Saskatchewan, the yield impact of diseases other than crown rust is expected to be low most of the time.

New variety update

Dr. Beattie then talked about some recently registered and up-and-coming varieties.

- CDC Ruffian (registered in 2012) is a cross between OT399/OT559 with good yield potential, good grain characteristics, groat percentage similar to CDC Dancer, low fat, beta glucan (BG) similar to CDC Dancer, crown rust resistance similar to CDC Dancer, resistant to smut. It is represented by FP Genetics.

- OT3061 (supported for registration in 2013) is a cross between ND9508252-75-5/SA98741-05 with yield similar to Leggett, strong, taller, groat percentage similar to Leggett, low fat, very high BG (similar to CDC Morrison), Pc91 crown rust resistance, resistant to smut.

- OT3066 (second year testing in the coops) is a cross between OT590/CDC Minstrel with very good yield potential, good straw strength, groat percentage equal to CDC Dancer, low fat, BG equal to Leggett, good crown rust resistance.

- OT3068 (second year testing in the coops) is a cross between S42F3 4-4/OT3013 with good yield potential, strong straw, very good grain, groat percentage better than CDC Dancer, low fat, BG higher than Leggett, Pc94 crown rust resistance, resistant to smut.

We also discussed projects supported by POGA, such as our fatty acid project looking at novel fatty acid profiles, as well as some collaborative trials being conducted by several breeding groups (AAFC-Ottawa, AAFC-Winnipeg, CDC, NDSU) in preparation for a project which looks at implementing marker-assisted breeding. This work builds on the CORE project which has just finished after three years of work.

A student from Dr. Steve Shirtliffe's group, Lena Syrovy, discussed a project which examines different nitrogen fertilization rates and the impact on beta glucan (BG). Basically, lower BG lines like Jordan or CDC Minstrel did not show a response, while higher BG lines like HiFi or CDC Morrison did show some increased BG levels with increasing nitrogen. Work is preliminary and ongoing.

More Sizzle in Your Oats?

There is an old sales adage which states, “Sell the sizzle - not the steak!” So could it be possible to better sell the sizzle in the healthy natural oils which inhabit the oat groat?

That in part is behind several research projects supported by the Prairie Oat Growers at the University of Saskatchewan Crop Development Centre (CDC). Barley and oat breeder Dr. Aaron Beattie points out that research identifying beta glucan as one of the "heart healthy" components in oats has boosted the demand for oats.

"The point of the project," he says, "is to look at the current fatty acid profile in oat and see if we can improve what already is a very good and healthy (fatty acid) profile. In the project we're actually looking to increase the level of oleic acid in oat."

He goes onto note that oleic acid is considered as a healthy fatty acid, "one that is linked to good cardiovascular health. So we're surveying a lot of oat varieties and oat germplasm to see if we can identify some lines that have high levels of oleic acid, and to see if we can incorporate that into future oat varieties available to producers in Western Canada."

Now in its second year (of a three year program), the project will also evaluate several enzymes which can cause rancidity in oats by breaking down those valued fatty acids.

Oats normally exceed barley and wheat in fat content, "So if the groats are damaged during transportation some of those fatty acids can come in contact with these enzymes, breaking down the fatty acids and leading to 'off flavours' in the oat".

The back side of the project will look to see if certain enzymes are more likely to cause the undesirable rancidity, possibly reduce their activity and combine with the higher fatty profile for an overall healthier oat end product.

Successfully identifying these heart healthy aspects would add to the overall "healthy profile" for oats, "especially with increasing health issues in North America and around the world. With aging populations I think oat fills a role and could take a larger place in people's diets (and in) dealing with some of the cardiovascular issues we're seeing in North America."

Bottom line for growers? "It's another selling point!"

How do they do it?

The CDC researchers examine pulvarized oat grains within a gas chromatograph which allows identification and quantifying of the fatty acids. When combined with molecular marker information certain genes may be studied for how they inter-react within the groat material or how they produce the oils in question.

But the gas chromatograph process may be relatively time-consuming, so....

"If I have a molecular marker tied to the higher oleic acid trait I can select from within my breeding program without needing to use the gas chromatograph."

To this point, the marker work has concentrated on identifying crown rust and other diseases in oats, so the fatty acid/oils work takes the marker work a step further. "If they (desired fatty acids) are there, I am confident we will find them."

A companion study at the University of Saskatchewan will employ a similar process in continued pursuit of still higher levels of beta glucan.

Oat's a special crop?

POGA'S 16th ANNUAL CONFERENCE

Thursday, December 5, 2013

Clarion Polo Park, 1445 Portage Ave., Winnipeg, MB R3G 3P4

Agenda *

8:00 am	**Registration and free breakfast** available. Meet our sponsors and enter the draw for $100 worth of FREE OAT GROCERIES
8:45 am	**Welcome and Introduction** - Bill Wilton, POGA President
8:50 am	**Honourable Ron Kostyshyn, Manitoba Agriculture Minister** - Greetings from Manitoba Agriculture, Food and Rural Initiatives
9:00 am	**The largest oat miller in Canada and their expectations for oats in the future** - Pat VanOsch, Senior Vice President, Richardson International
9:45 am	**The Influence of Consumer Trends on Oat Quality Throughout the Value Chain -** Dr. Nancy Ames, AAFC Research Scientist
10:30 am	Coffee Break
11:00 am	**World Demand, future risk and where food use is going-** Randy Strychar, President, Ag Commodity Research
11:45 am	**Soup and sandwich lunch** – tour the sponsor's displays
12:45 pm	**Assessing North America Crop Weather Trends for 2014 -** Drew Lerner, President, World Weather, Inc.
1:30 pm	**Oat varieties for the future** - Erin Armstrong, Director of Research and Product Development, Canterra Seeds
2:00 pm	**New Opportunities for Novel food and Non-food Uses and the Potential Impact on Oats -** David Fielder, Chief Scientific Officer, Ceapro, Inc.
2:30 pm	**POGA Annual General Meeting;** Bill Wilton, POGA President
2:50 pm	Coffee Break
3:10 pm	**Heading South: Transportation impediments and emerging markets in Mexico -** Robynne Anderson, President, Emerging Ag
4:00 pm	**Oat Market Outlook -** Mike Jubinville, ProFarmer Canada
4:45 pm	**Wrap-up and Adjourn -** Bill Wilton, POGA President
5:45 pm	**Social Hour** at the Clarion Inn, Polo Park
6:30 pm	**Dinner and speaker:** *The future of oats and Consumer Packaged Goods* - John Wiebold, General Mills Vice President - Commodities and Grain
7:30pm	Adjourn

Daytime seminars and lunch $20.00, Optional evening banquet $30.00

**Times and agenda topics subject to change.*

For updates, pre-registration and credit card payments visit www.poga.ca

For those arriving on Wednesday Dec. 4 there will be a meet and greet at 8pm at the Clarion Inn

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

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