Mustard TOWET

Mustard is a Must

Summer Edition 2015

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I'd like to highlight four points in this issue.

One new brown mustard line and one new oriental mustard line were recommended for registration through the Prairie Grain Development Committee (PGDC) for oilseeds this spring. The new varieties will not be available for commercial use for a few more years due to seed multiplication and commercial testing. These varieties will have increased yield potential as well as similar or improved agronomic characteristics compared to current varieties.

Hopefully growers will take advantage of a 20% Scientific Research and Experimental Development (SRED) credit for their 2014 taxes. The credit is representative of the eligible portion of your SMDC checkoff dollars spent on research and development in 2014. To find out more, check out www.saskmustard.ca.

Chairman's Message

by Richard Marleau, Chair SMDC

The SMDC field day will be held July 16th near Swift Current. SMDC is partnering with Agriculture Canada, Saskatchewan Agriculture and Wheatland Conservation Group for the day. I encourage you to attend and take in the presentations, view the plots and mingle with other mustard growers and researchers to exchange ideas and experiences. It is also an excellent opportunity to meet with mustard traders and maybe put a face to the voice you hear on the line when you are making sales.

The current SMDC board is comprised of some very capable people. However, our most senior members have only about 18 months of experience with the Board's activities and are still learning and becoming comfortable with our new roles. Feel free to contact myself or other board members if you have questions or suggestions regarding mustard and the SMDC.

Barbara Ziesman is the new Provincial Specialist, Oilseed Crops with the Saskatchewan Ministry of Agriculture. She grew up near Edmonton where she later attended the University of Alberta.

She has completed two Bachelor of Science degrees, one in biology and the second in crop science, and is currently wrapping up her PhD in plant pathology under the co-supervision of Dr. Stephen Strelkov and Dr. Kelly Turkington.

Barb has a passion for oilseed production, agronomy and pest management and looks forward to sharing this through her position with the Saskatchewan Ministry of Agriculture.



Musiard on the Menu

Zippy Barbeque Rub

½ cup (75 ml) dry mustard powder ¼ cup (60 ml) brown sugar 2 tbsp (25 ml) coarse salt 2 tbsp (25 ml) coarsely ground pepper 2 tbsp (25 ml) paprika 1 tbsp (15 ml) chili powder 2 tsp (10 ml) hickory smoked salt 2 tsp (10 ml) garlic powder 2 tsp (10 ml) crushed thyme

Combine all ingredients in a bowl and mix well. Sprinkle 2 to 3 tsp (10 to 15 ml) per pound (or 0.5 kilogram) on meat. Rub well with fingers. Excellent on barbequed or oven roasted meats. (This rub can be stored in an airtight container for up to 6 months.)

Makes 11/4 cups (300 ml)

Per serving (170.5 g): 533.7 calories, 18.8 g protein, 78.1 g carbohydrates, 9.3 g fibre, 45.5 g sugar, 19.9 g fat, 0.7 g saturated fat, 0 g trans fat, 0 mg cholesterol.



SAVE THE DATE!

Mustard Field Day

Thursday July 16, 2015 at Swift Current

This year's Mustard Field Day will be held as part of Agronomy in Action 2015, a joint effort between Wheatland Conservation, Agriculture and Agri-Food Canada, Saskatchewan Ministry of Agriculture and Sask Mustard. Support for the event is also coming from Sask Pulse Growers and Sask Wheat.

Mustard research and many other research trials will be highlighted:

- Mustard variety trials, including newly registered varieties
- Crop sequencing trials that include mustard as one of the rotational crops
- A presentation on herbicide options for mustard
- Pulse crop varieties and agronomy
- Fusarium control trials in wheat
- Work on soybeans and fababeans
- New crop options quinoa and hemp

WHFN?

Thursday, July 16. Coffee and registration begin at 9:00 am. Touring starts at 9:30. Catered lunch at noon. Event wraps up by 4:00 pm. The cost is \$20 per person at the door.

WHERE?

At SPARC, the Semi-Arid Prairie Agriculture Research Centre. At the southeast corner of Swift Current, turn east off Highway 4. Go in Gate #4 and watch for signs. We'll gather at the Conference Centre.

PRE-REGISTRATION

To have ample food for lunch and adequate transportation to the plots, we ask that participants pre-register for Agronomy in Action 2015 by calling the Sask. Ministry of Agriculture in Swift Current.

Please call 306-778-8285 by Friday, July 10 if you plan to attend.

Please bring mustard samples to the field day

We'd like to analyse several mustard samples to determine the extent of any genetic drift. Since mustard is open pollinated, there is a possibility that common seed after several generations removed from certified may be generating somewhat different quality characteristics. The only way to know is to do some testing.

We're looking for 2014 mustard samples grown from certified seed as well as samples grown from common seed. We'd like Andante yellow mustard, Centennial Brown in the brown mustard category and the Cutlass variety of oriental.

Just bring a Ziploc bag with a couple pounds of your 2014 mustard. Please mark the bag with the variety, where the mustard was grown and what year to the best of your recollection that certified seed of the sample would have been used.

We appreciate your help.

Do you have a story idea for the next newsletter, or an opinion on the mustard industry, or a great mustard recipe you want to share?

Please contact us at 306-975-6629 or email us at info@saskmustard.com.

June Marketing Report

SMDC has accomplished many of its domestic and international marketing objectives since our January newsletter and continues to make headway on many new initiatives.

All three of the **Mustard Production Videos** produced over the last year, *Marvelous Mustard, Mustard is a Must* and *From a Tiny Seed* are
available for viewing on the Canadian
Mustard YouTube channel launched in
conjunction with release of the videos.

For the past two years, SMDC has been developing resources to help boost kids' knowledge of mustard. Our new printed Children's Activity Book 'Team Mustard: From Seed to Squirt!' and online games link with the Grade 3 and 4 curriculum in science, math and language arts. Activity books are being distributed by Ag in the Classroom and at various events, while the online activities are available at www.teammustard.com and through AITC.

March was "Mustard Month" at the Culinary Institute of America (CIA) during which our mustard videos were played at the Greystone, California campus eatery while mustard dishes were offered to patrons. Recipe cards featuring mustard were distributed at the café as well. Sask Mustard has also been working with CIA to include mustard-related "did you know" notices in CIA's alumni magazine, Taste, this summer.

SMDC was a sponsor at CIA's *Healthy Kitchens, Healthy Lives: Caring for Our Patients and Ourselves* from February 5-8, 2015 in Napa Valley, California to continue to increase awareness of

Saskatchewan mustard by developing relationships with key international audiences.

We are planning to take part in another CIA event this year: Flavor, Quality & American Menus Conference August 27-29 at their Greystone location. This continues to be an invitation-only event for the top corporate and executive chefs and other foodservice menu decision-makers from major chain restaurants, universities, hotels and other high-volume and multiunit operations. This year, SMDC has increased their level of support which will allow us to be a presenter at the conference.

The new SMDC family-friendly mustard cookbook is in the design and final editing stages. The cookbook should be ready for distribution this summer.

In conjunction with other partner groups, Sask Mustard is sponsoring Farm & Food Care Saskatchewan's **Taste the Land of Living Skies Farm Tours for Chefs and Media** in Regina and Saskatoon during the summer of 2015. National/international food writers, international culinary academics, local chefs and other food experts will be invited to farms, ranches and into kitchens to experience where and how food is produced in Saskatchewan. The intent is to build relationships with key people who influence consumers and the food they eat.

In addition, Sask Mustard is partnering with Farm & Food Care Saskatchewan for A Taste of Saskatchewan in Saskatoon on July 14-19, 2015. A new demonstration stage will be featured

at this year's event, along with a Top Chef Competition with Saskatoon chefs cooking up delicious samples of Saskatchewan-grown food products, including mustard. This is an excellent opportunity to introduce a whole new "homegrown" element to A Taste of Saskatchewan.

Make sure you put mustard on your burger this barbecue season! SMDC is sponsoring the Saskatchewan Ministry of Agriculture's 'Burger and Fries' Ranch which will take place over the summer months. The Ministry is working with Ag in the Classroom to coordinate approximately 600 students throughout the province to visit the farms. The purpose of the project is for students to better understand where their food comes and what is involved in producing burgers and fries. This hands-on experience allows students to be involved with planting, harvesting and processing of gardens and crops.

Since we last updated you, Judy Scott Weldon ("Judy Foodie") was engaged for a **CTV food segment** in southern Ontario March 3, 2015 and June 25, 2015 to feature mustard recipes. Check them out on our website.

The Great Saskatchewan Mustard
Festival, which is always a highlight on
the Regina culinary scene, takes place
11 a.m. – 3 p.m. on August 30, 2015 at
the Willow on Wascana. This familyoriented festival features local chefs
demonstrating the versatility and great
flavour mustard can add to recipes.
Tickets are \$25 and are available at
Beer Bros., The Willow or at the gate.
Hope to see you there!

Mustard 21 Update June 2015

by Pete Desai

"Mustard Innovation – Canadian Advantage," one of our projects, is now entering the third of five years of funding from Growing Forward 2 (GF2), an AAFC Agri-Innovation Program (AIP). Under GF2, our mandate is to implement Canadian mustard strategic priorities. Our strategic research and development priority areas where the majority of M21 resources are invested are in condiment mustard breeding for improved yield, and in improvements in practical mustard agronomy and production tools and practices, and iii) the development of a dedicated industrial mustard carinata (B. carinata) for the emerging bio-economy.

A. Condiment Mustards: The breeding program takes a focused, multi-faceted approach, employing doubled haploid (DH) and molecular marker technologies, field trials in Chile during our winter months, Florida field selection trials, and diverse germplasm for delivering increased crop yield. To deliver the desired yield improvement, this strategy will require M21 to invest significant long-term resources. The delivery of higher yield is critical for mustard to be competitive and a good business option for the grower, as competing crops like canola and pulses have increased their yield potential over the past decade with the development of hybrids and improved weed control. New mustard cultivars have to be competitive and a solid crop/business option for the potential mustard grower. The new cultivars will be an attractive business option for mustard growers. Canadian mustard will have to continue to be a

reliable supplier of quality Canadian mustard to maintain its number one global exporter status.

Dr. Bifang Cheng, AAFC mustard breeder at Saskatoon, has been focussed on developing condiment mustard varieties with improved yield and quality since the start of GF 1 and GF 2. Please come and hear Dr. Cheng describe her research program and the advancements her team has made at the Mustard Field Day at Swift Current SK on July 16, 2015.

At the February 2015 Prairie
Recommending Committee on Oilseeds
(PRCO) one brown and one oriental
mustard variety were recommended to
CFIA for registration. These are the first
of a robust stream of new improved
mustard varieties under development in
Dr. Cheng's program:

- i) Yellow Mustard: Dr. Cheng is developing the first synthetic hybrid yellow lines. These lines should significantly improve the yield for yellow mustard. These new synthetic lines are undergoing field evaluation across the prairies in 2015 and 2016 for commercialization in the next three years.
- ii) Brown and Oriental Mustard:

 a) Utilizing DH technology to develop pure line cultivars. Dr. Cheng is developing the next generation of open pollinated brown and oriental mustard lines with higher yields. These are now undergoing field tests in order to select the best lines

- under the Canadian environment.
 b) Mustard Hybrids: The long-term goal is to develop mustard hybrids using improved Ogura cytoplasmic male sterility (cms) hybrid systems in brown and oriental types. The work done during GF1 and GF2 is showing excellent progress and Dr. Cheng is now selecting the best parent lines for creating hybrids.
- iii) Molecular Markers: Utilizing genomic tools such as molecular markers for traits of significance (such as: disease resistance, oil profile and content, glucosinolates) will help to select lines very early in the breeding cycle. This will improve the breeding efficiency by selecting fewer lines for further evaluation during the early stages and thus generate a strong data base of new improved lines during pre-development and advance yield trials evaluation.
- B. Production Agronomy: Mr. Eric Johnson recently retired from AAFC at Scott and joined the University of Saskatchewan. His work under GF1 and GF2 was focused on the agronomic aspects of all mustard production and in the future will be continued by AAFC. The research under this project is focused on weed management and practical production recommendations. His work helps define the best practical production and agronomy recommendations that will maximize yield and improve the quality of Canadian mustard production. In one

of the agronomy trials, preliminary results indicate that higher planting densities of *Brassica carinata* combined with ethafluralin application reduced weed biomass. Work also continues on evaluating sulfentrazone for Minor Use Registration in mustard. Registration will be pursued for yellow mustard as it has been shown to be the most tolerant of the mustard species. More research is required to determine optimum rate in oriental, brown, and Ethiopian (B. carinata) mustard. Studies like these will go a long way to help maintain Canadian production as the primary source of mustard seed supply in global trade.

Weed Management: SMDC has identified the management of key weeds as an important factor for higher yield and quality of production. The M21 team is addressing this by developing a non-GMO Herbicide-Tolerant Mustard (HTM). Developing mustard germplasm that will be tolerant to herbicide technologies to help control key weeds like wild mustard and kochia is a long-term approach to improving production. It is through screening and selecting mustard germplasm for herbicide tolerance that the mustard breeders can develop future herbicide-tolerant mustards.

 i) The M21 team is pursuing a twopronged approach: i) screening mutated populations have been developed of all three mustard species and ii) microspores mutation technology has been developed for *B. juncea* and *B. carinata*, the

- two species that are responsive to microspore culture.
- ii) Results to date: A few single plant selections from the mutated B. carinata seed populations are demonstrating tolerance to dicamba. This tolerance has been reconfirmed in winter field trials in Florida and in the prairies in 2014. Work is continuing in 2015 to confirm that the tolerant plants selected thus far continue to carry the trait into future generations and to determine the level of tolerance to dicamba. Stay tuned to hear more about the progress made on this new HTM development and how it will help to develop brown and oriental HTM.
- C. Carinata Dedicated Industrial Mustard (B. carinata): Both carinata breeding programs, one at AAFC (Dr. Kevin Falk - Saskatoon) and the one at Agrisoma (Dr. Rick Bennett - Saskatoon), are making progress in developing new and improved carinata varieties. The focus of the 2014 programs is to generate new crosses from diverse background germplasm and identify new high yielding genotypes with lower glucosinolate content. The first DH B. carinata lines from the Agrisoma breeding program were field evaluated in the summer of 2014 and in Chile 2014-15 winter nursery. A few genotypes appear to have slightly higher tolerance to sclerotinia damage than the others as evaluated at a highly infested Scott, SK

site. Delayed CFIA regulatory approval of Carinata meal in April 2014 was too late for Agrisoma to launch a 2014 contract production program in the Canadian Prairies and US Northern Great Plains. There was some initial commercial production evaluation in 2014 winter in Florida. Agrisoma is now contracting for production in Canada and USA to meet their 2015 committed customer agreements.

D. Plant Breeders Rights (PBR): M21 is reviewing the impact on mustard of PBR changes. Plant Breeders' Rights (PBR) legislation found in Bill C-18, An Act to Amend Certain Acts Relating to Agriculture and Agri-Food (the Canadian Agricultural Growth Act) received Royal Assent in February 2015. The amendments passed will align PBR with the 1991 Convention of the International Union for the Protection of New Plant Varieties (UPOV 91). These changes do offer new opportunities for increased investment to ensure that farmers have access to new and improved varieties developed in Canada.

M21 thanks Agriculture and Agri-Food Canada (AAFC), the Western Grain Research Foundation (WGRF), the Agriculture Development Fund (ADF) of Saskatchewan Agriculture, the Canadian Mustard Association (CMA), the Saskatchewan Mustard Development Commission (SMDC) and Agrisoma Biosciences Inc. for their generous and continued support of M21's strategic plan.

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Mustard prices edge upwards

by Kevin Hursh

As of June 12 when this report was written, mustard markets were starting to respond to the dry conditions over much of the main mustard growing region of Saskatchewan and Alberta.

Rayglen Commodities of Saskatoon was reporting yellow mustard prices on both old crop and new crop at 40 cents a pound. Oriental mustard was at 38 cent a pound on old crop and 33 cents on new crop contracts. Brown mustard prices lagged behind with both old and new crop in the 27 cent a pound range.

The Statistics Canada seeding intentions survey back in April pegged Canadian mustard acreage at 320,000. This is down dramatically from the 500,000 acres planted in 2014 and it's also down from the five-year average of around 400,000 acres.

The lower than normal acreage combined with an expectation of below normal yields should cut available mustard supplies in the year ahead.

Freezer Cabbage Relish

14 to 16 cups (3.5 to 4 L) medium onion, finely chopped large red pepper, finely chopped 2 large carrots, shredded cloves garlic, finely chopped pickling salt 1 tbsp (15 ml) 3/4 cup (175 ml) granulated sugar whole Yellow mustard seed 1 tbsp (15 ml) 2 tsp (10 ml) dry mustard powder 1 tsp (5 ml) turmeric celery seed 1/2 tsp (2 ml) 2 cups (500 ml) vinegar

- medium cabbage, finely chopped,

 14 to 16 cups (3.5 to 4 L)

 medium opion finely chopped

 in a large mixing bowl, combine cabbage, onion, red pepper, carrot, garlic and salt.

 Mix well, then let stand 2 hours. Drain well.
 - Prepare brine by mixing together sugar, whole and dry mustard, turmeric and celery seed. Stir in vinegar and mix until sugar is dissolved. Pour over cabbage mixture and mix well.
 - Pack into freezer containers leaving 1 inch (2.5 cm) space under lids. Freeze.
 - To serve, defrost in refrigerator at least 8 hours and then enjoy.
 - May need to increase the amount of all vegetables if using a food processor, where the resulting texture may be much finer than if chopped by hand.

Makes 12 cups (3 L); 2 tbsp (25 ml) per person. Serves 125 people

Per serving (51.3 g): 26.5 calories, 0.5 g protein, 6.2 g carbohydrate, 0.9 g fibre, 5 g sugar, 0.2 g fat, 0 g saturated fat, 0 g trans fat, 0 mg cholesterol, 181 mg sodium

Mustard Buyers List

Agricom International Inc.

213-828 Harbourside Drive North Vancouver BC V7P 3R9 Tel: 604-983-6922 Fax: 604-983-6923

All Commodities (AC) Trading Ltd.

1600 Two Mile Road Winnipeg MB R2N 4K1 Tel: 204-339-8001 Fax: 204-339-8002

Alliance Pulse Processors Inc.

PO Box 30029 Regina SK S4N 7K9 Tel: 306-525-4490 Fax: 306-525-4463

Besco Grain Ltd.

Box 166 Brunkild MB ROG 0E0 Tel: 204-736-3570 Fax: 204-736-3575

Broadgrain Commodities Inc.

18 King Street East, Suite 900 Toronto ON M5C 1C4 Tel: 416-504-0070 Fax: 416-504-0080

Canadian Exotic Grains Ltd.

PO Box 444 Eston SK SOL 1A0 Tel: 306-962-4751 Fax: 306-962-3251

Diefenbaker Seed Processors Ltd.

PO Box 69 Elbow SK SOH 1J0 Tel: 306-644-4704 Fax: 306-644-4706

Farmer Direct Co-Operative Ltd.

Certified Organic Only 1536 Victoria Avenue Regina SK S4P 0P5 Tel: 306-352-2444 Fax: 306-352-2443

Grain Millers Inc.

10400 Viking Drive, Suite 301 Eden Prairie MN USA 55344 Tel: 952-983-1289

Fax: 952-983-1339

Ilta Grain Inc.

8427 - 160th Street Surrey BC V4N 0V6 Tel: 604-597-5060 Fax: 604-597-4933

Montana Specialty Mills LLC

PO Box 2208 Great Falls MT USA 59403 Tel: 406-761-2338 Fax: 406-761-7926

Mountain States Oilseeds

PO Box 428 American Falls ID USA 83211 Tel: 208-226-2041 Fax: 208-226-9916

Olds Products Company of Illinois

10700 - 88th Avenue Pleasant Prairie WI USA 53405 Tel: 403-393-8180

Fax: 262-947-3517

Paterson GlobalFoods Inc.

333 Main Street, 22nd Floor Winnipeg MB R3C 4E2 Tel: 204-956-2090 Fax: 204-947-2386

S S Johnston Seeds Ltd.

Arborg MB R0C 0A0 Tel: 204-376-5228 Fax: 204-376-2201

Box 3000

Sakai Spice (Canada) Corp.

4201 - 2nd Avenue North Lethbridge AB T1H 0C8 Tel: 403-320-9445 Fax: 403-320-9446

Schluter & MaackCanada

Pilot Butte SK S0G 3Z0 Tel: 306-771-4987 Fax: 306-771-4980

PO Box 408

Seaboard Specialty Grains & Foods

2595 Quance Street East, Suite 201 Regina SK S4V 2Y8 Tel: 306-565-3911

Fax: 306-565-3912

Sunrise Foods International Inc.

2162 Airport Drive Saskatoon SK S7L 6M6 Tel: 306-931-4576 Fax: 306-931-6770

Toepfer International, Western Grain & Processing Division Ltd.

9 - 2155 Airport Drive Saskatoon SK S7L 6M5 Tel: 306-657-3455 Fax: 966-543-0703

Victoria Pulse Trading Corp.

600 - 850 West Hastings Street Vancouver BC V6C 1E1 Tel: 604-733-1094 Fax: 604-733-1097

Viterra Inc.

2625 Victoria Avenue Regina SK S4T 7T9 Tel: 403-382-3418 Fax: 866-382-2243

WA Grain & Pulse Solutions

5041 - 50th Street, Box 6345 Innisfail AB T4G 1T1 Tel: 306-741-4661 Fax: 306-582-2766

Westland Agro Ltd.

PO Box 551 Gravelbourg SK SOH 1X0 Tel: 306-648-3273 Fax: 306-648-3611

To check whether a buyer is licenced and bonded by the Canadian Grain Commission, go to www.grainscanada.gc.ca.

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The Saskatchewan Mustard Development Commission

The Saskatchewan Mustard Development Commission (SMDC) was established in 2003 to represent the province's mustard growers.

The SMDC vision is "Investing in the future for mustard grower profitability," and the SMDC mission is "Growing the mustard industry for the benefit of growers through research, communication, and market development programs."

Mustard Grower is a publication of the Saskatchewan Mustard Development Commission (SMDC). Mustard Grower is committed to truth and accuracy; however SMDC disclaims any responsibility for any errors or omissions. Articles, opinions and comments expressed in Mustard Grower are not necessarily supported by the SMDC.







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