

MUSTARD GROWER

March 2008 Issue

Chairman's Message

By: *Baine Fritzler*



Last year at this time I was writing about the pleasant fact that mustard prices were a bright spot in the commodities with contract prices having now increased by 80-110% over last year's levels. At times like this farmers (me included) get even bigger stars in their eyes. I still remember the words of one market analyst's comment at the

height of the drought induced rally in June of 1988. He simply stated "What goes up must come down." It did. My best advice to you in these heady times is to take your best shot at growing a crop.

I was invited to attend a day long seminar on the future of the Brassica breeding program at AAFC. This included canola and mustard. I emphasized the importance of this program to the mustard industry. It is one of the few in the world. The other point that I made was that our industry is not large enough to attract major investments from large companies in breeding. Open the *Western Producer* or *Country Guide* and count how many pages of advertising there are for pulse and canola products. Then try to find one for mustard. The truth is that the AAFC mustard breeding program runs on a shoestring budget while producing world class varieties. The other problem that is occurring is that it is increasingly difficult to recruit highly qualified young professionals in competition with industry. The most interesting moment came immediately prior to the meeting when one of the canola commission's directors leaned over my shoulder and asked the price of certified mustard seed. At approximately \$1.40/lb it is less than half the price of the most reasonably priced OP canola seed. The look he gave me spoke volumes. Try \$7.00/lb for HT hybrids against \$1.40. It is imperative to support our present breeding program. The alternatives are no new seed varieties or having control of our seed supply go the way of other industries. I have already had a long discussion with my MP's office. I suggest

you write a letter to yours in support of this program.

Our mustard 21 project is progressing nicely and will be finished by March 31. While the financial risk seemed large at the beginning everything has gone smoothly with the net result that over \$800,000 in spending has been brought to our industry. There is already talk of Phase 2 to implement the opportunities identified.

The last bit of news is that there will be a relocation of our offices by July 31, 2009 or sooner. The Saskatchewan Canola Development Commission (SCDC) has found that the challenges of administering three separate commissions has out grown their administrative resources. The SCDC has therefore chosen not to renew the administrative contracts of the mustard and canaryseed commissions in order to concentrate on the growing needs of canola producers. We thank them for their help in getting our commission started.

In closing remember that mustard is a special crop and if you treat it like one, it will treat you the same way. ♣

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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."

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SMDC Mustard 21 Initiative

By: *Pete Desai*

SMDC is leading the Mustard 21 (M21) Initiative, in partnership with Canadian Mustard Association, as part of the Science and Innovation program under the Agriculture Policy Framework (APF). The APF is managed by AAFC as part of the Federal Provincial agreement.

Today's major global consumer trends like healthier foods, renewable resources and natural products along with concern of spiraling health costs, green house gas and environmental sustainability are impacting and shaping agriculture. These global trends are changing the landscape as never before and at the same time opening new opportunities for mustard in the 21st century.

The vision of M21 is to create a substantial but sustainable value added industry in Canada vs. a very minor one today. This M21 big vision calls the increase in value of mustard as an export commodity of \$70 million by a factor of 4 to 6X in the next two decades. This is a challenging and daunting undertaking that will need focus, discipline and dedicated commitment on the part of whole value chain. Significant growth will only come from new products and not from incremental expansion of the traditional business.

M21 initiative is to develop a strategic plan, with stakeholders input, to capitalize on the unique attributes of mustards. Canada is one of the major global exporters of mustard. The growth of mustard production in a new jurisdiction like EU will continue to put pressure on the domestic mustard export industry.

The M21 project is managed by a Steering Committee (SC) of eleven people. It is made up of growers, processors, exporters and the research community. The M21 SC is co-chaired by Erroll Simington (SMDC Board) and Bill Greuel (Saskatchewan Agriculture). The SC committee reports to the SMDC Board. The M21 Project Team is looking at the industrial, food and health applications of mustards that will give Canada an opportunity to develop a new value added industry.

Focus of the M21 Project Team is to evaluate the opportunities that will utilize the uniqueness of mustard. Some examples of this include:

1. Exploring the use of glucosinolates in mustard for its use as a biopesticide.
2. Examining the unique oil composition of mustard for its fit into the biofuel/additives industry.
3. Assessing mustard as chemical feedstock for the specialty products sector.
4. Exploring the use of mustard mucilage in the healthy food applications and other specialty contents of mustard for its high value components.

There are three Working Groups (WG): 1) Manufacturing 2) Food & Health 3) Production Agronomy Breeding. These groups will help identify the opportunities that will have significant economic activity while at the same time recognizing that we have to preserve the present condiment market. The M21 strategic priorities will help drive the alignment of its limited resources to capitalize on these value creation options. The M21 strategy will also help SMDC to leverage significant more resources to help the sustainability of Canadian mustard as an oil crop option for traditional oil crops, like canola, sunflowers and soybean, especially in the drier prairies. Mustard will have to stay competitive to other crops in terms of yield and economic returns.

The initial work of the three WG and two workshops has identified areas where mustard does have some advantage in utilizing its unique features. The challenge now is to define which of these opportunities can have the most significant impact and how we develop an industry in Canada to create the value added products that are sustainable and lucrative for the growers to continue to grow mustard.

The M21 project is a significant commitment of \$833K on the part of APF and SA to address the application of science and innovation to the mustard industry to build a stronger value added sector in Canada. SMDC also has committed its share of in-kind resources to implement M21 project as they see this as an opportunity to strengthen mustard as a crop in the 21st century.

M21 will have its report to SMDC in April 2008, which will give SMDC the opportunity to develop an action plan on which and how to implement the strategic recommendation for mustard and maintain a sustainable mustard industry in Canada.



Mustard as an Ingredient in Food Processing: Current Uses and the Potential

By: *Janitha Wanasundara, Ph.D., Agriculture & Agri-Food Canada*

Saskatchewan produced about 145,000 tonnes of yellow, brown and oriental mustard last year. Have you ever wondered what happens to all that mustard grown? Most of that mustard ends up in human food.

Different mustards:

Edible mustard includes yellow mustard (called white mustard in Europe) which is *Sinapis alba L.*, and brown and oriental mustard that are categorized under *Brassica juncea*. A small portion of *Brassica nigra* (black mustard) is also grown in Saskatchewan.



In the culinary world mustard is widely appreciated for the characteristic aroma and the hot, sharp sensory trait (pungency or the bite). Mustard has been an important spice since ancient times. The characteristic mustard flavour enhances palatability of food when used in low concentrations. It provides liveliness to the flavours through subtle contribution that fills out the perceived flavour. This is because the pungency of mustard

does not persist in the mouth like other pungent spices, capsicums or pepper. Brown/oriental mustard is the “hot” mustard. Yellow mustard has mild, sweet character of pungency.

The spiciness of mustard is due to the isothiocyanates generated from the crushed seed. The parent compound glucosinolates and the enzyme myrosinase that catalyses the hydrolysis of glucosinolates to isothiocyanates is present in the seed. When favourable conditions are met e.g. disintegration of seeds in aqueous medium, isothiocyanates are released. The difference of oriental/brown mustard flavour from yellow mustard is mainly due to the structure of the isothiocyanate generated. *Brassica juncea* releases volatile allyl isothiocyanate (AITC) which has sharp sensation (shoots quickly to the sinuses) and pungent aroma. Chinese restaurant mustard, hot English mustard, Dijon and German mustards all exhibit sharp, pungent sensation because all are made from brown or oriental seeds. *Sinapis alba* releases non-volatile 4-hydroxybenzyl isothiocyanates which generates mildly hot, sweet sensation but no volatile aroma. Hot dog mustard and most of the yellow colour mustard pastes (without black specks) are made from yellow mustard. Besides the pungency there are other important properties of mustard seed components that are used by the food industry.

Whole seed:

Traditionally both yellow and oriental/brown are used as whole seeds, ground powder and pastes. Whole mustard seed does not have an aroma but an essential ingredient in pickle mixes, rubs and relishes. Appearance of whole brown or yellow seeds is attractive in these applications rather than providing aroma or taste. However, there may be a reason to

use mustard seed in pickle mixes which is a practice in most cultures and cuisines. Mustard seeds can be stored for long time without insect attack and mould growth which may be attributed to the defensive chemicals such as glucosinolate breakdown products and trypsin inhibitors. Isothiocyanates especially AITC has proven activity against the growth of fruit pathogens, mycotoxin producing moulds that grow on food crops (e.g., *Aspergillus flavus*, *Penicillium citrinicum*, *Fusarium graminearum*), Neurospora yeast, and food spoilage bacteria such as *Staphylococcus aureus*, *Salmonella typhimurium* and *Listeria monocytogenes*. It can be postulated that with time, in the pickling media the seed coat may change its permeability and allow some of the chemicals to leach out and help as preservatives.

Ground or powdered seed:

Ground mustard is the disintegrated whole seeds to a fine powder. This could be a blend of yellow, oriental and brown. Some processors remove the seed coat (bran) to enhance mixing and dispersion of flour particles in the applications to proceed. Upon contacting with water, at room temperature myrosinase in seed particles catalyzes breakdown of glucosinolates and isothiocyanates are released. Liquids such as milk or beer are also capable of triggering this reaction. Although the acidic liquids such as vinegar, lemon juice and wine are poor triggers they are good preservatives of the flavoring compound isothiocyanates. This is the reason mustard pastes always contain vinegar. To get the maximum pungency, it is best to moisten mustard powder with water and let stand for about 10 minutes in room temperature and then add to the preparations such as salad dressings. Adding acid liquid will protect the pungency by stabilizing isothiocyanates without dissipating. Heat always impedes flavour release because myrosinase activity becomes weak when temperature is above 60°C.



Ground mustard especially the ones that generate allyl isothiocyanate can reduce the viability of *Escherichia coli* O157:H7 in ground beef. This activity is significant for improving the safety of hamburger meat. According to the studies carried out at the University of Manitoba, the sensory properties of the finished product were not compromised when hot mustard flour was added up to the 10% level in the formulations.

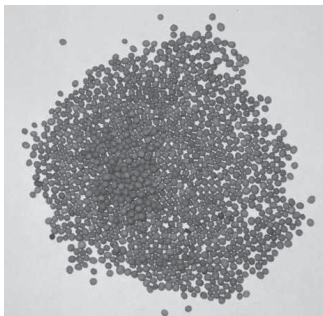
Prepared mustards:

Prepared mustard is a mixture of whole, cracked, or ground mustard seed with vinegar, water, wine, beer, or must (fresh-pressed grape juice), and often some other seasonings as well. Dijon mustard has long history associated with a geographical region, and the uniqueness is with the way of preparation of the brown mustard seeds into a paste.

According to the process notes available, Dijon mustard is prepared by coarsely grinding whole mustard seeds with liquids and flavourings such as vinegar, water, salt and spices. This grinding step results in a coarsely-textured mixture of bran and the inside seed meat (cotyledons). Screening of this coarsely ground mixture separates the bran particles from the paste and gives fine-textured, pungent mustard with distinct Dijon flavour. Country style Dijon contains hull particles since the screening may not be carried out.

The yellow smooth mustard paste is the most popular type in North America. The origin of that goes back to early 20th century US spice merchant Francis French who used, mustard seeds, vinegar and turmeric (*Curcuma longa*) powder to develop this mild tasting yellow mustard paste. Turmeric powder, which is widely used in Asian cuisine as a natural colorant (has antimicrobial and other health benefits as well) gives the bright yellow colour to this popular product. Some other spices and sugar are also added to this yellow mustard paste.

De-heated/Enzyme inactivated/Low-pungency mustard:



Regular untreated mustard is used for its pungency therefore only limited amounts can be used in food applications. Mustard seed contains soluble polysaccharides, oils and proteins which in combination offer useful properties in food processing. The limiting factor of use of mustard is pungency and the pungent factor generation can be controlled

by inactivation of the enzyme responsible for glucosinolate hydrolysis. Ingredient processing industry uses controlled heat by different means to inactivate myrosinase enzyme. The resulting product is relatively bland in flavour and does not generate pungent mustard flavour upon contacting with water. Development of deheated (enzyme inactivated or low-pungent) ground mustard (DGM) allowed food processors to use technologically important functional characteristics of mustard proteins and soluble polysaccharides. DGM has become a multifunctional ingredient in food processing. Mostly yellow mustard is processed for deheated mustard products. Partial removal of bran and oil is done during this process.

Meat processing industry uses DGM to provide different functions. Addition of DGM up to 1% of the product formulation in processed meats such as wieners, frankfurters and luncheon meat and label indicating spice or spices will provide less purge or reduced losses during cooking. Improved peeling of the casing is also reported when DGM is added to these products. Excellent water and oil binding properties of mustard proteins and polysaccharides may facilitate these functions. DGM can also be used as a bulking agent. According to ingredient claims, up to 5% (by total protein content of the product) can be used in these products and labelling will be as ground mustard. DGM may be able to extend functions to stabilizing meat protein emulsions, and providing a smooth texture. Enhancing the emulsifying ability of meat proteins and lipids, and then stabilizing the emulsion during heat processing in addition to the oil and

water absorption capacities provide these positive ingredient qualities of DGM in emulsified meat products at high levels of addition. It is also reported that DGM at 2% level can reduce 3% of lean meat in the formulations while providing protein balance and all the improved functionalities, thus a very good cost-effective ingredient. In dry sausage processing, the moisture to protein ratio is the key factor that determines the drying room hanging time before the finished product. Addition of DGM increases the protein content and makes drying faster. Besides helping the product structure and texture, DGM may help in taste properties by exerting antioxidant activity. Reduced levels of lipid oxidation makers in heat processed, stored and reheated meat; i.e. reduce meat lipid oxidation related off flavour development has been confirmed by scientific studies. Combination of natural antioxidants such as soluble phenolic compounds, tocopherols and glucosinolates present in mustard may be responsible for this effective antioxidative activity.

In the preparation of mayonnaise and salad dressings DGM adds solids, thickening ability, oil emulsifying capacity and emulsion stability. DGM performs similar functions as egg yolk solids by coating and stabilizing oil droplets (emulsion capacity) without separating into phases (emulsion stability). Ingredient manufacturers claim DGM can replace egg yolk solids in mayonnaise formulation at a ratio of 1:1. The technologically important functionalities of DGM in the use of meat products and sauces are emulsifying ability, water and oil holding abilities, and viscosity. All these functions are provided by the soluble polysaccharides of remaining seed bran particles and oil and proteins of the cotyledon particles. Mustard without heat treatment is used for flavouring of mayonnaise.

DGM is used in ketchup manufacturing. Due to the excellent viscosity properties that mustard polysaccharides and proteins provide in water slurries they blend well with tomato pastes. DGM can replace up to 10% of tomato solids and labelled as spices when used.

Ingredient manufacturers report that the pungency reduced mustard flour can be used in bakery products to enhance flavour, water absorption capacity, and product storage life while reducing use of egg yolk products. In processed cheese DGM improves sliceability and heat stability while reducing stickiness of sliced cheese. Mustard flour is widely used in batter coatings of fried foods, especially fish products that are ovenable. Advantages of using 1-5% mustard flour in the dry batter mixes has been identified as; providing the balance to the oily taste of fried fish, desired brightness due to yellow colour that mustard imparts, and good water absorption thus less weeping or oozing.

Mustard bran:

The bran of yellow mustard is rich in mucilage (25 to 30% soluble polysaccharide) which has thickening ability and stabilizing properties similar to xanthan gum in aqueous preparations. Mustard bran contains very little oil (<7%) and protein (13-16%) but is rich in dietary fiber both soluble and insoluble in nature. Total seed contains about 5% mucilage by weight. Mustard hulls and extracted mucilage are used as an ingredient in gravies and sauces. This allows processors to use less solids but increased viscosity and thickening of the

(Continued on next page)

Mustard Brand Working Group

By: *Yvan Beaulieu, Senior Marketing Development Advisor Special Crops Section, Agriculture and Agri-Food Canada*

At its January 2008 annual general meeting, the Saskatchewan Mustard Development Commission received an update from the Mustard Brand Working Group (MBWG) on efforts to brand Canada's mustard sector.

The MBWG is about half way through its work in building a strong brand for Canadian mustard and expects to complete it in late 2008-early 2009.

Mustard-sector brand development will go beyond product promotion and logos. The first step is to develop a brand promise to guide industry in differentiating Canadian product from its competitors and improving its delivery capacity. The second step is to communicate the sector's capacity and advantages to Canadian and foreign food and ingredient processors.

While Canadian mustard is well known in foreign markets for superior quality, it is perceived as expensive. There are two reasons for this: Canadian labour and transportation costs. However, Canada's research and development practices make Canadian varieties attractive. The branding project intends to develop information targeted at domestic and international buyers to outline the advantages of Canadian product.

A number of European buyers have also expressed concern about genetically modified-organism (GMO) contamination. As a result, the sector has improved its capacity to deliver shipments within GM tolerance limits. The introduction of identity preserved production systems, and the Canadian Identity Preserved Recognition System certification (by the Canadian Grain Commission) can also be used to brand Canadian mustard. These systems have also increased the ability to deliver mustard varieties for specific uses—all of which needs to be communicated to the marketplace.

Last fall considerable effort was made to document mustard-sector strengths, including the quality of the product, the trustworthiness of our suppliers, and the health benefits and multiple uses of Canadian mustard, which was an essential step to develop the brand.

Mustard as an Ingredient cont'd. from page 4

product. It is reported that unfractionated mustard mucilage has properties similar to xanthan gum which is widely used in food industry. Available scientific data support potential health benefits of mustard mucilage; such as lowering the glycemic index in humans and reducing colon cancer cell proliferation in rat models.

Future prospects:

Value addition to mustard through using as a spice has limited opportunities. With the existing component fractionation technologies and bioprocessing capabilities it is possible to obtain seed components that retains their functionalities. Oil, soluble and insoluble fibres, proteins, and glucosinolates of mustard are the key components that drive the applications at present and these components could be converted to new ingredients and products beyond traditional uses. Yellow mustard mucilage is a soluble polysaccharide with desirable technological functions and health benefits. Proteins

A number of communication and outreach activities are planned for 2008. These include contacting Canadian and foreign food-processing companies and participating in trade missions and foreign food shows. The MBWG also intends to look at the feasibility of sector-wide brand versus branding a portion of the mustard crop. Other issues up for discussion are:

- usage and ownership of the brand
- maintenance of brand integrity
- use of an identifier or logo

A number of industry experts has contributed to the branding project: Viterra; GS Dunn, a key ingredient processor in Hamilton, Ontario; the SMDC; the Canadian Special Crops Association; the Canadian Grain Commission; the Canadian International Grains Institute; a mustard scientist from Agriculture and Agri-Food Canada's (AAFC) Saskatoon Research Center; and market development and branding specialists from AAFC and Saskatchewan Agriculture and Food.

The Working Group was created in June 2007 following a study on behalf of the Special Crops Value-Chain Roundtable (VCRT). Its role is to develop strategic plans to help differentiate Canadian mustard from the competition, maintain a leadership position in external markets and generate extra market value for the Canadian crop in international markets.

The need to develop a mustard-sector Canada Brand was triggered by several issues including the:

- increased foreign mustard production
- European Union regulations that deem mustard an allergen
- new traceability and quality assurance demands by selected buyers
- concerns of contamination from genetically modified crops and
- need to move away from a commodity market.

The Canadian mustard brand is associated with the Canada brand for food and agriculture (brandcanada.agr.gc.ca) through the Special Crops VCRT. ♣

comprise 30-32% of the yellow mustard seed and 50-54% of the seed coat and oil removed meal. Because of this high protein content and the favourable technological properties in food processing, protein ingredients can be developed from yellow mustard. Oil fraction may have limitations in food use due the high erucic acid content.

Although the allergenicity of mustard is not widely reported in Canada, at present European Union countries consider mustard as a potential allergen. All products containing mustard must declare its presence. Scientific details are available on allergenic proteins identified from the small molecular weight protein group of *Sinapis alba* (Sin a 1) and *Brassica juncea* (Bra j 1E). Further development of mustard related new products need to consider obtaining allergen protein-free products. Developing new ingredients from mustard seed components is possible but a challenge for the scientists and the processors. ♣

The Mustard Marketing Report

By: *Steve Gadiant – Montana Specialty Mills*

Mustard has been a captive market for Canadian farmers. The mustard market has encountered exciting and volatile times this past year and all indications point to continued volatility. Is mustard the new speculative crop of choice for Canadian Farmers? We will look at the market in two stages; current and new crop prospects.

- 1) There were 438,000 acres of mustard seeded in 2007, producing 114,300 m.t. gross. This is less than usage; so there will be a significant draw-down of carry-over stocks.
- 2) Europe had a serious crop shortfall in 2007 resulting in Western Europe buying approximately 20,000 mt. of new and unexpected yellow mustard purchases. Expected carryout has been significantly reduced.
- 3) Mustard prices have jumped to nose bleed levels to attract more acres of mustard to be seeded. With reduced carryover stocks, the mustard industry needs a solid 60% increase in seeded acres.

New crop contract prices are at historic highs to encourage more production in 2008. Agriculture Canada currently projects carryover mustard stocks at the end of the crop year at 9300 mt. Expect spot prices to move at a premium to 2008 crop prices.

The Upcoming Crop year 2008-2009

The mustard condiment industry will buy their normal quantities. As prices soar, third world condiment demand and North American usage in food industrial products will decline as substitute proteins and stabilizers become cheaper. Once packaging labels are changed and printed as to reduced mustard content; these buyers will use less mustard for a significant time period because of costs and labeling laws.

A Few Considerations:

- Weather and resultant crop conditions will influence prices.
- Our Canadian dollar has jumped in value vs. the U.S. dollar. Same farm-gate prices will result in higher market prices to end users.
- Buying the same volumes of mustard this year will double basic seed costs. Will there be customer melt down, or more hand to mouth buying?
- If there is a serious economic slowdown internationally, will that affect demand for grain?
- Will hedge funds continue buying grains and commodities on speculation as an alternative to stock market investing?

No one knows where mustard prices will be next week, next month, next year.

In Summary: if you want to retain your international status as a dependable mustard supplier grow some mustard in 2008. **Our current market share is ours to lose.** You can lock in attractive contract values now, or if you are a gambler, ride the wave on next year's prices up or down.

I anticipate seeing a lot of yellow blooming fields this summer.

Good Luck in your mustard production and marketing in 2008-2009. ♣



2008 SMDC Board of Directors (from left to right: Patrick Ackerman, Rene deMoissac, Baine Fritzler, Tom Burwell, David Pederson, Erroll Simington)

Newly Confirmed Executive and Board Members at Saskatchewan Mustard Development Commission

The Saskatchewan Mustard Development Commission (SMDC) announced the 2008 SMDC Board of Directors at their annual meeting on January 9 in Saskatoon. David Pederson, from Hawarden, was elected to the board for a three-year term by acclamation. Patrick Ackerman, who farms at Chamberlain, was appointed to the board for a one-year term to replace outgoing director Brett Meinert. Other directors who continue to serve on the board are Rene deMoissac, a Biggar area farmer, Erroll Simington, who farms at Kincaid, Tom Burwell who farms at Asquith, and Govan area farmer Baine Fritzler. In addition, the SMDC Board elected its executive following their annual meeting. Baine Fritzler will serve again for one-year term as Chair while Rene deMoissac will serve as Vice-Chair. The position of Treasurer will again be filled by David Pederson. ♣



Mustard on the Menu

Honey Mustard Chicken Nuggets

Honey Mustard Sauce

1/4 cup prepared mustard
2 tablespoons honey
2 tablespoons apple juice

Nuggets

2 Chicken breast halves, skinned, boned,
cut into 1" cubes
1/2 cup crushed pretzels

Heat oven to 375°F. In a small bowl combine all sauce ingredients; blend well. Divide the sauce in half. Place one half in a shallow dish and reserve the other half for dipping. Dip the cubes of chicken in the sauce and roll in the crushed pretzels until completely coated. Place on an ungreased baking sheet. Bake for 10-12 minutes or until no longer pink. Serve with reserved sauce.

Per Nugget:
Calories 30
Fat 1g

Do you have a story idea for the next newsletter or have an opinion on the mustard industry you want to disclose? Do you have a great mustard recipe you want to share? Please contact us at 975-6629 or email us at info@mustard.com

Mustard Buyer's List

Mustard Buyers	Address	City	Prov.	Postal Code	Telephone	More Info
Agricom International Inc	213-828 Harbourside Dr	North Vancouver	BC	V7P 3R9	604-983-6922	info@agricom.com
Besco Grain Ltd	30 Railway Ave PO Box 166	Brunkild	MB	R0G 0E0	204-736-3570	mustard@bescograin.ca
Bio Green Technologies/Peacock Industries Partnership	PO Box 750	Hague	SK	S0K 1X0	306-225-4691	neilwagner@mustardproducts.com
Diefenbaker Seed Processors Ltd	PO Box 69	Elbow	SK	S0H 1J0	306-644-4704	lionelector.stulor@sasktel.net
F N A Foods	318-111 Research Dr	Saskatoon	SK	S7N 3R2	306-665-2294	bmartin@fna.ca
Finora Inc	8427 160th St	Surrey	BC	V4N 0V6	604-597-5060	finora@istar.ca
G H Schweitzer Ent Ltd	PO Box 222	Eston	SK	S0L 1A0	306-962-4751	schweitzer@sasktel.net
Grain Millers Canada Corp	1 Grain Millers Dr PO Box 5040	Yorkton	SK	S3N 3Z4	306-786-4682	www.grainmillers.com
Lakeside Global Grains Inc	PO Box 430	Wynyard	SK	S0A 4T0	306-554-3030	jcales@lakesideglobal.ca
Minn-Dak Growers Ltd.	PO Box 13276	Grand Forks	ND, USA	58208-3276	701-746-7453	info@minndak.com
Montana Specialty Mills LLC	525 3rd St NW	Great Falls	MT, USA	59404	406-761-2338	www.mtspecialtymills.com
Mustard Capital Inc.	PO Box 1110	Gravelbourg	SK	S0H 1X0	306-648-2799	info@mustardcapital.com
Parkland Pulse Grain Co Ltd	PO Box 848	North Battleford	SK	S9A 2Z3	306-445-4199	parkland.pulse@sasktel.net
S S Johnson Seeds Ltd	PO Box 3000	Arborg	MB	R0C 0A0	204-376-5228	info@johnsonseeds.com
Shamrock Seeds (2006) Ltd	1502-17th St W	Saskatoon	SK	S7M 4A4	306-249-4151	bbradley@shamrockseeds.com
Viterra	2625 Victoria Ave	Regina	SK	S4T 7T9	306-569-4026	quinton.stewart@swp.com
Walker Seeds Ltd	PO Box 2890	Tisdale	SK	S0E 1T0	306-873-3777	info@walkerseeds.ca
Western Grain Trade Ltd	9-2155 Airport Dr	Saskatoon	SK	S7L 6M5	306-445-4022	vicki@westerngrain.com

Mustard Field Day
July 10, 2008 – Swift Current
Wheatland Conservation Area - AgriARM Site

- Mustard Crop Tours
- Latest Mustard Research
- Mustard 21 Presentation
- Agronomic Information

Barbeque and Refreshments to follow

Stay informed about the latest information in the mustard industry.

Mark your calendars today and plan to attend.

The SMDC would like to thank all our sponsors
of the Annual General Meeting at the
Saskatoon Inn on January 9, 2008

