SASKATCHEWAN pulse Growers

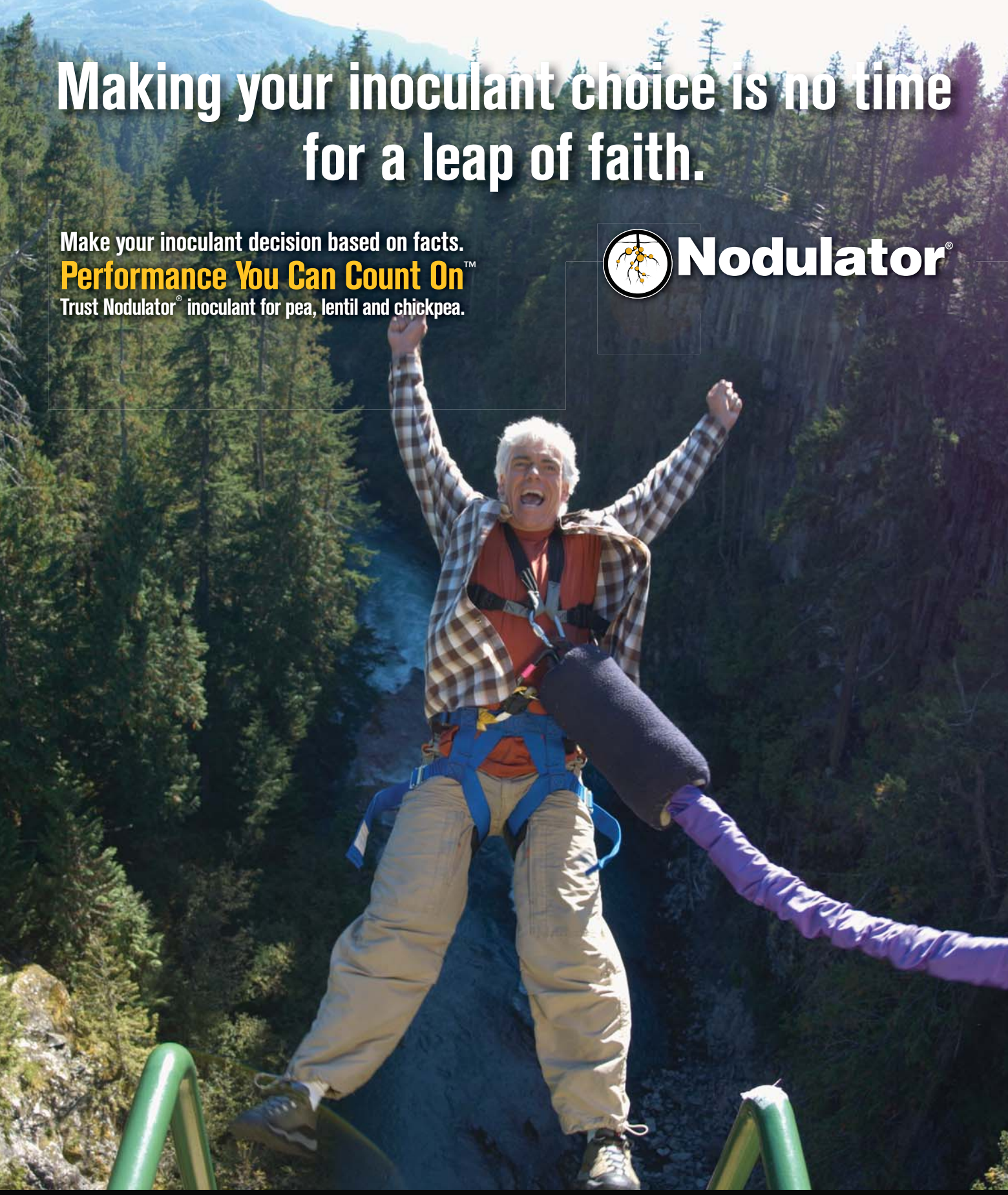
pulsepoint

March 2009 Vol.9 No.2

Canadian Publication Mail Agreement 40021625

Spring Ahead

Pulse Seed and Disease Forecast
New Herbicide for Chickpeas
Lentil Production in South Asia



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Maurice Berry
Board Chair

Opportunities for Saskatchewan Pulses

Canada is the world's leading exporter of lentil and pea, with Saskatchewan supplying 99% of Canada's lentils and 77% of Canada's peas. Pea, lentil and chickpea production in Saskatchewan has increased 36 fold since 1985 and has grown at an average annual rate of 5% over the past ten years. In 2008 Saskatchewan pulse exports exceeded $1.6 billion.

Our climate, soils, production technology and research capacity contribute to a competitive advantage in the production of high quality lentil and pea. SPG forecasts that continued growth is sustainable up to one pulse crop planted in every four years of a crop rotation, equating to 9.5 million acres or over $4 billion from 7.2 million tonnes of production.

SPG has four objectives to accomplish continued growth:

- Increase DEMAND for Saskatchewan grown pulses;
- Increase PRODUCTION of Saskatchewan grown pulses in a sustainable manner;
- REPRESENT the Saskatchewan pulse industry;
- ATTRACT the required resources.

Demand for Saskatchewan grown pulses can increase if barriers to pulse trade are minimized. This can be achieved through bilateral trade agreements with key pulse importers, eliminating non-tariff barriers of key importers, and continuing to keep Canadian pesticide residue limits harmonized with importing countries.

World population growth will contribute to increased demand for pulses as a nutritious food. Lentil is the only pulse crop, other than soybean, that has achieved significant worldwide growth, due to the quick cooking nature of lentil. SPG has identified lentil as a strategic crop for Saskatchewan because of our dominance in export markets. Our rich soils produce lentils that are high in selenium and other micronutrients. We will develop a marketing strategy to increase lentil consumption in non-traditional markets. We will continue to invest in research that demonstrates the nutritional benefits of pulses.

SPG will encourage increases in production levels in an economically and environmentally sustainable manner by reducing production risks for Saskatchewan farmers. We are involved in the extensive pea, lentil and chickpea research and development clusters that have been developed over the past twenty years under the leadership of the University of Saskatchewan. Our top priority is the improvement of the quality and production potential of pulse crops currently grown in Saskatchewan, and the introduction of new pulse crops adapted to our growing conditions. We will continue to commercialize widely adapted varieties royalty free and specialized niche varieties through commercial partnerships.

We will continue to increase our investment in research related to variety specific agronomy, nutrition, disease and environmentally sustainable rotations.

SPG will represent the Saskatchewan pulse industry by ensuring that we understand the needs of pulse producers and ensure their priorities are communicated to the provincial and federal governments.

SPG will invest in programming and activities to achieve these outcomes and meet our objectives. We will access the required expertise, either internally or through third parties. We will initiate actions both independently and in collaboration with partners sharing our vision.

Pulses are a Saskatchewan success story and will continue to contribute to the growth of the Saskatchewan economy!

Maurice Berry

BOARD

SASKATCHEWAN pulse Growers
Celebrating 25 Years

pulsepoint

Published for:
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Saskatoon, SK S7N 4L8
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Published by:
Sunrise Publishing
2213B Hanselman Court
Saskatoon, SK S7L 6A8
Phone: (306) 244-5668
Fax: (306) 244-5679
Email: news@sunrisepublish.com
Website: www.sunrisepublish.com

Publication Dates:
January, March, June, October

Publisher:
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Art and Production:
Trevor Sellar

Marketing:
Sunrise Publishing

Canadian Mail Publications
Sales Agreement #40021625
Postmaster please return undeliverable copies to
Saskatchewan Pulse Growers
104 – 411 Downey Road
Saskatoon, SK S7N 4L8
ISSN 1701-9125
PRINTED IN CANADA

Cover Photo:
Erin Taman Athmer

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Spring Ahead

With spring right around the corner and a new season beginning, seeding decisions are being finalized. With the different pulse varieties available, producers will have some tough decisions to make.

In this issue we feature an article about the best pulse varieties for your area, and an article about the different traits in our lentil varieties. We also have a report from the South Asian region with an update on their current pulse production. This information will help you as you finalize your farm plan for 2009.

Finally, we share information about the pulse disease forecast for 2009, and some information about a new herbicide that will help you gain a better return on your chickpea crop.

We wish you all the best as we *Spring Ahead* into a new season.

IN THIS ISSUE

For more information about the Saskatchewan Pulse Growers, please visit our website at www.saskpulse.com.

by Faye Dokken

Pulse Seed and Disease Forecast

IN BRIEF

Preliminary results indicate that seed borne disease levels are low for 2009.

The 2008 Pulse Crop Season

Plant diseases are challenging for pulse production in Saskatchewan. Weather will strongly influence the 2009 disease forecast, but past conditions have already determined the diseases present in the soil and crop residue, as well as the pulse seed quality.

Pulse seed quality was good heading into the 2008 season. However, seeding and early crop development were delayed across Saskatchewan due to cold weather, southern dry soils and wet soils with slow snow melt in other regions. Lack of precipitation in May also played a factor in southern Saskatchewan. But, by mid-June the south had received rain. Below-normal temperatures for much of the growing season delayed crop development even further. July and August brought hail, strong winds, and rainfall in most areas, followed by record-breaking heat in mid-August.

Second growth of uneven crops, recovery from hail damage, and cool, wet weather delayed harvest in some regions. Despite these challenges, total crop production in 2008 reached almost 30 million tonnes for Saskatchewan. Approximately 3.7 million tonnes of pulses were harvested from nearly five million acres. Quality was above average, with an expected 92 per cent of peas and

PHOTO BY FAYE DOKKEN

Root rot was problematic in field peas in 2008.

84 per cent of lentils in the top two grades, and 47 per cent of chickpeas in the top grade.

Seed Quality in 2009

While certified seed must meet requirements for germination and purity, seed is not necessarily disease-free and should be tested before planting. A seed test health report should be requested when purchasing seed.

Preliminary results from commercial seed testing labs (compiled annually and submitted to the Canadian Plant Disease Survey available online at: www.cps-scp.ca/cpds.shtml) indicate that seed-borne disease levels are low. Pea seed from the 2008 season had a provincial average of 3.3 per cent seed borne ascochyta infection and 24 per cent of samples were disease-free. Lentil seed had an average of 0.5 per cent seed borne ascochyta infection and 88 per cent of samples were disease-free. There were only negligible levels of seed-borne anthracnose found in lentil samples.

However, provincial averages can disguise individual seed-borne infection levels. Growing conditions, crop rotation history, disease records, and seed test health reports should be considered for each field. Seed treatments should also be considered. For recommendations on seed-borne diseases visit: www.agriculture.gov.sk.ca and search for "Guidelines for Seed-borne Diseases of Pulse Crops" or contact the Agriculture Knowledge Centre at 1-866-457-2377.

Root Rot in 2009

A complex of soil-borne pathogens can cause seed rot, damping-off, seedling blight, wilting diseases, and root rot in pulse crops. These pathogens are often associated with moist soils and feed on plant residues in the absence of susceptible hosts. Fusarium root rot is associated with various *Fusarium* species, but *F. solani* f.sp. *pisi* is considered the primary culprit on field peas. Foliar symptoms include wilting, stunting, yellowing, and premature ripening. Roots decay with red to black-brown lesions.

Root rot was problematic in many field pea crops in 2008. Low soil temperatures inhibited nodulation by nitrogen-fixing rhizobia, weakening plants through poor nutrition and moisture-related stress which increases susceptibility to disease. Crops that were slow to develop were susceptible to infection longer than the protection period provided by seed treatments. Crop rotations of four to five years with non-legumes could reduce, but not eliminate root rot.

Samples collected from field peas with severe root rot were analyzed at the Crop Protection Laboratory in 2008. Five species of *Fusarium* were isolated, but no *F. solani* was found; a primary culprit of root rot in field peas. Researchers in North Dakota isolated nine *Fusarium* species from field peas in 2007 and 2008 and discovered that all were capable of causing root rot. Aggressiveness varied between species and isolates, and *F. avenaceum* was the most aggressive and most frequently isolated compared to other *Fusarium* species. The Saskatchewan Ministry of Agriculture is working to learn more about the implications of this disease in Saskatchewan.

Chickpea Ascochyta Sentinel Project Update

Ascochyta blight can be managed through responsible agronomic practices, chickpea varieties with improved resistance, diligent scouting, and properly timed fungicide applications. The ascochyta sentinel project was designed to develop an early-warning system for ascochyta blight by determining when *Ascochyta rabiei* spores are first released. This information was used to provide advice to growers and agronomists about potential ascochyta disease risk through weekly updates.

Sentinel plants at Hodgeville in 2007 and Cabri in 2008 showed that ascochyta spores were present near chickpea residue as early as May in both years. However, presence of spores did not dictate immediate spraying. Fungicide applications may be delayed if plants have not yet reached a stage suitable to spray (seven nodes) and if weather is not favourable for infection.

Growers and agronomists who participated in the project in the Swift Current area used a variety of resources, including sentinel project updates to make their ascochyta blight management decisions. The final season of this project will be conducted in 2009. If you are interested in participating in the project as a grower or agronomist co-operator, please contact Faye Dokken, Saskatchewan Ministry of Agriculture.

Faye Dokken is the Provincial Specialist, Plant Disease with the Saskatchewan Ministry of Agriculture. She can be reached at faye.dokken@gov.sk.ca or 306-787-4671.

Celebrity Chefs

Staff Favourites

IN BRIEF

From our kitchen to yours, celebrity chefs share their favourite pulse recipes.

The Celebrity Chefs column is designed to excite your taste buds and provide new ideas on how you can include pulses in your family meals.

In this issue we are Celebrating 25 Years by featuring pulse recipes from the Saskatchewan Pulse Growers (SPG) staff. Melanie Goring, SPG Accounting Clerk shares with us her Carrot Cake recipe, a tasty treat that is loaded with extra nutrients. Shelly Weber, Records Administrator shares with us her Greek Pasta Toss salad recipe, a great addition to your next potluck dinner. Finally, Garth Patterson, Executive Director shares with us his Chickpea Beef Burgers recipe – an excellent choice for the upcoming barbecue season.

Try all three and let us know which one your family likes best or if you have a favourite pulse recipe to share with our readers, send it via email to pulse@saskpulse.com or fax it to 306-668-5557, along with your contact information.

Would you like to add more pulses into your meal plans? Sign up **NOW** to receive our monthly pulse recipe. Just email rkehrig@saskpulse.com and indicate that you would like to be added to our new **Monthly Recipe Email List**.

Happy Cooking!

Carrot Cake

Melanie Goring

2 cups (500 mL) sugar
4 eggs
¾ cup (175 mL) canola oil
2 cups (500 mL) pea flour*
2 tsp. (10 mL) baking powder
2 tsp. (10 mL) baking soda
4 cups (1 L) carrots, grated

Cream Cheese Icing:
½ cup (125 mL) butter
8 oz. (250g) cream cheese
1 ½ cups (375 mL) icing sugar
1 tsp. (5 mL) vanilla

Beat sugar & eggs together. Stir in oil. Sift together dry ingredients and stir into egg mixture. Fold in grated carrots. Pour into a 9x13 inch pan. Bake at 350°F for 55 minutes. Mix together cream cheese icing ingredients. Once cake has cooled, top with icing.

*Pea flour can be purchased at any local grocery store or bulk food store.

Comments from Melanie: This cake is great for kids. It is delicious and the pea flour adds extra fibre and protein into their diets!

Greek Pasta Toss

Shelly Weber

1 lb rotini or fusilli pasta
¼ cup (50 mL) olive oil
2 tbsp. (30 mL) balsamic vinegar
1 garlic clove, crushed
½ tsp. (2 mL) salt
¼ tsp. (1 mL) coarsely ground black pepper
9 ripe medium tomatoes cut into thin wedges
2 15 oz. (450 mL) cans chickpeas, rinsed and drained
8 oz. (250g) feta cheese, coarsely crumbled
2 medium size cucumbers, unpeeled and chopped
½ cup (125 mL) black olives, pitted and chopped
½ cup (125 mL) packed fresh dill, chopped

In a large pot, cook pasta. In large serving bowl, with wire whisk, mix oil, vinegar, garlic, salt, and pepper until blended. Add tomatoes, chickpeas, feta, cucumbers, olives, and dill. Toss until evenly mixed and coated with dressing. Drain pasta. Add pasta to tomato mixture in bowl; toss well.

Comments from Shelly: This is a great recipe for pasta salad with a twist!

Chickpea Beef Burgers

Garth Patterson

1 cup (250 mL) cooked chickpeas or canned chickpeas, rinsed and drained
1 lb lean ground beef (Saskatchewan beef is best!)
1 egg
1 package dry onion soup mix
¼ cup (60 mL) quick cooking oats

Mash chickpeas in a food processor or blender. Mix together mashed chickpeas, ground beef and egg. Sprinkle in the onion soup mix and kneed until the mixture is a consistent texture. Add in the rolled oats and kneed until the mixture sticks together. Form into patties and cook on the barbecue.

Comments from Garth: This is a favourite with our family. Once you have tasted this juicy burger you will not go back to all beef!

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Breaking with tradition.

by Clark Brenzil

New Herbicide for Chickpea Growers

IN BRIEF

This year, producers will have the opportunity to use Authority herbicide for broadleaf weed control in chickpea.

Despite efforts to get Authority herbicide registered last spring, final approval came too late to get the product into the hands of most chickpea producers in Saskatchewan. As a result, 2009 will be the first time most producers will be able to try some on their farm. Authority use is limited to broadleaf weed control in chickpeas in Saskatchewan only, although Nufarm is pursuing additional crops for the label and expanding use to the other Prairie provinces.

The Canadian label for Authority lists kochia, lamb's-quarters, redroot pigweed and wild buckwheat as weeds controlled. At the rates registered for use in Saskatchewan, control of wild mustard and some other key weeds does not meet expectations. As a result, Ken Sapsford and Rick Holm at the University of Saskatchewan, along with Eric Johnson at Agriculture and Agri-Food Canada (AAFC) will be assessing other broadleaf herbicide combinations that might be used with Authority to provide a wider spectrum of broadleaf weed control.

Authority is a soil active herbicide containing the active ingredient sulfentrazone. It is applied to the soil surface and needs either one-half to one inch of rain, or a shallow incorporation within seven to 10 days of application to ensure that it is positioned in the rooting zone of the weeds. In either case, adequate soil moisture is needed for activation of the herbicide. Weed seedlings rooting into the treated layer take the herbicide in through their roots and circulate the herbicide through the plant.

Sulfentrazone is a Group 14 herbicide that eventually results in the production of a chemical like hydrogen peroxide inside the plant cells. The buildup of this compound rapidly destroys the cell membranes from inside the plant. Loss of membrane function allows the cell contents to leak out and the plant dries out and dies.

Authority use is limited to broadleaf weed control in chickpeas in Saskatchewan only.

The most obvious symptom of Group 14 herbicides is the death and drying out of plant tissues. Because Authority is a soil applied herbicide and the plant draws the herbicide in through the roots, there may also be some additional symptoms such as the yellowing or

Note

There is an error in the "Weed Control in Other Pulse Crops" chart on page 42 of the *2009 Guide to Crop Protection* published by Saskatchewan Ministry of Agriculture. The mark in the chart indicates registered crops should be under the chickpea column instead of the dry bean column.

Research has been done on Authority in dry bean that indicates there is a significant risk of unacceptable injury, but significant yield loss was not seen at the rates registered for use on chickpea in Saskatchewan.

Please note that use of Authority on any crop other than chickpea in Saskatchewan is a breech of the federal Pest Control Products Act and could results in penalties and/or confiscation of a crop.

PHOTO COURTESY OF FMC

Authority was applied to the right side of the field for a research trial last summer at Scott Research Farm.

bleaching of tissues prior to their death. There are several other herbicides in this group present in Western Canada such as Reflex from Syngenta, and Aim/Cleanstart from FMC, and more products coming to the market such as Blazer from UPI, Kixor from BASF, and Flumioxazin from Engage Agro.

Because Authority is a soil active herbicide, its fate in the environment is very important. Authority has relatively high solubility in water and a relatively long soil life compared to many other herbicides. During the evaluation of Authority, officials at the Pest Management Regulatory Agency (PMRA) expressed concern that the compound's relatively long life and water solubility could result in a greater risk of showing up in wells that draw from shallow ground water. FMC is submitting additional data, including groundwater monitoring studies to PMRA in an attempt to ease concerns. It is important to follow soil type restrictions carefully.

Authority may only be used on soils from one to six per cent soil organic matter with a couple of exceptions. Soil organic matter attracts the compound, thereby holding it in the upper layers of soil. Authority should not be used in coarse textured soils with high proportions of sand as a component or in soils with a pH of 7.8 or more because the product could move quickly into deeper soil layers. In the case of soil types with high levels of clay, organic matter levels should be greater than 1.5 per cent for safe use.

Because of the long soil life associated with Authority use, recropping options and crop rotations should also be considered. Fields that had Authority applied may be cropped to alfalfa, field corn, sunflower, and spring wheat in the spring of the following year and winter wheat in the fall the year following application. In the second season, canola (all varieties), sweet corn, and sorghum may be planted, but the seeding of all other crops must wait until the third season following application of Authority and must be tested in a bioassay to show that tolerance is adequate for planting. The planting of herbicide tolerant canola will not shorten the replanting interval. If drought conditions are experienced during the waiting period for a particular crop, an additional year must be added to the planting delay. Lentils are particularly sensitive to Authority residues and drift.

For more information about Authority, check out the 2009 Guide to Crop Protection online at www.agriculture.gov.sk.ca or pick one up at your local farm retail outlet. You can also call the Agriculture Knowledge Centre at 1-866-457-2377 or the NuFarm Agriculture line at 1-800-868-5444.

Clark Brenzil is the Weed Control Specialist with the Saskatchewan Ministry of Agriculture. He can be reached at clark.brenzil@gov.sk.ca or 306-787-4673.

by Tiffany Mayer

Nutrient Packed Saskatchewan Lentils

IN BRIEF

A high level of selenium in the province's soil is making our lentils even more nutritious.

Bert Vandenberg sat down to a dinner of tortillas a few months ago and started digesting something rather unappetizing – the ingredient list. It was 31 items long, eight of which even his toxicologist wife did not know. While the meal put him off the corn flatbreads, it also reaffirmed Vandenberg's work as pulse crop Research Chair at the University of Saskatchewan, and one of his latest projects in particular.

Vandenberg, along with fellow plant scientist, Dil Thavarajah, has spent the past few years investigating the selenium content of six Saskatchewan pulse and wheat crops.

They discovered lentils had the highest selenium content compared to other crops, even other pulse crops. With three to four times the amount of selenium as the cereal crops, lentils were proving to be a whole food naturally fortified with an important element that many people lacked.

This discovery is not just good for anyone choosing to chow down on lentils; it is also a bonus for lentil producers in Saskatchewan. The selenium comes from the province's rich soil – bragging rights that other pulse producing places in the world, such as Europe and Asia do not have and where selenium deficiency is an important health concern. Selenium deficiency has been linked to potentially deadly arsenic poisoning in Bangladesh and prostate and bladder cancer in Europe. Couple this with the findings of long-term studies that show as many as 100 million people around the globe are selenium deficient and the marketing potential for Saskatchewan-grown lentils is abound.

"Some people buy supplements, but some people prefer to get it from whole food," Vandenberg says. "We think there is value in the future to segment a market to give people what they want, provided they want to pay the price for it. Maybe our lentils are worth more. I'm convinced it's worth our while to look at this. From a marketing perspective, it makes sense."

While selenium is naturally abundant in Prairie soil, not every lentil is created equally when it comes to absorbing the element from the earth. It is a matter of finding the best varieties, those with the genes allowing for the best selenium uptake and breeding them for improved selenium content.

So far, Vandenberg and crew have found the red lentil variety, CDC Robin, has landed "fairly consistently" at the top of the heap of the 19 varieties tested. Some in that group are also consistently 50 per cent higher in their selenium uptake than others.

"Some plants take up more than others. Why? We don't know," Vandenberg explains. "Mother Nature's a bit of a mystery, which is where the science comes in."

The added value for pulse growers aside, the passionate foodie is adamant about production of selenium-rich lentils in Saskatchewan for another reason.

"People who have money, we could convince them to pay more. People who don't, we can give them better food," Vandenberg explains. "If it's a way to give them better nutrition, why wouldn't we do it?"

Vandenberg says he has already had interest from exporters for the selenium rich lentils. Ideally, he would love to have a marketing plan in place by 2010.

Tiffany Mayer is a freelance writer based out of St. Catharines, Ontario.

CDC Robin is at the top of the list for high selenium uptake.

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Government of Saskatchewan

by Michelle Fleury

Feed Industry

Offers Competitive Prices

IN BRIEF

Producers should consider marketing feed grade peas relatively quickly and examine prices offered by the domestic feed industry.

Many producers looking at the projections for pea carryout and price are wondering what their best strategy is for marketing their 2008/09 crop. Industry analysts have predicted that there will be fewer and weaker market rallies throughout the remainder of the year for peas and that producers will be left with a large carryout unless export demand improves. Fortunately, the domestic feed industry has the potential to absorb a significant proportion of these stocks by displacing imported soybean meal with feed and edible grade peas.

Hogs have traditionally been the major consumers of pea-based diets; however, there is growing recognition of their value for poultry, dairy and beef production. Feed mills and livestock producers manufacturing feed on-farm routinely purchase peas directly from producers. A list of feed manufacturers and other feed pea buyers is available on the Saskatchewan Pulse Growers (SPG) website at www.saskpulse.com in the Pulse Company List.

The feed industry evaluates the price and consistency of supply when deciding which ingredients to use. In the last two years, feed peas have been removed from many rations because tight supply made them difficult and relatively expensive to source. This year, even with a significant volume of yellow peas available at competitive prices, feed manufacturers are not taking full advantage of the opportunity because of concerns about consistency of supply. Many mills prefer to purchase peas directly from producers, but if growers do not deliver product on schedule or if the mill is unable to find producers willing to sell peas, they have to reformulate the diet to use alternative ingredients. This is a major headache for feed mills and a situation that guarantees they will not use peas again unless they are available at a considerably lower price. It also places pea producers at a disadvantage compared to soybean and canola processors, which offer steady supplies of meal year-round.

Fortunately for pea growers this year, the high prices of soybean are encouraging the feed industry to use pea and canloa meals. Peas contain about half the protein levels

PHOTO BY MICHELLE FLEURY

The high prices of soybean are encouraging the feed industry to use pea and canola meals.

found in soybean meal. Tight soybean supplies in the United States (U.S.) have caused the price of soybean meal to increase significantly across Western Canada (from ~$420/metric tonne (MT) in November 2008 to $470/MT in February 2009). The price of canola meal also rose to ~ $300/MT by mid February, but has since declined to $250/MT. While more capacity is coming online at Clavet in May, feed industry predictions that this will significantly reduce the price of canola meal might be optimistic. The tight supply of soybeans, record canola meal exports to the U.S. in 2008, and the brisk pace of Chinese soybean meal and canola seed imports indicate that the protein supply in North America may be tight throughout 2009. The US ethanol policy contributes to this issue because corn produces less protein per acre than soybeans, and the distillers dried grains that result contain fibre levels that limit their use for poultry and swine.

Ingredients that are not currently being used must "buy their way" into the feed industry because feed companies will not change what they are doing unless it saves them money. The use of a new ingredient must offer a savings of approximately three to five dollars per tonne before companies will consider incorporating it.

At the time of writing, with $130 barley, $180 wheat, $190 corn, $210 canola meal and $440/MT of soybean meal, incorporating peas into poultry diets saves approximately five dollars per MT when 300 kilograms of $200-215/MT peas are used. Swine diets have lower nutrient concentrations and, at the same commodity prices, a $5/MT diet savings is realized with peas at $230/MT for growers and $205/MT for finishing hogs.

The feed industry will not likely be willing to offer the values suggested above for a variety of reasons. They will have attempted to contract lower prices for competing ingredients, they may be using different diet density formulations, or opportunity ingredients (for example full-fat canola seed, meat meal etc.) and they will discount the value of peas if they have difficulty with supply or nutrient variability. However, the feed industry does not discount non-nutritional factors such as bleaching or hail, and is therefore currently offering very competitive prices for feed grade peas. The feed industry has the potential to offer more competitive prices for edible peas if the market is developed by the sale of feed grade products.

Considering the large predicted carryover and price pressure that will result later this year, producers should consider marketing feed grade peas relatively quickly, and examine prices offered by the domestic feed industry either directly or through a broker. If feed companies are not currently offering acceptable prices for edible peas, producers may also inquire about leaving contact information with a strike price so buyers can develop a contact list for producers, and estimate the consistency of supply available at various price levels.

Michelle Fleury is a Livestock Market Development Consultant with Saskatchewan Pulse Growers. She can be reached at mfleury@xplornet.com.

by Dale Risula, Bunyamin Tar'an, Bert Vandenberg and Tom Warkentin

Varieties for Your Area

IN BRIEF

Certain varieties are ideal for the different crop production areas in Saskatchewan.

A five year agreement to conduct the pulse crop regional variety trials in Saskatchewan continued in 2008. The agreement was sponsored by the Saskatchewan Pulse Growers and the University of Saskatchewan's Crop Development Centre (CDC).

Data was collected on different varieties of pulse crops from various breeding institutions and from private pulse breeding programs. For a more complete list and detailed description of pulse varieties refer to pages 17-19.

Lentil, pea, chickpea and dry bean varieties were tested for yield, maturity, resistance to disease, and other agronomic and seed quality factors at up to 18 sites in 2008. These crops were also tested within areas suitable for their adaptation in Saskatchewan.

Market classes were grouped separately to compare varieties. The performance of each variety was subject to many influences over the growing season; however, the probability of achieving good results on the farm increases by choosing varieties that performed well in these tests.

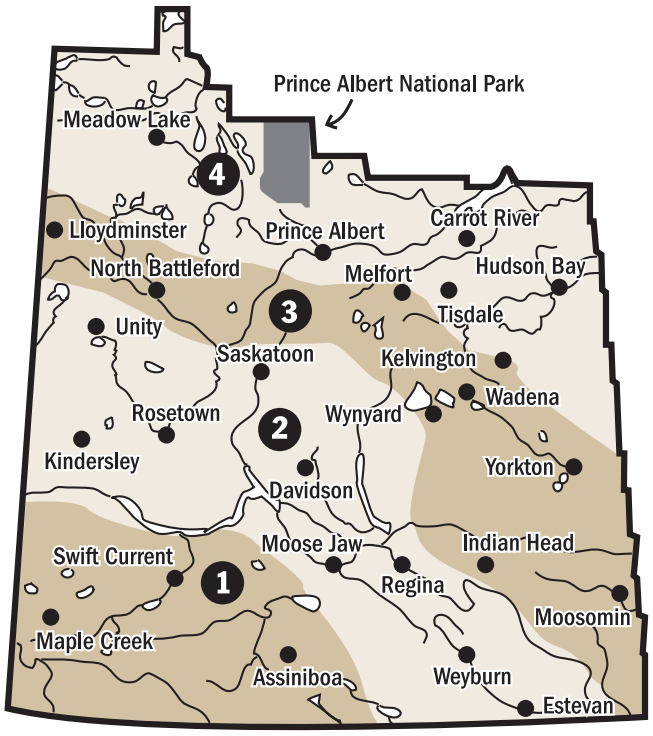
The lentil trials included six market classes, including small green, medium green, large green, French green, small red, and extra small red. Yield was compared to a standard variety that had been tested for a long period of time. Similar to other years, in 2008 the standard was CDC Milestone and all yield data were reported relative to this variety. In 2009, lentil production in Saskatchewan should expand, especially red lentil.

CDC Milestone and CDC Viceroy were high-yielding and had resistance to ascochyta blight. CDC Viceroy also had resistance to anthracnose (Race 1). All the varieties in this class are early maturing and performed well in all Saskatchewan crop production areas (see Figure 1).

For medium green lentils, CDC Meteor had the highest yield and performed well in all crop production areas. In the large green class, CDC Greenland performed well in areas 1 and 2. The colour of the seed coat for green lentil affects the price of the product, and progress is being made in this area. For example, CDC Greenland and CDC Viceroy have better retention of green colour compared to other varieties.

The spectrum of red lentil varieties is changing rapidly in response to agronomic requirements and preferences in an expanding market. Small red lentil comparisons showed CDC Maxim CL, CDC Rouleau, and CDC Redberry continue to be high yielding in all crop production areas. All three had resistance to ascochyta blight and anthracnose (Race 1). CDC Maxim CL is a CLEARFIELD lentil with tolerance to herbicides in the imidazilinone family. The red lentil sector of the industry is still expanding for both whole seed exports and domestic dehulling. As result,

Figure 1: Crop Production Area in Saskatchewan



Area 1: Brown Soil Zone
Area 2: Dark Brown Soil Zone
Area 3: Black/Grey Soil Zone
Area 4: Black/Grey Soil zone

Source: Saskatchewan Ministry of Agriculture

seed of CDC Maxim CL and some of the other new red lentil varieties may be difficult to obtain for 2009.

In the extra small red lentil group, the original standard variety CDC Robin is being replaced by CDC Imperial CL, as well as CDC Rosetown, and CDC Impala CL. All new red lentil varieties showed dramatic improvements in lodging tolerance in comparison to the older varieties like Crimson and Robin.

All four market classes of pea were included in the regional variety trials. The variety Cutlass was the standard used for yield comparisons.

For yellow pea, CDC Golden and CDC Bronco were strong performers in both southern and northern regions of Saskatchewan. CDC Golden had slightly better lodging resistance and more durable seed coat than CDC Bronco, while CDC Bronco had a somewhat more branched growth habit. Other yellow pea varieties such as DS Admiral and Polstead had greater yield in the northern regions, SW Midas had greater yields in the south, and Cutlass and Eclipse had similar yields in both regions. CDC Meadow had early maturity, good lodging resistance and good yield.

CDC Striker has been the most widely grown in previous years due to its excellent seed appearance – round, smooth, and with good bleaching resistance. Cooper had good lodging resistance with high yield in the southern portion of the province. CDC Sage had small seed size, good bleaching resistance and intense green colour.

For forage pea, CDC Tucker was a moderately tall semileafless variety with good lodging resistance. It is attractive for forage and silage markets due to its high biomass production and small seed size.

From the 2008 variety trials, CDC Chico, a small seeded kabuli chickpea was the earliest maturing and had comparable yield with Amit, the check variety for kabuli chickpeas. However, CDC Chico had poor resistance to ascochyta blight. CDC Frontier, a medium size kabuli had consistently high yield in areas 1 and 2 and had fair resistance to ascochyta blight. Initial fungicide application was needed at the seedling to pre-flowering stage to limit early spore development and spread. CDC Frontier was rated as relatively late maturity especially under wet and cool growing conditions. CDC Luna, a kabuli variety with high yield and fair resistance to ascochyta blight, had slightly earlier maturing and larger seed size than CDC Frontier.

All the desi chickpeas tested had fair resistance to ascochyta blight. Initial fungicide application was needed at the seedling to pre-flowering stage. All had similar or better yield than the check (Myles) in both areas 1 and 2. CDC Vanguard was the highest yielding variety.

Dry bean varieties were tested in areas 2 and 3 under irrigation where they are best adapted. CDC Pintium was the variety used as the standard and had the best overall rating, best average yield, performed well for pod clearance and matured the earliest.

There are a lot of things to consider when choosing a pulse crop variety, but making a choice based on research data makes sense. Good luck with your crop selections in 2009!

Dale Risula is the Special Crops Specialist with Saskatchewan Ministry Agriculture.

Bunyamin Tar'an, Bert Vandenberg and Tom Warkentin are Plant Breeders at the University of Saskatchewan.

Pulse Variety Description Table

Since 1997, the Saskatchewan Pulse Growers have distributed numerous varieties of peas, lentils, chickpeas and beans, and new varieties are continually under development. For more information about these varieties please contact Raelene Regier, Variety Program Administrator at 306-668-1053 or rregier@saskpulse.com.

*See Figure 1: Crop Production Area in Saskatchewan on Page 16 for a map of the production areas and soil zones in Saskatchewan.

PEA (Green)

Variety	Years tested*	Type	Yield % Cutlass**		Leaf type ***	Powdery mildew resistance	Maturity	Lodging resistance	Seed weight g/1000	Year released via VRP	Agronomic comments	Market comments
			1,2, & South 3	North 3 & 4								
CDC Montero (9801)	6	Green	91	89	SL	Very good	Medium	Fair	230	2000	High yield	Medium size, round shape, medium protein content, good seed coat durability, moderate green colour bleaching resistance
CDC Striker (0001)	9	Green	90	100	SL	Poor	Medium	Good	230	2002	Good lodging resistance	Smooth, round seed shape with good green colour bleaching resistance
CDC Sage (672-1)	5	Green	80	84	SL	Very good	Medium	Good	220	2005	Good lodging resistance	Medium size, round seed shape with good green colour bleaching resistance
CDC Patrick (1434-20)	4	Green	94	104	SL	Very good	Medium	Good	190	2008	Good lodging resistance	Medium - small size, round seed shape with good green colour bleaching resistance

*Coop and Regional trials in Saskatchewan **Refer to map on page 16 ***N = normal leaf; SL = semi-leafless Source: *Varieties of Grain Crops 2009*

PEA (Yellow)

Variety	Years tested*	Type	Yield % Cutlass**		Leaf type ***	Powdery mildew resistance	Maturity	Lodging resistance	Seed weight g/1000	Year released via VRP	Agronomic comments	Market comments
			1,2, & South 3	North 3 & 4								
Cutlass (SB2000-2) **Check**	9	Yellow	100	100	SL	Very good	Medium	Good	220	2003	High yield, good lodging resistance	Medium size, round shape, medium protein content, fair seed coat durability
CDC Golden (0007)	6	Yellow	107	102	SL	Very good	Medium	Good	230	2003	High yield, good lodging resistance	Medium size, round shape, medium protein content, good seed coat durability, good cooking quality
CDC Bronco (0009)	6	Yellow	108	104	SL	Very good	Medium	Good	230	2004	High yield, good lodging resistance	Medium size, round shape, medium protein content, good seed coat durability, good cooking quality
CDC Meadow (653-8)	6	Yellow	105	109	SL	Very good	Early	Good	220	2006	High yield, good lodging resistance, early maturity	Medium size, round shape, medium protein content, good seed coat durability, good cooking quality
CDC Centennial (728-8)	5	Yellow	106	112	SL	Very good	Early	Fair	270	2007	Top yielder in co-op and regional trials, medium-early maturity	Medium-large seed size, slightly blocky shape, medium protein content, good seed coat durability, good cooking quality
CDC Prosper (1400-8)	4	Yellow	97	105	SL	Very good	Early	Good	150	2008	Good lodging resistance, good Fusarium wilt resistance	Small size, round shape, medium protein content, good seed coat durability, good cooking quality
CDC Treasure§	4	Yellow	99	107	SL	Very good	Early	Good	220	2009	Early maturity, good lodging resistance, good Fusarium wilt resistance	Medium size, round shape, medium protein content, good seed coat durability, bright colour, moderate dimpling, good cooking quality

*Coop and Regional trials in Saskatchewan **Refer to map on page 16 ***N = normal leaf; SL = semi-leafless §Information not included in *Varieties of Grain Crops 2009*
Source: *Varieties of Grain Crops 2009*

PEA (Other)

Variety	Years tested*	Type	Yield % Cutlass**		Leaf type ***	Powdery mildew resistance	Maturity	Lodging resistance	Seed weight g/1000	Year released via VRP	Agronomic comments	Market comments
			1,2, & South 3	North 3 & 4								
CDC Sonata (9808)	4	Forage	102	94	N	Very good	Late	Fair	220	2000	High biomass; competitive with weeds	Medium size, moderately round shape, medium protein content, moderate seed coat durability
CDC Tucker (1096-8)	3	Forage	99	99	SL	Very good	Medium	Good	170	2006	High biomass (similar to 40-10, greater than Trapper) with good lodging resistance	Improved protein content and relative feed value of biomass in comparison to Trapper and 40-10, small seed size
CDC Leroy (1287-2)	2	Forage	96	97	SL	Very good	Medium	Good	150	2008	High biomass (similar to 40-10, greater than Trapper) with good lodging resistance	Improved protein content and relative feed value of biomass in comparison to Trapper and 40-10, small seed size
CDC Acer (203PMR16)	3	Maple	100	94	SL	Very good	Late	Fair	170	2001	Replacement for Whero, moderate lodging resistance	Small seed size, moderately round shape, tan seed coat color with mottled maple pattern
CDC Rocket (617-20)	3	Maple	93	104	SL	Very good	Medium	Fair	210	2006	Earlier maturity than CDC Acer	Medium seed size, moderately blocky shape, tan seed coat colour with mottled maple pattern, lighter seed coat colour than CDC Acer

*Coop and Regional trials in Saskatchewan **Refer to map on page 16 ***N = normal leaf; SL = semi-leafless Source: *Varieties of Grain Crops 2009*

Pulse Variety Description Table

DESI CHICKPEA

Variety	Years tested	Type	Yield % Myles**		Ascochyta blight rating	Maturity	Seed weight g/1000	Year released via VRP	Seed shape	Agronomic comments	Market comments
			Area 1	Area 2							
Myles **Check**	12	Desi	100	100	Fair	Medium	184	n/a	Angular	**Check**	Tan seed coat colour
CDC Anna (92056-50)	8	Desi	108	113	Fair	Late	210	2000	Plump	High yield	Tan seed coat colour
CDC Nika (92050-26)	6	Desi	97	104	Fair	Late	320	2000	Plump	Similar yield to Myles, but with larger seed size	Large seed size, tan seed coat colour
CDC Cabri (92073-40)	10	Desi	113	115	Fair	Medium	297	2003	Plump	High yield, earlier to flower	Large seed size, tan seed coat colour
CDC Vanguard (304-22)	6	Desi	121	125	Fair	Medium	218	2006	Plump	High yield, relatively early maturity	Medium seed size, tan seed coat colour
CDC Corinne (ICC12512-1)***	6	Desi	130	127	Fair	Medium	245	2008	Angular	High yield, medium maturity	Medium seed size, tan seed coat colour

**Refer to map on page 16 ***Information not included in *Varieties of Grain Crops 2009* Source: *Varieties of Grain Crops 2009*

KABULI CHICKPEA

Variety	Years tested	Type	Yield % Amit**		Ascochyta blight rating	Maturity	Seed weight g/1000	Year released via VRP	Canning quality	Agronomic comments	Market comments
			Area 1	Area 2							
Amit (B-90) **Check**	11	Kabuli	100	100	Fair	Late	261	n/a	Good	Ascochyta **check**	7 mm seed size, round shape
CDC Frontier (95NN29)	8	Kabuli	105	106	Fair	Late	360	2003	Good	High yield. Fair resistance to Ascochyta	8 mm seed size, which is the biggest international market
CDC Luna (Flip97-133C)	6	Kabuli	100	103	Fair	Medium late	380	2007	Good	Good yield, earlier maturity than Amit and CDC Frontier, Fair resistance to Ascochyta	8-9 mm size, normal seed shape, beige seed colour

**Refer to map on page 16 ***Information not included in *Varieties of Grain Crops 2009* Source: *Varieties of Grain Crops 2009*

LENTIL (Green)

Variety	Years tested*	Type	Seed coat colour	Yield% CDC Milestone**		Resistance to		Maturity	Seed weight g/1000 ***	Year released via VRP	Agronomic comments	Market comments
				Areas 1-2	Areas 3-4	Ascochyta	Anthracnose (race 1)					
CDC Milestone (512-2) **Check**	13	Small green	Green	100	100	Good	Very poor	Early	37	1998	High yield	Good resistance to Ascochyta means reduced staining and more uniform seed colour
Laird	12	Large green	Green	76	77	Very poor	Very poor	Very late	67	N/A	Lodging susceptible, low yield	Long time industry standard, susceptible to Ascochyta
CDC Sedley (946-7Y)	9	Large green	Green	81	85	Fair	Very poor	Medium	68	2001	Earliest large green, may suit later planting or early harvest strategies	Large seed, fair Ascochyta resistance and early maturity results in earlier shipping with better quality
CDC Plato (964a-4)	9	Large green	Green	96	93	Good	Poor	Medium late	62	2002	Consistent high yields, earlier than CDC Glamis and CDC Grandora	Between CDC Glamis and CDC Grandora in size, good Ascochyta resistance
CDC Improve CL (LGBC)	4	Large green	Green	91	86	Fair	Very poor	Medium	67	2006	Tolerant to Odyssey, **limited agronomic data**	Most similar to CDC Sedley, **limited data**
CDC Greenland (1196D-5)	7	Large green	Green	103	90	Good	Very poor	Medium late	64	2006	Consistent high yield, maturity similar to CDC Plato	Between CDC Glamis and CDC Grandora in size, good Ascochyta resistance, best **colour retention** of all large green lentil varieties
CDC IBC-194 CL§	3	Large green	Green	90	80	Good	Poor	Medium	66	2009	Tolerant to Odyssey, slightly later than CDC Improve, **limited agronomic data**	Yield similar to CDC Improve, better seed coat colour
CDC Vantage§ (638-23)	11	Medium green	Green	95	93	Good	Very poor	Medium	52	1998	Higher yield than CDC Richlea, Ascochyta resistance	Less Ascochyta staining, colour retention less than CDC Richlea
CDC Meteor (1038L-18)	9	Medium green	Green	111	102	Good	Very poor	Medium	51	2005	Widely adapted, consistent high yield potential, improved disease resistance	Less Ascochyta staining, colour retention less than CDC Richlea
CDC Impress CL (2471)	3	Medium green	Green	97	79	Good	Poor	Medium	52	2007	Tolerant to Odyssey, most similar to CDC Meteor	Most similar to CDC Meteor
CDC IBC-145 CL§	3	Medium green	Green	79	78	Good	Poor	Medium	51	2009	Tolerant to Odyssey, **limited agronomic data**	Better green colour retention compared to all other lentil varieties
CDC Viceroy (1066E-4)	8	Small green	Green	103	111	Good	Good	Early	33	2004	High yield, resistance to Ascochyta and Race 1 Anthracnose	Seed characteristics similar to Eston, better colour retention than CDC Milestone
CDC IBC-112 CL§	3	Small green	Green	93	99	Good	Good	Early	33	2009	Tolerant to Odyssey, **limited agronomic data**	All marketing characteristics very similar to CDC Viceroy

*Coop and Regional trials in Saskatchewan since 1995 **Refer to map on page 16 ***CDC Richlea 51g/1000; Eston 33g/1000; Crimson 35g/1000 §Information not included in *Varieties of Grain Crops 2009* Source: *Varieties of Grain Crops 2009*

Pulse Variety Description Table

LENTIL (Red)

Variety	Years tested*	Type	Seed coat colour	Yield% CDC Milestone**		Resistance to		Maturity	Seed weight g/1000 ***	Year released via VRP	Agronomic comments	Market comments
				Areas 1-2	Areas 3-4	Ascochyta	Anthracnose (race 1)					
CDC Red Rider (1308M-7)	5	Medium red	Grey	104	98	Good	Fair	Medium	45	2007	A little later than CDC Redberry, improved yield	A little larger in diameter with a thicker seed compared to CDC Redberry
CDC Blaze (997-5R)	9	Small red	Grey	84	82	Good	Poor	Early	34	2001	Similar seed traits to Crimson with improved yield, disease resistance and lodging	Excellent Ascochyta resistance means more uniform quality
CDC Redberry (CDC 1254S-1)	6	Small red	Grey	100	107	Good	Good	Early medium	42	2004	Slightly later maturing, taller than other small reds, improved disease resistance	Rated highly acceptable by Pulse Canada market surveys in import markets in India and Turkey, acceptable for splitting, larger seed size than CDC Blaze and Crimson
CDC Maxim CL (3114)	3	Small red	Grey	102	107	Good	Good	Early medium	40	2007	Tolerant to Odyssey, most similar to CDC Redberry, **limited data**	Ratings should be similar to CDC Redberry, **limited data**
CDC Rouleau (1145-3-6)	6	Small red	Grey	104	107	Good	Good	Medium	37	2004	Later maturing, taller than other small reds, improved disease resistance	Well received by splitting companies and importers, replacement for CDC Blaze and Crimson – high yield potential
CDC Impact CL (2462)	4	Small red	Grey	87	84	Good	Poor	Early	34	2006	Tolerant to Odyssey, early maturity, resistant to Ascochyta	Most similar to CDC Blaze
CDC 2154S-4§	3	Small red	Grey	104	108	Good	Good	Early	38	2009	High yield, good lodging tolerance, **limited data**	Plump, between Blaze and Redberry in size, **limited data**
CDC IBC-187 CL§	3	Small red	Grey	104	104	Good	Good	Early medium	48	2009	Tolerant to Odyssey, a bit earlier than CDC Red Rider, **limited data**	Most similar to CDC Red Rider, **limited data**
CDC Robin (599-23)	11	Extra small red	Brown	86	91	Good	Good	Early	30	1999	First variety with both Race 1 Anthracnose and Ascochyta resistance	Extra small seed size for South Asian markets
CDC Rosetown (1194-3)	7	Extra small red	Grey	101	107	Good	Good	Early	31	2005	Taller and better lodging tolerance as compared to CDC Robin	Extra small seed size for South Asian markets, slightly larger than CDC Robin
CDC Imperial CL (2464)	5	Extra small red	Grey-brown	88	87	Good	Good	Early	30	2006	Tolerant to Odyssey, early maturity, resistant to Ascochyta and Race 1 Anthracnose	Most similar to CDC Robin
CDC Impala CL (3110)	3	Extra small red	Grey	89	99	Good	Good	Early	31	2007	Tolerant to Odyssey, most similar to CDC Rosetown, **limited data**	Most similar to CDC Rosetown, **limited data**
CDC 1894T-1§	3	Extra small red	Grey	102	118	Good	Good	Early	31	2009	High yield, good lodging tolerance, **limited data**	Grey seed coat. More plump than Robin, **limited data**
CDC 1788S-4e§†	3	Extra small red	Tan	96	118	Good	Fair	Early	31	2009	High yield – potential new market class, **limited data**	Tan seed coat. More plump than Robin, **limited data**

*Coop and Regional trials in Saskatchewan since 1995 **Refer to map on page 16 ***CDC Richlea 51g/1000; Eston 33g/1000; Crimson 35g/1000 †Release pending market evaluation
§Information not included in *Varieties of Grain Crops 2009* Source: *Varieties of Grain Crops 2009*

LENTIL (Other)

Variety	Years tested*	Type	Seed coat colour	Yield% CDC Milestone**		Resistance to		Maturity	Seed weight g/1000 ***	Year released via VRP	Agronomic comments	Market comments
				Areas 1-2	Areas 3-4	Ascochyta	Anthracnose (race 1)					
CDC LeMay (983-87)	6	French green	Dark marbled	91	92	Fair	Very poor	Early	32	2002	Better Ascochyta ratings and better height compared to French green, some yield advantage	Appearance and size similar to French green
CDC IBC-188 CL§	3	French green	Dark marbled	91	88	Fair	Very poor	Early	36	2008	Tolerant to Odyssey, agronomically similar to CDC LeMay, **limited data**	Seed size slightly larger than CDC LeMay, **limited data**

*Coop and Regional trials in Saskatchewan since 1995 **Refer to map on page 16 ***CDC Richlea 51g/1000; Eston 33g/1000; Crimson 35g/1000 §Information not included in *Varieties of Grain Crops 2009* Source: *Varieties of Grain Crops 2009*

BEAN (Narrow row production)

Variety	Years tested*	Class	Growth habit	Yield % CDC Pintium**			Pod clearance %***	Maturity	Seed weight g/1000	Year released via VRP	Agronomic comments	Market comments
				Irrigation	Area 2	Area 3						
CDC Pintium **Check** (93708)	11	Pinto	I Bush	100	100	100	80	Early	350	1999	Use N fertilizer, earliest type I, good pod clearance for swathing, best variety for black soil zone	Plump seeds, early maturity allows frost avoidance and early shipping
Othello	6	Pinto	III Vine	96	96	89	51	Late	323	n/a	Suitable only for row crop systems	Standard pinto in irrigated areas of Prairies
CDC Camino§ (92121)	6	Pinto	I Bush	97	86	76	81	Late	323	1997	Use N fertilizer, good pod clearance, suitable for swathing	Large bright seeds
CDC Pinnacle§ (92235)	6	Pinto	III Vine	102	103	98	67	Late	352	1999	Use N fertilizer, good yield, full season variety best suited to row cropping	Classic pinto with larger seeds

*Yield results based on narrow row trials only from Coop and Regional trials in Saskatchewan and Manitoba **Refer to map on page 16 ***% Pod Clearance: percentage of pods expected to completely clear the cutterbar of swather. §Information not included in *Varieties of Grain Crops 2009* Source: *Varieties of Grain Crops 2009*

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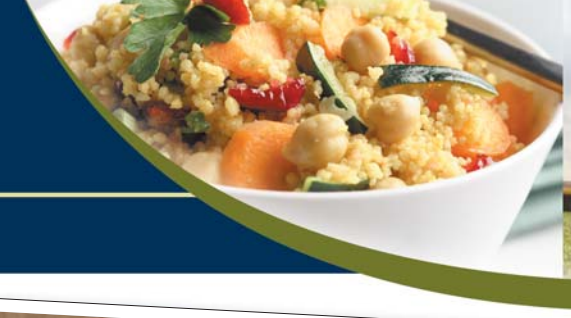
Pulse Days 2009

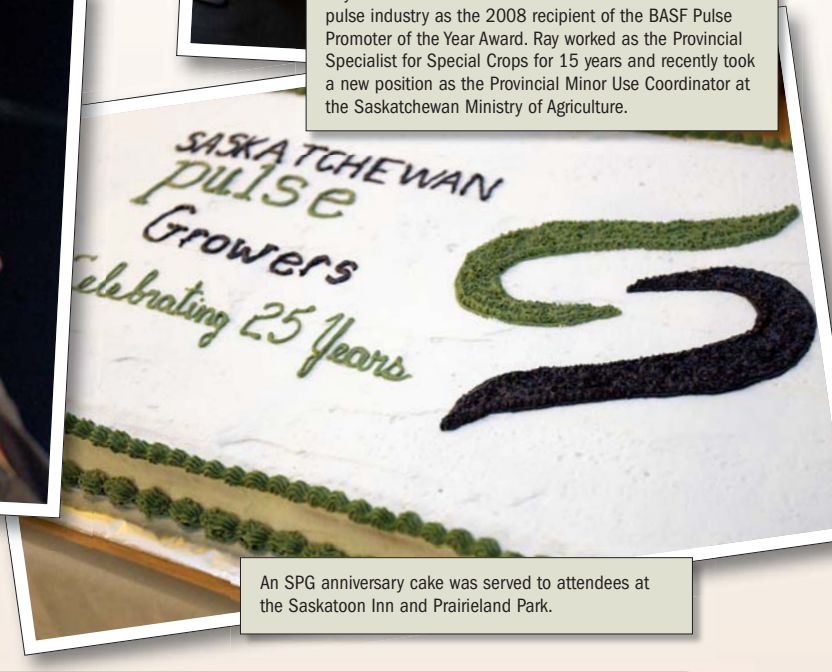
Celebrating 25 Years



Thank you to over 800 people who braved the cold to help us Celebrate 25 Years of Saskatchewan Pulse Growers at Pulse Days 2009.

Ray McVicar was honoured for his contributions to the pulse industry as the 2008 recipient of the BASF Pulse Promoter of the Year Award. Ray worked as the Provincial Specialist for Special Crops for 15 years and recently took a new position as the Provincial Minor Use Coordinator at the Saskatchewan Ministry of Agriculture.

Pulse Days speakers shared a wide range of expertise from international markets to pulse research and market outlooks. All of the speaker PowerPoint presentations are available on the SPG website at www.saskpulse.com.



An SPG anniversary cake was served to attendees at the Saskatoon Inn and Prairieland Park.

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by Patty Milligan

Pulse Producers Receive Special Award

IN BRIEF

Kris and Rhonda Mayerle were the recepients of the Saskatchewan Outstanding Young Farmers' award.

When Kris and Rhonda Mayerle were nominated for Saskatchewan's Outstanding Young Farmers' Award, filling out the nomination forms seemed like a lot of work. However, this couple embraces work heartily. Together with Kris' dad and uncle, they farm 16,500 acres near Tisdale. They grow wheat, canola, barley, oats, peas, flax, canary seed, alfalfa and timothy – most of which is pedigreed seed. They also operate an on-farm seed cleaning plant and have built a successful custom harvesting operation from the ground up. The couple have two young daughters and are actively involved in the community. On top of that, together with friends, they established a fly-in fishing camp in northern Saskatchewan. No one should be surprised that the nomination forms did get completed…and that the Mayerles won!

Kris and Rhonda received the award at the Western Canada Farm Progress Show in Regina last June. Rhonda was surprised and honoured.

"The other nominees were just as worthy as we were. To know that people thought that we were worthy was very affirming. It told us that we are on the right track," she says.

Kris and Rhonda represented Saskatchewan at the National Awards in Calgary in November where they got to meet the other regional honourees.

PHOTO COURTESY OF KEVIN HURSH

Rhonda and Kris Mayerle (right) accept the Saskatchewan's Outstanding Young Farmers' award from Syngenta representatives (left).

PHOTO COURTESY OF KEVIN HURSH

The Outstanding Young Farmers' program recognizes young farmers who exemplify excellence.

"There was an instant camaraderie between us. I loved hearing different ideas and finding out how people built their own businesses," says Rhonda. She felt especially heartened to see so much enthusiasm about agriculture.

"Everybody was up! Nobody was negative." Such a positive atmosphere is not that easy to come by because "farmers don't tend to blow their own horns," Rhonda explains. For her, the other side of the coin is that "they don't get a lot of recognition for their important work. People don't think about where their food comes from. When they think of farming, they think of people wanting handouts."

According to Statistics Canada, the number of farmers in Saskatchewan dropped from 78,025 to 59,185 between 1991 and 2006, while the average age went up from 48.2 to 52.6 years. In the Tisdale area, many farmers are retiring and most kids are not taking over the farm. Rhonda has noticed an increase in outside investors buying land and then renting it out. As a young farmer, Rhonda hopes she and Kris can be role models to potential young farmers. The couple want people to know that farming has something to offer – it is not just a dead end road. Rhonda is adamant that "it's possible to come back to the farm and make a good living and progress."

Both Kris and Rhonda were raised on farms and graduated from the College of Agriculture at the University of Saskatchewan – which is where they met.

In 1994, they joined KRM Farms Ltd. Farming was something Kris always wanted to do. "It's in his blood," says Rhonda. "Farming isn't just a profession, it's your whole way of life. It becomes part of you." Kris and Rhonda both love the family-centered, independent lifestyle that farming provides.

Their share in the KRM Farm Ltd. is 6,000 acres with 1,120 owned and 4,880 rented. They are very business-minded when it comes to farming, seeking out new markets and trying specialized crops. Growing pedigreed seed gives them the chance to try out the latest genetics. Peas are the main pulse the Mayerles grow, although they have tried lentils, faba beans, and chickpeas. They value pulses in their crop rotation, not only because they fix nitrogen and do not require as much fertilizer, but also because they can be very profitable. The Mayerles have earned Select status as seed growers.

Since 1980, the national Outstanding Young Farmers' program has been recognizing young farmers who "exemplify excellence in their profession." Nominees are judged by a panel of judges on a detailed set of criteria that includes: progress in their agriculture career, environmental stewardship, production history, financial and management practices, contributions to the well-being of the community, province and nation, oral interviews and a PowerPoint presentation.

Seven regional honourees are selected across Canada. From them, two are chosen for the national award. Candidates must earn at least two-thirds of their income from their farm operations and be between 18 and 39 years of age. Anyone can put nominations forward.

Kris and Rhonda Mayerle were nominated by a farming couple in their area who are past honourees. In the end, going through all that nomination paperwork gave the Mayerles a chance to look back at all they have accomplished in the past fifteen years. For this hard-working couple, it may just be their day-to-day work; for the rest of us, it is an amazing achievement.

Patty Milligan is a freelance writer based out of Bon Acccord, Alberta.

by Amanda Olekson and Jane Fiala

Visit the SPG website at **www.saskpulse.com** for news and updates listed on our homepage weekly.

Working For You

SASKATCHEWAN pulse Growers Celebrating 25 Years

Research & Development (R&D)

In February, SPG delegates traveled to Kanpur, India to attend the International Conference on Grain Legumes, hosted by the Indian Institute of Pulse Research. The conference had a strong focus on new areas of pulse research such as global food issues, nutritional security, biofortification of pulse crops, and new trends in genomics.

SPG delegates also visited the Tamil Nadu Agricultural University (TNAU) in southern India for an update on the "Exploitation of Green Lentil as a Substitute for Indian Pulses" project that SPG is currently funding. TNAU researchers have completed preliminary research and are now developing green lentil based products that will be tested in south Indian households and hotels, and among the trade.

In February, SPG received 52 research proposals which were reviewed by the SPG R&D Committee for proposed funding. The R&D Committee is made up of SPG staff and Board, government, industry and academia who advise the SPG Board on strategic direction for pulse research and recommend investment opportunities.

Variety Release Program

SPG held their annual Select Grower Meeting in January during Crop Production Week. The 60 Select status seed growers in attendance were given the opportunity to hear presentations from the Crop Development Centre's (CDC) pulse breeders about new pulse varieties, a disease update from the CDC's pulse pathologist and an update on CLEARFIELD lentils from BASF.

Policy

In February, SPG staff and board presented SPG's three-year strategic plan to the Saskatchewan Ministry of Agriculture's Agriculture Development Fund (ADF) Board.

Communications

The Regional Pulse Development Workshops held February 2-5, 2009 in Yorkton, Swift Current, Moose Jaw and Weyburn saw an excellent turnout this year with over 500 people in attendance across all locations. Attendees heard presentations on market outlooks, new pulse varieties, diseases and insects for 2009 and soil health.

SPG Staff attended the Pulse Health & Food Symposium in Toronto, hosted by Pulse Canada. The Symposium released research results from six clinical trials that studied the positive effect that pulses could have on common health problems.

SPG staff attended the Manitoba Special Crops Symposium in February, sitting in on presentations discussing fertilizer dollars saved by planting pulses and controlling volunteer canola in pulses.

SPG Staff and board took part in Syngenta's Leadership At Its Best training in Saskatoon on February 17-19. The training program focused on organization and board development, government relations and media relations.

Your Check-off Dollars At Work

YOUR CHECK-OFF DOLLARS AT WORK — Another Project Funded By Saskatchewan Pulse Growers

Highlights from SPG funded research projects currently being conducted or have recently been completed. For more information, please contact Kofi Agblor, Director of Research at kagblor@saskpulse.com or Jane Fiala, Research Project Manager at jfiala@saskpulse.com.

Improving the value of field peas for human consumption markets

Dr. Tom Warkentin, Department of Plant Sciences at the University of Saskatchewan (U of S) recently completed a project to determine the genetic basis of visual quality seed traits that affect the market value of peas. Examples of visual quality seed traits include: cotyledon bleaching resistance, seed color, seed shape and seed dimpling. The project revealed that seed shape was governed by several genetic factors and slightly by the environment. In addition, seed color of yellow peas involves many genes and seed dimpling is inherited by a number of genes. The project also revealed that seed coat characteristic play a significant role in bleaching resistance and the biochemical profiles for bleaching resistance are different between resistant and susceptible cultivars. This research will enhance breeding efforts to provide cultivars with improved visual quality seed traits.

Low Glycemic Index (GI) Starch from Canadian Grown Pulses

Dr. Q.Lui of Agriculture and Agri-Food Canada (AAFC) at the Guelph Food Research Centre in Guelph Ontario recently completed a project to develop techniques to extract low glycemic index starch from peas, chickpeas and lentils and develop this starch as a functional food ingredient to add value to pulse crops. The project revealed that pulse starch granules are irregularly shaped and that lentil starch differed from other starches in physiochemical properties such as chrystallinity and gelatinization. Differences in physiochemical properties were noted between cultivars grown under the same environmental conditions. Research showed that molecular structures were important factors in controlling starch digestibility and there was potential in pulse starch applications in slowly digestible and low glycemic index foods. Finally, the project revealed that physiochemical properties can be modified by physical treatments.

by Brian Clancey and Bert Vandenberg

IN BRIEF

Canadian plant breeders are developing rounder varieties to minimize chipping around the edges of the seed.

Size and Shape Matters

Size and shape matters to lentil markets. This is most obvious with green lentils, where markets have three distinct size categories - large, medium and small. By contrast, most red lentil varieties are small, while new varieties are getting plumper and in some cases, increasing in diameter.

The changing shape of both red and green lentils reflects a conscious choice by Canadian plant breeders to develop rounder varieties to minimize chipping around the edges of the seed. In turn, this could reduce the percentage of cracked and naturally split seeds, especially when lentils are quite dry. It also makes them easier for commercial splitters and dehullers to handle, depending on the type of milling equipment.

Growers and processors see merit in making lentils easier to handle. What is less certain is whether fatter lentils appeal to all buyers. Retail consumers who buy dry pack lentils and canners may not agree a plumper lentil is the same product, especially if it takes longer to cook. On the other hand, consumers and canners in some countries express preference for thicker lentil seeds, while commercial splitters find rounder lentils easier to work with because they get higher processing yields than they do with flatter varieties. Extensive surveys of lentil millers in the Middle East and India indicate that each miller has a distinct preference based on the optimum shape of the lentil for the particular type of dehulling and splitting system.

Apart from future directions in shape, the size of red lentils grown in Western Canada has changed over the years. Blaze-type or small red lentils has increased at the expense of Robin-type or extra small reds. This trend seems to match demand preferences around the world. Most reds are split and these users want a plumper Blaze type which is closer to the traditional varieties exported by Turkey.

There are still significant outlets for extra small or Robin-type reds in Bangladesh and other parts of the world. Even here there is a preference for a plumper lentil, which reminds consumers of the Northfield-type exported by Australia. Exporters are excited that varieties now being released for this niche market are better matched to consumer preferences.

The implication is that over time, grower bids for older varieties could be lower than

bids for newer ones because of the need by markets to drive production in the right direction. Canada's domestic splitters could take it one step further by actively discouraging production of older varieties and eventually refusing to buy them.

Most green lentils are consumed as wholes, with the result that cooking time of the whole seed is more important than roundness. This means that characteristics which make green lentils easier to handle, but result in longer cooking times, may not appeal to consumers. Quick cooking times have been a key selling point for green lentils in many markets and a historic target for plant breeders. In general, however, lentils cook faster than other pulses, which likely explains why lentil consumption is growing at a significantly faster rate than all other pulses.

Some green lentils are split. But, the volume of green lentils which are split seems to be a function of the status of pigeon pea markets on the Indian subcontinent. When the pigeon pea crop fails, as was the case last summer, India tends to import green lentils for splitting and sale on internal markets as a substitute for Toor dal. Not only is demand inconsistent, it is driven by price. Importers buy all classes of lentils, emphasizing those with the lowest price. The implication is that growing green lentil varieties which target splitters who only buy in volume once every four or five years could make it harder to maintain traditional, direct consumption markets in South America and Europe. On the other hand, increasing demand for green lentils for dehulling in South Asia implies that consumers are developing a taste for the product, and if demand stabilizes and increases, the direct consumption markets may have to maintain higher values.

Price buyers are a problem for green lentil growers. From an agronomic perspective, greens need to pay growers more per pound to be equivalent to reds. Similarly, Laird-type or large green lentils need to pay more on average than small or Eston-type greens to make up for yield differences. This is reflected in the long term average grower bids. During the past ten years, bids for No. 1 grade whole red lentils have averaged 19.9 cents per pound. Bids for large greens averaged 21.3 cents, compared to 19.3 cents for small green, and 19.6 cents for Richlea-type or medium green over the past 10 years.

PHOTO BY UNIQUITY PHOTOGRAPHY

Red lentil plantings could jump over one million acres this year.

These relationships have changed in the last couple of years, with red lentils fetching premiums to greens because of crop production problems outside North America. The net result has been faster expansion in red lentil area in Western Canada than might have been the case. The percentage of land in red lentils have risen from under 20 per cent between 2003 and 2005 to roughly half. This has seen plantings of reds jump from 380,000 in 2005 to 470,000 in 2007; 780,000 last year and possibly over a million acres this year.

Last year's jump was driven by bullish world fundamentals once it was realized drought had devastated pulse crops in Turkey and Syria. This year's increase is driven by current crop bullish momentum. Unless there is crop failure in a major exporting or consuming region, prices for red lentils will drop back into a more normal relationship with large greens. If that happens, grower bids will drop a least 20 per cent, if not 20 cents by harvest.

Prices are currently at levels which actively discourage demand. Consequently, we are still unaware of the true potential for red lentils. What we know is the current acreage mix of Blaze and Robin-type seems to

Split green lentils could be used in place of pigeon pea or Toor Dal in South Asia.

match world usage patterns. We do not yet know how much we can increase acreage before prices collapse to levels which push land out of the crop.

Collapsing prices are a bigger problem than just their impact on potential revenue for areas in Saskatchewan which mainly grow red lentils. Many growers have been seeding red lentils on two-year instead of four-year rotations, and they should not switch back to greens because there will be problems with volunteer lentils. At the same time, yields could fall more sharply if growing conditions favor disease outbreaks in their fields.

The net result is this year's expected expansion in red lentil area could test the patience of growers, both in terms of price and agronomics. By contrast, markets worry that green lentil production could fall behind the needs of the market.

Canada dominates the large green lentil market and has a solid demand base in South America and Europe. Since most of the consumption is in dry form, cooking time is extremely important to our customers. Uniformity is also important, both in terms of the diameter and thickness of the lentil, with some buyers frustrated by efforts by some growers and processors to upsize medium greens into the large green category.

Interestingly, this helps define the main issue facing medium green lentils. Being neither large nor small, they fill a narrower niche demand than the other two classes of green lentils. As medium green lentils get more expensive, demand can be filled by undersized large and oversized small green lentils.

Small green lentils continue to be well accepted by end users in the Mediterranean and Mexico. These buyers are very happy with the latest varieties because they represent a return to the Eston-type. Milestones were agronomically superior to Eston, but their larger size and paler seed coat color is disliked by many end users. Currently almost all small green lentil production has shifted to the variety CDC Viceroy, which not only looks like Eston, but also has better colour retention. Wider discounts bought demand, but markets are hopeful the return of the Eston look and size will help re-grow base demand and eventually narrow the discount to larges.

Even in lentil markets, the Indian subcontinent can attract a lot of attention. However, demand will never be consistent at the price lentils need to fetch on export markets to maintain production. Every few years there will be a surge in buying by splitters on the Indian subcontinent. Over-producing green lentil varieties tailored to meet the needs of those splitters would be a serious mistake because it would ignore the needs of Canada's larger, long-term consumers of dry pack green lentils. On the other hand, it may be possible to increase demand for green lentils in South Asia as a supplemental source of yellow dhal in a region that is chronically short of pulses because of shifting land use patterns and increasing labour costs for traditional pulses.

Looking toward the 2009/2010 marketing year, there is a sense that acreage in the various classes of green lentils will not be out of line with the needs of the market. There is a fear, however, that red lentil area may be moving past the needs of the market, especially if there are not any production problems in Turkey and Syria.

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Bert Vandenberg is a Plant Breeder at the University of Saskatchewan. He can be reached at bert.vandenberg@usask.ca.

by Tom Warkentin

Pea Breeding

At the Crop Development Centre

IN BRIEF

The pea breeding program continues to place a major emphasis on improving the yield potential of pea crops.

In the 1990s, the major focus of field pea breeding in Western Canada was to improve agronomic characteristics such as yield, lodging resistance, and resistance to powdery mildew. Improved weed control options have been a great benefit to pea production and allowed for a steady expansion of pea production and exports.

The pea breeding objectives at the Crop Development Centre have expanded in the past decade, but we continue to place a major emphasis on improving yield potential. We collaborate with international pea breeders for germplasm exchange to enhance genetic gain for key traits such as yield. Improved lodging resistance reduces humidity in the crop canopy, reduces ascochyta blight development, and facilitates the harvest operation. Similarly, improving resistance to ascochyta blight tends to improve the health of the pea stems and enhance lodging resistance. We are attempting to address all three of the fungi in the ascochyta complex to make incremental progress against this disease, which is particularly important in the moister regions of the province.

Improving pea quality for the marketplace has also gained importance in the breeding program. Crop quality has many dimensions. Most obvious is the visual quality of seed samples. For peas, we generally select for smooth, round seeds with bright, uniform colour. Recent research has allowed us to better understand the genetic control of these traits.

Nutritional quality also has several dimensions. We have developed methods to rapidly predict the protein, starch and fibre content of pea samples. We are beginning to evaluate micronutrient levels in pea varieties grown in various soil types. Phytate is the major storage form of phosphorus in the seeds of many plant species. However, it is poorly digested by humans and monogastric animals. By developing pulse varieties that store phosphorus in a digestible form, the nutritional value of the crop improves and phosphorus pollution will be reduced. Improving the flavour profile of new pea varieties could also make them more attractive in various markets. We are conducting research to evaluate flavour profiles both chemically, and based on trained taste panels.

Greater understanding of the genetic control of key traits in pea will be important in the years ahead. We have been increasing our efforts in the area of genomics research with our colleagues at the Plant Biotechnology Institute on campus, and key international collaborators. Genomics research will yield DNA marker tools that will allow us to rapidly and efficiently select plants with improved traits such as nutritional quality, disease resistance, or heat tolerance. Recent research at the CDC has resulted in a breakthrough in the development of doubled haploid methods in pea and chickpea. This is a common breeding method in canola, but has been unavailable to pulse crop researchers. Doubled haploid techniques allow for the rapid development of pure lines for breeding or genetic research. It seems field pea in Saskatchewan is set for many exciting 'cropportunities' in the years ahead.

Tom Warkentin is a Plant Breeder at the University of Saskatchewan's Crop Development Centre. He can be reached at tom.warkentin@usask.ca or 306-966-2371.

Tom Warkentin is a pea breeder at the University of Saskatchewan's Crop Development Centre.

PHOTO BY GEOFF HOWE

by Tracey Thompson

Pulses:

A Prescription for Good Nutrition

IN BRIEF

Results from Pulse Canada's clinical trials show that pulses may have the potential to improve overall health.

Pulse Canada

There are a number of health issues facing Canadians today. Imagine a food ingredient that can help fight diseases, improve overall health and is grown in abundance in Canada. Think pulses – peas, lentils, chickpeas and beans.

This February, the results from six clinical trials were released at the Pulse Health & Food Symposium in Toronto, Ontario. Leading researchers from across North America presented their findings to more than 140 researchers, health professionals, academics, food developers, government officials and industry representatives.

"Chronic diseases and other health problems are on the rise," says Peter Watts, Director of Market Innovation for Pulse Canada. "These research results add to the body of evidence that shows beans, peas and lentils have enormous potential to reduce cholesterol, fight cardiovascular disease, help with insulin management and improve gut health."

The clinical trial results show that pulses can potentially help manage weight-related health problems, such as type 2 diabetes and heart disease. Regular consumption of beans and other pulses may contribute to reduced serum cholesterol and triglycerides, which are two major risk factors for heart disease. The research also linked pulse consumption to improved arterial health and lower blood pressure.

Several studies showed regular consumption of pulses could be an important tool in combating obesity because pulses help increase feelings of fullness and contribute to weight loss. Diabetics may also benefit from pulses, which have a low glycemic index and can help regulate insulin levels.

"With growing rates of childhood obesity, an aging population and increasing concerns about health issues, finding solutions to improve the health of Canadians and people around the world is becoming increasingly important," says Watts. "Pulses are a prescription for good nutrition."

The clinical trials were funded through the Pulse Innovation Project, a Pulse Canada project which received a $3.2 million contribution from Agriculture and Agri-Food Canada's (AAFC) Science and Innovation program. The project's objective is to increase pulse utilization in North America and increase demand for Canadian pulses.

"Think of adding bean flour to tortillas or using pea flour to make food items such as cookies, cakes and biscotti more nutritious," says Watts. "With this new clinical research, the opportunities to use pulse crops are endless and the pulse industry is poised to explore these new markets."

In addition to learning more about the health benefits of pulses, participants at the Pulse Health & Food Symposium learned how pulses meet consumer demands for nutritious products and how pulse ingredients can be used in novel food applications.

Participants had the opportunity to sample many food items made from pulses during the course of the symposium. Many of those recipes can be found at www.pulsecanada.com/recipes.

Tracey Thompson is the Director of Marketing and Communications for Pulse Canada. She can be reached at tthompson@pulsecanada.com or 204-925-3785.

Note

This year, Saskatchewan Pulse Growers (SPG) is contributing just under $2 million dollars into Value Added Processes projects that are looking at using pulses in food products to promote good nutrition and health. Some of these SPG funded research projects include utilizing pulses in meat processing, the development of low glycemic index breads from pulses and the effectiveness of pulse based foods for improving metabolic syndrome. These food related pulse research projects are being conducted at the University of Saskatchewan, University of Toronto, University of Manitoba, Tamil Nadu Agricultural University, Agriculture and Agri-Food Canada, and the Canadian International Grains Institute.

Submitted by BASF

IN BRIEF

There are a number of things growers need to consider to get the best return from their lentil acres.

Setting Up for Success

You have likely heard that 2009 Canadian lentil acres are expected to grow, and for good reason. Dale Risula, Special Crops Specialist with the Saskatchewan Ministry of Agriculture explains, "there is going to be a lot of interest because of the potential for high prices in red lentils. With high nitrogen costs, more growers will be looking to pulse crops that are self-sufficient in terms of their nitrogen needs." Whether expanding your lentil acres or trying lentils for the first time, keeping basic production considerations in mind will help get the best return.

Variety and field selection are first and foremost. Once growers decide which market class to grow, for example small red or large green, they should assess the different varieties within that class. Select a variety with agronomic characteristics like disease resistance and maturity suitable for your specific field and growing region.

"With field selection, short-stature crops like lentils have difficulty competing with weeds, so it is important the crop gets a strong start from optimal adaptation in suitable production areas," says Risula. "Too much moisture or nitrogen can reduce the plant's yield potential because it prompts continual vegetative growth rather than seed production and maturity." The quality of the seed you sow is also crucial, explains Risula. "All seed should be tested for germination, seedling vigour, and seed bourne diseases. Ascochyta levels of a seed should be less than five per cent." Risula also advises planting lentils only once every four years to reduce disease inoculum carry-over. Growing lentils after deep-rooted crops like wheat that make it easier for shallow-rooted lentils to extract water and phosphorus from within the soil.

If you are considering putting lentils on a field with higher weed levels, Risula says "growers may want to consider herbicide-tolerant CLEARFIELD varieties which provide better in-crop weed control." With three variety additions for 2009 – CDC Impala CL, CDC Maxim CL and CDC Impress CL, there are now four red and two green CLEARFIELD variety options crossing each market class.

Soil tests are also crucial to knowing what, if any macronutrients are needed to help build lentil yield. "Potassium and sulphur applications should be based on a soil test as these nutrients tend to be sufficient in most soils for lentils," explains Risula. "For nodulation and nitrogen fixation, proper seed inoculation is also crucial." To protect yields from early weed competition, selecting the cleanest fields for production is not always an option. "A fall or spring burn-off is a good idea for fields heavily polluted with tough perennials," says Risula. "With the

Note

CLEARFIELD Varieties include:

Green Lentil:
CDC Improve CL
CDC IBC-194 CL
CDC Impress CL
CDC IBC-145 CL
CDC IBC-112 CL

Red Lentil:
CDC Maxim CL
CDC Impact CL
CDC IBC-187 CL
CDC Imperial CL
CDC Impala CL

Other:
CDC IBC-188 CL

Please refer to the Seed Growers List at www.saskpulse.com for a list of Select seed growers selling these CLEARFIELD varieties.

PHOTO COURTESY OF BASF

Extra-small red lentil variety CDC Impala CL is one of three new CLEARFIELD lentil varieties for the 2009 season.

CLEARFIELD system, growers can achieve a level of reliable, in-crop weed control that they traditionally would not."

"Odyssey DLX, Odyssey and Solo offer CLEARFIELD lentil growers a better choice and confidence for weed control without negative implications for crop safety or maturity," says Mark Kuchuran, Senior Technical Development Specialist with BASF Canada, who owns the CLEARFIELD trait technology.

Trevor Rich, a lentil grower from Craven, Saskatchewan supports this view. "The crop safety of the CLEARFIELD lentil system is 100 per cent safe as far as I can see," says Rich. "We actually really damaged a crop in the past with a previous product and lost a huge amount of yield. With this CLEARFIELD system, I have not seen any damage, and that adds up to a lot of dollars per acre."

Fungicides are another key yield protector. "Pulse crops are less tolerant to disease than cereals and oilseeds, so pulse growers must be vigilant about scouting," remarks Risula. "If growers do not see any disease and weather conditions are not favourable to disease development, I am not sure disease control would be beneficial." But with fungicides like Headline, Kuchuran notes, the plant health aspect for better standability might make an application worth considering. While research is ongoing about the plant health benefits of Headline, more than 200 grower-applied trials show that it is having a positive yield affect. Kuchuran has helped facilitate these Headline trials on field peas, lentils and cereals. "In lentil-specific trials, Headline-treated lentils averaged a nine per cent yield advantage compared to an untreated check."

Seed coat, colour and quality can all be affected by harvest timing and method. Desiccating and swathing can be done depending on harvest conditions and variety. Risula adds that immediate bin aeration to cool the crop is particularly important if growers harvest under hot conditions. "High heat seems to cause more rapid oxidation that can affect seed coat colour and cause brittle seed coats that are prone to cracking, reducing overall product quality."

Barriers such as weather and international market forces are beyond a grower's control. But, with Canada as the world's largest lentil exporter and Saskatchewan producing 99 per cent of Canada's lentils, a few thoughtful production considerations can help growers take full advantage of this market position by getting the most from their lentil acres.

This article was submitted by BASF Canada Inc. For more information on CLEARFIELD Lentils visit www.clearfield.ca.

Lentil Production in South Asia

IN BRIEF

In South Asia, red lentil production is anticipated to be reduced, resulting in more imports to meet domestic demand.

South Asia, comprising of Bangladesh, India, Nepal and Pakistan contributes to nearly 50 per cent of world lentil production. This region also imports a lion's share of lentil, mostly red, from external sources like Canada, Turkey, Australia, and Syria. However, there are exports and imports within the region. For example, Nepal exports red lentils to both Bangladesh and India, and India exports lentils to Bangladesh.

Bangladesh

Bangladesh planted approximately 150,000 hectares (ha) of lentils in Natore, Pabna, Rajshahi, Kustia, Chauadanga, Magura, Jessore, Meherpur, Rajbari, and Faridpur districts. The crop was planted in mid November, the optimum lentil planting time in Bangladesh. Due to late cessation of the monsoon rains, initial moisture was optimum for early seedling establishment. On average, plant population is excellent despite some thinning due to collar rot disease in some areas. No rain during the cropping season, caused lentil crops to suffer from moisture stress at the flowering and podding stages.

The main winter season experienced severe foggy weather, congenial for rust and stemphylium blight diseases. The native varieties, which cover about 80,000 ha suffered severely from foliar diseases. The improved varieties, Barimasur-4 and Barimasur-3, which are estimated to have covered about 70,000 ha, have resistance reaction to foliar diseases and are less affected. The newly released varieties Barimasur-5 and Barimasur-6 are in the process of dissemination.

Discussions with pulse crop breeders and extension personnel indicate that the vegetative growth of lentil crops has suffered due to the mild winter with higher than average temperatures and water stress which occurred during the late part of winter. Until now (the late podding stage) greater than 25 per cent crop loss has been anticipated. A clear picture on total production will emerge in mid-March.

Nepal

Nepal grew approximately 180,000 ha of lentil this year. More than 95 per cent of these

continues on page 37…

Important Market Note

A report in the February 23rd issue of India's newspaper *The Hindu Business Line* indicated that due to unfavorable weather conditions in the South Asian regions, chickpea yields will be lower than what was expected by the Agriculture Department. The article also stated that the government would need to import three million tones of pulses in 2009.

For more information about SPG activities, please call 306-668-5556
or email pulse@saskpulse.com or visit our website at www.saskpulse.com.

IN BRIEF

News from and about Saskatchewan Pulse Growers (SPG).

SASKATCHEWAN pulse Growers Celebrating 25 Years

SPG Welcomes Jane Fiala

SPG is pleased to welcome Jane Fiala who will be completing a term position with SPG as Research Project Manager. Jane will be working as the Recipient Agent for the Pulse Research Network (PURENet), within SPG's Research and Development program. Jane has her Undergraduate and Master Degrees from the University of Saskatchewan. Jane can be reached at 306-668-0591 or jfiala@saskpulse.com.

Jane Fiala

Positions Filled on SPG Board

This January, SPG welcomed Dwayne Moore to the Board of Directors. Dwayne farms with his wife and brother in the Rosetown area growing lentils, peas and durum. He dedicates at least fifty per cent of his seeded acres to pulses. Dwayne graduated with a Commerce degree from the University of Saskatchewan and currently operates an Accounting, Insurance and Real Estate business in Rosetown.

PHOTO BY GEOFF HOWE

Dwayne Moore

David Nobbs was re-elected to the SPG Board for another term. David joined the SPG Board in 2006.

2008 Investment Tax Credit

Producers who contribute pulse check-off to SPG are eligible to earn an investment tax credit through the Scientific Research and Experimental Development (SR&ED) program. The tax credit is based on check-off funds spent on research and development that meet specific criteria set out by the Canada Revenue Agency.

For the 2008 tax year, 33% of the Saskatchewan pulse check-off qualifies for the SR&ED tax credit. Producers can calculate their total check-off contribution by referring to their pulse sales receipts, which show the check-off allocation. To claim the credit, producers must file a T2038 (IND) for farm proprietorships or a T2SCH31 for farm corporations. All check-off investment tax credit applied against taxes payable, or refunded, must be reported by the producer as income in the subsequent year.

For more information on the process of claiming the tax credit, please consult your accountant or visit the Canada Revenue Agency website at www.cra-arc.gc.ca/txcrdt/sred-rsde/menu-eng.html.

Getting to Know Your Board

Barbara Podhorodeski – SPG Vice-Chair

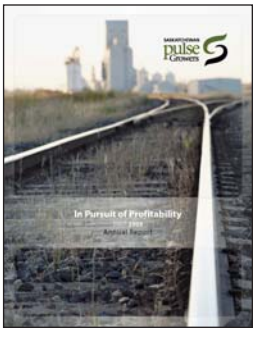
Barbara and her husband have a mixed-farming operation near the town of Shipman. They farm 3000 acres of cultivated land using a rotation of peas, wheat, canola, canary and forages. She earned her Agriculture degree from the University of Saskatchewan. She currently represents SPG on the Western Grains Research Foundation Board. Barbara joined the SPG Board in 2004.

PHOTO BY GEOFF HOWE

Barbara Podhorodeski

2007-2008 SPG Annual Report Now Available

SPG's 2007-2008 Annual Report is now available in electronic and print format. To download a copy, please visit our website at www.saskpulse.com. To receive a copy by mail, please contact the SPG office by telephone, 306-668-0350 or send an email to pulse@saskpulse.com.



SPG Scholarship Winners

The winner of the 2008 Don Jaques Memorial Post-Graduate Fellowship is Mohammad Tahir. The fellowship was established to recognize and support outstanding academic achievement and research in pulse crops. The award is named to commemorate the many years of service by Don Jaques, who administered SPG from the organization's inception in 1984 until his death in 1997. The winner of the Alfred E. Slinkard Post-Graduate Scholarship is Christine Bennett. The scholarship is an acknowledgment of the outstanding contributions made to pulse research and extension by Dr. Al Slinkard, Professor Emeritus at the University of Saskatchewan (U of S). Both winners were recognized during the Awards Program at Pulse Days 2009.

Students Winners at 2009 Pulse Research Poster Session

Congratulations to the winners of the 2009 Pulse Days Research Poster Session. The student posters were judged by category and the winners were each awarded $500. Jennifer Menat won in the Breeding category with her poster, *"How Does the Causal Agent of Lentil Anthracnose Sexually Reproduce."* Christine Bennett won in the Value Added Processes category with her poster, *"The Effect of Low- and High-Glycemic Index Pre-Exercise Meals on Soccer Performance in a Tournament Setting."* Both winners were from the U of S. SPG would like to thank all of those who participated in the Pulse Research Poster Session.

Grower's Guide to the GROU Program

The Grower Requested Own Use (GROU) program is a federal government program that allows growers to import a United States (U.S.) version of a Canadian registered crop protection product for their own use if the product is available in the U.S. at a lower price.

The Pest Management Regulatory Agency (PMRA) evaluates the products and determines if they are eligible for the program. Once a product is approved for import, growers must submit to PMRA an application for a GROU Import Certificate, along with the container label and proof of participation in an acceptable container disposable program. Once approved by PMRA, the product can be purchased and imported by growers for use only on their land and for only one growing season.

For more information about the GROU program and applying for an Import Certificate, or to see the list of products already approved, please visit the PMRA website at www.hc-sc.gc.ca/cps-spc/pest/agri-commerce/import/_grou-piapda/index-eng.php. A total of eleven products have been approved and several more are currently under review.

…continued from page 35

lentils are planted in the plains, contiguous with the Indian border. Nepal farmers cultivate both improved varieties and landraces of small red lentils. Initial plant population in farmers' fields was excellent; however, the crop suffered from wilt root rot complex in many parts of inner Terai and other places. Overall, crop growth was not satisfactory due to lack of winter rain. Foliar disease like botrytis grey mould and stemphylium blight appeared in farmers' fields and experimental stations. Crops in the eastern plains were the most affected. Information provided by national pulse scientists reveal that lentil production will be hampered and yield loss up to 20 per cent can be seen during this season.

India

Lentil area is expected to be 1.54 million ha with a slight increase compared to previous years. The states of Uttar Pradesh, Madhya Pradesh, Bihar and West Bengal are major lentil producers. Lentil crops suffered from root diseases in Uttar Pradesh, Madhya Pradesh and parts of Bihar. Many farmers' fields have low plant populations due to moisture stress and because vegetative growth was not up to the mark. In West Bengal and eastern Bihar, incidence of stemphylium blight was substantial. Although a number of improved varieties have been developed in India, their adoption was non-significant and traditional local cultivars suffered from drought and other biotic stresses. Crops in central India are early and have suffered from the mild winter with above average temperatures and water stress. They are at the verge of maturity. As winter is continuing, in Uttar Pradesh, Bihar and other north eastern parts, more podding is expected. On average, overall productivity and national production is anticipated to be reduced by a significant amount. A detailed scenario will emerge in late March/early April, once harvest is completed in February/March.

Pakistan

In Pakistan, lentil cultivation remained stagnant with nearly 60,000 ha. Farmers in Pakistan invariably grow local cultivars that are susceptible to a range of biotic and abiotic stresses. The Potwar region of Punjab, a province of Pakistan, is a major lentil growing area. Root diseases appeared to be the major impediment of lentil production. It is anticipated that due to lack of moisture in the mid to late growth stage, lentil production will be hampered and the shortage will continue, resulting in more imports to meet domestic demand.

The South Asian region grows only red lentil. With red lentil production in the region substantially reduced, imports of lentil will be further increased. In recent years, the green lentil market is increasing, particularly in India.

Garth Patterson
Executive Director

Saskatchewan: A World Leader in Pulses

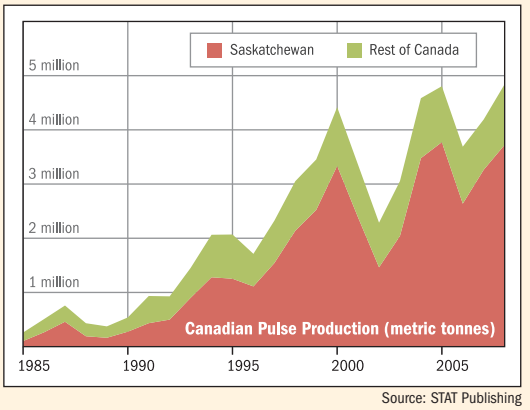
In 2008, Saskatchewan exported $1.6 billion dollars worth of pulses (Figure 1). Twenty-five years ago, no one would have dreamed that our industry would grow this big.

Pulse crops are more common in Saskatchewan crop rotations than in any other region in Canada (Figure 2). Pea, lentil and chickpea production in Saskatchewan has increased 36 times since 1985 and has grown at an average annual rate of five per cent in the last 10 years.

On a global scale, we are the number one exporter of pea and lentil. Last year, India, China, Bangladesh and Cuba purchased three-quarters of our pea exports (Figure 3). Our lentil industry is more even diversified with seven countries (Bangladesh, Algeria, India, Colombia, Turkey, United Arab Emirates and Egypt) accounting for one-half of our lentil exports (Figure 4).

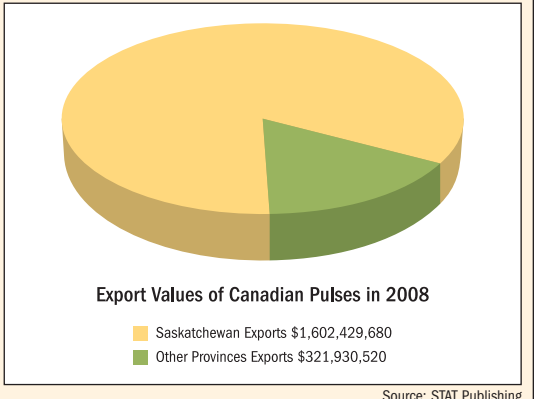
Continued growth of pulse production in Saskatchewan is sustainable up to one pulse crop planted in every four years of a crop rotation, equating to over $4 billion of production. Read the Chair's Report on Page 3 to learn how Saskatchewan Pulse Growers plan to achieve this goal for our industry.

Figure 1: Export Values of Canadian Pulses in 2008



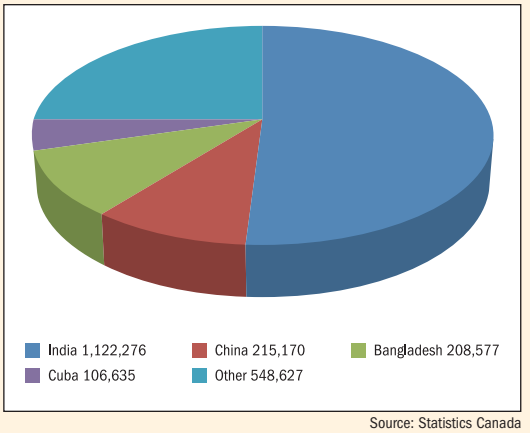
Source: STAT Publishing

Figure 2: Canadian Pulse Production (metric tonnes)



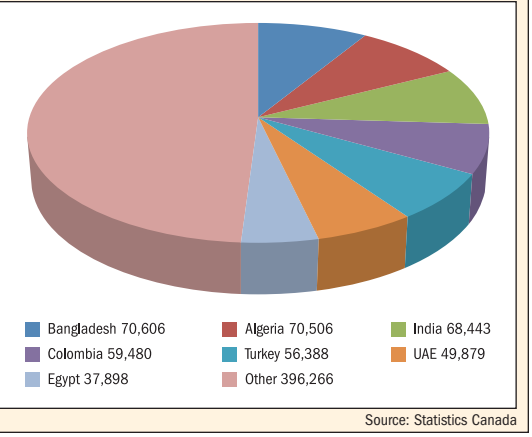
Source: STAT Publishing

Figure 3: 2007/08 Canadian Pea Export by Destination (tonnes)

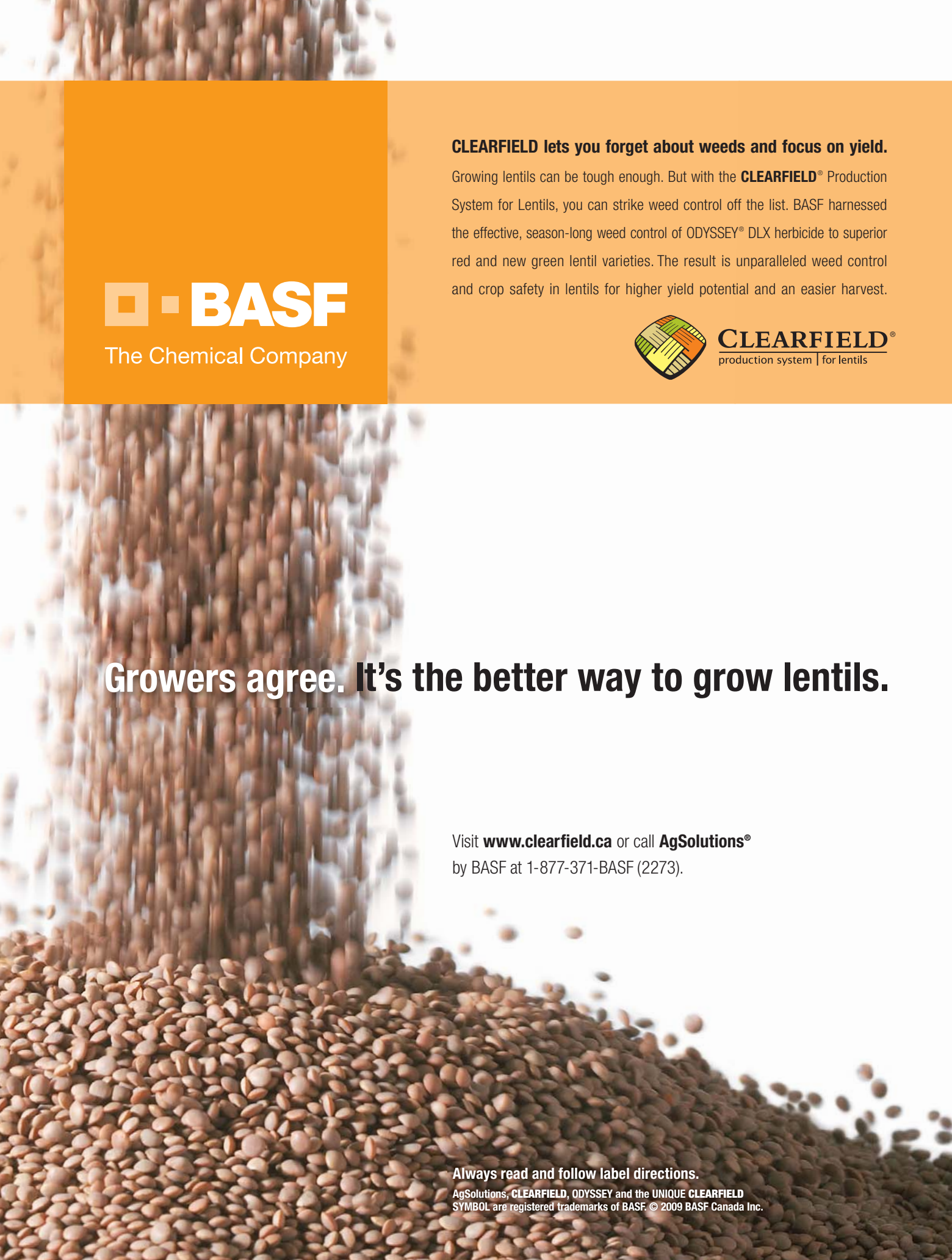


Source: Statistics Canada

Figure 4: 2007/08 Canadian Lentil Exports by Destination (tonnes)



Source: Statistics Canada



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