



Pulse Growers

pulsepoint

June 2003 Vol.3 No.3

Processing in Saskatchewan

- ⇒ Shrinkage
- ⇒ New Research
- ⇒ Adding Value



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Chairman's Message

Shawn Buhr
Chairman of the Board, SPG



Investing in the Future

Hopefully as you read this, seeding has wrapped up on your farm and you are well into spraying a nice-looking crop. For most of us, conditions at seeding time this year were better than they have been in more than a few years, although too much moisture seems to be a problem for some.

You will note that we have included in this issue three articles on shrinkage. In my last report, I made comments with respect to shrinkage that the processing industry viewed as unfair. In this issue, we have provided them the opportunity to respond with their concerns.

Also, please note the dates of the summer field days. These provide all growers with an opportunity to expand their knowledge level by the presentation and by interacting with other growers from around the province.

You will also see the nomination form for directors on page 33 of this issue of *PulsePoint*. This year, we have two board members who will be retiring that will be missed greatly. We need strong candidates to step forward and stand for election. Please give this some consideration.

Since my last report, we have continued to work hard on expanding funding for pulse research. SPG, as a member of Pulse Canada Research, had the opportunity to meet with Minister Vanclief to continue to make the case for an expanded role for Agriculture & Agri-Food Canada (AAFC) and for meeting the research needs of our industry. I can report that we had an excellent meeting and am confident that we will be successful in seeing increased investment in the pulse industry by AAFC.

Have a great summer!

Rainfall (mm)

Crop District	2003	2002
1A	100.3	48.9
1B	102.8	46.5
2A	105.4	66.0
2B	107.7	47.9
3AS	106.5	59.9
3AN	85.5	31.3
3BS	111.5	39.2
3BN	72.6	26.4
4A	113.8	43.1
4B	89.7	23.1
5A	95.6	39.5
5B	50.5	26.8
6A	80.5	21.5
6B	81.1	16.5
7A	70.5	14.3
7B	67.3	7.1
8A	53.4	28.6
8B	74.4	15.5
9A	63.9	26.1
9B	54.6	20.3

Source: Saskatchewan Agriculture, Food & Rural Revitalization's Crop Report: May 26, 2003 and May 27, 2002. Amounts show average rainfall amounts from April 1 to end of May in each crop district.



For most, seeding conditions were much improved in 2003.

SPG board

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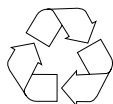
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Processing in Saskatchewan

As pulse acres have expanded across Western Canada, so has processing capacity. In this issue, *PulsePoint* investigates the debate over shrinkage charges in the processing industry; research into new processing opportunities; and three companies that are adding value through processing pulses.

5 Developing Consensus on Shrinkage

The Saskatchewan Pulse Growers, the Canadian Grain Commission, and the Western Canadian Marketers & Processors Association each provide a unique perspective on the issue of shrinkage charges.

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departments

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Make a difference in the Saskatchewan pulse industry: run for the SPG Board of Directors.

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The checkoff increase will be used to fund new research projects.

by Shawn Buhr, SPG
and Chris Hamblin, CGC
and Greg Simpson, WCPMA

Developing Consensus on Shrinkage



As most producers know, when grain is handled or treated, some of the weight of the grain can be lost to dust or cleaned out of a shipment as foreign material. This is shrinkage, and it is at the heart of this discussion between producers, regulators, and processors. According to the current Canada Grain Regulations, shrinkage charges are negotiable up to a maximum of 1%. As of August 1, 2003, the maximum allowable shrinkage charge will be regulated to 0%, but only at licensed primary elevators.

Shrinkage impacts both producers and processors. Saskatchewan's reputation as a leading pulse exporter has been achieved in part by the ability to deliver a quality product at a fair price. It is important to come to an understanding of shrinkage in order for all stakeholders to develop policy that will grow our industry and achieve the vision of becoming the world's preferred supplier of pulses.

In the following pages, the Saskatchewan Pulse Growers (SPG), the Canadian Grain Commission, (CGC) and the Western Canadian Marketers & Processors Association (WCPMA) each provide a perspective on the shrinkage issue. If you have questions about how the new regulations will work, contact the Canadian Grain Commission at 1-800-853-6705.

in brief

A review is needed to study shrinkage at elevators and grain dealers.

Review of Pulse Shrinkage Charges Needed

by Shawn Buhr, SPG Chair

It should now be clear to pulse producers that effective August 1, 2003 shrinkage charges will be 0% when pulses are delivered to a company registered as a primary elevator (or an agent for that company). The CGC does not regulate shrinkage charges by grain dealers or processing elevators, however we do expect downward pressure on their shrinkage charges because of the competition from primary elevators (where shrinkage charges will be 0%). Check out whether your buyer's facilities are registered as primary, processing or grain dealer by going to the CGC website at <http://www.grainscanada.gc.ca/Regulatory/licensees/licensees-e.htm>.

We think it is important for the industry to review this issue and are calling on the CGC to initiate a study to measure and report on shrinkage at pulse processing elevators and grain dealers.

I would like to provide you with a chronology of the Board's involvement in the shrinkage issue over the past two years.

May 2001: The CGC circulated a discussion paper on maximum shrinkage allowances at primary elevators. The SPG Board's position on shrinkage since was that shrinkage charges on pulses should be regulated to 0% at both primary and processing elevators. The Board's rationale was that shrinkage is a cost of doing business that should be reflected in the basis instead of a regulation. There was near unanimous support from producers to have shrinkage allowances regulated to 0%.

January 2002: The following resolution was passed at the SPG annual general meeting:

***Whereas** current Regulations administered by the Canadian Grain Commission set the maximum allowable shrinkage deduction at 1% for peas, lentils, chickpeas and beans; and*

***Whereas** the standard business practice for pulse buyers is to deduct the maximum shrinkage allowance of 1%; and*

***Whereas** shrinkage is impacted by processing plant efficiency; and*

***Whereas** producers no longer own their product once it is delivered to a processing plant and therefore should not be held responsible for processing losses;*

Therefore, be it resolved that the Canadian Grain Commission regulate the maximum allowable shrinkage deduction to 0% for peas, lentils, chickpeas and beans at both primary and processing elevators.

Moved by Lorne Sheppard; seconded by Don Baxter. Votes: 1 opposed and 14 in favor at the Saskatoon Inn, all in favor at the Prairieland. No opposition. Carried.

February 2002: The CGC announced that shrinkage charges at primary elevators would be reduced to 0% effective August 1, 2003. Senior CGC officials indicated to SPG that they also fully expected process elevators to reduce shrinkage charges to 0% even though they were not being regulated to do so.

Summer 2002: The SPG began communicating to pulse producers that shrinkage charges at primary elevators would be reduced to 0% effective August 1, 2003, fully expecting that process elevators would follow.

January 2003: Pulse producers started reporting that they were being asked to sign production contracts that still contained provisions to deduct shrinkage charges of 1%.

January 2003: SPG contacted the CGC expressing concern that process elevators and grain dealers did not plan to reduce shrinkage charges. In addition, Minister Serby wrote a letter supporting the SPG position.

February 2003: The Western Producer ran an article on shrinkage that clearly communicated SPG's position. The article also explained why the pulse trade planned to continue with shrinkage charges at process elevators and grain dealers.

February 2003: The CGC responded to SPG indicating that many pulse processors were licensed as process elevators or grain dealers and that it could not regulate shrinkage charges without a statutory change to the Canada Grain Regulations.

Winter 2003: SPG Board and staff contacted senior officials in Minister VanClief's and Minister Goodale's office regarding the shrinkage issue but were unsuccessful in affecting change to the CGC position.

March 2003: The SPG Board met with processors in order to gain a better understanding of

the impact of shrinkage on pulse processing activity and pulse exports.

May 2003: SPG staff went out to meet with pulse processors to gain a better understanding of the shrinkage issue and to develop material for this issue of *PulsePoint*.

June 2003: SPG Board updates producers on pulse shrinkage and calls for industry review of pulse shrinkage. 

Shawn Buhr is Chairman of the Board of the Saskatchewan Pulse Growers. He farms near Beechy, SK. For more information, contact pulse@saskpulse.com

CGC Setting Primary Elevator Shrinkage Allowances at 0%

by Chris Hamblin

Following a comprehensive review, the Canadian Grain Commission (CGC) will set the allowable primary elevator shrinkage deductions at zero, effective August 1, 2003.

Shrinkage is the loss in weight of grain that occurs as grain is handled or treated. Weight losses occur when dust and grain are left behind in equipment and bins and when grain is handled and treated.

While the Canada Grain Regulations sets maximum shrinkage deductions for primary elevators (see table 1. on page 9), shrinkage deductions below the maximums have always been negotiable between producers and buyers.

Shrinkage does occur, but there is great variability from elevator to elevator and from year to year. In reviewing data from nine years of primary elevator weigh-overs, we noted that some elevators were losing more weight than provided for in shrinkage allowances, and some were losing less. Because many factors influence weight loss, it was impossible, statistically, to set a reliable shrinkage allowance. Further, the CGC was convinced by producers who argued that they should not be responsible for weight losses that occurred after their grain was delivered. Therefore, the

CGC decided to set primary elevator shrinkage deduction allowances at zero.

Opponents of zero shrinkage have argued that primary elevators will recover their shrinkage losses in other ways, such as higher elevation tariffs or lower prices. This may happen. However, companies may also take steps to reduce and minimize their actual shrinkage losses and not rely on government-set allowances which for some will be higher than the actual shrinkage experienced. This will benefit farmers.

This change will not apply to CGC-licensed process elevators and grain dealers. Neither will it apply to unlicensed companies.

The term process elevator, as defined in the Canada Grain Act, means "an elevator, the principal use of which is the receiving and storing of grain for direct manufacture or processing into other products." This type of operation shouldn't be confused with the term "processor" which is often used in the special crops industry to describe seed-cleaning plants. Unlike primary elevators, process elevators are not under any obligation to receive a producer's grain. Similarly, shrinkage has never been regulated at process elevators and will continue to be negotiable at these facilities.

in brief

This August 1, shrinkage deductions will be prohibited at Canadian Grain Commission licensed primary elevators and negotiable everywhere else.



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Some pulse processors are licensed as grain dealers. The CGC does not have the legislative authority to regulate shrinkage for this class of licence. Historically, shrinkage deductions taken by grain dealers have mirrored those taken at primary elevators. We expect that, to remain competitive, these companies will reduce their shrinkage deductions accordingly. If they do not, producers have the option of selling to licensed primary elevators where shrinkage deductions will be prohibited on August 1, 2003.

Sometimes there is confusion about who is paying the producer and the class of licence under which the facility is operating. There are two ways to find an answer:

- Producers can check the licence posted in the facility and ask the manager what the facility is licensed as.
- Producers can contact the CGC if they are uncertain which class of licence the facility is operating under.

Some companies have agents receiving grain on their behalf. All agents of licensed companies must issue the documents appropriate to the licensee and follow the regulations for shrinkage deductions. If the agent is acting on behalf of a licensed primary elevator, there

would be no deduction for shrinkage. When a company is licensed as both a primary elevator and a grain dealer and the producer is uncertain which licensee the agent is representing, the producer should

ask the manager of the licensed facility.

The CGC published a discussion paper entitled "Review of Maximum Shrinkage Elevators at Primary Elevators" that goes into considerable detail on this topic. You can obtain it by calling 1-800-853-6705

or you can download it from our web site at <http://grainscanada.gc.ca/Views/discuss/Shrinkage/skdiscussionpaper-e.PDF>.

In summary, effective August 1, 2003, shrinkage deductions will not be permitted at CGC-licensed primary elevators. Shrinkage deductions at other facilities are not government regulated. Producers have the option of negotiating or doing business where they can secure the best deal. Producers are encouraged to contact the CGC at 1-800-853-6705 if they are uncertain about who is paying them or the class of licence under which the facility is operating.

Chris Hamblin is the Chief Commissioner of the Canadian Grain Commission in Winnipeg, MB. For more information, email: contact@grainscanada.gc.ca

Table 1. Current Maximum Primary Elevator Shrinkage Allowances (% of weight)

Grain	Grades	
	Straight	Tough or Damp
Wheat, Oats, Barley, Rye	0.10	0.20
Flaxseed, Canola, Rapeseed	0.35	0.52
Other Grains	1.00	1.00

Shrinkage Allowance: The Processors' Viewpoint

by Greg Simpson

It is important to clarify the issue of "shrinkage allowance" applied to the delivery of pulses for export purposes. The Western Canadian Marketers & Processors Association (WCMPPA) would like to stress that the shrinkage allowance is not a loss to growers, nor is it a gain for processors. The

allowance is a fair and equitable assessment of a loss that naturally occurs in the handling of grain. The processing industry cannot simply absorb this cost and remain financially healthy.

There has been some confusion with some growers who have been led to believe

in brief

There are sound reasons for shrinkage to remain at 1%.

that the shrinkage allowance has now been regulated to zero when in fact it has not. According to a letter from the Canadian Grain Commission sent to the WCPA dated April 30th, 2002, "the CGC does not intend to regulate shrinkage allowance to those operators (processors) at this time." The fact of the matter is that the allowance is a fair and reasonable assessment when one considers all the factors involved in getting a fair settlement to both the seller and the buyer of pulses.

Under the current system, pulses delivered to processors are probed or sampled to collect a representative sample of the delivery. Several truckloads representing many growers are then co-mingled in large receiving bins. The unload samples are analysed for grade and dockage, and then settlement is made according to these results. The result is a fast and fair settlement to the grower and large, efficient processing runs that are uniform in quality. This method of determining dockage guarantees the farmer will only be deducted what is assessed. All the risk related to the

The allowance is a fair and reasonable assessment when one considers all the factors involved.

net cleaned from these deliveries is clearly in the hands of the processor.

Now, for example, if the processing plant has worn-out machinery or the mill operator over-cleans, the pulses lost into a screening bin are a loss to the processor. If the shrinkage allowance were removed, growers would run the risk of processors changing the settlement procedure to "net off the plant," thereby putting all the risk back onto the grower and further delaying the speed of settlement.

There are several other reasons for retaining the shrinkage allowance of 1.0% and they are as follows:

1. Importers of Canadian pulses require stringent standards for canning and packaging. In many cases, the standard is nil dockage and nil foreign material. The problem is that dockage determination does not calculate the additional losses to remove dockage that is similar in size, or inseparable material of the same size as the seed. The industry needs to maintain quality processing

as a Number One priority to keep Canada as a leading exporter of pulses.

2. Pulse crops are harvested with equipment that cuts very low to the ground. Drought and poor weather conditions have made it very difficult not to bring soil in with the pulses at harvest time. As a result, a loss in cleaning comes from the dust and the dirt lumps having to be removed to meet export standards.

3. Pulse crops that are harvested with high moisture content help the farmer to reduce the splits and cracked seed coats. However, the deliveries of pulses with high moisture shrink during processing. Additional losses occur when pulses with high moisture are bagged and stored in warehouses. Processors have had to absorb losses as high as 2% by weight.

4. This year, the harvest of pulses resulted in significant quality reduction due to shrivelled seed coats, increased splits and reduced soundness of the product. The assessment of dockage does not fairly assess the continued deterioration of the product as it is flowing through the processing plant. As a result, processors have absorbed major losses in cleaning.

5. Export standards for major grains and oilseeds differ from pulses. Major grains are cleaned and shipped by elevators with tolerances of 97.5% and/or 98.0% purity. In comparison, the requirement is 99.8% purity for #1 lentils. The result is that grain elevators are able to leave in or add in foreign matter with other crops. Pulse crops have to be nil dockage and foreign material, which results in a loss of seed into screenings at a huge cost to the processor.

It is critical for the pulse growers of this province to build on the long-term mutual benefits of working together as an industry focused on improving the profitability of growers, processors and exporters.

Greg Simpson is the President of the Western Canadian Marketers & Processors Association. He is also CEO of Simpson Seeds in Moose Jaw, SK. For more information, contact greg@simpsonseeds.com.

Uncovering Opportunities

Processing Research at the University of Saskatchewan

in brief

U of S researchers have identified new processing possibilities for pulse crops.

Pulse Processing: Why So Little Commercialization?

Pulses have a long history of use as food and feed worldwide, yet have attracted relatively little commercial interest in component fractionation or in developing highly-value-added food products, at least compared to soybean and cereal grains. Some of the reasons for this include: the inherent limitations of pulse constituents, the economic dominance of soybean and corn in protein and starch markets, and a relatively low level of research activity in the area of pulse crop utilization.

Background

Over the last decade, the University of Saskatchewan, often in collaboration with other institutions, has been actively involved in:

- research on pulse constituents (principally starch, protein and fibre);
- identifying new uses for pulses and their constituents; and
- developing new, pulse-based food and feed products and ingredients.

In so doing, researchers have worked closely with the Canadian pulse processing industry, and have built on pioneering work done by others on air-classification and wet fractionation of pulses, and on the huge

investment which has been made, principally in the U.S., in research and development on utilization of soybean and cereal grains. In recent years, the development of soy-equivalent products from pulses has been a particular research focus, in response to growing demand for non-genetically-modified protein products and ingredients. Although much of the pulse processing research effort at the University has been focused on pea, the results are broadly applicable to other pulses.

Ongoing Research

Research has identified a number of areas where commercial opportunities may exist for pulse crops:

- **Removing “the magical fruit” effect.** In recent years, researchers at the University have developed a new method for evaluating oligosaccharides (gas-producing sugars) in pulses, and have demonstrated that the levels of these sugars can be reduced to very low levels by enzyme treatment of flour slurries.
- **Protein extraction.** Protein concentrates containing 65-70% protein and possessing excellent colour, flavour and functionality have been prepared from air-classified pea protein (which has a composition similar to that of soy flour) by dilute acid and aqueous-

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Micronization processes have been developed for the production of quick-cooking pulse products.

alcohol washing. A variety of technologies have been tested for their utility in recovering protein and other constituents from the dilute, voluminous effluent stream that results from the wet milling of pea.

- **Quick-cooking food products.** Micronization (high intensity infrared) processes have been developed for the production of quick-cooking pea and lentil products.
- **Alternatives to meat and pasta.** Extrusion processes have been developed for the manufacture of texturized protein ingredients (e.g. meat analogues) from air-classified pea protein, and for the manufacture of gluten-free, pasta-like products from pea flour.
- **Snack and breakfast foods.** An extrusion process for the manufacture of expanded snack foods and breakfast foods from pea flour and pea-cereal blends is under development.
- **Papermaking.** A novel process has been developed for the manufacture of chemically modified (cationized) pea starch. This and other pea starch derivatives are being tested against corresponding potato, corn and wheat starches in papermaking and other applications.
- **Fuel Alcohol.** Air-classified pea starch has been evaluated as a substrate for the manufacture of fuel alcohol, with excellent results.
- **Processing methods.** Extensive work has been conducted on development of methods

for assessment of pulse quality parameters such as canning quality and colour retention during processing and storage.

- **Livestock and aquaculture feed.** Significant research has been undertaken to analyze the feeding value of pulses for hogs, poultry, fish and other species.
- **Enriched baked goods.** Work is ongoing on the development of a variety of pea-fibre-enriched baked goods.
- **Pureed foods.** Researchers are examining the use of pea fibre as a viscosity modifier and fibre source in pureed foods for the dysphagic (swallowing-impaired) market.

Future Research into Pulse Processing

In the future, more funding needs to be allocated for research on the utilization of pulse crops and their constituents, and to scale-up and commercialization of research results. Priority research areas include:

- identification of new uses for pea and other legume starches
- the development of pulse-based functional and convenience foods, and
- establishment of methods for evaluating end-use quality in pulse crops.

Dr. Robert Tyler is AFIF Chair of the Food Processing Initiative and is Professor in the Department of Applied Microbiology and Food Science at the University of Saskatchewan in Saskatoon. For more information, contact tyler@duke.usask.ca.

in brief

Value-added processing continues to grow, despite the challenges of the last two years.

Adding Value With Pulse Processing

Though tempered by the occasional blip, such as the past couple years of droughts, the past 20 years in Saskatchewan has seen burgeoning pulse production. This unprecedented growth has not only made an impact at the producer level, it has also grown a value-added industry – pulse processing – which is mirroring the growth in production.

A Special Crops Processors Survey conducted in 2002 by Saskatchewan Agriculture, Food and Rural Revitalization reported that Saskatchewan has 136 special crop processors. The top three products processed were pulses: pea (handled by 80 per cent of processors), lentil (67 per cent) and chickpea (49 per cent).

This domination by pulses in the processing sector is resonated again at the production level, where the survey reported that two pulse crops – lentil and pea – accounted for 1.8 million hectares in 2001 compared to only about 40,000 hectares in 1982. Similarly, production of specialty crops, a category in which pulses dominate, reached a record 3.7 million tonnes in 2000, up from less than 0.3 million tonnes in 1982. Since that time, production and processing have grown in synergistic fashion.

“It goes hand in hand,” says Ray McVicar, crop specialist with Saskatchewan Agriculture, Food and Rural Revitalization. “As a new, special crop processing plant is built in their neighbourhood, growers see it as a local market and start to grow product for it.”

“We’re really new when it comes to pulse crop production, processing and marketing in Western Canada for the most part,” McVicar explains. “Much of this has occurred in the last 20 years. Whereas many of the other world players, such as Turkey, or in South Asia, like India, have centuries in the industry.”

“So over the years they have developed far more secondary processing than we have,” McVicar continues. “Our industry has not evolved as far and there are more changes to come.”

McVicar’s comments are bolstered by the Special Crops Survey which states that “demand for primary processing activities, especially cleaning, appears to have reached a plateau, while secondary activities such as milling, retail packaging, sorting, and splitting have shown large increases in output. Since this trend may be attributable to increased development of markets for pulse food products, future opportunities, both by type of processing and scale, may be driven by expansion of domestic and export markets.”

Indeed among the more recent of developments in Saskatchewan’s pulse processing industry has focused on the secondary processing element. Saskcan Pulse Trading Inc., whose shareholders includes the Turkish company Arbel Pulse Grain Industry and Trade S.A., became a full-fledged entity in September 2002 after spending 13 months in the planning and development stages.

The Regina-based company specializes in processing red lentils and conducts the final value-added processing to the product, where the lentil is peeled, split, polished and packaged for export shipment. Company president and CEO Murad Al-Katib says Saskcan Pulse Trading became a reality because of the growth of lentil production in Saskatchewan.

"The overall motivation for this project was that it didn't make sense to freight the raw material over to our splitting plant in Turkey," says Al-Katib. "We should be splitting it at the source supply. We have a freight advantage because of that, and our byproducts are used in the local feed market here."

"So why would you freight the waste over to Turkey, let's say, and have it used in their local livestock industry, why not use it right here in Saskatchewan?" Al-Katib hypothesizes. "When you split lentils you have a 20 per cent loss and that 20 per cent loss is freighted over at the same cost as the good product."

Saskcan's parent company, Arbel, was Saskatchewan's largest customer in the world in 2000 for red lentils, accounting for 34,000 metric tonnes of product. One of the constraints for the Arbel company, who have long coveted the Canadian market, is that none of the four brothers who are partners in the family-owned venture wanted to relocate to Canada.

That's where Al-Katib provided the perfect fit. Born and raised in Davidson, Al-Katib is of Turkish origin, speaks fluent Turkish and has an MBA in finance and international trade strategies. Prior to his present position, Al-Katib promoted trade opportunities in his position at Saskatchewan Trade and Export Partnership (STEP).

"When I was with STEP, it was always something that nagged me: 'why are we always exporting not only the raw commodity, but the jobs, the economic growth and the wealth creation around the value-added processing of red lentils?'"

"Why are we exporting that to Turkey for them to turn around and process it and not even use it in Turkey – to re-export it again into the Middle East, into North Africa and into the Indian subcontinent."

Therefore, Al-Katib says, it is no coincidence that Saskcan, despite being fuelled by



PHOTO COURTESY SASKCAN PULSE TRADING INC.

Turkish financial backing, is a Saskatchewan enterprise. Rather, intensive research went into the location for the Arbel company's non-Turkish venture. And when all was said and done, Saskatchewan was chosen as the site for the multi-million-dollar operation.

"We are a cost-competitive jurisdiction in terms of cost of doing business," says Al-Katib, rationalizing the company's decision to establish itself in Saskatchewan. "We have the best producers in the world of pulses and are one of the lowest-cost producers. So our pulses coming into the facility are extremely competitive and great quality in a normal year."

"You can tell by our investment here and our commitment to this market, this was the best location in the world for this plant," he continues. "We checked out options in Australia, we checked out options in port cities in the Middle East, we checked out options at port in Canada as well. And our belief is, origin processing is competitive in Saskatchewan. That's why we made the decision to be here in Regina, in the Regina plains, where we think there's a great growing potential for pulses."

"We chose this location because it was the best – it was the most competitive area in the world to be."

Saskcan Pulse Trading began operations in September 2002 and has a 75,000 MT annual capacity.



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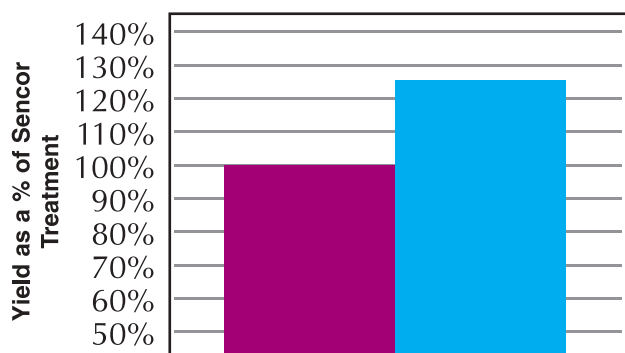
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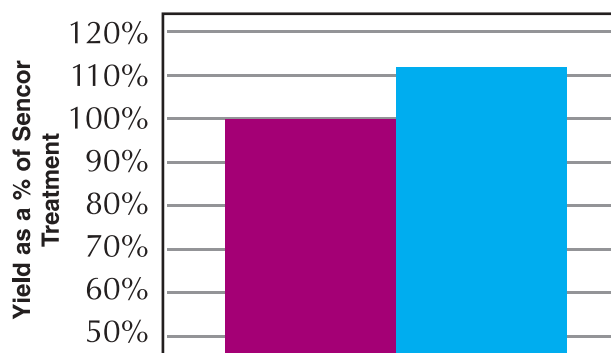
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Though the province itself is competitive compared to other jurisdictions, the last two years have resulted in a competitive environment within the province itself. McVicar notes that two successive years of poor growing conditions caused by combinations of drought, disease and/or too much rainfall for some, affected Saskatchewan's pulse production.

"Really, we had half a crop last year," he says. "What that means is that processors are going to have to compete with one another for product to put through their plant."

"We were lagging behind in processing capacity all through the 1990s, due to the rapid conversion to special crops. Then we hit two years of poor production. Now we have over capacity."

These conditions have not gone unnoticed by Doug Schneider, general manager of Canadian Select Grains Ltd. near Eston. Formed in 1994, Canadian Select Grains (CSG) has yet to reach their estimated 850,000 bushel capacity. "Our highest volume would be less than half of that," says Schneider, who has been with the company since 1996.

Schneider admits there are a few factors contributing to this over-capacity status. In 1997 CSG purchased the seed cleaning facility, which had been acting as its supplier until going bankrupt. The cleaning plant was kept at its original Eston location for the first two years despite bylaws and logistics causing it to remain underutilized. In 1999 CSG decided to move the cleaning plant to its site allowing it to forego the previous bylaw and logistic restrictions and thereby double its cleaning capacity. But drought, frost and disease have not been kind to producers, and hence processors. Nevertheless, this capital purchase in trying conditions proves the company is thinking long term.

Canadian Select Grains specializes in processing chickpeas, both kabuli and desi. They also process some lentils and spices in limited quantities. Like most other Saskatchewan processors, their specialty is cleaning, although they also dehull and split the desi chickpeas.

Schneider notes the industry has changed since the inception of the company. Originally, he says, most of the processing was performed for the purpose of seed cleaning as producers



PHOTO COURTESY SASKACHAN PULSE TRADING INC.

were looking for crop to seed. Now the majority of the product is shipped to the North American market for human consumption.

Made up of approximately 150 shareholders, Canadian Select Grains obtains its product from producers primarily in the southwestern corner of the province, many of which are also shareholders in the company. With most of their domestic market consisting of canners and wholesale pulse distributors in eastern Canada and the U.S. who pay somewhat of a premium for the product, CSG can pass that premium price on to its suppliers.

"Currently, we're offering contracts on nine-millimetre kabulis that are five cents higher than what the rest of the processors are offering right now," Schneider says, adding that the price is very much a double-edged sword in that the price needs to entice producers in order to fit the crop into their cropping rotation. "If the growers don't get that premium, they're not going to grow it."

CSG was started with the input from renowned pulse research scientist Dr. Al Slinkard and as a primary processor, is representative of the vast majority of the pulse processors in the province. As noted in the Special Crops Processors Survey, the primary value-added activities in the sector continue

Secondary processing is evolving from cleaning seed for planting to shipping product for human consumption.

to be cleaning, bulk loading, and bagging. These three processes account for 97 per cent of special crops processing.

Things are quite different for a company like InfraReady Products Ltd. of Saskatoon, which doesn't do any primary processing whatsoever. Rather, as a secondary processor, InfraReady sells its products as industrial food ingredients as opposed to selling them into retail markets.

Company president Mark Pickard says that the primary focus of the company's marketing efforts is to approach research and development departments of food companies and solicit their products to them.

"We impart some desirable attributes to the pulses that they are formulating with and one of the principal ones is convenience," Pickard says. "We do that by precooking the products, reducing the cooking time."

Pickard says this makes their product desirable as the trend of a diminishing food preparation time is a worldwide phenomenon.

"We're relatively new at it, but we've been very successful selling pulse crops and other special crops around the world."

Indeed it appears people's lives everywhere are tending to be more hectic than in years past. InfraReady's edge is in providing quick-cooking products among foods that traditionally require a longer cooking time.

"The advantage there is that a whole green pea takes about two hours to cook in boiling water, whereas our green pea is ready in 25 minutes," Pickard says.

"What we have done traditionally in pulses is tried to follow where some of the Canadian pulses go to market," he says. "And then we've tried to offer a differentiated product."

Having taken the more unique approach of secondary processing, Pickard says that there are niche markets that must be addressed and fulfilled.

"Not everybody wants to buy a Canada No. 1 green pea," he says. "Because it may not meet their quality requirements. They're looking for some things beyond that."

"We have some customers who have specifications that a No. 1 quality isn't good enough," he continues. "So that presents a challenge for us in that we have to source our material from the seed cleaning industry in the province and sometimes their highest standards don't meet the standards that our customers have."

For example, Pickard says that some of their customers will reject a load of product for having a single stone in a tonne of product.

"And when it gets rejected, it's on the other side of the Earth, so there aren't many recourses for bringing that back and re-processing it. So that remains a bit of a challenge."


Potentially posing another challenge for Saskatchewan's pulse processors comes with news that Agriculture Canada's March synopsis predicted an overall decline of special crop acreage in Saskatchewan, with some, like chickpeas, as high as a 30 per cent decline over last year's acres. This will undoubtedly impact the processors to some degree, but to what extent remains to be seen.

"With acres declining, one would expect there would be less volume around," McVicar says. "However, as I said, last year there was about half of a crop. So even with average yields this year, we will have a doubling of production available to the processing plants come fall. So that will help a great deal."

"Medium- to long-term, my feeling is that special crop acres will increase again due to economics as growers continue to look for crops that will have a higher value."

"This trend is what we've seen in the past and what we will see in the future. With good yields, the processing industry will be in much better shape with product to run through their plants."

"We're relatively new at it, but we've been very successful selling pulse crops and other special crops around the world," McVicar concludes.

"In some of these crops we're the world leader and have built up a good reputation. We just have to continue to improve it." 

Keith Moen is the Editor of *Saskatchewan Business* magazine. For more information, contact Keith in Saskatoon at editor@sunrisepublish.com

Adding a Little Spice to the Mix: Processed Pulses for Ethnic Markets

in brief

New study shows partnership opportunities in ethnic food markets.

It's common knowledge that Saskatchewan is now a leader in the production and export of lentils, peas and chickpeas – in a good year – as well as a centre for primary processing, such as cleaning, bagging, colour sorting, and so on. So, what's next? How do we add more value to our pulses, create new jobs, and increase the profitability of the pulse industry?

In 2001, Saskatchewan Agriculture, Food and Rural Revitalization (SAFRR) funded a study that focused on consumer-ready pulses in North America (See *PulsePoint*, October 2001). This broad study was a necessary first step in identifying opportunities and the direction for further research.

After consulting with Pulse Canada, the Saskatchewan Pulse Growers and existing industry processors, SAFRR embarked on a more detailed study of Middle Eastern and Indian ethnic markets in North America. These groups are traditionally large consumers of pulses and with continued immigration from these regions to North America, this market is a potential target for processing opportunities. Furthermore, SAFRR receives numerous inquiries from companies based in the Middle East and the Indian Sub-continent with an interest in establishing pulse-processing facilities of some type in Saskatchewan. The thought was that an Indian or Middle Eastern based company currently shipping processed product into North America might also be interested in partnering with a Saskatchewan group or company. This partnership could bring investment dollars, market

access/expertise and processing capabilities to Saskatchewan.

In cooperation with Saskatchewan Pulse Growers, SAFRR commissioned Hodgins & Company to examine the market for Middle Eastern and Indian food in specialty ethnic stores in North America, with a focus on highly-processed chickpea, lentil and pea products.



PHOTO COURTESY SAFRR

The project is entitled *Markets for Processed Pulses: Middle Eastern and South/Central Ethnic Stores in Vancouver, Toronto and New York*. The primary goals were to identify market size, growth rate and trends, as well as to determine the products available by visiting retail stores and meeting with ethnic food distributors in target locations. A secondary goal was to identify potential partner companies.

New York, Toronto and Vancouver were chosen because of their large Middle Eastern

Some of the products identified in the ethnic market study were falafel mixes, made from chickpeas and lentils.

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and Indian populations and the relative concentrations of these populations. In total, researchers completed 24 interviews with ethnic food distributors and visited over 100 ethnic stores in the target markets. The result is that we have a much better picture of the marketplace, the current usage of pulses and who the key players are in marketing, distribution and processing. We can also identify a few pulse processing companies that warrant follow-up as potential partners in developing these opportunities.

What Did We Learn?

In general, Middle Eastern and Indian ethnic stores carry significant quantities of bulk pulses with only a few processed products. The processed products could be categorized as snack foods, side dishes/boxed meals, canned pulses, flat breads, flour, packaged sweets and frozen meals.

By far, chickpeas are the most commonly processed of the three target pulse crops, followed by lentils and then peas. The snack food category, with chickpeas as a prime ingredient, appears to have the largest variety and quantity of processed pulses, particularly in Indian stores.

Some major brands are processed in overseas locations, such as India and Lebanon, but an increasing number of processed pulse products are being manufactured by North American companies. Several of the distributors and retailers targeted in this study were also processing, repacking or private-labelling their own brands.

A market trend worth mentioning is the growth of ethnic product sales in conventional grocery stores and supermarkets. These sales are often targeted at second or third generation ethnic buyers as well as non-ethnic consumers with an interest in ethnic foods, but without the time or abilities to prepare them from scratch. Mainstream retailers, particularly in Canada, are increasingly eager to cater to the market for Indian and Middle Eastern foods, and as a result, the number of small specialty ethnic shops may decline in the future. First generation ethnic consumers are the primary customers of ethnic specialty stores and are generally more interested in bulk products and cooking from scratch rather than processed products.

While the projected growth of the ethnic food market in conventional grocery stores is a positive trend, we were disappointed by the small size of the marketplace for highly processed pulses at Middle Eastern and Indian ethnic stores. The study concludes that although there are market opportunities for smaller processors (or larger processors with only a small focus on ethnic store sales), most companies will find success by expanding their market reach to include conventional stores as well as ethnic stores.



PHOTO COURTESY SAFRR

Want To Learn More?

Now is the time to begin working toward some of these niche market opportunities. If you are a Saskatchewan-based company/individual/group with an interest in the market for processed pulses or in partnership opportunities, please contact Jackie Blondeau at (306) 787-5924 in Regina or jblondeau@agr.gov.sk.ca for more information on this study.

Assessing the value-added opportunities for pulse crops continues to be a goal of SAFRR. In cooperation with Pulse Canada and Alberta Agriculture, Food and Rural Development, we are assessing a number of product categories. This will help establish future research priorities, and identify market and partnership opportunities to provide our industry with the information required to process more pulses.

Canned hummus is a chickpea product targeted at the Middle Eastern stores.

Jackie Blondeau is International Business Development Specialist in the Agriculture Research division of SAFRR in Regina. See www.agr.gov.sk.ca for more information.

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SPG Funds New Research Projects

in brief

New work promises many benefits, including improved yields, disease resistance and protecting the environment.

Saskatchewan Pulse Growers has funded six new research projects in several different areas, from herbicide and disease research, to canning quality, variety trials and breeding techniques, as follows.

TITLE: Identifying genetic resources for resistance to ascochyta blight resistance of chickpea

RESEARCHER: Dr. Bruce Gossen (Agriculture and Agri-Food Canada-Saskatoon)

OBJECTIVE: To identify the genes for partial resistance to ascochyta blight that are present in the differential lines and parental lines being used by the Crop Development Centre (CDC) breeding program and to differentiate them based on their reaction to fungal isolates. If genes are characterized and novel genes are identified, then the lines will be used by the breeding program at the CDC for development of new cultivars. This will also allow pyramiding of multiple resistance genes into agronomically adapted cultivars or new cultivars to improve resistance. Finally, the improved differential set will be used to provide an early warning of breakdown of resistance in existing cultivars and breeding lines.

BENEFITS TO AGRICULTURE: Increased knowledge of the biology of ascochyta is needed to reduce crop losses and to enable breeders to develop resistant lines. Improved disease control and improved yield stability would increase producer interest in growing chickpeas. This increased production would reduce

supply fluctuations and could encourage development of new uses and new markets.

FUNDING: A maximum of \$99,900 over three years

TITLE: Additive effects of group 2 herbicides on crop tolerance and re-cropping restrictions

RESEARCHER: Eric Johnson (Agriculture and Agri-Food Canada, Scott)

OBJECTIVE: To determine if applications of Group 2 herbicides in two successive years increase crop injury in the second year of application to field pea and wheat. To determine if application of Group 2 herbicides in two successive years result in increased plant-back sensitivity in susceptible crops. To evaluate the bioassay method for estimating the concentration of Group 2 herbicide residues in soil and use this to begin constructing a model for estimating the potential for damage to sensitive rotational crops. To determine if a residual herbicide in the previous crop can provide weed control to the following pulse crop.

BENEFITS TO AGRICULTURE: Understanding the impact of Group 2 herbicides on crop production can have significant economic and environmental benefits. Recommendations derived from this study will provide producers with valuable guidelines to minimize potential crop injury problems and to reduce impact on the environment.

FUNDING: Maximum of \$318,110 over three years

TITLE: Development of near infrared reflectance spectroscopy (NIRS) method for predicting the canning quality of dry bean, kabuli chickpea, and field pea (yellow and green)

RESEARCHER: Dr. Jeeyup Han (Department of Applied Microbiology and Food Science, University of Saskatchewan)

OBJECTIVE: To develop a NIRS method for predicting canning quality of pulses which is more rapid and less consumptive of samples and resources than currently employed methods. Since the mid-1970's, NIRS has been used as a fast non-destructive and convenient means of determining the composition of grains and oilseeds. NIRS may represent an economical and convenient way to predict the textural quality of canned pulse products for breeders and canners.

BENEFITS TO AGRICULTURE: Plant breeders would benefit from the ability to obtain inexpensive but reliable estimates of canning quality on small samples of seed, samples too small for evaluation by traditional canning methods. Processors would benefit by being able to instantly assess the quality of pulses prior to purchase without using a cumbersome canning test.

FUNDING: Maximum of \$99,880 over two years

TITLE: Pulse crop regional variety trials in Saskatchewan

RESEARCHER: Dr. Tom Warkentin (Crop Development Centre)

OBJECTIVE: To implement a regional variety trial network for field pea, lentil, chickpea and dry bean in Saskatchewan. Provincial funding for this trial ceased after the 2002 season.

BENEFITS TO AGRICULTURE: This project will effectively evaluate new pulse varieties in the key production areas of Saskatchewan. Results will be reported in a timely manner to facilitate decision making of commercial producers, seed growers, breeders and seed companies.

FUNDING: Maximum of \$85,377 over one year

TITLE: International efforts to develop doubled-haploid technology for field pea (*Pisum sativum* L.) and lentil (*Lens culinaris* L.)

RESEARCHER: Dr. Bert Vandenberg (Crop Development Centre)

OBJECTIVE: To develop an efficient protocol for the production of doubled-haploid field pea and lentil via collaboration with Australian researchers.

BENEFITS TO AGRICULTURE: Producing doubled-haploid lines helps speed up cultivar development by at least two years and improves selection for polygenic traits such as yield or biotic and abiotic stress resistance. This will result in considerable savings to breeders, especially since pulses have a low seed increase ratio and selection in early generations increases breeding efficiency. For the producer, improved cultivars with, for example, resistance to disease would be available more quickly and thus would reduce input costs.

FUNDING: Maximum of \$419,955 over three years

TITLE: Control of sclerotinia stem rot in small-seeded lentil production in the black soil zone.

RESEARCHER: Dr. Sabine Banniza (Crop Development Centre)

OBJECTIVE: To determine strategies for sclerotinia stem rot control by determining the most efficacious fungicide compound and the best application time and to evaluate the economics of these control strategies. Also to evaluate whether a flower petal plate test can be used for disease prediction and to investigate the infection pathway of the fungus.

BENEFITS TO AGRICULTURE: Stabilizing lentil yields through the development of reliable control strategies against Sclerotinia stem rot will provide farmers with economic alternatives to cereals and oilseeds. If control strategies are successful, the project will have an immediate impact on red lentil production, which is the fastest growing segment of the lentil export market.

FUNDING: Maximum of \$50,000 over two years

Joelle Harris is Research & Development Manager with Saskatchewan Pulse Growers in Saskatoon. For more information, please contact jharris@saskpulse.com

Superior Quality



It seems like the demand for superior quality is growing in the pulse crop marketplace. Over the years, Canadian companies and growers have been successful in selling large volumes of pulses into the world market because our quality has matched market needs. The last two years have been a challenge for everyone, not only because drought in many regions has slashed production, but also because there have been some very poor harvest conditions. These conditions have left growers wondering how to best harvest and handle their crop, and processors wondering how to best improve the quality of the crop in their processing plant.

Environmental conditions at harvest time can really take quality control out of the hands of growers. Prolonged periods of wet weather when the crop is nearing or has passed maturity increases grey mould and sclerotinia discolouration and contamination, as well as seed coat bleaching, immature seed contamination, and all-round grade loss. Last fall, repeated wetting and drying also led to increased seed coat cracking in many of our pulse crops. However, while some things cannot be helped, there are steps that can be taken to increase the chance of obtaining superior quality product for the marketplace.

Disease control

Pulses are prone to a number of foliar plant diseases that can cause losses to yield and quality. Needless to say, staying on top of these diseases by carefully monitoring your crop throughout the growing season can greatly improve seed yield, colour and quality.

Desiccation

REGLONE DESSICANT® is registered for use on chickpea, pea, lentil, and dry bean. This treatment does not mature the crop but does allow for quicker dry-down. There are a number of precautions for using REGLONE DESSICANT. Avoid spray drift. Do not apply under dead calm or high wind conditions. Do not apply if rainfall is expected within 30 minutes. The higher rate will provide more consistent results under drought conditions. If a killing frost is expected, wait a few days to determine whether an application is still needed. Large weeds, such as dense stands of kochia, make it difficult to achieve acceptable coverage. Swathing may be a better choice in this situation. The presence of powdery mildew on pea may reduce the effectiveness of REGLONE DESSICANT.

SPG in brief

Improve your pulse crop by paying attention to the details at harvest time.

Pre-Harvest Weed Control

Glyphosate products (such as ROUNDUP®, TOUCHDOWN®, MAVERICK®, CREDIT®, RENEGADE®, VANTAGE®, FACTOR®, VICTOR®, and GLYFOS®) are registered for pre-harvest weed control in dry bean, lentil and pea. Glyphosate does not desiccate the crop. The

benefit of drying down the crop is inconsistent, and under cool, wet weather conditions, is unlikely to occur. Do not apply this treatment to pulse crops being grown for planting seed as irregular germination and plant development can occur. Do not apply glyphosate for pre-harvest weed control on unregistered

CROP	Colour of Crop &/or Seed at Cutting Stage	Registered Desiccant
Dry Bean	Swath narrow-row or undercut row crops when 50–60% of pods turned from green to yellow and are still flexible (buckskin stage). About 50–60% natural leaf drop. Straight cut when leaves have fallen off and pods are mature and dry to touch. 75% of pods are hard and dry.	REGLONE Apply when there is 80–90% natural leaf defoliation and 80% of pods are yellow.
Chickpea – Desi – Kabuli	Straight cut when vines and pods are mature and seeds are at approximately 18% moisture. Swath when majority of plants are yellow and most pods are mature. Upper part of plant may still be green.	REGLONE Apply when plants are yellow, pods are mature, and the seeds have changed colour and are detached from pod. Application timing is different for desi and kabuli types.
Fababean	Swath when 25% of the plants in the field have the lowermost pods turning from green to black. Straight cutting is not an option.	
Lentil	Swath when lower 30% of pods are tan coloured and their seeds rattle when shaken. Middle pods may still be green. Upper part of plant may still be flowering. Straight cut when seeds and pods are fully mature.	REGLONE Apply when the lowermost pods are tan coloured and rattle when shaken. (at time of swathing)
Pea – Green	Swath when vines are yellow coloured and seed has good green colour. If straight cutting, waiting for full maturity without desiccating can increase risk of bleaching.	REGLONE Apply when 75–90% of pods have turned to yellow colour. Vein pattern of uppermost pods easily recognized.
Pea – Yellow	Swath: bottom 30% of pods are ripe, middle 40% of pods and vines are yellow coloured, and upper 30% of pods are turning yellow. Straight cut when fully mature. Swath and combine when fully mature and immediately follow with combine to avoid wind damage.	REGLONE Apply when 75–90% of the pods have turned yellow
Pea – Feed	Swath: vines are yellow. Straight cut when fully mature.	REGLONE Apply when 75–90% of the pods have turned yellow.

crops such as chickpea.

For more information on desiccation and pre-harvest weed control in pulse crops, consult the product label, the Saskatchewan Agriculture, Food and Rural Revitalization publication, *Guide to Crop Protection 2003* or the *Pulse Production Manual*.

Mechanical Accessories & Handling

Using a land roller at seeding time can greatly improve the ease of harvesting low, lodged and tangled crops. Pick-up reels, lifter guards, flex-headers, or air reels can be added to equipment to ease harvest and reduce losses of pulse crops. A slower ground speed may

Quick Test for Proper Moisture Content at Combining	Storage Moisture Content	Comments
Seed is firm and difficult to penetrate with thumbnail. 18–22% seed moisture. On hot, dry days, pod moisture can decrease rapidly leading to increased shattering. Too-high pod moisture can increase earth tag.	16% is dry 15% or lower for long-term storage. Aerate if required.	Weed control is critical for swathing and straight cutting dry bean. Tram lines or swathing reduce variation in crop maturity in narrow-row crops. Cylinders should be run only fast enough to thresh crop. Run as much material as possible through cylinder to minimize damage. Seed is easily damaged during harvest and handling.
Thresh when seed is firm and can no longer be penetrated with thumbnail. 18% moisture or drier. Avoid combining chickpea that is wet or immature.	14% or less for safe storage. Aerate if required.	Best to leave the crop stand until fully mature. Wind can damage swaths. Closely monitor crop stage as harvesting too early increases the chance for green seed in the sample. Will need to harvest and store immature areas of field separately. Seed is large, brittle, irregular shaped and is very susceptible to mechanical damage. May need to swath to stop re-growth.
Thresh when seed is firm and can no longer be penetrated with thumbnail. Seed is 20% or lower moisture content.	16% is dry and safe for storage.	Swath at high moisture content. Plants turn black as they ripen. A light (narrow) swath should be used to hasten dry down. Over dry seed will easily shatter.
Thresh when seed tests 18% moisture content or lower. Very dry lentil (8–10%) are hard and difficult to bite. Use slow cylinder or rotor speeds.	14% for safe storage.	Plants may still be green when pods are ripe and may mature in patches. Some shattering losses usually occur. Shattering can be reduced by swathing under conditions of higher humidity. Strong wind can damage swaths. Over-dry seed can suffer seed coat breakage and peeling during combining. Swathing in extreme heat may lead to seed discolouration in the swath.
Thresh when seeds are firm and can no longer be penetrated with thumbnail. 20% moisture content or lower.	16% is dry and safe for storage.	For top grades the maximum allowed bleaching is 2%. Bleaching of seed is caused by high humidity, bright sunshine and warm temperatures. Bleaching can also be caused by rain near maturity or while in the swath. Over-dry seed can suffer seed coat breakage and peeling.
Thresh when seeds are firm and can no longer be penetrated with thumbnail. 20% moisture content or lower.	16% is dry and safe for storage.	Some shattering losses usually occur. Over-dry seed can suffer seed coat breakage and peeling during combining. Low cylinder speeds are used to reduce damage. Green weed seeds or foreign material should be cleaned quickly to reduce spoilage during storage.
Thresh when seeds are firm and can no longer be penetrated with thumbnail. 20% moisture content or lower.	16% is dry and safe for storage.	Bleached, split, cracked, earth-tagged seed is acceptable for feed. Combine settings and operation not as critical as for the human consumption market.

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Beans can be swathed when 50–60% of pods reach the buckskin stage, and combined at 18–22% seed moisture.

also be required when harvesting pulses compared to cereal crops. Combine unloading augers should be operated full and at low speeds. New rub bars and concaves should be “worn in” on other crops before tackling pulses. The clean grain, return and unloading augers should be properly adjusted to reduce sharp edges. Clipped and chipped seed is a downgrading factor that can be avoided by fine-tuning the combine. Seed damage like this can quickly cause the loss of a grade.


Although an uncommon occurrence, pulse crop processors have raised the concern about the presence of treated seed in delivered product. Always remember to thoroughly clean your auger and bins before harvesting this year’s pulse crop to avoid the risk of having a semi-load rejected due to treated seed. The same is true for those black seeds around the bin door or blending this year’s crop with the crop of a previous year. Because most pulse crops are graded on colour, it is best to keep off-colour grain separate.

Pulse crop processing plants use belt-based conveyors to move the crop more gently. Some growers are investing in belt systems too. Of course, the decision to invest in a conveyor cannot be made lightly, but if you are in the need of a new auger, take the time to compare the cost of moving to a modern belt system. Pulse growers using long-term storage to help with their 10-12 month marketing plan can especially make good use of a belt conveyor. Large-seeded crops like chickpea and pea probably need to be given a

rotation in the bin to prevent spoilage, and the use of a conveyor can accomplish this with very little seed damage.

When using an auger, the moisture content of the pulse crop being transferred can greatly impact the amount of damage that occurs. Less damage occurs if the sample is at about 18 percent moisture or higher. Some growers add a little water in the auger when moving the crop from the truck to the bin. In a study done by PAMI, the use of a simple garden hose trickling water into the auger was found to successfully reduce damage. The use of a “worn in” auger can also reduce seed damage. Heavy damage can occur if the moisture content is lower than 14 percent. In this case, it may be best to rent or borrow a conveyor. Handling pulse crops in winter temperatures of -20°C or colder can increase chipping and peeling damage.

The use of aeration fans to reduce moisture and temperature will improve storage. The augers within a grain dryer can increase seed coat peeling and cracking, however, if supplemental heat drying is required, air temperatures should not exceed 45°C to preserve germination, and the sample should not be dried more than 4-5 percentage points per pass through the drier.

Good luck with harvest this year. We deserve a good one! 

Ray McVicar is the Special Crops Specialist with Saskatchewan Agriculture, Food and Rural Revitalization in Regina. See www.agr.gov.sk.ca for more information.

 in brief

Expansion of Canadian pulse markets depends mostly on our customers' buying power.

Global Trends in Pulse Consumption

This year's increase in North American pulse production has restarted an ongoing discussion about trends that affect the movement and consumption of pulses. Most of the time, the discussion focuses on micro developments in markets where there is a major trend away from pulse production in favour of more highly-processed foods.

It is in wealthy markets that consumers can worry about chemical residues in their foods; the role of food in preventing disease; organic versus low chemical versus ordinary production regimes; or genetically modified (GM) grains, pulses and oilseeds. For the rest of the world, price and – when you can afford to choose, flavour – are the primary focus.

For producers in countries that export most of what they grow (nations such as Canada, Australia and Argentina), the industry is interested in consumer trends. But most of their income derives from markets where price is a dominating consideration among buyers. Even so, Canadian and Australian exporters have not lost sight of the importance of satisfying the demands of importers and food manufacturers in the European Community, Japan, and the United States. Considerable effort is going into becoming ISO certified so as to maintain and possibly increase market share in the more demanding consumer markets.

Ironically, pulse processors in the United States, who sell mainly to the food manufacturing industry, do not see themselves moving aggressively on ISO certification. This is partly because the Food and Drug Administration (FDA) is a more important force on the U.S. domestic market, especially since homeland security became a dominant issue for Americans. In a sense, the latest moves by the FDA with respect to processing plants in other countries is just part of the larger trend

toward certification of plants and fully documenting the movement of pulses and other products from field to fork. Early adopters could well enjoy a competitive advantage as more countries become concerned with food security and safety.

Unfortunately, fear and protectionism are among the forces driving adoption of such new technology. For export-based industries, this a real concern because it threatens the capacity of poorer nations to maintain their presence on world markets. It may seem like a good thing to keep potential competitors out of the business, but the more difficult it becomes for poor nations to earn a living, the less food they will buy and the more geopolitical risk there will be in the world.

Punishing debt and difficulty maintaining access to markets in the developed world are keeping the majority of people on this planet poor and incapable of improving their diets. Progress has been made, but protectionism in countries such as Canada, Australia, the United States and the European Community is sapping away most of the benefits of free trade.

Last year, a joint letter to OECD members from the World Bank, International Monetary Fund (IMF) and World Trade Organization (WTO) warned, "Any increase in protectionism by one country is damaging." The letter was seen as a response to a barrage of complaints to the WTO about the latest version of the U.S. farm bill and tariffs of up to 30% on imported steel. The theme was amplified earlier this year at the World Economic Forum in Davos, Switzerland. "We want free trade, but a free trade that characterizes itself by reciprocity. It will be useless, all the exports that we will develop, if the rich countries continue to preach free trade on one side and practice protectionism on the other side," said Brazil's president, Luiz Inácio Lula da Silva.

At Davos, there was broad consensus that without action on agricultural protection by rich countries, trade negotiations will not move forward. "We are running out of time for developed countries to deliver on their commitments," said Nicholas Stern, Chief Economist and Senior Vice President Development Economics with the World Bank. The next ministerial meeting of the Doha round takes place in Cancun, Mexico, in September. Before then, WTO members will try to agree on a formula for reducing rich country agriculture subsidies and other barriers to developing country farm exports. According to Stern, the discussion is now shifting away from understanding the problem to action steps that will move the discussions forward.

While Canada and Australia may not heavily subsidize their agriculture, protectionist measures are in place. Australia sees itself as a unique genetic repository that must not be contaminated by imported products which could unleash never-before-seen diseases, plants or animals. Canada maintains several major marketing boards that control market access for several primary agricultural commodities, including wheat.

Socialists and labour unions in many developed nations are often aggressive anti-trade campaigners, claiming they are worried about the exploitation of women and children in developing nations. To the extent they are able to prevent their markets being opened to trade with developing nations, they are able to protect the interests of the rich by maintaining poverty and low education standards in many countries.

To bring this into perspective, the median family income in the United States now stands at U.S. \$42,228 per year. By contrast, 97.9% of the world's population makes less than this amount. In fact, 60.5% of the world's population makes less than \$1,000 per year, and 40.7% earn less than \$500.

All the expansion in pulse production in export-based countries such as Canada and Australia is predicated on selling to the mass of humanity at the bottom end of the income scale. Unfortunately, this is a group of people who eat less when their buying power is reduced. Long-term statistics from India make this point. The amount of food eaten on a per capita basis in India has declined in the last quarter century


because people do not have enough money to fully cover all their basic needs, including food.

This directly impacts the quantity of pulses that can be sold to human consumption markets each year. Last year's rebound in pulse production in India left the country with a shortfall of almost two million MT of pulses relative to the desired per capita consumption level of pulses. In the coming year, this shortfall is expected to leap to 3.1 million MT because of a smaller crop and the fact consumers do not have enough money to buy enough food to meet their dietary needs. This gap could expand to 4.5 million MT within a decade.

India is not the only country in the world with such problems and the only way out of this predicament is to increase the size of their economy on a per capita basis. This means selling more of what they produce to generate the foreign exchange needed to buy more of what they cannot produce. This makes protectionist trends troubling because

All the exports that we will develop will be useless if the rich countries continue to preach free trade on one side and practice protectionism on the other side.

they will further reduce the ability of our customers to pay for what we produce, and limiting our ability to expand this industry.

It is important to expand markets for pulses over the long term because there is another trend developing in major grain and oilseed markets. Consumers in the developed world increasingly prefer products grown under a less chemical intensive regime. Pulses fit into these production strategies because they refertilize the soil, thereby reducing the amount of chemical fertilizer that needs to be applied to crops following them in the rotation. Meeting that potential means having customers for the pulses produced, which can only happen when people in countries where pulses form a preferred part of the diet have the money to buy our exportable surpluses. 

Brian Clancey is the President of STAT Publishing, which produces market intelligence for the world's agriculture industry. For more information, see www.statpub.com

Pulse Field Days

SUMMER 2003

Wednesday, July 23, 2003 - Redvers, SK Thursday, July 24, 2003 - Canora, SK

Summer 2003 is fast approaching and that means field tour season. This year, Saskatchewan Pulse Growers is partnering with two regional research sites to deliver some of the most up-to-date field research in the pulse industry today.

On Wednesday, July 23, SPG and the South East Research Farm in Redvers will present Pulse Tour 1. Pulse Tour 2 will be held the following day in Canora, in cooperation with the East Central Research Foundation.

Pulse Tours 2003 will feature:

- New bean varieties
- Inoculant usage
- Fertilization information
- Winter pea and lentil evaluation
- Recropping options
- Regional adaptation data

In addition to pulses, both tours will include information about forages, flax, winter wheat and canola. The registration fee is only \$10 and this includes a lunch, refreshments, a field tour booklet and a shot at the door prizes.

Don't miss this opportunity to view the latest pulse field research. For more information, contact Saskatchewan Pulse Growers at (306) 668-5556.

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BASF



SUMMER FIELD DAYS AT A GLANCE

July 9

Canada-Saskatchewan Irrigation
Diversification Centre Field Day
Outlook, SK
Tel. (306) 867-5400

AAFC Annual Field Day
Scott, SK
Tel. (306) 247-2011

July 10

Organic Crop Production Field Day
Scott, SK
Tel. (306)- 247-2011

Wheatland Conservation Area/
AAFC Annual Field Day
Swift Current, SK
Tel. (306)-778-7289

July 16

North East Agricultural Research
Foundation/AAFC Annual Field Day
Melfort, SK
Tel. (306) 878-8807

July 22

IHARF Zero Tillage Field Day
Indian Head, SK
Tel. (306) 695-4248

Saskatchewan Conservation Learning
Centre Field Day
Prince Albert, SK
(306) 953-2796

July 23

SPG/South East Research Farm Pulse Tour
Redvers, SK
Tel. (306) 452-3161 or (306) 668-5556

July 24

SPG/East Central Research Foundation
Pulse Tour
Canora, SK
Tel. (306) 563-5551 or (306) 668-5556

July 29

SaskFlax/Saskatchewan Mustard
Growers Field Day
Saskatoon, SK
Tel. (306) 664-1901

Seager Wheeler Farm Bean and
Pulse Crop Field Day
Rosthern, SK
Tel. (306) 933-5090

2004 Board of Directors Nominations

If you are a registered pulse producer, and would like to be instrumental in building Saskatchewan's pulse industry, fill in the nomination form below. It must be signed by three other registered growers.

Two positions are open for Directors on the Board of the Saskatchewan Pulse Growers. Nominations are being accepted until noon on FRIDAY, OCTOBER 31, 2003.

Responsibilities:

- 10 Board meetings per year (one per month except during harvest and seeding); committee meetings as required
- Average time commitment of board members is 45 days per year
- Terms are for three years, with a maximum of two consecutive full terms

Nomination Form

In accordance with the Saskatchewan Pulse Growers Regulations, I, the undersigned hereby submit my name as a candidate for election to a seat on the Board of Directors of the Saskatchewan Pulse Growers.

First Name

Last Name

Address/Town

Postal Code

E-Mail

Telephone

Fax

Signature

I have grown the following pulse crops:

2002

2003

I nominate the above pulse producer as a candidate for election as a director of the Saskatchewan Pulse Growers.

Name of Registered Producer (signature)

Name of Registered Producer (signature)

Name of Registered Producer (signature)

Name (please print)

Name (please print)

Name (please print)

Telephone

Telephone

Telephone

Fax

Fax

Fax

Please return this form to:

**Saskatchewan Pulse Growers, #310-111 Research Drive, Saskatoon, Saskatchewan, S7N 3R2
Telephone: 306-668-5556 Fax: 306-668-5557**

Note: Only registered producers can hold office, vote, or nominate others. If your dealings with the Saskatchewan Pulse Growers (e.g. levy submission) have been through your company name, rather than your own name, you may have to sign the "Designated Representative Form" which designates you as a representative of the company for election and nomination purposes. Please contact the Saskatchewan Pulse Growers Office at (306) 668-5556 if you think this might apply to you.

For more information about SPG activities, please call: (306) 668-5556
e-mail: pulse@saskpulse.com, or visit our Web site: www.saskpulse.com.

in brief

News from and about Saskatchewan Pulse Growers (SPG).



Industry Continues to Show Support for Pulse Field Lab

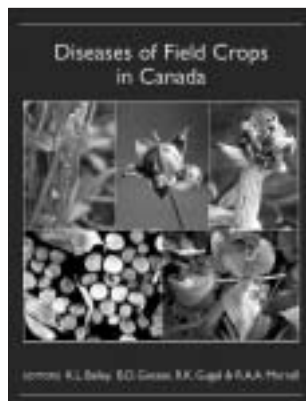
DuPont Canada is the latest to come forward with funding support for the Capital Campaign to raise funds to build a world-class, multi-user Pulse field lab. DuPont has committed \$10,000.00 towards the project. "DuPont Canada supports the pulse industry and recognizes the importance of pulse crops to farmers in Canada" says Stu Rasmussen of DuPont Canada. "We are pleased to contribute to this initiative and assist in moving the project forward."

Pulse pioneer inducted into Sask Ag Hall of Fame

Ron Gaudet of Bellevue, SK, pioneered the production, processing and marketing of pulse crops in Saskatchewan. In 1978, Ron and his sons established Belle Pulses, the province's first pulse processing plant. Ron was a founding director of the Saskatchewan Pulse Growers organization and was instrumental in the development of pulses and pulse processing in Western Canada. He passed away in 1994. Ron's contributions will be recognized by the Saskatchewan Agricultural Hall of Fame at the ceremony in August 2003.

New disease guide available

The Canadian Phytopathological Society has released a brand-new edition of the book *Diseases of Field Crops in Canada*. The book was written by a team of authors from across the country, and is 60% bigger than before and includes 659 color figures to assist in disease diagnosis. It is a comprehensive, illustrated guide to identifying diseases of cereal, oilseed, pulse, forage, and other specialty field



crops. Presented in an easy-to-read style, it describes symptoms, disease cycles, epidemiology, and management. The book will be of special interest to producers, extension agrologists, teachers, students, and plant pathologists.

Diseases of Field Crops in Canada retails for \$35 and is available through the University of Saskatchewan's Extension Press: (306)-966-5565, u.learn@usask.ca, or www.extension.usask.ca/go/uep.

Pulse researcher receives scholarship, award

Barb Stefanyshyn-Cote, of Leask, SK recently won the Saskatchewan Institute of Agrologists' Outstanding Young Agrologist Award, which is presented to under-40 agrologists who have provided outstanding service to the agri-food industry.

Stefanyshyn-Cote recently returned from five weeks of study in the United Kingdom, Europe and Washington, D.C., under the Nuffield Scholarship Program. She is exploring the effects of rural depopulation on society. She plans to complete her scholarship this fall with travels to the Middle East, Asia, Africa and South America.

Stefanyshyn-Cote works with Saskatchewan Pulse Growers, providing information on how pulses fit into livestock rations. Congratulations, Barb!

Pulse Promoter passes away in April

The Saskatchewan pulse industry lost a true leader this spring with the passing of Larry Janzen of Rosthern, SK, to cancer at age 55. Larry was the recipient of the BASF Pulse Promoter Award at Pulse Days in January, in recognition of his outstanding contributions to pulse development, especially with regards to beans. He was also the driving force behind the Seager Wheeler Farm. Our deepest condolences go out to Larry's family.

For more information about SPG activities, please call: (306) 668-5556
e-mail: pulse@saskpulse.com, or visit our Web site: www.saskpulse.com.



PHOTO COURTESY PULSE CANADA

Pulse Canada is learning more about how pulses are used in the traditional foods of Taiwan and Thailand. Shown here, vats of peas in an Asian vermicelli factory.

Pulse Canada at work on tariff reductions, new Asian markets

Pulse Canada has a number of initiatives underway at the moment. Collaborative work has begun with food companies in Thailand and Taiwan to learn more about the uses of pulses in their traditional foods, and maximize opportunities for Canadian pulse crops.

The reduction of the value-added tax (VAT) in China on feed peas is opening the market to Canadian product, and work is ongoing to increase feed peas' profile in that country. Despite SARS, the Canadian Embassy in China is aggressively promoting feed peas.

Pulse Canada is working hard to have similar success in Korea in establishing a separate tariff line for feed peas. This year, a CIGI program is being held for Korean government officials to provide them with an understanding of Canadian feed peas – specifically how Canada distinguishes the difference between food and feed peas.


Competitive intelligence work is underway in Australia, the United States and Myanmar, and a new focus this year is Eastern Europe, which

is emerging as a strong competitor for Canadian pulse crops.

On the home front, Pulse Canada is developing statistical and market report databases which will eventually be accessible to all Canadian pulse producers and exporters on the Pulse Canada website. Work is also continuing on the development of a national food pulse strategy. For more information, contact Pulse Canada in Winnipeg at (204) 925-4455 or office@pulsecanada.com.

New fungicide registered for controlling ascochyta in chickpea

After two years of emergency use registrations, Quadris foliar fungicide has received approval for control of ascochyta in chickpeas. The new Quadris registration also applies to lentils, peas, and dry beans for control of both ascochyta and anthracnose. Growers need to begin scouting at the seedling stage for ascochyta, which is a highly aggressive disease in chickpeas.

For more information, contact a Syngenta product retailer or see www.syngenta.ca. 



Crop Development Centre University of Saskatchewan

Request for Proposals International Pulse Crop Development Distribution

The Crop Development Centre (CDC), University of Saskatchewan is seeking proposals from individuals and/or organizations interested in becoming its agent to distribute pedigreed seed of selected pulse crop varieties outside of Canada. The appointed agent(s) will be responsible for:

- Entering specific pulse crop varieties in appropriate evaluation trials in target market areas.
- Obtaining variety registration as required by regulations in the target market area(s).
- Obtaining protection for the variety under plant variety protection legislation in force in the target market areas.
- Arranging for the multiplication and distribution of pedigreed seed of registered varieties in the target market area(s).
- Marketing registered varieties in a vigorous and professional manner.
- Providing timely activity and sales reports and royalty payments to the CDC as per the terms of a distribution and marketing agreement to be negotiated between the agent and the CDC.

Pulse crop varieties available for distribution outside of Canada and to be included in the distribution and marketing agreement(s) will be determined on an annual basis by the Variety Release Committee of the Saskatchewan Pulse Growers. Varieties released in 2003 and subsequent years will be eligible for inclusion in international distribution agreements.

Proposals may include information of any type that the proponent feels is relevant but all proposals should address the following:

- Corporate profile and history of the proponent organization and a copy of the two most recent annual reports including financial statements. All financial information will be held in strict confidence.
- Evidence of ability to effectively market pulse crop varieties outside of Canada (include established linkages with potential co-operators in target market areas).
- The crop species for which distribution rights are being sought (Field Pea, Lentil, Dry Bean, Chickpea).
- The primary target market area for each crop species included in the proposal.
- The financial package being offered to the CDC (one-time, up-front payments, royalty rates, etc.).
- The proposed length of the distribution and marketing agreement.

The CDC reserves the right to reject any or all of the proposals received and to negotiate terms of an agreement with any proponent.

The CDC is internationally recognized for its pulse crop breeding program. It has well-established, well-funded breeding programs in field pea, lentil, dry bean and chickpea. It is currently renewing its fababeen breeding program.

For further information on the CDC, please refer to: <http://www.usask.ca/agriculture/plantsci/index.html>

Proposals received by 3:00 p.m. CST June 30, 2003 will be considered.

Proposals should be addressed to:
F.A. Holm, PAg.
Director, Crop Development Centre
University of Saskatchewan
51 Campus Drive
Saskatoon, SK
S7N 5A8

Telephone: (306) 966-8195
Facsimile: (306) 966-5015
e-mail: holm@usask.ca

E-mail or facsimile copies of proposals are acceptable provided they are received by the deadline and are followed up by a signed original copy within three (3) working days of the deadline.

Sask Food Centre: Putting Ideas to Work

 **in brief**
**The Food Centre
helps food
processors
realize their
full potential.**

Adding value at the secondary and tertiary levels creates many opportunities in both domestic and export markets. Currently, most processing in Saskatchewan consists of primary processing, including cleaning and bagging. By finding new uses for pulse crops, the Saskatchewan Food Industry Development Centre Inc. (Food Centre) is helping to capitalize on the potential of adding value to pulses.

The Food Centre is available to food processors from all sectors and of all sizes, from budding entrepreneurs who want to test the feasibility of turning a favorite recipe into a marketable product, to medium and large-size existing processors who do not want to interrupt their daily operations to test new product ideas or conduct line extensions.

The Centre can assist processors in gaining market information, development of the product, packaging and labeling, as well as in market penetration. The Food Centre, through partnerships with Saskatchewan Agriculture Food and Rural Revitalization, the Saskatchewan Food Processors Association and the University of Saskatchewan, provides a "one-stop-shop" of services to food processors throughout Saskatchewan, including:

- product development
- interim processing
- quality assurance and control
- training and education
- market and business development services
- technology transfer

The Food Centre has been established for interim processing and consists of a federally inspected commercial kitchen and pilot plant. The pilot plant is also HACCP certified in dairy, processed foods and meat. These facilities provide the equipment needed to process on

a large scale and allow processors to access export markets.

The Food Centre has experience with assisting pulse growers to look beyond and explore the idea of adding value to their products. For example, current pulse clients are David and Vicky Krause of Pulse Wise Foods. After farming in Shaunavon, Saskatchewan for eight years, they sought the assistance of the Food Centre when they decided to value add their current lentil crops. With the assistance of the Saskatchewan Food Processors Association, they investigated and found a niche market to fill. The Food Centre worked closely with David and Vicky in the product development and packaging stages of their business. "With Food Centre's technical support, we were able to develop our product and packaging under the watchful eyes of professionals," says David Krause.

Within a year and a half, Pulse Wise Foods introduced a low fat, low cholesterol, meatless lasagna to the market. It is currently being test marketed in Saskatoon Co-op stores and Shaunavon's grocery outlets in their deli section. The product capitalizes on two trends in today's market: healthy eating and convenience. Currently, Pulse Wise Foods uses the Food Centre's facility to process and package their product for retail. "Our goal is to develop a full line of meatless and convenient products using lentils as the protein choice," says Krause.

The Food Centre can play an important role in bringing an idea to market, and it is a key factor in developing value-added industry in Saskatchewan. 

Carmen Ly is Communications Director with the Saskatchewan Food Centre in Saskatoon. For more information, call (306) 933-7555 or email info@foodcentre.sk.ca


Saskatchewan Food Industry
Development Centre Inc.

Food Centre Facts

- New facility opened September 2001
- Food processing is the fastest-growing sector of Saskatchewan agriculture
- 75% of SK food processors employ under 20 people
- Food processing contributes \$2 billion to the Saskatchewan economy each year



Increased Checkoff Dollars to Target Research

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Phase two of the checkoff increase (from 0.75% to 1.0%) is coming into effect on August 1, 2003. It is important to understand why the Board asked growers for the increase.

Our vision is that Saskatchewan will be the world leader in research, development, production, processing and export of pulses and value-added pulse products by 2010. Research has and will continue to drive our success. A recent Pulse Canada study reported that \$20 million was the annual shortfall in pulse research funding required to grow the industry.

To keep the industry competitive, the Board set a goal of increasing its annual research commitment to \$4 million by 2005 in order to attract \$16 million of public funding. In the winter of 2002, we proposed a checkoff increase to achieve our goal. Growers strongly supported this increase when the Board explained that it wanted to heighten investment in research. We have since secured provincial co-funding for a number of projects and are negotiating a multi-party agreement for advanced chickpea research.

Although the past two years of drought have impacted our checkoff collection, we have increased this year's R&D budget to \$1.66 million, up from \$1 million in 2002. Joelle Harris, Research & Development Manager, explains more about some of the projects we are funding in the article on pages 23-24. A complete listing of projects we are currently funding is available on our website.

Historically, research has been the single largest area of investment of grower dollars. Research will continue to be the Board's highest priority as research is seen as the critical building block in a long-term, viable pulse industry.

Over the next few years, we will be increasing both "production" and "market" types of research investments.



PHOTO COURTESY DR. BERT VANDENBERG

Checkoff dollars will be funding new research projects, such as Dr. Bruce Gossen's work to identify resistance to ascochyta in chickpea.

Production-type investments


Investments that contribute to improved on-farm production and profitability. For example, this would include research into:

- higher-yielding varieties
- improved disease management practices
- improved agronomic practices

Market type investments

Investments that could increase demand for our pulses. These might include:

- breeding for new market classes
- development of new uses for whole pulse or component parts of a pulse
- discovery of a health benefit

We continue to be strong supporters of Pulse Canada's research initiative. Studies are currently underway to review the research into the uses and benefits of both whole and component pulses. Once complete, we will confidently direct our investments to the areas of greatest opportunity. Let's keep the Saskatchewan pulse industry profitable for the long term. 

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