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Hello Saskatchewan pulse producers.

Thank you for re-electing me for a second, three-year term. It is an honour to represent you. I welcome our newly elected Directors Dan Flynn and Vicky Dutton to the Saskatchewan Pulse Growers (SPG) Board. As Chair of this great organization, I look forward to representing pulse producers in Saskatchewan.

Pulse Days 2010 was a huge success. Over nine hundred pulse producers attended the sessions, an indication of the ongoing interest in pulse crops.

More recently, this February we had almost 750 pulse producers attend the Regional Pulse Development Workshops in Swift Current, Moose Jaw, Weyburn, Yorkton and Outlook. We are pleased to continue collaborating with the Saskatchewan Ministry of Agriculture on these successful meetings.

We have started the year off successfully and we want to continue this achievement. The SPG Board has a responsibility to Saskatchewan pulse producers so we will be updating our strategic plan this summer to ensure our goals and objectives will help us achieve our vision of a profitable and sustainable pulse industry. Strategic planning has been part of the SPG Board mandate for a long time. This plan will be a continued road map for the Board and staff to follow. The plan will be based on our goals of increasing demand and production, representing the industry and attracting resources. These goals will be accomplished through our four program areas of Research and Development, Communications, Market Development and Policy.

We want to contribute to the continued growth of the Saskatchewan pulse industry in a profitable and sustainable manner. We have seen two years of very high prices, especially for lentils. We are one of the world leaders in the production of lentils and peas so it is imperative to increase global usage of Saskatchewan grown pulses.

There are two overarching needs in the Saskatchewan pulse industry. One is production and agronomy, which includes variety development, disease management, weed management, maturity, and crop rotations. The other is utilization and market acceptance, which includes visual characteristics, cooking time, processing characteristics and nutritional qualities.

SPG is also making sure the Canadian Grain Commission (CGC) continues to have licensing and security regulations in place to protect growers.

It is also important that pulse producers have timely access to a full range of effective and economical crop protection products that are available to other pulse producing nations to remain competitive.

Transportation is also a high priority with growers, processors and shippers. Pulse Canada is leading the way and is working with a coalition of shippers at the national level to encourage policy changes by the federal government.

Although there will be challenges along with the opportunities, I am confident our Board will continue to face these challenges head on, with the best interests of pulse producers in mind. With the strategic plan we have in place and will be updating this summer, I am confident the industry will continue to grow and prosper.

I wish you all the best this growing season.
In Preparation

The spring issue is focused around getting prepared for a new growing season. As the snow melts away and the seeding decisions are made, pulse producers are gearing up for what looks to be another great season.

This issue gives you information about what the weather forecast will look like this growing season, production tips to ensure you get the best results from your pulse crops, a look at some of the new technology to increase profitability and information on why every farm needs a well thought out marketing plan.

We hope this issue has helped you prepare for the upcoming season. We wish you all the best!

In This Issue

1. Chair’s Message – Climbing the Ladder of Success
2. Don’t be a Fungus Breeder
   Fungus Breeders are people whose poor farming practices promote the development of new disease problems.
3. Celebrity Chefs: Pulse Days
   From our kitchen to yours, celebrity chefs share their favourite pulse recipes.
4. Grower Roundtable on the Upcoming Season
   Four Saskatchewan pulse growers share their plans for the upcoming season.
5. Healthy Hidden Peas
   These students were asked to develop a product using pea protein that could compete with anything on the market.
6. 2010 Seed and Disease Predictions
   Understanding provincial disease surveys and seed-testing averages will help us think about disease trends to watch for this season.
7. Prairies to Encounter a Dry Start to Spring
   There should not be any dominating ridges of high pressure this summer, allowing a good mix of weather to support crops.
8. Pulse Canada Update: Mission to China
   China is Canada’s third largest market by volume with over 350,000 tonnes of pulse imports last year.
9. Pulse Days 2010 Overview
10. Management Practices to Maximize Return
   The pulse production recipe is never finalized and practices change every year.
11. 2010 Seed and Disease Predictions
    Understanding provincial disease surveys and seed-testing averages will help us think about disease trends to watch for this season.
12. Prairies to Encounter a Dry Start to Spring
    There should not be any dominating ridges of high pressure this summer, allowing a good mix of weather to support crops.
13. Pulse Canada Update: Mission to China
    China is Canada’s third largest market by volume with over 350,000 tonnes of pulse imports last year.
14. Pulse Days 2010 Overview
15. Management Practices to Maximize Return
    The pulse production recipe is never finalized and practices change every year.
16. International Distribution and Sales of CDC Pulse Varieties
    The CDC has license agreements in place for international distribution of pulses.
17. Production Tips from the Experts/Variety Description Table
    Breeders at the CDC have provided production tips to help you this season.
18. Working for You/Your Check-off Dollars at Work
    Research funding will help develop prototypes for snack foods and breakfast cereals with pea starch and flours.
19. The Business of Farming
    New precision farming technology can help pulse producers become more profitable.
20. Production Contracts: Things to Watch For
    There are some things to watch out for when a contract is offered.
21. Market Muse – Every Farm Needs a Marketing Plan
    Producers should have a well thought out marketing plan for the year.
22. On Point
23. Closing Thoughts – Seven Million Tonnes by 2030
   For more information please visit www.saskpulse.com
Don’t be a Fungus Breeder

by Robin Morrall

In the last issue of PulsePoint, Dr. Bert Vandenberg mentioned “fungus breeders,” people whose poor farming practices promote the development of new disease problems in crops. Farmers who grow lentil on lentil stubble are examples of fungus breeders. They may do this for economic reasons, but unfortunately doing so ignores potential consequences for the lentil industry.

Crop rotation is the most generally applicable measure to control plant disease. The idea is that by rotating a field to different crops for several years, there is a break when plant disease organisms in stubble or in the soil will die out before the same crop is planted again. Ascochyta blight and anthracnose of lentil are excellent examples of diseases where crop rotation is a crucial control method.

Lentil growers may ask: “why bother about crop rotation when we have ascochyta resistant varieties?” We have come a long way since Eston and Laird. In the last 15 to 20 years a tremendously successful breeding program at the Crop Development Centre has given us good ascochyta resistance in all market classes. It would be fair to say that ascochyta is disappearing from the lentil radar screen.

However, we should never ignore the need to rotate crops. The trouble is fungi-like ascochyta also develop new gene arrays through natural mutation and recombination. Genetic changes like this can produce new ascochyta strains that overcome the resistance genes carefully bred into lentil plants. In other words, the new lentil variety will no longer be resistant to the new strains of ascochyta.

Natural genetic changes in fungi can happen anywhere and anytime and not just in fields with no rotation. However, if a new strain of ascochyta appears in a field, it needs food to survive and spread, and lentil plants are food to ascochyta. If no lentil is grown in that field for several years because crops are being rotated, there is a good chance that the new strain will die by starvation. On the other hand, if lentil is recropped the next year, it provides the fungus with abundant food. In turn, this allows the ascochyta strain to reproduce, increase its population, and perhaps to spread around the country. Remember that ascochyta has multiple reproductive cycles per year. Every time reproduction occurs, the population increases and mutation and recombination rates in the population remain constant. Thus, as ascochyta increases in a field, the more opportunities there are for genetic changes that are unfavorable (to lentil plants and to us!)

Therefore, farmers who grow lentil on lentil stubble are potential fungus breeders because they may speed up the loss of ascochyta resistance in our lentil varieties. This will damage the whole lentil industry and not just the farmer’s crop.

When someone does something irresponsible that damages their own crop, it is hard to feel sorry for them. It is like carelessly shooting yourself in the foot. But, if the irresponsible act jeopardizes everyone else’s crop too, it is more like declaring yourself a public enemy.

How do we know that the fungus breeders are out there? Data collected in December from three Saskatchewan seed testing laboratories show that 91 per cent of over 600 lentil samples from 2009 were ascochyta-free. However, 10 of the samples had a mean of 11.7 per cent that originated in two adjacent RMs in Crop District 3BN and most were ascochyta resistant varieties like CDC Sovereign or CDC Grandora. Why are these samples so different from the norm? I am guessing that they were from lentil crops grown on lentil stubble.

My message to these fungus breeders: please quit trying to shoot Bert Vandenberg in the foot and ruin his breeding program.

bio

Robin Morrall is a Professor Emeritus at the University of Saskatchewan in Saskatoon, Saskatchewan.
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Celebrity Chefs – Pulse Days Speakers

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

In this issue we are featuring recipes from a few of our Pulse Days 2010 speakers. For those that joined us this year at Pulse Days, we heard about the nutrient contribution of pulses in a rotation from Dr. Jeff Schoenau, a University of Saskatchewan Research Professor who shares with us his Bean Salad recipe. We also have a great Masala Dal recipe from our keynote speaker Dr. Bruce Scherr. Trying different Indian foods at home is a great way to mix new flavours into your meals. Finally, from our Market Outlook Session Moderator Kevin Hursh, we have a Lentil Chowder recipe, a healthy twist to a traditional soup recipe.

Want more pulse recipes? Contact us at pulse@saskpulse.com or 306-668-0350 to receive a FREE copy of our new recipe booklet.

Happy Cooking!

In brief

From our kitchen to yours, Celebrity Chefs share their favourite pulse recipes.

Tasty Recipes

Bean Salad
by Jeff Schoenau

2 cups (500 mL) fresh or frozen cut green beans
2 cups (500 mL) fresh or frozen cut yellow beans
1 19 oz. can (540 mL) drained, rinsed kidney beans
1 19 oz. can (540 mL) drained, rinsed chickpeas
1 cup (250 mL) diced red onion
1 cup (250 mL) diced red or yellow bell pepper

Dressing:
½ cup (125 mL) white sugar (have used Splenda as an alternative)
½ cup (125 mL) white vinegar
½ cup (125 mL) canola oil
Dash of Worcestershire sauce
½ tsp. (2 mL) salt
2 tbsp. (30 mL) dijon mustard
1 ½ tsp. (7 mL) dry basil

Toss all ingredients together in a bowl. Mix dressing ingredients and toss into salad.

Comments: This is a family favourite that originates from my wife Lynne’s side of the family, usually made with beans from our garden. It is a great salad, nice and cool for hot August days when we are combining peas!

Masala Dal
by Bruce Scherr

½ cup (125 mL) grated coconut
1 medium onion, sliced
1 cup (250 mL) split red lentils
2 cups (500 mL) water
3 green chillies, chopped
½ tsp. (2 mL) turmeric powder
2 tomatoes, chopped
Salt to taste
1 tsp. (15 mL) oil
1 tsp. (5 mL) mustard seeds
1 tsp. (5 mL) cumin seed
1 tbsp. (15 mL) chopped coriander leaves

Grind the grated coconut with a little water to a smooth paste in a blender and keep aside. Fry the sliced onions until golden brown. Remove and keep aside. Combine lentils and water and cook for approximately 15 minutes or until soft. Add the green chillies, turmeric powder, tomatoes, and salt. Cook for three minutes. Add the coconut paste and mix thoroughly. Cook for a minute and remove from heat. Heat the oil in a pan, add the mustard seeds, and when they crackle, add the cumin seeds. Fry for a few seconds over low heat. Pour over the lentil mixture. Serve hot, garnished with the fried onions and chopped coriander leaves.

Comments: We love Indian dishes and it is a great way for my family to add more pulses to our meals.

Lentil Chowder
by Kevin Hursh

4 slices bacon, chopped
1 cup (250 mL) onion, chopped
1 cup (250 mL) celery, chopped
2 tbsp. (30 mL) canola oil
1 28 oz. (796 mL) canned tomatoes
2 cups (500 mL) raw potatoes, diced
2 tsp. (10 mL) salt
¼ tsp. (1 mL) oregano
Pepper to taste

In a large pot, sauté bacon, onion and celery in canola oil. Add washed lentils, water, canned tomatoes, potatoes, salt oregano and pepper. Cook for 45 to 60 minutes. Serves 8.

Comments: Marlene and I have adapted this from a recipe in the 1984 Saskatchewan Pulse Growers cookbook, The Amazing Legume. Sometimes we substitute ham for bacon. The chowder goes great with fresh bread or buns.
Grower Roundtable on the Upcoming Season

As the good and bad, the ups and downs of 2009 fade into history, four Saskatchewan pulse growers took a little time to look ahead into 2010. Glen Annand from Mossbank; Dan Flynn from Beechy; Rob Minogue from Lacadena; and Dean Corbett from Macrorie answered questions on prices, potential lentil overproduction, rotation plans, technology use, pests, diseases and wishes for the 2010 growing season.

*PulsePoint: What do you expect in the coming year for pulse prices?*

**Dean Corbett:** I expect prices to remain pretty strong. We had a fair amount of new acres going into lentils this year and prices stayed high. A lot of it as usual will depend on production in the Middle East and India.

**Dan Flynn:** I think we’re going to see prices down just because of the supply that will be seeded. I think our days of thirty plus cents might be over for the short term. I think the price will be in the mid twenties.

**Rob Minogue:** I’m not sure what’s going to happen. A lot will depend on the weather. (Prices will be) middle of the road, probably.

*PulsePoint: Do you think overproduction will be a concern in lentils this year?*

**Glenn Annand:** We certainly could face some oversupply. It really depends a lot on the weather. I just have the sense that a lot of guy’s rotations don’t allow them to increase their lentil acreages dramatically to chase the prices that we have now. I think most farmers are savvy enough to know that if we all chase the prices, then it’s going to mean a drastic drop in prices.

**Dan Flynn:** I think so. I sure hope I’m wrong but I think this year we’re going to see lentils being pushed out in the fringe areas north of Saskatoon and east of Saskatoon where we’ve never seen lentils before. In the
southwest part of the province, I think we’re going to see the continued push of tight rotations where it would be durum, lentil, durum, and lentil. There will be some lentils on lentils as much as that scares me as far as disease and herbicide resistance problems are concerned. In the last year, the low PRO on wheat and durum is doing just as much as the high price of lentils to cause increased acres.

**PulsePoint: What is your rotation/seeding plan for this year and why?**

**Rob Minogue:** We’re going to stick with general ratios we’ve used in the past that have been good to us. I don’t have any strict ratios but I grow a lot of durum, canola, and lentils.

**Glenn Annand:** Half of our land base will be in pulse crops every year. We have put canola in some years but haven’t been really successful with it. Generally, about half of that acreage will be in peas and then 25 per cent in lentils and 25 per cent in chickpeas.

**Dan Flynn:** The way it’s working out will be about 60 per cent pulse crops this year - about half my acreage in red lentils and doing a little bit of yellow peas and the balance will be durum wheat. With the PRO on durum, I’m more leveraged toward pulses than Board grains, that’s for sure.

**PulsePoint: What is your rotation/seeding plan for this year and why?**

**Rob Minogue:** We have autosteer on pretty much everything. We have all our accounting and records computerized and we take yield maps off the fields.

**Glenn Annand:** We use a lot for farm management software, emailing etc. all the information technology stuff. We also have had GPS on our tractors for probably five years now.

**PulsePoint: What issues do you see this year that could affect your business?**

**Rob Minogue:** I think just the general plunge in prices right across the board. Three years ago durum was $12.50, last year it was $8.50 and now it’s $4.00. Right now pulses are in record highs, but I think it will follow the rest - it has to.

**Dean Corbett:** The two issues I would be concerned with would be the overall health of the United States economy and also the political stabilities in the areas where we sell our products.

**PulsePoint: Do you have any concerns with specific pests or diseases on pulse crops this coming season?**

**Dean Corbett:** I would say number one would probably be grasshoppers. We did see some disease issues last year, however with the new varieties and their improved standability, disease was not as prevalent as in the past.

**Dan Flynn:** I am a little concerned about the grasshopper population. I’ve pencilled that into my budget for this year already and if I don’t have to spray, that’s a bonus.

**Rob Minogue:** Personally no. It does concern me that guys are going to be pushing the rotations, speeding up the disease cycles.

**PulsePoint: If you had one wish for the upcoming growing season what would it be?**

**Dan Flynn:** I’m just going to say moisture, timely moisture.

**Rob Minogue:** I’d like to know what’s going to happen ahead of time.

**Glenn Annand:** You always hope for a good yield and good prices but we know that doesn’t always go together.

Shirley Byers is a freelance writer based out of Kelvington, Saskatchewan.
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Healthy Hidden Peas

by Amy Jo Ehman

Read the fine print and it says “peas,” but no picky eater would turn down this item at the dinner table. It is chunky chocolate fudge ice cream fortified with probiotics and healthy pea protein.

This yummy confection was created for a class project by two University of Saskatchewan (U of S) students. Their assignment: to develop a product using pea protein that could compete with anything on the market.

Last year it won the Pulse Canada provincial product development competition, earning the right to compete in the national competition in Winnipeg, where it placed third.

“The chunky chocolate fudge ice cream was quite good. It was really well received in taste tests,” says Professor Mike Nickerson of the College of Agriculture and Bioresources at the U of S, who created the pea protein challenge for his students.

Another team of students in Nickerson’s class created the Prairie Blenda Berry frozen smoothie, incorporating peas in two ways. Pea protein was added for its nutritional value. Then, to reduce the milk content while maintaining the smooth texture, the drink was blended with silky tofu made from peas rather than from soy beans.

A third team of students created a healthier candy called Mega Heart Gummies in four fruit flavours, fortified with omega-3 flaxseed oil and pea protein. Pea protein was used to encapsulate the flaxseed oil in a technology called micro-encapsulation.

“These capsules are basically a protein shell that protects the active ingredient held inside, in this case, omega-3 flaxseed oil,” explains Nickerson. “These capsules are no bigger than a grain of salt.”

The same technology is used to encapsulate flaxseed oil in omega-3 fortified milk (which would otherwise separate) and to insert probiotics into yogurt (to protect them from the yogurt’s acidic environment).

Two common encapsulation materials are soy protein and gelatin, an animal product. Nickerson says pea protein has advantages over both.

“There are a lot of religious and dietary reasons why groups of consumers choose not to eat animal products, so plant-based capsules are a good alternative.

“The soy is genetically modified while the pea is not, which is a big advantage in the European marketplace. Pea protein has a lot of potential because of that fact.” He says pea protein is also less expensive.

One disadvantage is the distinct taste of pea protein, which some find hard to swallow. For that reason, students matched it with products that had a stronger, more likeable flavour, such as the chocolate fudge ice cream and citrusy gummy candies.

However, it could take some time to win over food manufacturers.

“It’s really about convincing food manufacturers that you can make these products and consumers will like them,” says Nickerson. “They need proof of that before they take on new ingredients.”

Nickerson is grateful to Pulse Canada for taking an interest in the product development class, and to Parrheim Foods and Nutri-Pea Ltd. for the raw ingredients. He is already planning to work with Pulse Canada for the next product development challenge in 2011 - Mission ImPULSEible, which will take place in Saskatoon this July as part of the Canadian Special Crops Association Conference. For more information about this year’s contest, please visit our website at www.saskpulse.com.

Amy Jo Ehman is a freelance writer in Saskatoon, Saskatchewan with a particular interest in locally grown foods. Her first book, Prairie Feast: A Writer’s Journey Home for Dinner, comes out in May. She blogs at www.HomeForDinner.blogspot.com.
2010 Seed and Disease Predictions

by Faye Dokken-Bouchard

As always, this year’s disease forecast will depend on the factor that is most difficult to predict – the weather. However, an understanding of provincial disease surveys and seed-testing averages will help us think about disease trends to watch for this season. Provincial averages can be useful, but growing conditions, crop rotation, disease records, and seed test health reports should be reviewed for each field when making plans for 2010.

Seed Quality

Plant pathologist Robin Morrall reports that seed-borne pulse disease levels are low (preliminary results from a provincial survey of seed-testing labs available online at http://www.cps-scp.ca/cpds.shtml). Pea seed from the 2009 season had a provincial average of 3.4 per cent seed-borne ascochyta infection with 17 per cent disease-free samples. Lentil seed had an average 0.3 per cent seed-borne ascochyta infection and 91 per cent ascochyta-free samples, and 0.6 per cent *Botrytis* or *Sclerotinia* infection with 52 per cent of samples free of these diseases. Seed analyst Shanna Stolhandske-Dale, reports similar results with fairly clean lentils and peas received from most areas. However, both Morrall and Stolhandske-Dale report pockets of ascochyta including higher levels of *Ascochyta pisi* on peas in some southern regions. This corresponds to previous seed testing surveys, as well as the 2009 pea-disease survey conducted by the Saskatchewan Ministry of Agriculture, Crop Development Centre, and Agriculture and Agri-Food Canada.

What is Ascochyta pisi?

Most pea growers are familiar with mycosphaerella blight caused by *Mycosphaerella pinodes*; but did you know this is only one component of a disease complex that also includes *Ascochyta pisi* (ascochyta leaf and pod spot) and *Phoma medicaginis* var. *pinodella* (ascochyta foot rot)? Symptoms of ascochyta leaf and pod spot are different than mycosphaerella blight. However, they can be difficult to distinguish because they often occur simultaneously. In the 2009 pea-disease survey, ascochyta leaf and pod spot was most prevalent in the southwest with symptoms observed in 44...
per cent of pea crops surveyed in that region, compared to a 13 per cent provincial average. It is possible that regional differences are due to environmental conditions or varieties grown. However, more research is needed to determine what is really going on. While this may be a “new” disease issue to many growers, it is interesting to note that prior to 1961, A. pisi was the most prevalent causal agent of ascochyta infections in Western Canada. After the release of an A. pisi resistant cultivar (Century) in 1961, M. pinodes became the dominant pathogen in the complex.

2009 Pea Disease Survey
Not surprisingly, mycosphaerella blight was the most prevalent disease observed on peas in 2009. Symptoms were found in the upper canopy of 82 per cent of the crops surveyed with severity ranging from trace to moderate, and in the lower canopy of 95 per cent of crops surveyed with severity ranging from trace to severe.

Downy mildew (Peronospora viciae) was also found in 30 per cent of pea crops surveyed in 2009. Surveyors even observed systemically infected plants (stunted, malformed, covered with mildew) in five of the diseased crops. Downy mildew is common in central Alberta, and incidence can be attributed to below-normal temperatures and frequent rain showers. Spores can persist for more than 10 years in soil, subjecting future pea crops to this disease under wet conditions.

Lentils, Lentils, and more Lentils
Even if the seed-borne disease levels are low and conditions have not been favourable for disease, it is not recommended to grow lentils more than once every three years in a crop rotation. We cannot predict the weather, but we do know what will happen if (and when) we get a year favourable for disease under tight lentil rotations.

We have seen the occasional appearance of stemphylium blight of lentil in recent years, and 2009 was no exception. Stemphylium is common in soil and feeds on crop residue, but under the right conditions, it will behave as a pathogen on a wide range of crops (S. botryosum is considered to be the cause of lentil infections). Wind-blown and rain-splashed spores from crop debris initiate infections, causing light-beige lesions on the leaves/leaflets. Eventually, smaller lesions coalesce to produce larger, irregularly shaped lesions that can kill entire leaflets and branches, often apparent at the top of the canopy. Although this disease appears to be increasing, we still do not know if it is causing significant yield losses, or simply occurring at a time when leaf-drop encourages the crop to dry down for harvest.

Interpreting Seed Testing Results
There are thresholds for seed-borne disease levels that will help you determine whether the seed can be used and under what circumstances a seed treatment should be considered. To interpret your seed-testing results, talk to your seed analyst, agronomist, or local Ministry of Agriculture Regional Crop Specialist. Visit www.agriculture.gov.sk.ca and search “seed-borne diseases,” or contact the Agriculture Knowledge Centre at 1-866-457-2377.
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Prairies to Encounter a Dry Start To Spring

by Drew Lerner

Restricted winter precipitation across the Prairies this year and limited snow water equivalency in western portions of the region have raised the level of concern over spring planting moisture. The concern stems back (in part) to a poor soil moisture profile and low water supply situation in the western Prairies during much of 2009. The domination of El Nino during spring 2010 will further limit precipitation and offer some warmer than usual temperatures to heighten the level of concern for the western Prairies.

Prairie weather this winter has been dominated by El Nino and something called the negative phase of Arctic Oscillation (AO). Both of these patterns promote ridge building aloft over Western Canada, which suppresses precipitation in the western Prairies and Peace River Region.

El Nino developed in Western Canada last spring and summer, creating the dominance of high pressure over the region and restricting rainfall. Last year’s El Nino was just weak enough to allow some timely rain to evolve, but in the spring it created some serious dryness.

This year’s precipitation biases have not been quite as significant as last year in most areas, but there are quite a few locations in the western Prairies that remain notably drier than usual.

Planting moisture this spring in the western Prairies will be more dependent on snow melt than usual because El Nino will still be around and in control of western Canadian precipitation. That implies a ridge of high pressure will be dominating, making early spring precipitation difficult to generate in a substantial manner. Planting moisture will rely on melting snow and if the snow melt occurs too early because of El Nino’s warmth, the moisture resulting from melt down will be lost to evaporation and runoff before planting can begin. This scenario might result in a significant reduction in planting moisture and possible delays to fieldwork, along with poor early plant emergence and establishment.

There should not be any dominating ridges of high pressure this summer, allowing a good mix of weather to support crops.
There was a time in late January in which snow cover disappeared in southwestern Alberta and portions of southwestern Saskatchewan. The snow returned for a while, but it is liable to disappear again in the coming weeks.

Today’s snow water equivalent is not bad, but it could be much better. The low on farm water supply situation in the western Prairies, limited snowfall, and El Nino will combine to spell trouble for early season planting and crop development. A little further to the east, the remainder of the Prairies will likely be in a better position to experience some timely rainfall and spring snow melt should be greater than that to the west.

A little later in the spring, weather patterns will change. El Nino will weaken, but a prevailing long term weather pattern producing a northwesterly flow of air may continue at times. Some improvement to soil moisture is likely to happen in southwestern Saskatchewan and southern Alberta, but west-central Saskatchewan and east-central Alberta, along with the Peace River Region may not see a big improvement in precipitation for a little while longer, leaving dryness in the soil and prolonging a potential delay in planting and early crop development. Eastern portions of the Prairies will begin seeing more frequent precipitation events, but no excessive moisture.

The planting outlook for eastern and most of southern Saskatchewan and Manitoba looks favourable for 2010. The excessive moisture situation of 2009 might try to return, but the warmer bias from El Nino may help to melt snow and raise evaporation rates enough to prevent extended periods of surplus moisture. However, substantial snow in the United States northeastern Plains and Red River Basin may create spring flooding that will work its way northward again, reaching into Manitoba during the early weeks of spring.

Spring and summer this year will bring an evolution in weather patterns so that dryness in the western Prairies gradually decreases. The process of restoring favourable moisture will be slow and it may take a few weeks for the driest areas to get sufficient moisture to end worry over production potential. The stronger El Nino remains in the spring, the more likely dryness will have a negative impact on production.

Most of the southern and eastern Prairies will be moist from the start of spring, but a wetter weather pattern in May and June could slow fieldwork at times. Summer temperatures will likely be a little cooler than usual at times, but perhaps not as persistently cold as those of last year. With that said, there may still be some below average degree-day accumulations. A little better mix of weather this summer should promote faster crop development than last year, but it will not be a warmer than usual summer – just warmer than last year.

Overall, the first look at 2010 crop weather suggests a tough start in the west, but favourable conditions in the south and east. Coolness might be an issue, but it should not be as significant as last year. Degree day accumulations will be important and a close monitoring of that will be required. There should not be any dominating ridges of high pressure this summer, allowing a good mix of weather to support crops. The key will be getting timely rain in the west.

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Drew Lerner is the President of World Weather Inc. based out of Kansas City, Missouri.
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Mission to China

by Carl Potts

China is one of Canada’s largest markets for pulses. China ranks fifth overall with an estimated $112 million of Canadian pulse imports in 2009 and is Canada’s third largest market by volume with over 350,000 tonnes of pulse imports from Canada last year. Yellow peas are China’s largest Canadian pulse import, making up about 85 per cent of the total volume. Green peas and split peas account for most of the remaining volume, although small volumes of Canadian lentils are also exported to China.

Growth in Canadian pulse exports to China have been strong over the past number of years (see Figure 1). The majority of the current trade in yellow peas is used in the production of vermicelli (glass noodles) in the northeast province of Shandong. China is an ingredient market for yellow peas, competing on more than just price with substitutable products. Yellow peas are an effective alternative to higher-priced green mung beans for the production of vermicelli and it is the functionality (color, elasticity, texture, etc.) of the pea starch that makes it preferred over most other starch sources such as potato, corn, wheat and others. This substitution effect has been one of the key drivers of increased Canadian yellow pea exports to China in recent years. Peas are also used in smaller quantities in snack foods, flours, and other uses.

Canada’s market share of China’s yellow pea imports is over 95 per cent. While the Canadian industry’s presence in China is strong, we continually seek to maintain and enhance market demand for Canadian pulses in key markets such as China. Pulse Canada traveled to China in November 2009 to explore new utilization opportunities for Canadian pulses. The group met with existing customers to discuss Canadian product performance and to press for resolution to a market access issue relating to China’s maximum limit for selenium in imported food.

Pulse Canada Vice Chair David Nobbs, former Saskatchewan Pulse Growers (SPG) Chair Maurice Berry and Rachel Kehrig, SPG Communications Specialist participated in the trip, along with University
of Saskatchewan pea breeder Tom Warkentin and representatives from Alberta Pulse Growers.

**Existing Customers Know Canadian Pulses Well**

Existing users of Canadian pulses provided feedback on current uses. Vermicelli manufacturers expressed overall satisfaction with the performance of Canadian yellow peas in vermicelli production and were interested in work that Pulse Canada is undertaking to help enhance the value of the pea protein by-products in the starch extraction process. This work is focused on improving the pea protein drying process to reduce amino acid damage and maintain the valuable amino acid profile inherent in pea protein. Processors are also working to increase the protein content of pea protein products.

Processors were interested in Pulse Canada’s efforts to develop demand for pea protein products, which was once a waste product, moving the product up to increasingly higher value applications such as pet food and aquaculture. Declining availability and increasing prices of fishmeal supplies, which is a major component of aquafeed, are driving interest in alternative plant-based protein sources.

These efforts to enhance the value of the pea protein fraction will increase the value of the yellow pea to starch processors and make it less likely that companies will switch from peas to other sources of starch. Some of the quality issues vermicelli manufacturers were having in previous years appear to have subsided. Significant efforts in previous years to ensure Chinese importers and users specify the exact quality they require has been effective in ensuring customers receive what they are expecting.

Importers of peas for other uses such as snack foods indicated that China’s maximum limit for selenium in imported pulses should be resolved soon, thereby eliminating the market access risk for exporters and importers. Meetings held with China’s Ministry of Health confirmed that China is currently reviewing its standard and the process is nearing completion.

**New Opportunities in China**

One of the key meetings was with the China Cereals and Oils Association (CCOA), a scientific and technical organization in China. This association and affiliated groups have undertaken a significant amount of utilization research on pulses and see a huge market potential for increased pulse utilization in China. Increasing demand for health products, rising per capita incomes and societal health problems such as diabetes, cardiovascular disease and obesity, which were reported to affect 200 million people in China, have Chinese companies and research institutions excited about increased pulse utilization in processed food applications.

Staple Chinese foods such as noodles, steamed breads and dumplings could hold the greatest potential for large increases in pulse utilization in China. Total flour demand in China is estimated at 60 million tonnes per year and total commercial demand is pegged at 30 million tonnes. Of that amount, 35 per cent goes into noodle production, 30 per cent into steamed breads and 8 per cent into dumplings. Even capturing a small slice of flour demand for these products from companies interested in marketing healthier products by using pulse flours could translate into significant incremental demand from the world’s largest pulse supplier – Canada. There is also interest in exploring the possibility to increase...
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use of pulses in beverages, candies and liquors. With some utilization breakthroughs in these areas, total import demand could be increased by more than 1.5 million tonnes, up from approximately 350,000 tonnes at present.

Pulse Canada is already working to position growers and the trade to capitalize on these opportunities. Pulse Canada is working with Chinese partners, along with Canadian and Chinese pulse utilization scientists to identify the technical utilization work needed to increase the amount of pulses used in food products in China.

The partners in China have close linkages with food manufacturing companies and, in some cases, Pulse Canada will expand the input from companies manufacturing food products and driving innovation in the food industry in China. The research and development plan resulting from this process would then be presented to research funders in Canada and China who would determine which projects they are interested in funding to expand the use of Canadian pulses in China.

This work has strong links with work that has already been done in Canada. Key new initiatives are being pursued to better understand how to optimize pulse milling. Any additional market development work in China would leverage the investments already made in pulse nutrition and utilization research. A better understanding of how products such as pulse flours can be optimized for use in end-use applications of greatest interest to China’s food industry is needed. Stay tuned for more on these exciting opportunities in some of Canada’s most important markets.

Carl Potts is Director of Market Development with Pulse Canada and can be reached at (204) 925-3786 or cpotts@pulsecanada.com.

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Participants were treated to a number of pulse foods, snacks, and desserts.

Tim Marshall from STEP was honored as this year’s BASF Pulse Promoter of the Year for his contributions to the pulse industry in international trade. Mark Kuchuran presented the award on behalf of BASF Canada.

It was a crowded house at Prairieland Park where growers could also take in the Western Canadian Crop Production Show. Just over 900 people attended Pulse Days this year.
Management Practices to Maximize Return

by Barry Rapp

Pulses have been grown in Saskatchewan for many years, yet production practices continue to evolve as new varieties and classes are introduced, field management systems change (direct seeding), new production tools become available (herbicides, fungicides), new pests surface, crop acres and rotations change and the list goes on.

The learning never stops and the “production recipe” is never finalized. There is never only one right way to produce a crop and the best production practices can change from one year to the next and even between fields in the same year. The challenge is to identify production practices that give the best chance of harvesting a good yielding, high quality crop.

Pre-harvest application of glyphosate the year prior to seeding pulses (usually a cereal) has become a regular practice. Perennial weeds, especially thistles, can increase in density quickly in pulse rotations. Pre-harvest glyphosate remains a very effective tool in the battle against thistles. Another perennial to monitor closely is dandelion. If populations start to build, increase the rate of pre-seed glyphosate. In the rotation, when crop choice allows, pre-seed application of products like Express/glyphosate and PrePass provide added benefit for dandelion control.

The pulse production year almost always starts with pre-seed glyphosate. Given limited in-crop herbicide options, missing an opportunity to control any weed early can be costly. Research has documented large yield benefits from early weed removal in pulses. Pre-seed glyphosate is the first step.

Pulses are usually the first to be seeded. Applying seed treatment to pulse seed is common for a couple reasons. First, with increasing acreage devoted to pulses each year, disease pressure can be high. Second, with early seeding into soils that are often wet and cool, seed can sit in the soil for some time prior to emergence.

Seeding rates for pulses are well established. There has been a trend to increased seeding rates for the smaller lentil varieties with a one bushel per acre seeding rate becoming common. The three bushel seeding rate for pea is accepted as desirable for larger seeded varieties, while chickpea seeding rates are kept close to those recommended due to higher seed cost.

There is a mix of inoculant types commonly used. Liquid remains popular due to its ease of application. Peat based inoculants are the most common, while granular offers the advantage of saving time and eliminates the often frustrating job of applying inoculant...
at the proper rate and with good coverage prior to seeding. Regardless of the inoculants, the important thing is do it right. Although pulse crops may have been grown a few times in the same field, there is no point in seeding without an inoculant.

Debate also continues on the value of starter nitrogen (N) for pulses and the likelihood of a response to fertilizer phosphorus applied in the year of seeding. Most pulse acres are seeded without starter nitrogen. The exception may be in the Brown and Dark Brown soil zones where some growers have observed a small yield boost and easier harvest (taller plant) when applying starter N, with smaller lentil varieties.

When it comes to phosphorus management, growers are aware of the research documenting few and usually small responses to fertilizer applied in the year of seeding. However, given the role phosphorus plays in maturity and nodulation and subsequent yield, there is risk in eliminating phosphorus fertilizer. Even 15 pounds as a minimum should take care of most deficiencies.

Weed control, especially broadleaf weeds, continues to be a challenge due to limited herbicide options and crop tolerance issues. This is especially true for lentil and chickpea. The option to apply Odyssey (and related chemistry) has been a welcome addition with the introduction of Clearfield® lentils, much like it was for pea many years ago. However, it still has limitations in fields with herbicide resistant weeds. Early weed removal adds yield and reduces crop stress when using Sencor in lentil or chickpea and Odyssey in pea. In Clearfield® lentils, the crop is more tolerant to Odyssey at more advanced stages. If the weeds are there early, do not wait.

Significant yield can be lost.

If group 2 resistant kochia is present, it is arguably the number one weed problem. The Clearfield® production system for lentils offers no advantage when dealing with group 2 resistant kochia. The same is true for Odyssey and related products in pea. Edge use continues to increase in an effort to provide some degree of control of the resistant kochia. Fall application, although a bit more costly, usually results in better weed control. Surface application can result in variable weed control from field to field and year to year but growers use the product in an attempt to do what they can to control kochia. Newer herbicide options like Viper and Authority may provide some alternatives in the battle against this weed.

Herbicide options for control of wild oat and volunteer cereal in pulses is much better than for broadleaf weeds. There are reasonably priced herbicides for control of these grassy weeds. In fields where group 1 resistant wild oat is present, the Clearfield® system offers a group 2 alternative.

Insect pests must be monitored in lentil and pea. Grasshoppers and pea aphids are the two insects to watch for in lentil. The threshold of two grasshoppers per square meter in lentil is well worth remembering. In pea, you will want to be familiar with thresholds of both pea weevil and pea aphid.

Disease management in pulse crops starts with rotation. Rotations including the same pulse crop more than once in four years will almost always have higher disease. It is almost impossible to produce a chickpea crop without fungicides. Lentil crops, in areas where it is commonly grown, often benefit from a fungicide application mainly due to anthracnose. Field pea, in areas and years where ascochyta is more prevalent, will also benefit from a fungicide application.

When the economics of producing a pulse crop are favorable, it is tempting to shorten rotations. Maybe even to the point of planting the same pulse two years in a row. This is the situation facing lentil growers in 2010. Be aware of the potential consequences of shortening rotations, creating a favorable environment for disease organisms.

Harvest management may involve swathing, straight cutting following natural dry down, or straight cutting following chemical desiccation. Each has its own advantages. Swathing saves the cost of the desiccant and results in top quality seed if weathering is not an issue.

Desiccation usually puts the crop in the bin sooner with less labour and machinery requirements. Desiccation is common for lentil, especially in years when crop value is high. When using a desiccant, do not cheat on rate, water volume, or time of day. Once the crop has reached maturity and is only days from the bin, it makes sense to do things right.

Pulses are, and will continue to be an integral part of crop rotations throughout Western Canada. Production practices continue to be refined as field experience is gained, new research is completed and field management systems evolve. There is no one right way to produce a pulse crop. But, by following proven production practices, anticipating new challenges, and paying attention to detail, the value of that pulse crop in rotation will remain high.

Barry Rapp, PAg is an Agronomy and Seed Manager with Crop Production Services Canada (CPS), based out of Regina, Saskatchewan.
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The Saskatchewan Pulse Growers (SPG) and the Crop Development Centre (CDC) have a strong relationship and have worked together to build and maintain Saskatchewan’s pulse industry. The CDC pulse breeding and pathology team has released 79 varieties to the Saskatchewan pulse industry to date. The breeding objectives of the program have largely focused on agronomic improvement for Saskatchewan growing conditions (yield, maturity, lodging resistance, shatter resistance, bleach resistance and so on), and on physical quality improvements (seed colour, size, shape, cooking quality and so on).

One of the conditions of funding from SPG to the CDC is that most varieties are released to SPG for commercialization through the Variety Release Program (VRP). This model is unique in Canada. Most varieties from other public sector breeding programs are released to seed companies for multiplication and commercialization, with a seed royalty contractually imposed on all generations of pedigreed seed. In the case of the VRP, there is no requirement for pedigreed seed, and there is no requirement for a seed royalty.

An exception to the VRP, also managed by SPG, is the Niche Variety Program. Recently, production, marketing, distribution and sales rights for certain market classes of lentil and bean have been granted to individual pulse processing companies. The thinking is that there is a need for focus on market and product development for these niche market classes, which can be best managed by a single company, rather than through a general release.

Several years ago it became clear to SPG and the CDC that the seed of CDC pulse varieties,
both pedigreed and common, was entering the Northern Great Plains of the United States (U.S.) through individual buyer-seller relationships. To gain some benefit back to the breeding program on these sales, the parties agreed on a system whereby after two years of availability to Saskatchewan seed growers and farmers, SPG would then decide on a variety-by-variety basis to release varieties back to the CDC for international distribution.

The CDC, through a request for proposal process, established license agreements with the following seed companies for the rights to produce, market, distribute and sell seed internationally: Canterra Seeds Ltd. – chickpea and dry bean, FP Genetics Inc. – lentil and Nodricks Norsask Seed Ltd. – pea. In addition, Pulse USA has recently been granted a license to produce, market, distribute and sell seed of imidazolinone-tolerant lentil varieties in the U.S.

Royalties are paid annually to the CDC based on seed sales and these royalties are re-invested into the CDC pulse breeding program.

For further information please contact the following seed companies:

Brent Derkatch
Canterra Seeds Ltd.
201-1475 Chevrier Blvd.
Winnipeg, MB Canada R3T 1Y7
Phone: 204-988-9758
Email: b.derkatch@canterra.com

Ron Weik
FP Genetics Inc.
426 McDonald St.
Regina, SK Canada S4N 6E1
Phone: 306-791-1045
Email: rweik@fpgenetics.ca

Tanya DeForest
Nodricks Norsask Seed Ltd.
Box 2169
Tisdale, SK Canada S0E 1T0
Phone: 306-873-2345
Email: tanyadeforest.nnsl@sasktel.net

Byron Lannoye
Pulse USA
1900 Commerce Drive
Bismarck, ND USA 58501
Phone: 701-530-0734
Toll-free: 888-530-0734 (USA only)
Email: byron@pulseusa.com

Dorothy Murrell is the Managing Director at the University of Saskatchewan’s Crop Development Centre. She can be reached at 306-966-8195 or dorothy.murrell@usask.ca.
Production Tips from the Experts

by Raelene Regier, Kirstin Bett, Bunyamin Tar’an, Bert Vandenberg, and Tom Warkentin

It is the start to the growing season and our team of breeders at the University of Saskatchewan’s Crop Development Centre (CDC) have provided some pulse production tips to ensure a successful growing season.

Most of you are experienced pulse producers, but some general reminders might be beneficial. In all cases, the Breeders direct producers to review the Saskatchewan Pulse Growers (SPG) Production Manual for each crop and to consult the Saskatchewan Ministry of Agriculture’s fact sheets on pulse crops. The SPG Pulse Production Manual is available online at http://www.saskpulse.com/producer/growing/index.php. SPG does not have any print versions available; however SPG is working on a revised versions of the Pulse Production Manual that will be available in October 2010. The pulse production fact sheets can be found on the Saskatchewan Ministry of Agriculture’s website at www.agriculture.gov.sk.ca.

**Lentil Production Tips**

1. Late maturing lentil varieties can and should be seeded very early—as soon as the soil at planting depth warms up to 5°C. Avoid poorly drained or salt-affected areas. Fungicidal seed treatment is not required. Early and medium maturity varieties are more flexible for seeding date, but all lentils will suffer from late season drought.

2. Remember to inoculate your lentil seed with the lentil strain of Rhizobium.

3. NEVER grow lentil on lentil stubble. This will cause yield reduction and breakdown of disease resistance.

4. Good weed control is essential. Edge (fall applied), a pre-emergent burn-off with Roundup, Sencor, or one of the grassy weed herbicides offers a range of options depending on your weed problem. We recommend early application of Sencor to minimize the chances of causing stunting of shorter varieties. Imidazolinone herbicides will cause a delay in maturity of conventional varieties.

5. The desired plant stand for lentil is about 10 plants/ft² or about 110 plants/m². However, this can be reduced to about 8 plants/ft² if you seed early and have good weed control.

   Our recommended seeding rates for standard production are:
   - 40 kg/ha for small greens and small reds (CDC Milestone, CDC Blaze)
   - 30 kg/ha for extra small reds (CDC Robin size)
   - 80 kg/ha for large greens (Laird size)
   - 50 kg/ha for medium greens (Richlea size)

6. Remember to check for grasshoppers at the start of flowering. As few as 3 grasshoppers/m² can delay seed set and lower seed yield.

7. You may want to use a fungicide to control anthracnose if it is of concern in your area. A control strategy for anthracnose should be timed for the pre-flowering period, especially if conditions are warm and wet. Late season
moisture may cause problems with the sclerotinia/botrytis complex for full canopy, late-maturing types or very lush stands in wet regions or areas with a history of problems with sclerotinia in other crops like canola.
8. Imidazolinone tolerant lentil varieties can be reliably sown at lower seeding rates because weed control is greatly improved. You may want to consider options for control of kochia and prickly lettuce, the two weeds most frequently observed in imi-tolerant lentil fields in 2005. You might want to consider using an above the canopy wick system

**Chickpea Production Tips**

1. Chickpea requires planting equipment with a seed-feeding mechanism capable of handling large seeds. Chickpea seeds, especially kabuli seeds, are highly susceptible to damage and should be handled gently at all times. Seed treatment with a metalaxyl-based product for seed rot diseases is strongly recommended for kabuli varieties. Seed treatment with Crown or Apron Maxx RTA is strongly recommended for kabuli varieties to reduce the severity of seed-borne ascochyta blight. Whenever possible, use the recommended varieties with fair level of resistance to ascochyta blight (for the list see 2010 Varieties of Grain Crops by the Saskatchewan Ministry of Agriculture).
2. Try to seed your plot after a rain into warm soil (above 10 °C). Seeding into dry soil increases imbibitional injury, and generally is not a good idea for kabuli chickpea production. However, do not delay seeding excessively, since chickpea requires a full season to mature. The plants are frost-tolerant after emergence. For desi chickpeas specifically, seeding can be done at the same time as pea and lentil crops.
3. Remember that chickpea can be highly indeterminate in its growth habit. Wide-spaced plants on summerfallow will not mature properly if the weather turns wet and cool for the second half of the growing season. The best production scenario is on stubble in the Dark Brown or Brown soil zone, although some growers have done well on fallow in dry seasons. The crop will mature earlier and with better quality on sandier soils.
4. The desired plant stand is 3-4 plants/ft² or about 33-44 plants/m². A thinner stand will delay maturity, resulting in a major problem if the growing season is cool and moist.
5. Remember to inoculate your seed with the chickpea strain of Rhizobium. The use of nitrogen fertilizer (50-75 kg/ha) instead of Rhizobium inoculant resulted in earlier maturity, especially in wet years.
6. Good weed control is essential for a good yielding chickpea crop. Recently, Authority herbicide was registered for use on chickpeas in Saskatchewan. This selective soil applied herbicide is intended for the control of wild buckwheat, kochia, lamb’s quarters, and redroot pigweed in chickpeas. Please review the latest weed control information for chickpea in the Saskatchewan Ministry of Agriculture’s “2010 Guide to Crop Protection.”
7. First fungicide application is needed at the seedling stage to limit early spore development and spread of ascochyta blight, even in varieties with fair resistance. Use high water volumes to ensure good coverage. There were issues of insensitivity in the ascochyta blight fungal population to strobiluron. It is recommended to not make two strobiluron applications in a row (whether applied solo or in a tank-mix) and to not end the season with a strobiluron fungicide.

**Bean Production Tips**

1. Proper timing of all operations and gentle handling of seed are key issues in bean production.
2. Always handle bean seed as gently as possible. The seed can become very dry and brittle—sometimes 10 per cent moisture or less. If you plan to use an air seeder, consider padding the distributors or moisturizing the seed to 15 per cent before seeding.
3. The recommended seeding rate for beans is 70 - 80 lbs per acre for large-seeded types and 60 lbs per acre for small-seeded types. Some growers are increasing the rate for large-seeded types to achieve better ground cover. Even distribution of seed within rows is very beneficial for achieving high yield and good weed control. The target for stand density is three to four plants per square foot. Remember that seed size of the same variety can vary from year to year and this can greatly affect seeding rate. If you are just starting out on a small area, try a couple of different rates and learn from experience. Better yet, ask someone who already has experience with the variety for advice. A uniform stand is a key issue for successful bean production. Some growers have modified the feed wheels on seeders to achieve more uniform distribution of seed within the row.
4. Try to seed your plot after a rain and into warm soil (at least 10 degrees, but preferably above 15 degrees—the warmer, the better). Seed between May 20 and June 1, if possible. If the weather is cold on May 20, wait until it warms up. Nothing is worse for a bean crop than shallow seeding into cold, wet soil. Rain cools the soil, therefore seeding before a cold spring rain may increase injury when seeds are swelling, and is generally not a good idea for dry bean production, especially for beans with white seed coats like great northerns or navies. Try to seed at a depth of 1.5 to 2.5 inches into moist warm soil. Avoid heavy clay soils. The preferred soil type is medium texture, preferably located on a south-facing slope to pick up more heat units. Treat your seed with a standard bean seed fungicide if it is not already treated. This is absolutely essential for white-seeded varieties and highly recommended for all others.
5. Seeding on fallow is recommended in some areas to increase the chance of the crop having moisture available during the critical period of July 20 to August
20 (flowering and seed filling). Uniform distance between plants in the row is beneficial for uniform maturity and optimum yield potential. All CDC varieties were developed under 12" row spacing conditions, therefore, plants may not fill a wider row spacing, unless the crop is grown under irrigation or in areas that reliably receive higher rainfall throughout the growing season.

6. If you are seeding on stubble, make sure that the stubble is not too tall and that previous crop residue is well distributed. Some growers deliberately choose durum stubble because it breaks down more quickly. If you need to roll the field to help with harvest, do it within five days of seeding. Good surface drainage is essential – established crops will not tolerate flooding.

7. If you are planning to use copper sprays to minimize the risk of bacterial blight infection, as well as a fungicide to control sclerotinia, seriously consider leaving unseeded tramlines in your field to accommodate the sprayer. It will save seed and reduce headaches caused by damaged plants that could become diseased more easily and/or may mature later than the rest of the crop. Sclerotinia can be a serious disease in areas that have a history of this disease in canola and other crops, especially if rainfall is above average in the second half of the growing season.

**Pea Production Tips**

1. Peas can and should be seeded early. Seeding can begin as soon as the top inch of soil warms up to 5 °C. Avoid poorly drained or salt affected areas. Application of a seed treatment fungicide is beneficial if planting into cold, wet soil.

2. Remember to inoculate your pea seed with the pea strain of Rhizobium.

3. Good weed control is essential. Note that taller varieties tend to be more competitive with weeds.

4. The commercially recommended seeding rate for field pea is 8 plants/ft² or about 86 plants/m². However, this can be reduced to 5 to 6 plants/ft² with good weed control.

5. Grasshoppers and pea aphids cause problems in pulse crops in some seasons. Take care to control these pests. Aphids attack flowers and young pods. They can easily be detected by placing one hand under the flowers then gently shaking the top of the plants with the other hand.

6. Foliar fungicides are generally not required in field pea production. However, you could consider an application at early flowering stage to crops with high yield potential and crops grown for seed.

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**2010 Variety Description Table**

**PEA (Yellow)**

<table>
<thead>
<tr>
<th>Variety</th>
<th>Years tested</th>
<th>Type</th>
<th>Yield %</th>
<th>Cutlass</th>
<th>Leaf type</th>
<th>Powdery mildew</th>
<th>Maturity</th>
<th>Lodging resistance</th>
<th>Seed weight g/1000</th>
<th>Year released via VP</th>
<th>Agronomic comments</th>
<th>Market comments</th>
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</thead>
<tbody>
<tr>
<td>Cutlass (SB2000-2)</td>
<td>10</td>
<td>Yellow</td>
<td>100</td>
<td>100</td>
<td>SL</td>
<td>Very good</td>
<td>Medium</td>
<td>Good</td>
<td>220</td>
<td>2003</td>
<td>High yield, good lodging resistance</td>
<td>Medium size, round shape, medium protein content, fair seed coat durability</td>
</tr>
<tr>
<td>CDC Golden (0007)</td>
<td>7</td>
<td>Yellow</td>
<td>106</td>
<td>101</td>
<td>SL</td>
<td>Very good</td>
<td>Medium</td>
<td>Good</td>
<td>230</td>
<td>2003</td>
<td>High yield, good lodging resistance</td>
<td>Medium size, round shape, medium protein content, good seed coat durability, good cooking quality</td>
</tr>
<tr>
<td>CDC Bronco (0009)</td>
<td>7</td>
<td>Yellow</td>
<td>108</td>
<td>102</td>
<td>SL</td>
<td>Very good</td>
<td>Medium</td>
<td>Good</td>
<td>230</td>
<td>2004</td>
<td>High yield, good lodging resistance</td>
<td>Medium size, round shape, medium protein content, good seed coat durability, good cooking quality</td>
</tr>
<tr>
<td>CDC Meadow (653-8)</td>
<td>7</td>
<td>Yellow</td>
<td>104</td>
<td>108</td>
<td>SL</td>
<td>Very good</td>
<td>Early</td>
<td>Good</td>
<td>220</td>
<td>2006</td>
<td>High yield, good lodging resistance, early maturity</td>
<td>Medium size, round shape, medium protein content, good seed coat durability, good cooking quality</td>
</tr>
<tr>
<td>CDC Centennial (728-8)</td>
<td>5</td>
<td>Yellow</td>
<td>106</td>
<td>112</td>
<td>SL</td>
<td>Very good</td>
<td>Early</td>
<td>Fair</td>
<td>270</td>
<td>2007</td>
<td>Top yielder in co-op and regional trials, medium-early maturity</td>
<td>Medium-large seed size, slightly blocky shape, medium protein content, good seed coat durability, good cooking quality</td>
</tr>
<tr>
<td>CDC Prosper (1400-8)</td>
<td>5</td>
<td>Yellow</td>
<td>97</td>
<td>104</td>
<td>SL</td>
<td>Very good</td>
<td>Early</td>
<td>Good</td>
<td>150</td>
<td>2008</td>
<td>Good lodging resistance, good Fusarium wilt resistance</td>
<td>Small size, round shape, medium protein content, good seed coat durability, good cooking quality</td>
</tr>
<tr>
<td>CDC Treasure (1410-15)</td>
<td>5</td>
<td>Yellow</td>
<td>98</td>
<td>107</td>
<td>SL</td>
<td>Very good</td>
<td>Early</td>
<td>Good</td>
<td>220</td>
<td>2009</td>
<td>Early maturity, good lodging resistance, good Fusarium wilt resistance</td>
<td>Medium size, round shape, medium protein content, good seed coat durability, bright colour, moderate dimpling, good cooking quality</td>
</tr>
<tr>
<td>CDC 1749-8</td>
<td>4</td>
<td>Yellow</td>
<td>98</td>
<td>103</td>
<td>SL</td>
<td>Very good</td>
<td>Medium</td>
<td>Good</td>
<td>210</td>
<td>2010</td>
<td>High yield, good lodging resistance, medium-tall, competitive, medium maturity</td>
<td>Medium size, round shape, medium protein content, acceptable seed coat durability, bright colour, moderate dimpling, good cooking quality</td>
</tr>
</tbody>
</table>

* Coop and Regional trials in Saskatchewan  ** Refer to map  **N-normal leaf; SL-semi-leafless  § Information not included in Varieties of Grain Crops 2010  Source: Varieties of Grain Crops 2010
### PEA (Green)

<table>
<thead>
<tr>
<th>Variety</th>
<th>Years tested*</th>
<th>Type</th>
<th>Yield % Cutlass** 1, 2, &amp; North South 3 &amp; 4</th>
<th>Leaf type***</th>
<th>Powdery mildew resistance</th>
<th>Maturity</th>
<th>Lodging resistance</th>
<th>Seed weight g/1000</th>
<th>Year released via VRP</th>
<th>Agronomic comments</th>
<th>Market comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDC Montero</td>
<td>(9801)</td>
<td>6</td>
<td>Green</td>
<td>91</td>
<td>89</td>
<td>SL</td>
<td>Very good</td>
<td>Medium</td>
<td>Fair</td>
<td>230</td>
<td>2000</td>
</tr>
<tr>
<td>CDC Striker</td>
<td>(0001)</td>
<td>10</td>
<td>Green</td>
<td>90</td>
<td>98</td>
<td>SL</td>
<td>Poor</td>
<td>Medium</td>
<td>Good</td>
<td>230</td>
<td>2002</td>
</tr>
<tr>
<td>CDC Sage</td>
<td>(672-1)</td>
<td>5</td>
<td>Green</td>
<td>80</td>
<td>84</td>
<td>SL</td>
<td>Very good</td>
<td>Medium</td>
<td>Good</td>
<td>220</td>
<td>2005</td>
</tr>
<tr>
<td>CDC Patrick</td>
<td>(1434-20)</td>
<td>5</td>
<td>Green</td>
<td>96</td>
<td>99</td>
<td>SL</td>
<td>Very good</td>
<td>Medium</td>
<td>Good</td>
<td>190</td>
<td>2008</td>
</tr>
<tr>
<td>CDC</td>
<td>1996-216</td>
<td>2</td>
<td>Green</td>
<td>ID</td>
<td>ID</td>
<td>SL</td>
<td>Very good</td>
<td>Medium</td>
<td>Fair</td>
<td>165</td>
<td>2010</td>
</tr>
<tr>
<td>CDC</td>
<td>1812-5</td>
<td>3</td>
<td>Green</td>
<td>95</td>
<td>96</td>
<td>SL</td>
<td>Very good</td>
<td>Medium-late</td>
<td>Good</td>
<td>210</td>
<td>2010</td>
</tr>
</tbody>
</table>

* Coop and Regional trials in Saskatchewan    ** Refer to map     ***N-normal leaf, SL-semi-leafless     § Information not included in Varieties of Grain Crops 2010

ID: Insufficient data Source: Varieties of Grain Crops 2010

### LENTIL (Green)

<table>
<thead>
<tr>
<th>Variety</th>
<th>Years tested*</th>
<th>Type</th>
<th>Seed coat color</th>
<th>Yield % CDC Milestone Areas 1-2</th>
<th>Areas 3-4</th>
<th>Resistance to Ascochyta Anthrac (race 1)</th>
<th>Maturity</th>
<th>Seed weight g/1000 ***</th>
<th>Year released via VRP</th>
<th>Agronomic comments</th>
<th>Market comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDC Milestone</td>
<td>(512-2) Check</td>
<td>14</td>
<td>Small green</td>
<td>Green</td>
<td>100</td>
<td>Good</td>
<td>Very poor</td>
<td>Early</td>
<td>37</td>
<td>1998</td>
<td>High yield, good resistance to Ascochyta means reduced staining and more uniform seed coat.</td>
</tr>
<tr>
<td>Laird</td>
<td>13</td>
<td>Large green</td>
<td>Green</td>
<td>77</td>
<td>74</td>
<td>Very poor</td>
<td>Very poor</td>
<td>Very late</td>
<td>67</td>
<td>N/A</td>
<td>Lodging susceptible, low yield, long time industry standard, susceptible to Ascochyta.</td>
</tr>
<tr>
<td>CDC Sedley</td>
<td>(946-7Y)</td>
<td>9</td>
<td>Large green</td>
<td>Green</td>
<td>81</td>
<td>85</td>
<td>Fair</td>
<td>Very poor</td>
<td>68</td>
<td>2001</td>
<td>Earliest large green, may suit later planting or early harvest strategies, Ascochyta resistance and early Large seed, fair maturity results in earlier shipping with better quality.</td>
</tr>
<tr>
<td>CDC Plato</td>
<td>(964a-4)</td>
<td>10</td>
<td>Large green</td>
<td>Green</td>
<td>98</td>
<td>89</td>
<td>Good</td>
<td>Poor</td>
<td>62</td>
<td>2002</td>
<td>Consistent high yields, earlier than CDC Glamis and CDC Grandora. Between CDC Glamis and CDC Grandora in size, good Ascochyta resistance.</td>
</tr>
<tr>
<td>CDC Improve CL</td>
<td>(LGBCL)</td>
<td>5</td>
<td>Large green</td>
<td>Green</td>
<td>91</td>
<td>87</td>
<td>Fair</td>
<td>Very poor</td>
<td>67</td>
<td>2006</td>
<td>Tolerant to Odyssey, limited agronomic data, most similar to CDC Sedley, limited data.</td>
</tr>
<tr>
<td>CDC Greenland</td>
<td>(1196D-5)</td>
<td>8</td>
<td>Large green</td>
<td>Green</td>
<td>103</td>
<td>86</td>
<td>Good</td>
<td>Very Poor</td>
<td>64</td>
<td>2006</td>
<td>Consistent high yield, maturity similar to CDC Plato, Between CDC Glamis and CDC Grandora in size, good Ascochyta resistance, best colour retention of all large green lentil varieties.</td>
</tr>
<tr>
<td>CDC Impower CL</td>
<td>(IBC-194)</td>
<td>4</td>
<td>Large green</td>
<td>Green</td>
<td>91</td>
<td>75</td>
<td>Good</td>
<td>Poor</td>
<td>66</td>
<td>2009</td>
<td>Tolerant to Odyssey, slightly later than CDC Impower, yield similar to CDC Impower, better seed coat colour.</td>
</tr>
<tr>
<td>CDC Meteor</td>
<td>(1038L-18)</td>
<td>9</td>
<td>Medium green</td>
<td>Green</td>
<td>111</td>
<td>102</td>
<td>Good</td>
<td>Very poor</td>
<td>51</td>
<td>2005</td>
<td>Widely adapted, consistent high yield potential, improved disease resistance, Less Ascochyta staining, colour retention less than CDC Richlea.</td>
</tr>
<tr>
<td>CDC Impress CL</td>
<td>(2471)</td>
<td>4</td>
<td>Medium green</td>
<td>Green</td>
<td>98</td>
<td>80</td>
<td>Good</td>
<td>Poor</td>
<td>52</td>
<td>2007</td>
<td>Tolerant to Odyssey, most similar to CDC Meteor. Most similar to CDC Meteor.</td>
</tr>
<tr>
<td>CDC Imigreen C</td>
<td>(IBC-145)</td>
<td>4</td>
<td>Medium green</td>
<td>Green</td>
<td>81</td>
<td>76</td>
<td>Good</td>
<td>Very Poor</td>
<td>51</td>
<td>2009</td>
<td>Tolerant to Odyssey, limited agronomic data, better green colour retention compared to all other lentil varieties.</td>
</tr>
<tr>
<td>CDC Viceroy</td>
<td>(1066E-4)</td>
<td>8</td>
<td>Small green</td>
<td>Green</td>
<td>103</td>
<td>111</td>
<td>Good</td>
<td>Good</td>
<td>33</td>
<td>2004</td>
<td>High yield, resistance to Ascochyta and Race 1 Eston, Anthracnose. Seed characteristics similar to better colour retention than CDC Milestone.</td>
</tr>
<tr>
<td>CDC Invincible</td>
<td>(IBC-112)</td>
<td>4</td>
<td>Small green</td>
<td>Green</td>
<td>100</td>
<td>92</td>
<td>Good</td>
<td>Good</td>
<td>33</td>
<td>2009</td>
<td>Tolerant to Odyssey, limited agronomic data, all marketing characteristics very similar to CDC Viceroy.</td>
</tr>
</tbody>
</table>

* Coop and Regional trials in Saskatchewan    ** Refer to map     ***CDC Richlea 51g/1000; Eston 33g/1000     Source: Varieties of Grain Crops 2010
### LENTIL (Red)

<table>
<thead>
<tr>
<th>Variety</th>
<th>Years tested*</th>
<th>Type</th>
<th>Seed coat</th>
<th>Yield % CDC Milestone**</th>
<th>Resistance to Ascochyta (race 1)</th>
<th>Maturity</th>
<th>Seed weight g/1000 ***</th>
<th>Year released via VRP</th>
<th>Agronomic comments</th>
<th>Market comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CDC Red Rider</strong></td>
<td>(1308M-7)</td>
<td>6</td>
<td>Small red Grey</td>
<td>103 98</td>
<td>Good</td>
<td>Fair</td>
<td>Early-Medium</td>
<td>45 2007</td>
<td>A little later than CDC Redberry, improved yield</td>
<td>A little larger in diameter with a thicker seed compared to CDC Redberry</td>
</tr>
<tr>
<td><strong>CDC Blaze</strong></td>
<td>(997-5R)</td>
<td>9</td>
<td>Small red Grey</td>
<td>84 82</td>
<td>Good</td>
<td>Poor</td>
<td>Early</td>
<td>34 2001</td>
<td>Similar seed traits to Crimson with improved yield, disease resistance and lodging</td>
<td>Excellent Ascochyta resistance means more uniform quality</td>
</tr>
<tr>
<td><strong>CDC Redberry</strong></td>
<td>(1254S-1)</td>
<td>7</td>
<td>Small red Grey</td>
<td>102 109</td>
<td>Good</td>
<td>Good</td>
<td>Early-medium</td>
<td>42 2004</td>
<td>Slightly later maturing, taller than other small reds, improved disease resistance</td>
<td>Rated highly acceptable by Pulse Canada market surveys in import markets in India and Turkey, acceptable for splitting, larger seed size than CDC Blaze and Crimson</td>
</tr>
<tr>
<td><strong>CDC Maxim CL</strong></td>
<td>(3114)</td>
<td>4</td>
<td>Small red Grey</td>
<td>105 110</td>
<td>Good</td>
<td>Good</td>
<td>Early-medium</td>
<td>40 2007</td>
<td>Tolerant to Odyssey, most similar to CDC Redberry, limited data</td>
<td>Ratings should be similar to CDC Redberry, limited data</td>
</tr>
<tr>
<td><strong>CDC Rouleau</strong></td>
<td>(1145-3-6)</td>
<td>6</td>
<td>Small red Grey</td>
<td>104 107</td>
<td>Good</td>
<td>Good</td>
<td>Medium</td>
<td>37 2004</td>
<td>Later maturing, taller than other small reds, improved disease resistance</td>
<td>Well received by splitting companies and importers, replacement for CDC Blaze and Crimson – high yield potential</td>
</tr>
<tr>
<td><strong>CDC Impact CL</strong></td>
<td>(2462)</td>
<td>5</td>
<td>Small red Grey</td>
<td>86 87</td>
<td>Good</td>
<td>Poor</td>
<td>Early</td>
<td>34 2006</td>
<td>Tolerant to Odyssey, early maturity, resistant to Ascochyta</td>
<td>Most similar to CDC Blaze</td>
</tr>
<tr>
<td><strong>CDC Redcoat</strong></td>
<td>(2154S-4)</td>
<td>4</td>
<td>Small red Grey</td>
<td>113 103</td>
<td>Good</td>
<td>Good</td>
<td>Early</td>
<td>38 2009</td>
<td>High yield, good lodging tolerance, limited data</td>
<td>Plump, between Blaze and Redberry in size, limited data</td>
</tr>
<tr>
<td><strong>CDC Imax CL</strong></td>
<td>(IBC-187)</td>
<td>4</td>
<td>Small red Grey</td>
<td>106 100</td>
<td>Good</td>
<td>Good</td>
<td>Early-medium</td>
<td>48 2009</td>
<td>Tolerant to Odyssey, a bit earlier than CDC Red Rider, limited data</td>
<td>Most similar to CDC Red Rider, limited data</td>
</tr>
<tr>
<td><strong>CDC 2271-5 §</strong></td>
<td>3</td>
<td>Small red Grey</td>
<td>116 117</td>
<td>Good</td>
<td>Fair</td>
<td>Early</td>
<td>40 2010</td>
<td>Highest yielding conventional seed so far, limited data</td>
<td>Seed type good for standard small red markets, limited data</td>
<td></td>
</tr>
<tr>
<td><strong>CDC IBC 289 CL §</strong></td>
<td>2</td>
<td>Small red Grey</td>
<td>106 NS</td>
<td>Good</td>
<td>Good</td>
<td>Early-medium</td>
<td>35 2010</td>
<td>High yield – maturity later than CDC Impact, more yield in South?</td>
<td>Very limited data in Zones 3-4. Seed most similar to dimensions of CDC Impact, limited data</td>
<td></td>
</tr>
<tr>
<td><strong>CDC Robin</strong></td>
<td>(599-23)</td>
<td>11</td>
<td>Extra small red Brown</td>
<td>86 91</td>
<td>Good</td>
<td>Good</td>
<td>Early</td>
<td>30 1999</td>
<td>First variety with both Race 1 Anthracnose and Ascochyta resistance</td>
<td>Extra small seed size for South Asian markets</td>
</tr>
<tr>
<td><strong>CDC Rosetown</strong></td>
<td>(1194-3)</td>
<td>7</td>
<td>Extra small red Grey</td>
<td>102 107</td>
<td>Good</td>
<td>Good</td>
<td>Early</td>
<td>31 2005</td>
<td>Taller and better lodging tolerance as compared to CDC Robin</td>
<td>Extra small seed size for South Asian markets, slightly larger than CDC Robin</td>
</tr>
<tr>
<td><strong>CDC Imperial CL</strong></td>
<td>(2464)</td>
<td>5</td>
<td>Extra small red Grey-brown</td>
<td>88 87</td>
<td>Good</td>
<td>Good</td>
<td>Early</td>
<td>30 2006</td>
<td>Tolerant to Odyssey, maturity, resistant to Ascochyta and Race 1 Anthracnose</td>
<td>Most similar to CDC Robin</td>
</tr>
<tr>
<td><strong>CDC Impala CL</strong></td>
<td>(3110)</td>
<td>4</td>
<td>Extra small red Grey</td>
<td>89 99</td>
<td>Good</td>
<td>Good</td>
<td>Early</td>
<td>31 2007</td>
<td>Tolerant to Odyssey, most similar to CDC Rosetown, limited data</td>
<td>Most similar to CDC Rosetown, limited data</td>
</tr>
<tr>
<td><strong>CDC Redbow</strong></td>
<td>(1894T-1)</td>
<td>4</td>
<td>Extra small red Grey</td>
<td>105 107</td>
<td>Good</td>
<td>Good</td>
<td>Early</td>
<td>31 2009</td>
<td>High yield, good lodging tolerance, limited data</td>
<td>Grey seed coat. More plump than Robin, limited data</td>
</tr>
<tr>
<td><strong>CDC Rosebud</strong></td>
<td>(1788S-4e)</td>
<td>4</td>
<td>Extra small Red Tan</td>
<td>100 109</td>
<td>Good</td>
<td>Good</td>
<td>Early</td>
<td>31 2009</td>
<td>High yield – potential new market class, limited data</td>
<td>Tan seed coat. More plump than Robin, limited data</td>
</tr>
<tr>
<td><strong>CDC 1897T-30a §</strong></td>
<td>3</td>
<td>Small red Grey</td>
<td>95 98</td>
<td>Good</td>
<td>Good</td>
<td>Early</td>
<td>30 2010</td>
<td>High yield – limited data</td>
<td>Grey seed coat. Seed dimensions similar to CDC Robin, limited data</td>
<td></td>
</tr>
</tbody>
</table>

* Coop and Regional trials in Saskatchewan since 1995  ** Refer to map  ***CDC Richlea 51g/1000; Eston 33g/1000  § Information not included in Varieties of Grain Crops 2010  Source: Varieties of Grain Crops 2010
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Options for every situation, and advice to help you decide.

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**Lentil (Other)**

<table>
<thead>
<tr>
<th>Variety</th>
<th>Years tested*</th>
<th>Type</th>
<th>Yield % Amit** Area 1</th>
<th>Area 2</th>
<th>Ascochyta blight rating</th>
<th>Maturity</th>
<th>Seed weight g/1000</th>
<th>Year released via VRP</th>
<th>Agronomic comments</th>
<th>Market comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDC LeMay</td>
<td>(983-87) 6</td>
<td>Kabuli</td>
<td>100</td>
<td>100</td>
<td>Fair</td>
<td>Late</td>
<td>260</td>
<td>n/a</td>
<td>Good</td>
<td>Ascochyta check</td>
</tr>
<tr>
<td>CDC Peridot CL</td>
<td>(BC-188) 4</td>
<td>Kabuli</td>
<td>104</td>
<td>106</td>
<td>Fair</td>
<td>Late</td>
<td>360</td>
<td>2003</td>
<td>Good</td>
<td>8 mm seed size, normal seed shape, beige seed colour</td>
</tr>
<tr>
<td>CDC Luna</td>
<td>(Flip97-133C) 7</td>
<td>Kabuli</td>
<td>100</td>
<td>102</td>
<td>Fair</td>
<td>Medium late</td>
<td>377</td>
<td>2007</td>
<td>Good</td>
<td>8-9 mm size, normal seed shape, beige seed colour</td>
</tr>
<tr>
<td>CDC 491-5 ***</td>
<td>3</td>
<td>Kabuli</td>
<td>110</td>
<td>107</td>
<td>Fair</td>
<td>Late</td>
<td>440</td>
<td>2010 IP</td>
<td>High yield, Ascochyta rating similar to Amit</td>
<td></td>
</tr>
<tr>
<td>CDC CP71 ***</td>
<td>(7 SD) 11</td>
<td>Kabuli</td>
<td>108</td>
<td>105</td>
<td>Fair</td>
<td>Medium late</td>
<td>361</td>
<td>2010 IP</td>
<td>High yield, earlier maturity than Amit and CDC Frontier, Ascochyta rating slightly higher than Amit</td>
<td></td>
</tr>
<tr>
<td>CDC LeMay</td>
<td>6</td>
<td>Kabuli</td>
<td>100</td>
<td>100</td>
<td>Fair</td>
<td>Late</td>
<td>260</td>
<td>n/a</td>
<td>Good</td>
<td>Appearance and size similar to French green, some yield advantage</td>
</tr>
<tr>
<td>CDC Peridot CL</td>
<td>(BC-188) 4</td>
<td>Kabuli</td>
<td>104</td>
<td>106</td>
<td>Fair</td>
<td>Late</td>
<td>360</td>
<td>2003</td>
<td>Good</td>
<td>Seed size slightly larger than CDC LeMay, limited data</td>
</tr>
</tbody>
</table>

* Yield results based on narrow row trials only from Coop and Regional trials in Saskatchewan and western Manitoba ** Refer to map ***% Pod Clearance: percentage of pods expected to completely clear the cutterbar of swather Source: Varieties of Grain Crops 2010 and CDC Pulse Crop Breeding Group

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**Kabuli Chickpea**

<table>
<thead>
<tr>
<th>Variety</th>
<th>Years tested*</th>
<th>Type</th>
<th>Yield % Kabuli Area 1</th>
<th>Area 2</th>
<th>Resistance to Ascochyta (race 1)</th>
<th>Maturity</th>
<th>Seed weight g/1000</th>
<th>Year released via VRP</th>
<th>Agronomic comments</th>
<th>Market comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amit</td>
<td>(8-90) Check</td>
<td>Kabuli</td>
<td>100</td>
<td>100</td>
<td>Fair</td>
<td>Very poor</td>
<td>Early 33</td>
<td>2002</td>
<td>Better Ascochyta ratings and better height compared to French green, some yield advantage</td>
<td></td>
</tr>
<tr>
<td>CDC Frontier</td>
<td>(95NN29) 9</td>
<td>Kabuli</td>
<td>104</td>
<td>106</td>
<td>Fair</td>
<td>Late</td>
<td>360</td>
<td>2003</td>
<td>High yield, Ascochyta rating the same as Amit</td>
<td></td>
</tr>
<tr>
<td>CDC Luna</td>
<td>(Flip97-133C) 7</td>
<td>Kabuli</td>
<td>100</td>
<td>102</td>
<td>Fair</td>
<td>Medium late</td>
<td>377</td>
<td>2007</td>
<td>Good</td>
<td>8-9 mm size, normal seed shape, beige seed colour</td>
</tr>
<tr>
<td>CDC 491-5 ***</td>
<td>3</td>
<td>Kabuli</td>
<td>110</td>
<td>107</td>
<td>Fair</td>
<td>Late</td>
<td>440</td>
<td>2010 IP</td>
<td>High yield, Ascochyta rating similar to Amit</td>
<td></td>
</tr>
<tr>
<td>CDC CP71 ***</td>
<td>(7 SD) 11</td>
<td>Kabuli</td>
<td>108</td>
<td>105</td>
<td>Fair</td>
<td>Medium late</td>
<td>361</td>
<td>2010 IP</td>
<td>High yield, earlier maturity than Amit and CDC Frontier, Ascochyta rating slightly higher than Amit</td>
<td></td>
</tr>
</tbody>
</table>

**Refer to map *** Information not included in Varieties of Grain Crops 2010 Source: Varieties of Grain Crops 2010 SD: Station Data IP: In progress

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**Desi Chickpea**

<table>
<thead>
<tr>
<th>Variety</th>
<th>Years tested*</th>
<th>Type</th>
<th>Yield % Amit** Area 1</th>
<th>Area 2</th>
<th>Ascochyta blight rating</th>
<th>Maturity</th>
<th>Seed weight g/1000</th>
<th>Year released via VRP</th>
<th>Agronomic comments</th>
<th>Market comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Myles Check</td>
<td>13</td>
<td>Desi</td>
<td>100</td>
<td>100</td>
<td>Fair</td>
<td>Medium</td>
<td>184</td>
<td>n/a</td>
<td>Angular</td>
<td>Tan seed coat colour</td>
</tr>
<tr>
<td>CDC Anna</td>
<td>(92056-50) 8</td>
<td>Desi</td>
<td>108</td>
<td>113</td>
<td>Fair</td>
<td>Late</td>
<td>210</td>
<td>2000</td>
<td>High yield, with larger seed size Large seed size, tan seed coat colour</td>
<td></td>
</tr>
<tr>
<td>CDC Nika</td>
<td>(92056-26) 6</td>
<td>Desi</td>
<td>97</td>
<td>104</td>
<td>Fair</td>
<td>Late</td>
<td>320</td>
<td>2000</td>
<td>High yield, earlier to flower Large seed size, tan seed coat colour</td>
<td></td>
</tr>
<tr>
<td>CDC Cabri</td>
<td>(92073-40) 11</td>
<td>Desi</td>
<td>112</td>
<td>114</td>
<td>Fair</td>
<td>Medium</td>
<td>301</td>
<td>2003</td>
<td>High yield, relatively early maturity Medium seed size, tan seed coat colour</td>
<td></td>
</tr>
<tr>
<td>CDC Vanguard</td>
<td>(304-22) 7</td>
<td>Desi</td>
<td>122</td>
<td>123</td>
<td>Fair</td>
<td>Medium</td>
<td>219</td>
<td>2006</td>
<td>High yield, medium maturity Medium seed size, tan seed coat colour</td>
<td></td>
</tr>
<tr>
<td>CDC Corinne</td>
<td>(ICC12512-1) 7</td>
<td>Desi</td>
<td>131</td>
<td>125</td>
<td>Fair</td>
<td>Medium</td>
<td>244</td>
<td>2008 Angular/Plump</td>
<td>High yield, medium maturity Medium seed size, tan seed coat colour</td>
<td></td>
</tr>
<tr>
<td>CDC CP55 ***</td>
<td>(8 SD) 11</td>
<td>Desi</td>
<td>135</td>
<td>115</td>
<td>Fair</td>
<td>Medium</td>
<td>254</td>
<td>2010 Angular/Plump</td>
<td>High yield, medium maturity Medium seed size, tan seed coat colour</td>
<td></td>
</tr>
</tbody>
</table>

**Refer to map *** Information not included in Varieties of Grain Crops 2010 Source: Varieties of Grain Crops 2010 SD: Station Data IP: In progress

---

**Bean (Narrow row production)**

<table>
<thead>
<tr>
<th>Variety</th>
<th>Years tested*</th>
<th>Class</th>
<th>Growth Habit</th>
<th>Average Irrigation Yield kg/ha** Area 2</th>
<th>Area 3</th>
<th>Pod Clearance %***</th>
<th>Maturity</th>
<th>Seed Weight g/1000</th>
<th>Year released via VRP</th>
<th>Agronomic comments</th>
<th>Market comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDC Pintium</td>
<td>(93708) 12</td>
<td>Pinto</td>
<td>1</td>
<td>2852</td>
<td>1853</td>
<td>80</td>
<td>Early</td>
<td>350</td>
<td>1999</td>
<td>Use N fertilizer, earliest type Plump seeds, early maturity allows frost avoidance and early shipping</td>
<td></td>
</tr>
</tbody>
</table>

* Yield results based on narrow row trials only from Coop and Regional trials in Saskatchewan and western Manitoba ** Refer to map ***% Pod Clearance: percentage of pods expected to completely clear the cutterbar of swather Source: Varieties of Grain Crops 2010 and CDC Pulse Crop Breeding Group
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Working for You

Research & Development
• SPG Staff traveled with a team assembled by STEP to Bangladesh, India, Pakistan, Sri Lanka, and Dubai to develop opportunities in agri-food products and promote Saskatchewan pulses. The group also attended the 2010 Gulfood Show held in Dubai.

Variety Release Program
• The 2010 releases for the Variety Release Program were finalized. This includes three lentil varieties, five pea varieties and three chickpea varieties. Please see page 28 for the 2010 Variety Description Table.
• SPG held our annual Select Grower Meeting in January during Crop Production Week. The over 70 Select status seed growers in attendance heard presentations from the pulse crop breeders and plant pathologist from the CDC.

Communications
• SPG teamed up with STEP and HSBC to host the pulse trade at the Annual Trade Reception held during Pulse Days. There were close to 100 people in attendance.
• SPG held our annual Select Grower Meeting in January during Crop Production Week. The over 70 Select status seed growers in attendance heard presentations from the pulse crop breeders and plant pathologist from the CDC.
• SPG had a great turnout at the Regional Pulse Development Workshops held in conjunction with the Saskatchewan Ministry of Agriculture from February 1 to 5 in Swift Current, Moose Jaw, Weyburn, Yorkton, and Outlook. Over 750 producers attended these meetings across the province.
• SPG Staff and Board attended FarmTech 2010 in Edmonton, AB.
• SPG Communications team were out at the 2010 Winter Olympic Games promoting the health benefits of lentils at the Saskatchewan Pavilion in downtown Vancouver. SPG Staff handed out brochures, recipe booklets and samples of yogurt lentil clusters and a Greek lentil salad. There were over 100,000 visitors to the Pavilion over the course of 20 days. A special thank you to Shelly Harvey from J.K. Commodities Ltd. for helping out on the SPG Feature Day at the Saskatchewan Pavilion.
• SPG launched a new website. We have now created a portal for users when they enter the site - one area is for producers and the other consumers. The consumer site focuses on the health benefits of pulses and includes links to recipes, nutritional information and our recipe booklet.

*Visit the SPG website at www.saskpulse.com/producer for news and updates.

Your Check-off Dollars at Work

Integrated Pest Management (IPM) of the Pea Leaf Weevil (PLW) in Field Peas
The objective of this recently completed project, lead by Dr. Hector Carcamo with Agriculture and Agri-Food Canada in Lethbridge, was to enable pea growers to implement an IPM plan for PLW. The results demonstrated the proportion of seedlings with terminal leaf damage provided an adequate indication of overall plant damage and, to some extent, potential yield losses. Therefore, it should be recommended that growers or agronomists inspect the average feeding damage on the clam leaf in 10 seedlings, five along the perimeter of fields and five within the field. Plot studies also provided support to maintain the action threshold of 30 per cent of seedlings with terminal leaf damage. It also appears that trap crops (winter peas or earlier planting of spring peas) may be a useful management tool for the control of the PLW.

Optimizing Pea and Lentil Agronomy for Organic Production
This project, lead by Dr. Steven Shirtliffe and Dr. Fran Walley at the U of S, focused on determining the optimal seeding rate for organic production of field pea and lentil in Saskatchewan. To maximize returns, while minimizing weed growth, seed peas at a rate of approximately 150 seeds per square meter (250 lbs per acre) and lentils at a rate of 250 seeds per square meter (150 lbs per acre), as increasing the seeding rates resulted in reduced weed growth. Pea and lentil harvest index, seed quality and seed borne disease were not affected by the seeding rate in pea and lentil. The total amount of N fixed increased with seeding rate because of greater biomass production, while Arbuscular mycorrhizal fungi colonization increased with higher seeding rates in lentil. It was also found that straw P concentration, but not seed P concentration increased with increased pea and lentil densities.
Over the next two years Saskatoon-based Parrheim Foods will use a $117,000 research grant from the Saskatchewan Pulse Growers to develop prototypes for snack foods and breakfast cereals that incorporate pea flour, pea starch, and pea-cereal flour blends. This innovative project stems from research completed by scientist Shannon Hood-Niefer for her MSc in Food Science at the University of Saskatchewan (U of S). The U of S is a co-applicant on the project and Hood-Niefer’s supervisor, Dr. Bob Tyler, a professor in the Department of Food and Bioproduct Sciences, will provide the expertise.

Some of the work will take place at the Saskatchewan Food Industry Development Centre (Food Centre), where researchers will take advantage of the Centre’s “co-rotating twin screw extrusion technology.” It may sound unfamiliar, but if you have ever eaten anything puffed, crisped, popped or flaked, you can thank extrusion technology. Extruders cook and mix ingredients, typically from cereal grains to create products such as Corn Pops, Cheerios, Cheezies and Popcorn Twists—all those sugary things we like to eat in the morning, and all those salty things we like to snack on at night.

Extruders have been around for about 50 years and are used throughout the world to make a number of everyday products. Though most of the industry uses the single-screw extruder, the Food Centre boasts a research and development twin-screw extruder—the only one in Saskatchewan. According to Food Centre President Dan Prefontaine, twin-screw extruders “can handle...
a lot more variables.” More mixing action ensures a better distribution of the product so more complex formulations can be made. In other words, it is much more versatile.

Prefontaine feels this technology provides an important outlet for the province’s agricultural industry since whole new streams of value-added products can be developed based on the raw products grown here. He is especially enthusiastic about the possibility of developing more pulse products and moving them forward to the commercial market place. He notes that due to the growing number of people with gluten intolerance or allergies to soy there is “a real desire for wheat or soybean replacements.” Pulses could provide it!

Pea flour’s gluten-free status is just one of the advantages it has over commonly used cereal flours. Most snack foods and breakfast cereals are based on cereal ingredients that are not that nutritious because they are low in protein and in lysine—an essential amino acid. Pea flour on the other hand is high in protein and lysine. Peas are also high in fibre and low in fat. These benefits are important, notes Tyler, especially “when many major snack food and breakfast cereal manufacturers have recently rediscovered nutrition.”

A high amount of protein is a benefit, but also a challenge. Tyler says because of the high levels of protein and starch, it doesn’t “puff” well. He explains, “expansion is the key element for getting the proper texture in these kinds of foods.” Fortunately, Parrheim Foods has the capacity to fractionate pea flour so researchers can experiment with the puffing potential of pea flours with different levels of protein and starch. If protein levels are knocked down too low, the nutritional advantages of pea flour are affected. Blending pea flour with cereals like oats or barley is also possible. Pulses are underutilized and adding pea flour into food products is one way of getting it onto store shelves.

Ultimately though, Tyler says he hopes to work “as best as we can with 100 per cent pea flour.” This eliminates the extra step of fractionating. Also, as soon as pea flour is blended with cereal flour, it misses out on the growing gluten-free market. Plus, Tyler thinks there is a “novelty factor” to 100 per cent pea flour products and novelty is often what manufacturers are looking for.

Tyler is confident that pea flour products will taste great since extrusion flashes off any unappealing or “beany” flavours. In earlier experiments, he says, “we were getting great flavour.” For him, good sensory data is crucial. To be market ready, prototypes will have to meet high standards for texture, expansion, level of protein, and colour, because, as he says, “you can have all the nutrition in the world but it has to look and taste good.” A great prototype is the golden ticket, Tyler says, “you’re not going to get very far with a large company if you don’t have something for them to see, feel, and taste. A bona fide pea flour snack will really demonstrate the possibilities.”

Within a year, taste-testers will be sampling prototypes of pea flour snack foods and breakfast cereals that “provide the best balance of nutrient, functionality, and cost.” From there, the goal is to connect either with an established company or an ambitious start-up who will license the prototype and get the snacks or cereals onto the shelves. Tyler feels one of the obstacles to getting pulses products to market is that there are not a lot of food manufacturers on the prairies. As the industry grows, he expects that the number of players in the food industry will also grow, but notes that “it’s a very slow process.”

This project will not increase farmer’s bottom lines overnight, and probably not even over a decade. Hood-Niefer notes in the project application that, “all corn-based snack foods and breakfast foods combined constitute less than one per cent of the United States corn crop, a volume much too small to have an impact on price.” Nevertheless, Tyler argues that the project has a broader objective. New, innovative products like these will play an important role in shifting pulses and pulse products from the periphery of public awareness into the center. Tyler is looking forward to the time when pulses get to “move beyond pork and beans and chili con carne.” He admits, “changing people’s behaviour takes time.”

Within a few years, life may be very different. Instead of deciding between shredded wheat and toasted oats, you will wake up on a sunny day, stumble into the kitchen and reach for a box of Sweet Pea Puffs. Or some cozy evening, you will have the munchies and you will not debate between potato chips and corn chips, you will just grab a tasty bag of Pea-tos! That will be great—healthy, delicious products made from peas that were grown by the farmer down the road!

Patty Milligan is a freelance writer based out of Bon Accord, Alberta.
Seven years ago, when Ross Welford came home to his farm near Saskatoon with a Global Positioning System (GPS) to help him drive his tractor in a straight line, his brothers scoffed. It seemed like a fancy new gadget that a farmer’s job could be done without.

But Welford, an agricultural engineer and Professor at the University of Saskatchewan, knew it would be money well spent. With 3,000 acres to tend, Welford said he could not afford driving over the same area twice. And without the guidance, sometimes it was just tough to tell how much that was happening.

His GPS, a simple monitor in his tractor cab that drew an imaginary line between two points in his fields of canola, wheat or field peas, calculated the width of whatever implement Welford was using and established a grid for him to follow while driving. The result: no more overlap.

“I probably saved covering 85 acres just by avoiding overlap,” Welford says.

“That’s 85 acres of time and chemicals, a savings of $3,000 a year,” he notes. Meanwhile, a basic GPS light bar costs about $1,500.

“There’s always new technology coming out but this is one of the few technological advances where you could see the economic benefits over a short time,” he says.

As for Welford’s brothers, “once they tried it, they believed,” he says. The benefits of this new technology compounded when Welford added a $7,000 auto steer system to his tractor two years ago. Guided by the GPS unit in the cab, the tractor steers itself and Welford can virtually kick back and enjoy the ride through his fields — until he has to turn a corner. He has also been using his GPS for the past five years to map crop yields, showing more precisely the variability he has always known from experience. That allows him to tailor his treatment of different areas in his fields with seeds and chemicals, and ultimately boost profit.

Remote sensing can also help farmers get to know their crops and conditions. Think of it as an enhanced version of GPS yield mapping. This precision agriculture method is almost like photography, using field images captured by satellite, aerial planes or sensors attached to equipment, such as sprayers.

Using near infrared reflectants, remote sensing detects finer details about soil and crops, showing issues such as disease pressure and water stress, says Warren Bills, President of GeoFarm Solutions, a Calgary-based precision farming consulting company.

“The overhead view gives you a sense of variation of crops that you can’t get at eye level,” Bills explains. Farmers who use remote sensing get a map of their fields divided into different zones. Growers then get the insight of an “agricoach” to provide advice to make the most of conditions. Bills calls it getting to the “ground truth” — touring fields with the coach, an agrologist, to

New precision farming technology can help pulse producers become more profitable.
understand why conditions shown in those maps may exist in their fields.

Use of remote sensing is more common now that variable rate and mapping equipment are becoming standard in most tractor cabs, Bills says. This equipment makes following through on an agricoach’s instructions easier. Depending on the level of service and type of images desired, tapping into a remote sensing service costs between $2 and $12 an acre.

So now what do you do with all the TLC you have given your fields? Colin Brisebois’ advice is not to break out the Hilroy notebook or start an Excel spreadsheet. Break out your personal computer or pocket computer (PC) and use management software instead. For Brisebois, a product specialist with Farm Credit Canada (FCC), that would be Field Manager PRO, FCC’s management software.

Field management programs help farmers set up their fields, allowing them to store information such as seed rates, the day fields were seeded, fertilizer rates and even to track costs. With the handheld PC, farmers do not have to wait until they are back in the house to start keeping accurate records. They can enter that information right in the field. Likewise, they can call up reports to improve crop performance on the go. Come harvest, Brisebois says farmers can track inventory, do financial analyses of each field and conduct sales with Field Manager PRO. At the end of the day, the handheld PC can be hooked up to a desktop computer to transfer files. When it comes to traceability, a field management program can show that a farmer has followed proper steps for quality assurance, he notes.

“What we try to show is everyone has a unique way to track information but we want to add value to that information,” Brisebois says.

The mobile component looks much like a smart phone, a cell phone capable of more than just phone calls. Jamie Ernst of Brodeur Partners handles media relations for BlackBerry maker Research In Motion and points to the recent adoption of smart phones by Argentinean agriculture broker Compania Argentina de Granos as an example of what these cell phones can do on the farm.

The company created a custom application that allows farmers to sell their crops, handle logistics, place orders and update accounts in real time — which at one time had to be done in person or on the phone. The result is crops getting to market faster.

If no dedicated application is available, the Internet browsers in smart phones allow access to e-mail, market rates and weather conditions right in the field to help make decisions on the fly.

Many smart phones are also equipped with GPS and can manage data from GeoFarm’s remote sensing exercises with the right applications, Bills notes.

“Most farmers are just getting started on netbooks and desktops,” Bills says. “Ultimately, they will move to smart phone use too.”

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

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**Ask about ALPINE’s EQUIPMENT REBATE PROGRAM!**
Most farmers are not lawyers (and nearly every farmer would say “Halleluia” to that). Unfortunately, legal issues occur in agriculture just like other types of business. Contracts are part of many of those issues.

It is hard to go a day without entering into a contract. Whether it is buying inputs, hiring help around the farm, or just paying for parking, people agree to do things for mutual benefit all the time. In this article, we will only touch on contracts for buying or selling crops. Your lawyer should carefully review the effect of a given agreement, but here are some things to watch out for when a contract is offered.

You can find other common provisions in the sample contracts at www.saskpulse.com in the Selling and Buying section on the website.

**Pricing:** Since money is an important part of business, pricing clauses are usually prominent. Make sure there is certainty, both in the calculation methods, which includes grading, as well as the time of payment. Avoid pricing calculations that are dependent on the other side’s discretion or judgment.

**Delivery:** If selling, be sure the buyer has an obligation to accept the product at specific times. Otherwise, the producer may end up acting as a free warehouse, with no guarantee of ever being paid. There should also be reasonable penalties for late delivery/acceptance, to encourage performance by the parties.

**Termination:** Nearly all contracts can be terminated upon a breach by a party. That is normal and acceptable but watch out for other conditions that can allow one party to cancel the agreement at their discretion. A particularly dangerous provision is one where a party has a unilateral right to judge (for example, “the Seller is insolvent in the sole opinion of the Buyer”). These clauses are vague, and can lead to uncertainty and disputes down the road.

**Obligations on breach:** Rights upon a breach by the other party should be clearly spelled out. For instance, a seller will want the right to resell the product if the buyer defaults, rather than have to hold onto it for an indefinite period.

**Get everything in writing:** While verbal contracts are binding, most written contracts will exclude verbal promises, no matter how significant. If the other side is guaranteeing something, make sure it is written into the printed agreement. Beyond the contract clauses themselves, the circumstances of how the agreement is made is as important. Larger buyers will have “standard form,” pre-printed contracts. As a producer, do not assume these are written in stone. If there are clauses that are unclear or that you feel should be deleted, ask. Remember: you are only bound by a contract after you agree to it, and you first need to be confident you know what you are committing to.

Always have an exit strategy. Be prepared to walk away if the deal does not seem right. Do not be locked into just one alternative, otherwise you may have to take whatever terms are offered.

Above all, trust your instincts. Deal with reputable people and businesses. The best contract in the world can do little to help against a fraudulent party. It is far better to have a mutual respect and understanding from the outset. If the signed contract stays in a file somewhere without again seeing the light of day, chances are both of you have struck a balanced and fair deal.

Can you buy or sell crops without written contracts? Of course, but you have far less certainty. The very act of putting an agreement down on paper forces the parties to consider what is important, and identifies where differences might lie. Those differences can then be sorted out before they become a problem. The point is not to expect a breach, but to manage the expectations of both sides so that the transaction is completed to everyone’s benefit.

Craig Zawada is a lawyer with WMCH Lawyers & Mediators in Saskatoon, Saskatchewan. He has spoken at Pulse Days on the topic of production contracts.
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Every Farm Needs a Marketing Plan

by Jonathon Driedger

Marketing has become increasingly difficult over the past several years. Volatility remains high and markets are complex, while an uncertain broader financial climate influences values in ways that seem to have little to do with traditional supply and demand fundamentals. The challenge of marketing crops is even more difficult in Western Canada than in many other major grain producing regions since our crop markets are so diverse, with each crop having their own unique market function, price discovery mechanism, and risk management tools.

For these reasons it is more important than ever that farms have a well thought out and disciplined selling plan for the marketing year. Although market predictions and specific price expectations are part of the process, the more critical part is anticipating and planning for the needs of your specific operation.

In a perfect world, farmers would be able to make sales only in response to when the market is signalling for them to sell their crop, such as strong prices or good opportunities for movement. But the reality is that most farms face internal pressures that require sales to be made at certain times of the year, such as a lack of adequate storage, which means a certain amount of crop needs to be sold in the fall or those periodic times when cash flow needs are particularly great.

Too often these operating needs do not coincide with when the market is telling us to sell our crop, and in fact, often occur during times when the market is specifically signalling for us to hold our crop back. For example, basis levels and futures prices may be telling farmers to store their canola until later in the marketing year, even though the farm may not have the financial or storage capacity to hold much canola past harvest.

Often in these times crop gets forced off the farm in reaction to the immediate need to move grain, resulting in less-than-optimal returns. The worst part of these sales made out of necessity is that they are often avoidable. Careful planning helps bridge this gap between market signals and operating needs, particularly when they are conflicting. This process involves examining the specific situation of an operation, including storage constraints, cash flows, crop mix, risk tolerance, and the multitude of other factors that influence selling decisions. Crop can then get sold ahead of time when the market signals dictate that sales should be made, with the specific delivery windows targeted to meeting the farms operating constraints.

Another purpose of marketing plans is to deal with complex and highly variable cash markets. We grow a multitude of different crops on the Prairies that go into three distinct markets, including CWB grains, pulse and specialty crops, and crops that trade on futures markets, each of which have very different market characteristics. The diverse mix of western Canadian crops can create tremendous opportunities, but it also makes marketing more challenging.

Crops that have active futures markets are generally more liquid and allow the ability to lock in the basis and futures portion separately if market conditions warrant it. There may also be seasonal trends in basis levels or
carrying charges in the market that could be exploited. Many special crop markets have fewer risk management tools, but may offer production contracts with an Act of God clause. Some of these markets can go through times when activity is very quiet and bids almost non-existent, but also go through periods when prices can be explosive. Each CWB pricing option also has its own pros and cons.

Each of these crops has their own unique market dynamics, price discovery mechanisms, and risk management tools, all of which must be fully understood to make effective selling decisions. A plan helps to provide some structure around how the various aspects of each market can be utilized to their fullest potential to meet individual farm needs. Without some preplanning and understanding of what those internal needs are, chances to make potentially good sales can often be missed.

One of the easiest and most effective tools to match internal farm needs to our diverse crop markets, while still managing downside risk and leaving upside potential, is through a practice referred to as incremental selling. Incremental selling essentially involves dividing your crop into anywhere from three to six different increments of between 10 per cent and 40 per cent each for marketing purposes. Sales are spread out over time or, in the case of CWB pricing options, over different types of contracts. This simple but effective technique helps to manage the unavoidable uncertainty of future market direction.

Whatever the market environment, there is always the risk that either the markets will fall and the farm will have not sold enough, or that prices will rise and the farm has nothing left to sell. In either case, the marketing performance is less than what could otherwise have been achieved. Breaking down sales for each crop into smaller increments reduces the risk of holding too much inventory in a falling market, while still ensuring some crop is left to sell in the event that prices strengthen later in the year.

This element of managing downside price risk is particularly useful for those crops that cannot be effectively hedged using futures or options. However, those crops with viable futures markets can also incorporate hedging strategies to complement and/or supplement an incremental selling strategy.

The size and timing of each sales increment will be driven by both the market outlook for each individual crop and the overall needs of the farm. For example, crops that have less upside potential or greater downside risk over the coming year would be marketed more aggressively and in larger increments, while crops with a tighter supply and demand balance might be sold in smaller increments as they may have greater opportunity if held until later in the year. Even crops with positive outlooks should have some sales made early in the year due to the simple fact that markets are uncertain and can change quickly. Sales would also typically be targeted for those times when the farm needs movement, such as at harvest due to storage constraints or when cash needs are greatest.

Aside from the price outlook, individual selling increments will be impacted by factors such as contract buy-out risk, if contracts offer Act of God clauses, the quality risks between crops, and other local marketing factors. For example, many of the special crop markets go through periods where demand is thin and bids are not readily available. This might dictate that sales are made in fewer and larger increments when opportunities do come up to take advantage of these somewhat sporadic buying windows. However, many of these crops also offer production contracts with Act of God clauses, which allows for more aggressive sales to be made in advance without carrying all the production risk. Other crops such as canola, barley and oats will have readily available bids at all times, even if the market signals dictate that it may not be an optimal time to be making sales.

One of the benefits of marketing in increments is it takes a lot of the risk and emotion out of each individual sale, as each decision represents a smaller portion of the crop. This allows for more rational decisions based on market signals and farm needs, as opposed to the uncertainty of trying to pick the top of the market or fretting about selling out most of your crop near the market lows.

It is easy to get bogged down in trying to forecast every twist and turn in the marketplace. However, effective marketing involves much more than accurate price prediction. Having an understanding of all the variables that require your farm to move grain during specific periods of time, and then planning in advance for those needs is the only way producers will know how to best respond to whatever action takes place in the market. The guidance and discipline that comes from a carefully designed and disciplined marketing plan should ultimately result in higher prices for the farms portfolio of crops, while still meeting operating constraints and doing so in a way that reduces overall risk and leaves the opportunity to capture potential higher prices later in the year.

Bio

Jonathon Driedger is an Analyst with FarmLink Marketing Solutions based out of Winnipeg, Manitoba.
On Point

SPG Welcomes Back Allison Fletcher
Saskatchewan Pulse Growers (SPG) is pleased to welcome back Allison Fletcher who returned to SPG in February from a maternity leave. Allison will continue in her role as Research Project Manager and can be reached at 306-668-0591 or afletcher@saskpulse.com.

Funding Available Under Farm Business Development Initiative
Through the Saskatchewan Ministry of Agriculture, under the Growing Forward program, there is a Farm Business Development Initiative. Up to $4,000 is available to help individual farmers engage private sector business services and/or access farm-related education and training programs. The farmer has to pay a minimum of 25 per cent of the consulting or training costs. This initiative will help farmers develop business plans and enhance business skills in nine areas - business strategy, marketing, production economics, human resources, finance, environment, succession planning, business structure and risk management. To get started make an appointment with your local Ministry of Agriculture Farm Business Management Specialist or call the Agriculture Knowledge Centre in Moose Jaw at 1-866-457-2377. This information is courtesy of Kevin Hursh, Hursh Consulting and Communications.

Getting to Know Your Board Members: Jeff Sopatyk
Jeff and his wife operate Sopatyk Seed Farms in the Saskatoon area. They farm 9,000 acres of Pedigreed seed peas, lentils, chickpeas, canola, barley, wheat, and hemp. Jeff has a diploma from the School of Agriculture at the University of Saskatchewan and attended an additional two years in the College of Agriculture. He has also served as a Director for Farm Pure Seeds. Jeff is a Select status seed grower and participates in the SPG Variety Release Program. He is a representative on the Pulse Canada Board. Jeff joined the SPG Board in 2008.

Positions Filled on SPG Board
This January, SPG welcomed two new Board members: Dan Flynn and Vicki Dutton. Dan farms 5,500 cultivated acres near Beechy with his father Jim and they grow a variety of pulse crops which include red lentils, large green lentils, yellow peas, and have in the past included chickpeas. Vicki and her husband have been farming since 1974 in the Paynton area where peas and red lentils make up 25 to 33 per cent of their rotation. Vicki is a pedigreed and Select status seed grower and she participates in the distribution of new varieties through her family’s company Western Grain Trade Ltd. The new Board members will be replacing Maurice Berry and Barbara Podhorodeski who both retired after serving two, three-year terms on the SPG Board. Murray Purcell from Pike Lake was also re-elected to the Board and is now serving as the Board Chair.

2008-2009 SPG Annual Report Now Available
SPG’s 2008-2009 Annual Report is now available in electronic and print format. To download a copy, please visit our website at www.saskpulse.com. To receive a copy by mail, please contact the SPG office by telephone at 306-668-0350 or send an email to pulse@saskpulse.com.

SPG Post Graduate Scholarship Recipients Recognized at Pulse Days 2010
The recipient of the Don Jaques Memorial Post-Graduate Fellowship was Mohammad Tahir. The fellowship was established to recognize and support outstanding academic achievement and research in pulse crops. The award is...
named to commemorate the many years of service by Don Jaques, who administered SPG from the organization’s inception in 1984 until his death in 1997. The recipient of the Alfred E. Slinkard Post-Graduate Scholarship was Claire Sullivan. The scholarship is an acknowledgment of the outstanding contributions made to pulse research and extension by Dr. Al Slinkard, Professor Emeritus at the U of S. Both winners were recognized during the Awards Program at Pulse Days 2010.

Students Winners at 2010 Pulse Research Poster Session

Congratulations to the winners of the 2010 Pulse Days Research Poster Session. The student posters were judged by category and the winners were each awarded $500. This year we had ties in two categories:

- Sally Vail and Tamira Delgerjav in the Genetic Improvement Category
- Tanya Der and Julianne Rooke in the Value Added Processing Category

SPG would like to thank all of those who participated in the Pulse Research Poster Session.

CLEARFIELD® Commitment™ Important Information for Growers

If you missed the article written by Neal W. Caldwell of McDougall Gauley in the January 2010 issue of PulsePoint it is important you find your copy or read this article online at www.saskpulse.com. This article contains important information about the CLEARFIELD® Commitment™ and the contractual terms of growing CLEARFIELD® lentils. SPG encourages all growers to ensure they are abiding by the rules set out by BASF and the Commitment™.

Grasshopper Identification and Control Methods Book Available!

The Saskatchewan Ministry of Agriculture is predicting this will be a big year for grasshoppers. Be prepared and call the SPG office at 306-668-0350 or email us at pulse@saskpulse.com to receive your complimentary copy of the Grasshopper Identification and Control Methods Booklet.

Alliance Acquires Finora

Alliance Grain Traders, known by many as Saskcan Pulse, announced another major acquisition – Finora Inc. Finora operates four pulse and specialty crop processing plants in three locations. There are two plants at Wilkie, a plant at Assiniboia and a plant at Gibbons, Alberta. In the same month, Alliance Grain Traders also announced the purchase of Parent Seeds in Manitoba. Alliance Grain Traders has two plants in Regina, two plants at Rosetown, a plant at Aberdeen and a facility at Milestone. The company also has operations in Turkey, Australia and the United States.

Extension Services Expanded in Rural Saskatchewan

The Ministry of Agriculture has expanded their rural extension services by opening offices throughout the province to ensure all Saskatchewan producers have direct access to the information and expertise they need when making production and business decisions. For a complete listing of the new Saskatchewan Ministry of Agriculture Regional Offices, please visit, http://www.agriculture.gov.sk.ca/RegionalDevelopmentTeams.
Seven Million Tonnes by 2030

We are on track to export 3.5 million tonnes of pulses by the end of the 2009/10 crop year. In the last issue I projected that Saskatchewan could export seven million tonnes of pulses by 2030. For this to happen, demand and supply will have to continue to increase in a way that keeps pulses profitable for us to produce and export.

Our supply of pulses will increase if they remain a competitive option in our cropping systems. Demand will increase if pulses remain a competitive choice for consumers compared to pulses from our competitors in other pulse producing regions of the world.

In the January 2010 issue I discussed Brian Clancey’s projections for increased pulse demand due to population growth. This is a major factor that will continue to fuel demand for our pulses if we can remain competitive. New demand can also be driven by the health concerns of the North American population and the sustainable role that pulses can play in reducing greenhouse gas emissions in our crop rotations.

So what is Saskatchewan Pulse Growers doing about this? We are increasing our activity in both research and communications. Our increased research investments will be targeted towards:

- Development of beneficial traits through the use of genomics tools (non GMO approach). This will improve our ability to develop better varieties for producers and consumers.
- Development of “biofortified” pulses with high levels of micronutrients. Pulse consumers in some regions of the world, South East Asia for example, suffer from micronutrient deficiencies. Our soils provide us with the opportunity to naturally biofortify Saskatchewan pulses.
- Pests, weeds, and diseases cause significant yield and quality losses in our pulse crops. We will be increasing research efforts in this area.
- Utilization, particularly in countries importing Saskatchewan pulses. Our experience with Tamil Nadu Agricultural University in India has taught us that there are many more opportunities to collaborate with local expertise in importing countries to develop new ways to use Canadian grown pulses in local diets.

We have increased our communications activity in Canada to get the message out that “pulses are good for you.” We appeared at the 2010 Winter Olympic Games as part of the Saskatchewan pavilion and reached over 100,000 people during the course of the event. Our Kanadal green lentil brand has been launched in Canada and is soon to be launched in India. Plans for additional activities are being made to get the message out as the results become available from the 31 projects in utilization we are currently funding.

Is seven million tonnes of pulse exports achievable? You bet! And, we are going to do everything we can to reach that goal and increase profit for Saskatchewan pulse producers.
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