WINTER CEREALS CANADA GROWER

Incorporating Saskatchewan Winter Cereals Development Commission and Winter Cereals Manitoba Inc. News

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DIAP RESEARCH RESULTS – PRODUCER DOLLARS PAY OFF

The Saskatchewan Winter Cereals Development Commission, Winter Cereals Manitoba, Alberta Winter Wheat Producers Commission and Ducks Unlimited Canada in conjunction with AAFC initiated a $1.26 million winter wheat agronomy project three years ago. Funding from the 4 organizations was supplemented with a grant from Agriculture Canada and the Growing Forward 1 program.

This project has now been completed and the results are published for western Canadian producers to review and use to assist in making on farm decisions. The project was led by Dr. Brian Beres of AAFC and involved scientists and research locations from across the Canadian prairies.

Following is a highly condensed summary of the published results to give readers a taste of the full report. The full 25 page report complete with tables, graphs and photographs is available online on any one of our websites. (www.wcmi.info, www.swcdc.info and www.wintercerealscanada.org).

Enhanced Economic Returns and Ecosystem Services with the Expansion of Winter Wheat

The overall objective of this DIAP project was to overcome obstacles in the adoption of winter wheat in western Canada. Studies were established to broaden the stubble options available for seeding winter wheat and evaluate a number of pest and nutrient management strategies. We identified stubble alternatives to canola such as pea stubble that were proven to provide similar results, gained a better understanding of controlled-release N products, and new herbicide chemistries have been identified to improve weed management. Also, we have already observed a significant increase in the adoption of seed treatments. This DIAP initiative has provided an excellent starting point to supporting increased, successful winter wheat production.

Activity Results: *Sub-activity 1.1* determined the influence of seed-applied fungicides and insecticides on fall stand establishment and overwinter survival of winter wheat at 20 sites. Treatments visibly affected winter wheat stand, but these visual differences were not confirmed with the analysis of fall plant stand data. It would appear that the fungicide application elicited a favorable plant physiological response even in the absence of symptoms from foliar pathogens.

Sub-activity 1.2 assessed the efficacy of a novel herbicide (pyroxasulfone) in controlling weeds in sub-optimal (150 seeds m^{-2}) and optimal (450 seeds m^{-2}) winter wheat stands. Visual tolerance of winter wheat to pyroxasulfone was generally acceptable, although spring application may have injured winter wheat. Pyroxasulfone often reduced wild oat density at rates ≥ 150 g ai ha^{-1}. Optimal winter wheat stands had lesser wild oat biomass than the sub-optimal stands and all herbicides resulted in lower wild oat biomass than the untreated check at the location with greatest wild oat density. An optimal stand (seed rate of 450 seeds m^{-2}) required lesser pyroxasulfone rate to reduce broadleaf weed biomass to levels similar to the herbicide standards. Winter wheat yield increased by 5% when seeding rate was increased from 150 to 450 seeds m^{-2}, but herbicide treatment did not affect yield due to low weed pressure. Ensuring optimal winter plant populations along with soil-applied pyroxasulfone appear to improve winter wheat weed management.

Sub-activity 1.3, We wanted to know if nitrogen management recommendations need to be altered when planting winter wheat into heavy trash from barley stubble. No significant interactions occurred between N fertilizer rate and N/straw treatment for any of the winter wheat responses. Nitrogen/straw management alone did not affect plant density, grain quality, and N uptake responses. Greenseeker assessments of winter wheat growth, and grain yield responses indicated that urea banded at seeding (with residue removed) was more effective than spring broadcast SuperU (with residue applied in the spring) and as effective as the other N/straw treatments employed in this study.

Sub-activity 1.4 assessed the direct and indirect impacts of surface crop residues from a wide range of crops on the growth, development, yield and quality of winter wheat. The snow trapping potential (STP; stubble height in cm x stubble stems per square meter) / 100) for barley was > 20 (adequate), was adequate for spring camelina but less than barley, and was consistently < 20 for canola or pea. Seeding winter wheat after canola reduced winter wheat stands compared to after barley, pea or spring-seeded camelina at most locations. Stand reductions for canola stubble likely contributed to the lesser winter wheat yields for canola stubble at one location. Seeding winter wheat after peas and between rows from the cereal crop preceding peas, resulted in similar winter wheat stands and greater grain yields than seeding winter wheat after barley at all locations.

The interaction of seed treatments and fall-applied foliar fungicides on winter hardiness and plant health of winter wheat was assessed with *sub-activity 2.1*. This experiment tested a range of agronomic systems from weak (low seed rate, small/thin seed, no seed protection) to superior (high seed rate, heavy/plump seed, dual seed treatment). Treatments visibly affected winter wheat stand and growth early in the growing season. Some results indicated that seed treatments enhanced winter wheat productivity, particularly if the agronomic system is compromised with less than desirable seed lots and thinner plant stands.

The goal of *sub-activity 2.4* was to optimize seed quality and net returns through enhanced N management strategies for milling and general purpose winter wheat. Treatments included urea type (urea, urea+urease inhibitor – 'Agrotain'; urea+urease and denitrification inhibitor – 'SuperU', polymer-coated urea – 'ESN', and urea ammonium nitrate - UAN. Conclusions from this research are: 1) split applications of N are better for winter wheat by avoiding losses with fall seed operations; 2) some controlled-release urea products may not release N soon eNough; i.e. ESN not seed-placed; and 3) dual urease and nitrification inhibitor (SuperU) may prevent losses of N when applied in late fall, which is a high risk time for N application.

The interaction of herbicide selection and timing of application on suppression of Japanese and downy brome in winter wheat was assessed with *sub-activity 2.5*. Winter wheat was visually tolerant to herbicides and average crop injury did not exceed 15% for spring-applied Flucarbazone, Pyroxulam, and Thiencarbazone-methyl. Fall-applied Thiencarbazone-methyl provided consistently lesser winter wheat injury. Excellent control of Japanese brome was achieved with all herbicides and the addition of flumioxazin to pyroxasulfone did not improve Japanese or downy brome control. Pre-plant chemistries, and to a lesser extent select spring-applied Flucarbazone and Thiencarbazone-methyl treatments, resulted in consistently greater yields. The pre-plant tank mix of Pyroxasulfone + Flumioxazin provided consistently lower yield, and fall-applied post-emergent treatments had lesser and more variable yields. Reasonable winter wheat tolerance and nearly complete, consistent control of brome weed species reveals promise for the new pre-plant chemistries Flumioxazin and Pyroxasulfone.

Final Thoughts

Collaboration with Duck's Unlimited, AAFC, Winter Cereals Canada, Winter Cereals Manitoba Inc, Saskatchewan Winter Cereals Development Commission, and the Alberta Winter Wheat Producer's Commission has established synergies between the research community and industry. We have created some momentum for interest in winter wheat production and hope this can carry forward into future!

The Saskatchewan Winter Cereals Development Commission and Winter Cereals Manitoba Inc. would like to acknowledge the contribution of the following research scientists for their contribution to this important piece of the winter wheat agronomy puzzle.

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(* deceased – see page 4)

In This Issue

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"THE VALUE OF A CROP SURVEY TO FARMERS"

INFORMA ECONOMICS IS LAUNCHING A CANADIAN CROP SURVEY THIS SPRING...

You may ask, "Why should I become a respondent to a crop survey? What is the value of a crop survey to me?"

Crop surveys can play an important role in both production and marketing decisions. Survey information is valuable to farmers, and other members of the value chain. Having timely area, yield and production estimates for Canadian crops, and knowing how to use the forecasts can make a difference in the profitability of your farm or farm business.

The value of area, yield and production estimates: **Fine-tuning your planting decisions:** It is important to have a good estimate of how much land Canadian farmers intend to sow, and to what crops. Knowing Canadian intended and actual acreage can help you fine-tune seeding decisions on your farm. It will also allow you to start implementing your crop marketing strategy well before harvest.

If estimates for Canada show intended acres are above those being traded by the market, more abundant or less scarce supplies are implied. This tends to be associated with weaker prices. Alternatively, if estimates for Canada show intended acres are below those being traded by the market, scarcer or less abundant supplies are implied. This tends to be associated with stronger prices. In both cases, this knowledge helps you make changes to your marketing plan.

For Example:
Hypothetically, let's say your initial crop budget indicated that winter wheat would have good net revenue per acre vs. fall rye, even considering normal winterkill. Then sometime before fall planting, a planting intensions survey came out and indicated higher fall rye area and lower winter wheat area than the market was trading prior to the report.

Say the market's reaction was to push winter wheat prices higher and fall rye prices lower. Switching some of your acres from fall rye to winter wheat would make sense, particularly if:

(1) You are able to capitalize on the improved price (via cash or future/option contracts),
(2) Rotations are not a pressing issue,
(3) Crop input costs are essentially unchanged from your initial budget, or at least do not overwhelm the change in crop prices.

During the growing season: Yield Estimates: Now, as we all know from experience, even with the best seed, crop yields are not guaranteed. Weather, disease, pests, inputs and other factors play a tremendous role in yield determination. This is why timely yield estimates are extremely important. National expected yields may not occur, throwing off your returns, even if your crop's yields are unaffected.

If estimates for Canada show seeded area and/or yields above those being traded by the market, more abundant or less scarce supplies are implied. This tends to be associated with weaker prices. Alternatively, if estimates for Canada show seeded area and/or yields below those being traded by the market, scarcer or less abundant supplies are implied. This tends to be associated with stronger prices. In both cases, having timely estimates helps you make adjustments to your marketing plan sooner rather than later.

Depending on the maturity of the crop, there are numerous crop management activities you can adjust in order to improve your return. The specifics of this are best discussed between yourself and those you depend on for agronomic advice.

A number of factors will influence the changes you make to your grain marketing plan
The overall supply and demand sets the scene. Other factors include the availability of contracts in the spot and forward markets, and whether your crop is flat priced, or if you can use futures and/or options. These factors, along with your knowledge of your local market, will influence how you adjust your marketing plans.

For example, if your local market has a number of processors or feed buyers and "easy" access to offshore markets, market price moves are likely more influential. If your local market has few processors and poor access to offshore markets, this will tend to make market price moves less influential.

Why Participate? If you choose to participate in this survey, Informa Economics will send you an easy to read summary of the high-level results for Canada, helping you stay informed.

For more information please see: http://www.informaecon.com/canada/surveyrespondent.asp.

Informa Economics will also be drawing for a popular tablet computer after the July survey is complete. In order to participate in the draw you must be signed-up as a participant, and actively responding to the survey.

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MANITOBA FARMERS HIT HARD BY DRY 2012 FALL

Mother Nature can be the friend or foe of winter cereals producers. Many producers were lulled into the idea that the winter of 2012 – 2103 would be friendly with all the ample snow cover blanketing winter cereals crop. Winter may have been kind but the reality is that the long dry fall we experienced in 2012 was a killer for winter cereals crops in many areas of southwest Manitoba and southeast Saskatchewan. Most crops were seeded well within the typical seeding window that ends in mid-September but the dry soil and lack of precipitation resulted in very poor germination and poor plant development heading into winter. Many producers describe their crops as simply drying out and dying before getting the rain needed to establish a strong root. Plants that did manage to grow did not develop to the ideal 3 leaf stage. Even with snow cover the plants lacked the vigour to survive the extended winter and unusually cool spring.

In south-western Manitoba MAFRI has estimated that 75% to 80% of the crop would be reseeded due to poor plant stands. In the area from Birtle Manitoba to Hamiota some people have reported that losses are at 100% of the seeded crop. Eastern Manitoba has fared better due to more normal moisture conditions in the fall. With varying degrees of damage through the province it is difficult to estimate where the final acreage and yield numbers may end up.

FALL RYE RESEARCH UPDATE FROM AAFC LETHBRIDGE – NEWS FROM DR. JAMIE LARSEN

The fall rye in the AAFC plots at Lethbridge were beginning to head out in the first week of June and look really good. We had a pretty easy winter, so no real issues with winter survival.
Indoors, our fall rye crossing block, targeted to improve falling numbers, will head out in the middle of June. The timing is excellent as there is the potential to use some of the breeding lines from the field for extra unplanned crossing indoors.
I was very happy with the response I had from my request for information from fall rye growers. The survey helped me to understand the diversity in fall rye agronomic practices (organic to intensive management) and variety preference (tall vs. semi-dwarf). One point was made pretty clear through my correspondence with farmers, marketing of fall rye isn't an issue and it is profitable to grow fall rye; just make sure that you have a marketing plan in place.
Conversations with producers indicate the need to 'clean up' the current semi-dwarf varieties of fall rye, AC Remington and AC Rifle. They have become polluted with tall plants that are almost impossible to remove. Over the winter I intend to do this indoors and try to move these purified varieties into seed multiplication as fast as possible. I am also working with collaborators in Germany that have other sources of semi-dwarfing genes that will reduce these issues.
Another project that we will be initiating in the fall is a collaboration with KWS Lochow. Together, we will be working on a fall rye management study where we will be comparing open pollinated and hybrid rye variety performance under provincial management (limited inputs) and intensive management practices (a combination of recommendations from German fall rye and western Canadian winter wheat production systems). I think there will be some eye opening results when producers see what open and hybrid rye varieties do when, as a producer from Dauphin, MB says, 'put the groceries to it'!

SWCDC TO RECEIVE NATIONAL AGRICULTURAL PRODUCTS MARKETING ACT DESIGNATION

On April 27, 2013 the Farm Products Council of Canada published the Saskatchewan Winter Cereals Order in the Canada Gazette Part I. After a thirty day mandatory comment period, if there are no significant objections, the council proceeds to finalize the order in Part II of the Gazette. .

Once the order is registered and becomes in force the new Saskatchewan Winter Cereals Order gives the Saskatchewan Winter Cereals Development Commission the authority to collect the designated $0.50 per tonne levy on Saskatchewan grown winter cereals that are sold outside the Province of Saskatchewan. The provincial legislation that established the commission only provides for collection of levy on grain purchased in Saskatchewan.

The new authority will primarily allow the commission to collect levy on winter cereals that are shipped out of Saskatchewan in producer cars.

WE WANT TO HEAR ABOUT FALL RYE FROM YOU!

To get a better idea of the needs of fall rye producers we would like to survey growers on where they are located, what varieties work in their regions and under what production practices. Input from growers will be incorporated into research projects where possible, in order to provide solutions for fall rye production issues. Initial response to our request was impressive - but more is even better. Please respond to Jamie.larsen@agr.gc.ca.

If you no longer wish to receive the Winter Cereal Grower newsletter, please send us either an e-mail with your name and address or send us a note with your mailing label requesting that your name be removed from the mailing list.

CWB OPEN FOR NEW CROP BUSINESS:

CWB has launched its line-up of 2013-14 programs, including some innovative Futures Choice pool contracts.

Pooling for every season: There are three pooling periods to choose from, which allows farmers to choose when they would like their grain priced and when they want to deliver. The Early Delivery Pool runs from August 2013 to January 2014, and features guaranteed early delivery by January 31, 2014. The Annual Pool runs the entire crop year. The six-month Winter Pool lets farmers capture next year's late season prices (February 2014 to July 2014). All pools are designed to remove the daily volatility of cash prices.

For farmers looking for more control over their return, the new Futures Choice pools are ideal. They offer many of the advantages of their traditional pool counterparts, plus farmers can book their own futures value. CWB will pool the basis during the associated pooling period (Early Delivery, Annual, or Winter), while farmers watch the futures market and price when they're ready.

Canada Western Red Winter wheat is eligible for all the pools, including the Futures Choice options. Pooling is a simple way to market, and provides the guarantee that producers will not end up with a lower than average price for the period. CWB's expert sales team uses decades of experience and strong customer relationships to market the pools at the best possible prices each day.

Flexibility for farmers: From sign-up to delivery, contract execution is also easy. Farmers can deal directly with CWB's staff, speak to the grain-handling company, transact business online, or contact their Farm Business Representative for a local perspective on handling costs, premiums and delivery opportunities. Farmers have the flexibility to shop their contract around to CWB's grain-handling partners, amend their contracts at little or no cost, and arrange delivery directly with the handler. There are two reference grades for Canada Western Red Winter wheat; 2 CWRW or better, and 3 CWRW. Plus, all CWB pool contracts come with Act of God provisions to cover production loss on unpriced tonnes.

The sign-up deadlines for CWB's 2013-14 pools are outlined below. To sign up, or for more information, visit www.cwb.ca or call toll-free 1-800-275-4292.

Pools	Pooling period	Sign-up deadline	Guaranteed delivery by
Annual Pool	August 2013 to July 2014	October 31, 2013	July 31, 2014
Early Delivery Pool	August 2013 to January 2014	October 4, 2013	January 31, 2014
Winter Pool	February 2014 to July 2014	February 14, 2014	July 31, 2014
Futures Choice Pools	**Basis pooling period**	**Sign-up deadline**	**Guaranteed delivery by**
Futures Choice Annual Pool	August 2013 to July 2014	October 31, 2013	July 31, 2014
Futures Choice Early Delivery Pool	August 2013 to January 2014	October 4, 2013	January 31, 2014
Futures Choice Winter Pool	February 2014 to July 2014	February 14, 2014	July 31, 2014

Agriculture Community Mourns the Loss of Guy Lafond

On April 27, 2013 Canada lost an outstanding member of our scientific community with the passing of Dr. Guy Lafond in Indian Head, Saskatchewan at the age of 59. Guy Lafond was a leader in the study of zero-till agronomy practices that are now considered the norm in Western Canada. Guy Lafond grew up in Manitoba and was educated at the University of Manitoba (M.Sc.) and then received his PhD from the University of Saskatchewan.

After graduation Guy was employed at the Indian Head research farm for over 30 years where he studied zero tillage, continuous cropping, intensified cropping systems, soil and water conservation and seeding directly into stubble. One portion of the recently completed Winter Wheat DIAP Project (Growing Forward 1) was managed by Dr. Lafond.

In the early 1990's Guy was a driving force behind the formation of the Indian Head Agricultural Research Foundation. There was concern that critical research on zero tillage could be at risk due to reduced federal research funding and the independent foundation was formed to ensure that critical work would be carried out with or without federal assistance.

Donations in memory of Guy Lafond may be made to the Indian Head Agricultural Research Foundation, Box 156, Indian Head, Sask.S0G 2K0. 100% of donations received will be placed into a fund to support the Guy Lafond Memorial Scholarship.

Guy is survived by his wife of 32 years, Edith Oddleifson, son Eric, daughter Gaetane, two brothers and three sisters.

The Saskatchewan Winter Cereals Development Commission website is your home for winter wheat news in Saskatchewan • www.swcdc.info

The Winter Cereals Manitoba website is your home for winter wheat news in Manitoba • www.wcmi.info

CWRW varieties moving to CWGP in August 2013

Are you ready for upcoming changes to the CWRW class? On August 1, 2013, the following wheat varieties move from the Canada Western Red Winter (CWRW) class to the Canada Western General Purpose (CWGP) class:

- CDC Kestrel
- CDC Clair
- CDC Harrier
- CDC Raptor
- CDC Falcon, currently a CWRW variety, will move to the CWGP class on August 1, 2014.

What does this change mean?

Beginning August 1, 2013, when you deliver any of the affected varieties, you must declare your wheat as eligible for delivery into the CWGP class. These varieties will no longer be eligible for delivery into the CWRW class.

The Canadian Grain Commission's web site, www.grainscanada.gc.ca, offers variety designation lists to help you identify which varieties are eligible for the top grades of each class.

Why is this change happening?

In 2009, the Canadian Grain Commission announced plans to reclassify some CWRW varieties in response to feedback from farmers and other grain industry stakeholders. It was felt that the CWRW class should reflect milling quality. Continuing to include varieties with high yield but low milling quality in the CWRW class affected the overall ability of this class to compete in global markets.

Canada Western General Purpose class

Varieties in the CWGP class are not intended for milling purposes. Generally, varieties in this class are high-yielding and have high starch and low protein content. They are suitable for industrial uses such as ethanol production or animal feed. Due to their low protein content, general purpose wheats are typically not suited for milling.

Contact

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High yielding winter wheat needs phosphate

Achieving high winter wheat yields depends on two critical factors: winter hardiness and rapid spring growth. Both factors are directly influenced by the phosphate status in the plant. Adequate phosphate nutrition helps promote rapid emergence and establishment in the fall, allowing the crop to achieve optimal root and shoot growth prior to dormancy. This promotes winter hardiness and a greater probability of the crop withstanding adverse environmental conditions.

For the best winter survival, fall-seeded cereals must germinate uniformly in the fall and develop three to four leaves and a few tillers before freeze up. Then in the spring, the winter cereal plant develops from the crown tissue.

In spring, plants with adequate nutrition exhibit enhanced vigour resulting in strong crop growth. Phosphate plays an essential role in promoting tiller initiation, an important component of achieving high yields. University research reveals that plants with sufficient phosphate produce 29% more grain heads and, consequently, 29% higher yields than plants with limited phosphate. Proper phosphate nutrition also promotes early and even maturity.[1]

Phosphate in the soil

Understanding the nature of phosphate (P) in the soil is key to understanding where and how to enhance P fertilizer use efficiency in winter cereals.

1. Fertilizer P is easily and quickly tied up (or bound) in the soil by calcium, magnesium, iron, and aluminium. Once the fertilizer P is bound, it is unavailable to the crop.
2. As a result the crop uses only 10–30% of the P fertilizer applied in a given year – the poorest of all major nutrients.[2]
3. Phosphate is very immobile in the soil; it moves less than 1 mm from where it is placed. As a result, a crop's root system must grow toward the small amount of P that remains available.

For years the common practice to ensure that a crop was not deficient in P was to simply apply more phosphate fertilizer. But now JumpStart®, a seed inoculant, offers winter cereal producers the opportunity to maximize efficiency of P fertilizer applied in the current year, as well as in previous years.

JumpStart is a wettable powder that is applied to the seed. The active ingredient in JumpStart is the patented, naturally occurring soil fungus *Penicillium bilaii*. The fungus colonizes (grows along) the root, releasing organic compounds that in turn release the "bound" mineral forms of less available soil and fertilizer phosphate, making it immediately available to the crop.

JumpStart ensures the phosphate in the proximity of the root system is made available, providing the crop access to a large pool of P in the soil that is typically not available – much of this from bound fertilizer P from previous years' fertilizer applications. Furthermore, JumpStart acts as a P fertilizer efficiency tool, making the current year's applied P more available.

JumpStart promotes greater phosphate use efficiency and delivers root and shoot development for improved vigour, emergence, and stand establishment. Better stand establishment increases stress tolerance, which improves winter survival and increases tillering, ultimately leading to higher yields.[3]

For more information on JumpStart, please contact Novozymes BioAg at 1-888-744-5662.

www.useJumpStart.ca

[1] Source: Dr. B Fowler, University of Saskatchewan, Winter Cereal Production.

[2] Source: Better Crops Vol. 86 (2002, No. 4), International Plant Nutrition Institute (formerly Potash & Phosphate Institute).

[3] Source: Summary of 84 independent large-plot research trials in North America since 2002 demonstrate that JumpStart increases winter wheat yields by an average 8%.

Winter Cereals Manitoba Inc. is proud to provide funding for the MCVET trials on behalf of Manitoba winter wheat producers and our members.