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CAN()LAdigest

In this spring issue we look ahead to the market and agronomy issues that will shape 2011.

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Cover: A producer scouts his field shortly after emergence looking for evidence of pests or disease. Photo by Dave Reede.

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A TIME FOR OPTIMISM

By Kelly Green

Spring is my favourite season! The cold winter months fade into memory and are replaced with a reinvigorated sense of enthusiasm and excitement for what lies ahead. As I sit down to write this final editor's message for the season, enthusiasm in the canola industry is also running high – prices are extremely strong and Statistics Canada recently projected record canola plantings of 18.5 million acres for 2011.

But that's not all that is cause for excitement. During the past few weeks my inbox has been flooded with good news stories about our industry; some of those stories address topics covered in this or earlier issues of *Canola Digest*.

For example, on February $10^{\rm th}$ the federal Minister of Agriculture and Agri-Food and the federal Minister of Environment announced that a two percent renewable fuel standard (RFS) for biodiesel is planned to take effect July 1, 2011. As you will read in "Biodiesel on the Edge of Opportunity" (page 24), the canola industry has been working diligently to develop biodiesel market opportunities in Canada and elsewhere; this is great news for canola farmers, crushers and biodiesel manufacturers. With the RFS soon to be in place, maybe soon we'll also be reading announcements about the build out of canola-based biodiesel plants in Western Canada, the one part of the biodiesel puzzle that is still lagging.

Another important update, which follows a story we ran earlier in the season, addresses Bill C-474, a bill that proposed significant changes to the way seed varieties created using genetic modification technologies were approved. On February 9th this bill was solidly defeated at final reading in Parliament so the science-based foundation upon which our seed varieties are approved remains intact.

...my inbox has been flooded with good news stories about our industry.

When you read our story on the benefits of herbicide-tolerant canola (page 30), you'll quickly understand why maintaining a science-based variety approval system is so important. The tools of science and technology are critical to keeping canola farmers competitive in the global oilseed market. They also have the potential to help agriculture find solutions to global issues such as feeding more people with fewer land resources and managing the uncertainties of growing food in a changing climate.

Another issue important to every farmer who grows canola is canola variety testing. During a year-long process of consultations, canola growers, the seed trade and canola industry staff developed a solution that introduces the next generation of canola variety testing beginning this year.



The \$1 million program will be funded by the three Prairie canola grower groups and seed trade entry fees. The new program will incorporate testing of commercially available varieties and use both field-scale and small plot testing. Another new and important element to the trials is the introduction of system testing. I'm sure you'll be hearing lots about the new testing program in the coming weeks. Look for more details on the canola variety testing program in next season's *Canola Digest*.

We hope you find this final *Digest* of the season a useful resource. Two stories of particular relevance for the spring include "Not Your Everyday Agronomy Issues", which discusses some of the unique agronomy issues that canola farmers are facing this year, and "Market Outlook", which describes why 2011 will be a dynamic and volatile year for the oilseed complex.

As I wrap things up, I want to extend a huge thank you to our readers and to the writers who work so diligently to put out every issue of *Canola Digest*. If you have some ideas or thoughts you would like to share, send an email to editor@canoladigest.ca

Wishing you a safe and successful planting season! •

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By Jay Whetter

NOT YOUR EVERYDAY AGRONOMY ISSUES

Ah, 2010... Acres too wet to seed, sclerotinia everywhere and the continued rise of cutworms. Here's a summary of the things we learned, and how we can apply this knowledge in 2011.

anola growers have their favourite seeding dates, tank mix mates and ways to aerate. They know weeds grow everywhere, bertha comes in cycles and hail strikes unexpectedly. This article isn't about those issues. This article is about 2011 agronomy challenges that are unfamiliar, obvious but not always observed or back from the dead.

TIPS FOR UNSEEDED ACRES

Two to three million acres of canola were unseeded in 2010 due to excess moisture. Another million or so were lost to in-season flooding. If the upcoming spring is dry and arrives early, growers may be able to seed those acres in 2011. Here are tips to help:

Careful with tillage. Tillage to dry out wet soil can increase compaction, which reduces root growth and nutrient uptake. Spring tillage creates a rough seedbed, making good seed-to-soil contact hard to achieve. It can also stimulate weeds that had declined under direct seeding.

Unseeded fields can be considered a "break" from canola – as long as canola volunteers were controlled. Volunteers contribute to disease buildup in the soil. **Residual herbicides may still be active.** Herbicide breakdown can be slower than expected when soils are waterlogged. Residual from herbicides applied in 2010 and even 2009 may still be active.

Weed pressure will be determined by 2011 conditions. Spring conditions influence weed pressure, but if weeds could not be sprayed in 2010, the soil seedbank could be higher in 2011.

Get a soil test. Mineralization is reduced in areas oxygen-deprived from excess water. Nitrogen and sulphur losses to leaching and denitrification will be higher in those areas as well. Test saturated areas separately and adjust fertilizer rates accordingly.

HIGH YIELDS, MORE NITROGEN

Growers who harvested record canola yields in 2010 should consider record nitrogen rates if they expect to keep yields at that new benchmark. Every harvested bushel of canola removes 1.88 pounds of nitrogen and 0.91 pounds of phosphate (P2O5) from the field, according to the International Plant Nutrition Institute.

SCLEROTINIA IS WEATHER DEPENDENT

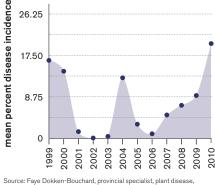
Sclerotinia stem rot was found in 88 percent of Manitoba canola fields surveyed in 2010 and 92 percent of Saskatchewan fields. Forty percent of Alberta fields were affected, but incidence of the disease in central regions of Alberta was much worse as very low prevalence in the Peace River region skewed the average.

Just because sclerotinia was widespread in 2010 does not mean it will be bad in 2011. The chart below shows the percentage of Saskatchewan canola plants showing sclerotinia stem rot infection over the past decade. In wet years, the incidence rate spiked. In dry years, it dropped. The same could happen in 2011 if conditions are dry in the weeks before and after flowering.

Proper management of the disease requires a focus on individual fields. Don't depend on regional reports when making a spray decision. Sclerotinia stem rot risk factors vary from field to field.

Sclerotinia incidence in Saskatchewan

This table shows the mean percentage of plants in fields that had some degree of sclerotinia. In 2010, about 20 percent of plants per field were affected.



Saskatchewan Ministry of Agriculture.

Doug Moisey, senior agronomy specialist with the Canola Council of Canada, says with larger seed sizes, canola seeded at lower rates may not provide the plant stand growers need for top yields.

UNDERSTAND CLUBROOT

Clubroot was found in 18 Alberta counties in 2010, with seven more having suspected cases. That's the highest total to date. Saskatchewan does not have a reported case, but the disease gets closer every year. Even Manitoba is at risk. An Agriculture and Agri-Food Canada ecoclimatic index map suggests that most of Manitoba's agricultural region compares to central Alberta in its capacity to host the disease.

Growers who don't have clubroot in their fields could ward off the disease for longer by following these management practices:

Use a resistant variety. This can keep undetected levels of clubroot from increasing to economically significant levels.

Use a four-year rotation. This is the preferred rotation for disease management in general.

Practice good sanitation. Machinery is largely to blame for spreading clubrootinfested soil to new fields. Find equipment cleaning tips under the heading Prevent Clubroot at **www.clubroot.ca**.

Control weeds. If clubroot spores are carried into a field in non-canola years, these spores have nothing to infect if host weeds and canola volunteers are controlled.

Learn to identify the disease. Canola ripening prematurely due to clubroot infection can be confused with sclerotinia or blackleg damage. Find identification tips under the heading Identify Clubroot at www.clubroot.ca.

STAND ESTABLISHMENT: LARGER SEED REQUIRES HIGHER SEEDING RATE

Canola seed is getting larger. Five grams per 1,000 seeds is a common size these days. So what?

Well, the larger the seed, the fewer seeds per pound. That means growers using the same pounds per acre seeding rate they've always used will see plant stand density steadily decline. If all of a sudden they cut the seeding rate to compensate for higher seed costs, the result could be a shocker.

"With the combination of lower seeding rates and larger seed, some growers are seeing unexpected surprises when it comes to plant population," says Doug Moisey, Canola Council of Canada senior agronomy specialist in central Alberta.

Here's the math. If seed weighs five grams per 1,000 and you seed at four pounds per acre (1,800 grams), you're seeding only eight seeds per square foot. At 60 percent seed survival, that means only five plants per square foot. "That's the bare minimum. Any lower, and yield potential falls," Moisey says.

The ideal target plant stand is 10 plants per square foot, which provides some margin for mortality.

Other key factors for stand establishment:

Level the drill. A drill leveled from side-to-side and front-to-back places seed at the same depth.

Slow down. At high speeds even a level drill will throw more soil over the front row of openers and equipment bounce may lead to highly variable seed placement.

Reduce fan speed. Higher application rates and faster seeding speeds often require higher fan RPMs. This can increase seed damage and seed bounce out of the seed row.

Keep a seed sample. Put a minimum of two cups from each seed lot into a seed lab bag. Record seeding date and rate, and keep the blue seed tag. Store samples in a cool, dry place in a rodent-proof container. •

continued on page 8

THE CHINA BLACKLEG ISSUE

Chinese concerns over blackleg residues on canola seed exports have put the spotlight back on blackleg management. At the same time, moist conditions and tight canola rotations could make blackleg virulence a management issue again.

In addition to longer rotations, one practice that could keep blackleg down is to rotate canola varieties. Many genes are responsible for blackleg resistance in canola and at least 16 described virulent blackleg races are currently found on the Prairies. Growers don't know which varieties have which resistance genes, but rotating varieties will likely bring a mix of resistance genes to the field over time. This reduces the risk of selecting for blackleg races that can overcome genetic resistance in any one variety.

CUTWORMS FULL OF SURPRISES

Scott Hartley says cutworm numbers could be lower in 2011 in areas with lots of moisture. "Cutworms don't do all that well under really wet conditions," says the insect specialist with the Saskatchewan Ministry of Agriculture.

But cutworms can surprise us. That's because we're seeing more species than ever before and each does its own thing. Jennifer Otani, research scientist with Agriculture and Agri-Food Canada in Beaverlodge, Alberta, found six species in a field near the Peace country town of Falher. "Each species has its particulars," she says.



As few as 10 cutworms per square metre can wipe out a whole canola crop.

Some species overwinter as larvae dingy cutworms, for example - and if they survive they can start feeding early. Redbacked and pale western cutworms overwinter as eggs and don't usually start feeding until mid-June. Pale western cutworms can feed underground. Redbacked, dingy and army cutworms feed primarily at or above the soil surface. What's more, cutworm populations by species and by field can be "extremely variable" from year to year, Otani says. Scouting every field every year will help growers identify the predominant species for that year so they can take effective action.

Troy Prosofsky, Canola Council of Canada agronomy specialist for southern Alberta, says growers breaking up forage crops for canola this year should be prepared to spray for cutworms. "In a forage crop, you may not see any damage from cutworm populations as high as 100 per square metre, but in canola as few as 10 per square metre can diminish an entire crop," he says.

GREAT FALL FOR PEACE FLEA BEETLES

While flea beetle counts across most of the Prairies were low heading into the winter, the Peace region did not share this same outlook. With an open fall and many fields showing "tremendous canola regrowth into October," conditions were good for flea beetle adults heading into winter, says Otani.

"I'm definitely watching for flea beetles and cutworms this spring and I've been warning local producers about canola-on-canola in light of that fall regrowth," she says.

Before growers scratch flea beetle control off their expense list, remember: fall counts may hint at spring damage but spring conditions are still the key factor in flea beetle damage. To be safe, stick with seed treatments and be sure to scout to determine if foliar sprays are warranted.

Jay Whetter is a communications program manager with the Canola Council of Canada.



Erin Brock, agronomy specialist with the Canola Council of Canada scouts a field of canola for signs of plant diseases.

SUSTAINABLE PRODUCTION

Some estimates peg canola acres at 18 to 20 million for 2011. With tighter rotations, disease management becomes a key factor in maintaining yield and profit potential. "Within a few rotations, costs to manage sclerotinia, blackleg and clubroot could outweigh the economic benefits of a tight rotation – and reduce canola profitability on those fields for years afterward," says Erin Brock, agronomy specialist with the Canola Council of Canada.

Insect management costs can also rise with tight rotations. More host plants support larger populations. The more you spray for an insect, the more likely a resistant population will develop. And intensified attacks on insects can damage beneficial insect populations, further increasing control costs.

We know, based on Manitoba crop insurance data and an ongoing Agriculture and Agri-Food Canada (AAFC) study, that canola-on-canola yields less than canola on other stubbles. John O'Donovan, who leads the six-site AAFC study, says, "Preliminary results from the first year show that growing canola-on-canola almost always results in the lowest canola yields." Canola seeded into fababean green manure provided the highest yields in that first year.

But even if canola-on-canola takes a 10 or 20 percent yield hit compared to canola-on-wheat or canola-on-fababean green manure, many growers will argue that this lower-yielding canola is still more profitable than any alternative crop. At some point, all growers have to run the numbers and watch their yields and their pest management costs so they know where the healthy balance lies. Long-term profitability of canola depends on it.

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BENEFITS OF PRE-SEED BURNOFF

By Jay Whetter

From across the Prairies, farmers explain why they squeeze pre-seed weed control into an already busy time of year.

• WILL HUPPERTZ

Westlock, Alberta

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Will Huppertz is a zero tiller who seeds and fertilizes in one pass. That means two things. One, glyphosate is an important part of his weed control system, especially as a pre-seed application. "Without Roundup, I don't know how I'd farm," says Huppertz. Two, the one-pass operation gives him a little extra time for spraying, compared to growers who also apply fertilizer ahead of seeding. "For me, it's worth waiting a couple of days to seed so that I can work in a pre-seed spray," he says.

"For me, it's worth waiting a couple of days to seed so that I can work in a pre-seed spray."

- Will Huppertz

If weed activity is light, Huppertz explains that a half-litre application still pays off because of the low cost of glyphosate. Once, for a test, he left half of a field unsprayed. "Even though we couldn't see many weeds when we sprayed, a month later there was a big difference in weeds between the two sides," he says.

Pre-seed weed control is especially beneficial for canola, which is not very competitive early in the season. "Before glyphosate was economical, canola would be just a zoo with weeds," Huppertz describes. Early weeds compete with the crop for moisture, fertility, sunlight and space, reducing the vigour of canola seedlings before growers could apply in-crop weed control.

With the low cost of a pre-seed glyphosate treatment, growers are wise to try it, he says. "Not only do you eliminate early competition, but you can also reduce the rate of your in-crop spray."

For Huppertz, white cockle is a key target for pre-seed control. White cockle is green and growing shortly after the snow melts; it can become too large for economical control with an in-crop spray. For quackgrass and thistle control in canola, Huppertz gets a head start with a pre-harvest glyphosate application in his cereals. This is much cheaper than in-crop control at \$15 to \$20 per acre, he says, and more effective than a pre-seed application the following spring.

BRUCE CLINGMAN

Blackie, Alberta

Bruce Clingman likes to use pre-seed glyphosate on every acre, except in cases where a field was sprayed in the fall or when spring progresses too slowly and he needs to get seeding.

Cool temperatures and wind tend to hold up spring herbicide applications

in southern Alberta. "Mornings can be so cold in May, but if I hold off spraying until the afternoon when it's warm, it's also windy," Clingman says. Those spraying conditions will determine whether a pre-seed burnoff gets done or not.

"Early seeding is so important that I never want to hold up seeding with spraying," he explains. "If I seed without a pre-seed burnoff, I'll start spraying like crazy as soon as I get the chance."

Clingman starts seeding in early May – usually wheat first, followed by canola and then barley. After spraying, Clingman waits at least one day before he seeds to give the herbicide time to work through the plant. His key early season weeds are wild oats and green foxtail.

He grows mainly Roundup Ready canola hybrids and the canola fields usually receive two half-litre glyphosate applications, including a pre-seed burnoff. If weeds are worse than expected, Clingman increases the in-crop rate to a full litre.

TIM NERBAS

Waseca, Saskatchewan

Tim Nerbas says pre-seed weed control becomes more important with each passing spring day. As weeds get larger they become a bigger threat to canola's yield potential, making pre-seed control all the more important. At some point though, around mid to late May, the risk of fall frost and lost canola quality and yield force him to focus on seeding. "In that case, I'll hire a custom applicator to finish my pre-seed spraying so that I can spend the day seeding other fields," he says.

Nerbas will skip a pre-seed application ahead of canola if virtually no weeds have emerged by late April and the fields are ready to seed. He often plants Roundup Ready canola on those fields knowing that weed control will be required soon after emergence.

Target weeds for his pre-seed applications are grassy weeds, narrow-leaved hawk's beard and Roundup Ready canola volunteers.



"Pre-seed applications mean an extra job in the spring, but they are one of the cheapest forms of weed control and they give crops the early advantage."

- Tim Nerbas

Nerbas's pre-seed attack on Roundup Ready volunteers covers all acres and all crops. He uses CleanStart on fields planned for canola. He tank mixes glyphosate with 2,4-D ahead of cereals. And he uses group-14 Heat and glyphosate ahead of peas.

The challenge with pre-seed weed control, Nerbas says, is to spray as

close to seeding as possible. Too much time between spraying and seeding gives a second flush of weeds more time to emerge.

"Pre-seed applications mean an extra job in the spring, but they are one of the cheapest forms of weed control and they give crops the early advantage," he says.

BRETT HALSTEAD

Nokomis, Saskatchewan

Brett Halstead is a direct seeder who says he uses pre-seed weed control all the time. He uses it ahead of all crops to control winter annuals such as cleavers, flixweed, stinkweed and narrow-leaved hawk's beard, as well as kochia and wild oats.

"I tend to spray even if I can't see many weeds, because they're there," he says. "If I have a miss in a field that didn't seem to have many weeds, that miss is obvious within a few weeks."

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KOCHIA HIGHEST RISK FOR GLYPHOSATE RESISTANCE

Kochia is ranked number one in a model that predicts which Prairie weed species are most likely to develop glyphosate resistance. Kochia has the highest risk of developing glyphosate resistance in the brown and dark brown soil zones.

Wild oats are top in the black and grey soil zones, followed by green foxtail and cleavers.



Kochia is most likely to develop resistance as a result of pre-seed glyphosate applications. Wild oats, green foxtail and cleavers are more likely to develop resistance as a result of in-crop glyphosate applications because that's when most of those weeds emerge.

Hugh Beckie, a research scientist with Agriculture and Agri-Food Canada in Saskatoon who developed the model, has been tracking herbicide-resistant weeds on the Prairies for years. He explains why the risk is so much higher for kochia in the pre-seed window:

- Kochia emerges earlier: 60 percent of the population emerges in the pre-seed window.
- It is abundant.
- Glyphosate works very well on the weed, with 90 percent efficacy. With a greater proportion of susceptible plants killed,

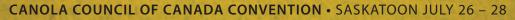
this clears the way for naturally resistant plants in the population to build up more rapidly.Kochia has a very short seedbank life (one to two years),

which favours rapid resistance development. With these four factors setting a solid foundation for resistance

development, two other factors make glyphosate-resistant kochia a strong possibility. One, pre-seed weed control using glyphosate has become more common on all acres, not just canola acres, so the weed is exposed to pre-seed glyphosate more often. This increases the risk of resistant weeds taking over the seedbank. Two, kochia has already shown a propensity for resistance development. Over 90 percent of all kochia in the Grassland Region is already group-2 resistant and cases of glyphosateresistant kochia were confirmed this year in Kansas.

While kochia is not an important weed for canola growers in the black and grey soil zones, wild oats, green foxtail and cleavers are. Prairie populations of all three are already resistant to other herbicide groups. For example, an Alberta survey in 2007 showed 39 percent of fields had wild oats with resistance to group-1 herbicides and eight percent had wild oats with dual resistance to group-1 and group-2 herbicides.

Overuse of any one product can cause resistant weed populations to develop. While wild oats are unlikely to develop glyphosate resistance when glyphosate is applied in crop only one year in four, tight rotations of Roundup Ready canola or seasonal pre-seed applications timed to target wild oats do increase that risk.



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"I tend to spray even if I can't see many weeds, because they're there."

- Brett Halstead

Halstead uses Traxion, the no-service version of Touchdown that comes in 450-litre containers. He says that the glyphosate formulation "works okay in colder conditions" so he can spray early in the season. He usually starts pre-seed applications in early May. When he gets a day without wind, he'll spray enough acres so that he can seed for a week in case it takes that long to get another nice spraying day.

Halstead sometimes uses CleanStart ahead of Liberty Link canola. CleanStart combines group-14 carfentrazone with glyphosate to control Roundup Ready canola volunteers. He would probably use CleanStart more if it wasn't prepackaged with 10-litre jugs of glyphosate. He buys large totes of glyphosate and doesn't like the inconvenience of small jugs.

With a pre-seed application, Halstead rarely has to spray twice in-crop, which is good because, especially lately, weather doesn't give him that opportunity.

"It's the high number of small weeds that emerge a week to 10 days ahead of the crop that you have to get rid of."

– Ernie Sirski

ERNIE SIRSKI

Dauphin, Manitoba

Ernie Sirski says spraying after seeding and before crop emergence provides the best results. But "you walk a fine line" because Mother Nature might not provide the conditions to spray in that narrow window. For him, pre-seed is a close second for control and is usually easier when it comes to timing.

Sirski usually grows Liberty Link canola and uses straight glyphosate for his burnoff.

His key advice: "You can't do drive-by scouting. Get down on your hands and knees and look. It's the high number of small weeds that emerge a week to 10 days ahead of the crop that you have to get rid of," he says.

Along with pre-season glyphosate, Sirski uses an old standby for wild oat and broadleaf weed control in canola: fall-applied Edge or trifluralin. He spreads the granular group-3s on the soil's surface and doesn't work them in. "The application provides a protective barrier. Weeds don't get through it," he says. "We're starting to use it on a regular basis on fields that will be seeded to canola. It has worked well for us. We have very little resistant wild oats on our farm and we don't want to get it."

Sirski still uses pre-seed glyphosate on fields that get Edge or triflural in. ${\bullet}$

Jay Whetter is a communications program manager with the Canola Council of Canada.



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EQUIPMENT INNOVATIONS WITH BOTTOM LINE IMPACT

By Carla Pouteau

Farmers and researchers weigh in on the most important equipment innovations.

sk a farmer, an agronomist and an engineer which equipment innovations have had the biggest impact on growing a crop of canola and you'll get a long list of answers. But one innovation always rises to the top – GPS and autosteer.

"Global Positioning Systems (GPS) have been around for a number of years," says Les Hill, engineering technologist with the Prairie Agricultural Machinery Institute (PAMI) at Humboldt, Saskatchewan, "but it really started taking off with farmers when equipment manufacturers made the jump from knowing where you are [in the field] to controlling where you are." And with equipment expanding to 80 or 120 feet wide, autosteer has had significant bottom line impact for farmers.

Marcel van Staveren, who farms near Creelman, Saskatchewan, says his investment in RTK (real time kinematic) GPS has paid for itself time and time again. "Once we mounted our own tower, we eliminated the costs associated with overlap in seeding and spraying," says van Staveren. While larger seeding equipment has increased operator efficiency, other modifications have enhanced planting precision and accuracy. "A new generation of no-till seeders now has independent seed and fertilizer openers," says Dr. Guy Lafond, research scientist with Agriculture and Agri-Food Canada (AAFC) at Indian Head, Saskatchewan. The unit's independent shanks follow the contour of the ground much better than a rigid-frame seeder, "allowing for very consistent depth of planting, regardless of the surface relief of the soil."

New equipment designs are also providing more consistent flow and metering of seed and fertilizer while planting. "We do thousands of plant counts every year," says Lafond, "and every year we see inconsistent spacing of small seeded crops like canola within the row."

Better precision of seeding equipment is an important innovation for van Staveren who seeds about 5,500 acres of canola. "Treated canola seed costs about \$10 per pound, so we're very interested in accurate seed placement and scrutinizing our seeding rates," he says. Another innovation that van Staveren has adopted is seeding between last year's stubble rows.

Seeding between rows of standing stubble is important for creating a more desirable microclimate. "It also provides better soil-to-seed contact, better seed and fertilizer separation and it conserves moisture," adds Lafond. This leads to better emergence for small seed crops like canola.

While sprayers have also grown in size, "the biggest technology impact has been low-drift nozzles," says Dr. Tom Wolf, research scientist with AAFC. Better nozzles have decreased drift and widened the spraying window when weather is marginal. "The impact has been about a 70 percent reduction in spray drift compared to the nozzles that we used before. That's significant," stresses Wolf.

Wolf highlights two other spray technologies. "Boom height controllers allow suspended booms to be positioned lower to the target, which reduces drift and improves control over spray deposition and canopy penetration," he explains.

Modern sprayers travel at 15 to 20 miles per hour and experience wide speed fluctuations when turning or when the terrain changes. "When speed is reduced with conventional rate controllers, pressures drop and nozzle operation may become suboptimal," says Wolf. "The solution was to construct nozzle systems [using variable rate control technology] that can change flow rate without these detrimental changes."

A number of technologies are currently available to change flow rate without affecting spray pressure, spray pattern or droplet size.

Hill suggests we are on the cusp of realizing great benefits from variable rate technology and a lot of innovation will be focused in this area in the near future. He also predicts technology will be developed in the future that allows farm machines to communicate with each other, making farming operations even more efficient.

Carla Pouteau is a freelance writer and farms near Mariapolis, Manitoba.



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MARKET OUTLOOK

By Rabobank Food & Agribusiness Research and Advisory team; and Global Grains and Oilseeds team

2011 is shaping up to be a dynamic and volatile year for the global oilseed market. What are the drivers causing these effects?

urrently, there is a sense of, "What the heck?" pervading global commodity markets as the markets again test the highs seen only three years ago. This is in spite of the fact that the global economy has just been through the worst global downturn since the great depression.

While the developed world is still struggling to climb out of the large hole created by the global financial crisis and ensuing global recession, global commodity prices have sky rocketed in the past six months, almost back to levels seen in the 2008 commodity boom. How can this be?

Canadian unemployment is still at 7.6 percent, official interest rates are extremely expansionary at 1.0 percent, and yet inflation remains subdued. It's clear the demand growth is not coming from domestic macro-economic factors. Nor is it coming from Canada's southern neighbour with the U.S. economy faring much worse than Canada. The fact is, the global economy is now divided between the fast-growth emerging, or emerged economies, and the slow-growth West, and it's the emerged economies that are driving this story – really fast!

For the rest of us, this means bracing for the new reality. More than 40 percent of the world's population is living in countries where the economy is growing by at least eight percent per year. Fortunately for agriculture this is great news as the traditionally efficient producers in the West, including Canada, seem set to cash in on tightening global stocks, growing world trade and escalating commodity prices.

For Canada's canola industry the 2011 outlook is very positive.

As we look out at the beginning of the year, universally tight stocks in most commodities are heating up the battle for acres and catalyzing price competition to secure sufficient production in the coming year. Demand for canola oil will remain extremely strong in 2011, however, demand for meal will face some headwinds due to increased availability of soybean meal and dried distillers grains with solubles (DDGS) from the ethanol industry and weaker demand from the smaller North American livestock population.

High volatility in ag markets is indeed the new normal.

However, a very bright outlook for seed and oil exports is set to underpin strong canola prices in the year ahead. The market has been more susceptible to weather shocks during the past 12 months due to such low stock levels, so volatility will be a more significant issue for growers to manage now and into the future. High volatility in ag markets is indeed the new normal.

SEVEN DRIVERS SHAPE THE MARKET IN 2011

Rabobank sees the agricultural commodity market being shaped by seven key drivers. Most of these themes are common across the complex.

- Tight global inventory levels. Across most – but not all – of the agricultural complex, 2010/11 yearending stocks are forecast to be tighter than those in 2007/08.
- Commodity demand growth to remain strongest in emerging markets. Rapid economic expansion and changing dietary demands will continue to pressure traditional exporter supplies and encourage further investment in expanding supply – a key driver in the shift of the agricultural demand curve.
- China commodity short. An aspect of the emerging market demand theme is the impact Chinese demand is having in reshaping a number of agricultural commodity markets.
- Supply limitations. With a number of agricultural commodities needing to expand production in 2011 to rebuild inventory levels, significant supply constraints are likely to emerge.

- Political risk heightened amid tightening food supplies. We saw a muted re-emergence of world governments intervening in agricultural markets in 2010, following widespread intervention in 2007/08. Further supply shocks may result in a return to widespread intervention in 2011.
- Fundamental only a part of the story. With agriculture and agricultural futures markets increasingly being viewed as an attractive asset class by investors, the role of outside market macro drivers, including currencies, energy correlations and speculative money, are becoming more important in shaping agricultural price movements.
- Sustained heightened volatility. The combination of tightening fundamentals and increased macro influence, along with uncertainty that resulted in increased price volatility across most agricultural markets in 2010, is likely to continue at high levels in 2011.

Demand for canola oil will remain extremely strong in 2011, however demand for meal will face some headwinds...

These trends suggest a bullish market outlook this year. Short of an unforeseen macro event (which is always a possibility given the current strains on the global economy and its fragility following the global financial crisis), we see prices staying high or going higher this year.

VEGETABLE OIL OUTLOOK

The U.S. Department of Agriculture (USDA) forecasts a decline in U.S. ending stocks from 10.9 million tonnes in 2009/2010 to 8.6 million tonnes in 2010/11. A near seven percent increase year-over-year in total domestic consumption (124 million tonnes total) is also expected. As a result, the four major vegetable oils: palm, soybean, sunflower and rapeseed/canola face the tightest stocks to domestic use ratio in more than 30 years at just under seven percent. This has caused vegetable oil prices to surge by over 43 percent in January compared to last year. Indeed, Winnipeg spot canola prices increased by over 55 percent over the same time period, jumping from \$370 to \$574 per tonne. We don't see this trend reversing soon.

One of the most significant forces shaping the oilseeds complex is export demand pressure. The USDA estimates

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that imports of the four major vegetable oils increased five percent in 2010 over 2009, and were 25 percent higher than the 2005 total of 52.3 million tonnes. Global rapeseed oil imports in 2010 stayed on par with the strong 2009 volume (2.9 million tonnes) at 2.8 million tonnes with 41 percent going to the U.S. (mostly in the form of canola oil).

CHINA SHAPING EXPORTS

China had become one of Canada's largest canola seed markets, importing 2.8 million tonnes in 2008/09 at a value of approximately \$1.3 billion. But access to the Chinese canola seed market was impacted last year by import restrictions imposed amid fears of transferring blackleg to China's domestic rapeseed crop. An import agreement now in place for the 2010 crop is expected to restore Canada's canola seed exports to China.

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The sharp drop in shipments of raw canola seed to China last year was, in part, mitigated by an expansion of new opportunities for domestic crushers in Canada, who turned to exporting canola oil to China rather than seed. China now ranks as Canada's top export market for canola oil, overtaking the U.S. in 2010. Growth in the Chinese market is expected to continue to drive demand for Canadian canola oil.

CANOLA MEAL OUTLOOK

Over the last two years, feed meal competition in North America has intensified due to relatively stagnant feed demand, growing supply and increased availability of low-cost DDGS from the ethanol industry. The feed industry has suffered from sharp declines in both Canadian and U.S. pork herds.

continued on page 28

CANOLA IN MEXICO

By Anthony Gindin

A new study provides a detailed look at canola's impact on the Mexican economy.

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t a time when reliable markets are of great value to Canadian growers, a new study demonstrates that canola is important to Mexicans for more reasons than one. The study shows that Canadian canola generates \$700 million of economic activity in Mexico every year.

"Mexico does not produce enough oilseeds to meet their demand, so they must rely on imports," says Robert Hunter, vice-president of communications for the Canola Council of Canada (CCC). "By importing seed from Canada, they generate economic activity through a domestic crushing and refining industry. It's a win-win scenario."

Jody Klassen, a canola grower from Mayerthorpe, Alberta and director with the Alberta Canola Producers Commission, is impressed with the study's results. "It definitely gives me a sense of pride to know that my product is creating jobs and economic activity in Mexico. It's good for everyone involved."

The study was conducted by LMC International as part of the CCC's Canola Market Access Plan (CMAP). Funded by Agriculture and Agri-Food Canada (AAFC), CMAP is a multi-year project that addresses potential market access issues for Canadian canola in important markets such as Mexico.

The scope of LMC's analysis starts at the point canola exits Canada enroute to Mexico. The researchers then analyze the impact of importing Canadian seed to produce products such as refined oil and canola meal in Mexico.

"Showing the importance of canola in Mexico helps make this market more secure and reliable, which is good news for Canadian growers," says Hunter.

Results indicate that Canadian canola in Mexico generates \$700 million of economic activity per year. It is estimated there are 4,645 Mexican jobs related to canola and its end products, with \$51 million in paid wages.

The total impact breaks down into three main categories: transportation, crushing and refining.

When Canadian canola exits Canada, it travels to Mexico by either sea or rail.

International transportation accounts for \$133 million of economic activity and, once in Mexico, domestic transportation accounts for an additional \$98 million.

In Mexico's crushing sector, seed imported from Canada is processed into higher value oil and meal. Of the six crushing plants in Mexico, four are dedicated to canola. The crushing sector produces \$197 million of economic activity per year.

A percentage of the canola meal produced during crushing is consumed by Mexico's dairy sector. The milk yield boost from incorporating canola meal into dairy rations also adds value.

In Mexico's refining sector, crude oil is refined for human consumption and other uses. The refining sector produces \$209 million of economic activity per year. This includes bottling as well as sale and delivery to retail outlets.

Canadian canola is an important contributor to the Mexican economy, generating wealth and jobs across a variety of sectors. With 1.2 million tonnes of Canadian canola seed exported to Mexico in the 2009/10 crop year, canola oil now holds 30 percent market share in the Mexican vegetable oil category.

Current consumption patterns indicate that Mexico has an enormous appetite

THE ECONOMIC IMPACT OF CANADIAN CANOLA IN MEXICO



MEXICAN JOBS RELATED TO CANADIAN CANOLA AND ITS END PRODUCTS

Sea and rail transport to Mexico	300
Mexican port	646
Domestic transport	107
Crushing Facilities	1,530
Refining and delivery	2,061

for cooking oils. The key evolution will be in shifting consumer demand towards choosing healthier alternatives like canola oil.

"Aside from the employment and economic benefits, there is also a health benefit that is yet to be fully realized by Mexican consumers," explains Owen Wagner, agricultural economist at LMC International. "The need for healthy oils in Mexico is becoming increasingly apparent."

Heart disease is currently the leading cause of death in Mexico, followed by diabetes. Eating a heart-smart diet is one of the most important things Mexicans can do for their health.

In Mexico, consumers use cooking oil daily to fry and cook food. "Cooking oil is a primary ingredient in the majority of Mexican dishes," explains Debby Braun, food technology engineer for the Mexican Olympic Committee. "A simple change like using healthier cooking oil, especially when it is consumed in such large quantities, can make a significant difference."

Braun explains that canola oil is one of the healthiest cooking oils in the marketplace. It has the least saturated fat compared to other cooking oils and is free of trans fat and cholesterol. It is also high in omega-3 and a good source of vitamin E.

"Education and awareness about healthy eating is what Mexico needs," says Braun. "Mexico is not going to reduce the amount of oil it consumes. We use a lot of oil every day. The key is using a healthier option like canola oil."

The Canadian canola industry has outlined a target of 15 million tonnes of sustained market demand and production by 2015, of which Mexico is a significant part. "Given the stability of the Mexican market and the increase in consumer demand, there is a clear opportunity for further growth," says Dave Hickling, vice-president of utilization for the CCC.

Canola oil now holds 30 percent market share in the Mexican vegetable oil category.

In addition, this growth should bring increased activity to the crushing and refining sector and more jobs for Mexican workers. An increase in crush volumes will provide an opportunity for an increase in the market share of canola oil.

One large opportunity lies in the Mexican food manufacturing and service industry. "It is my hope that through educating leaders in Mexico, the food industry will start to use more canola oil in their products," says Braun.

For that reason, the Canadian canola industry and AAFC are investing in programs in Mexico to increase awareness about the health benefits of canola oil. Over the past four years, the CCC has invested over \$200,000 per year in programs designed to educate and create demand.

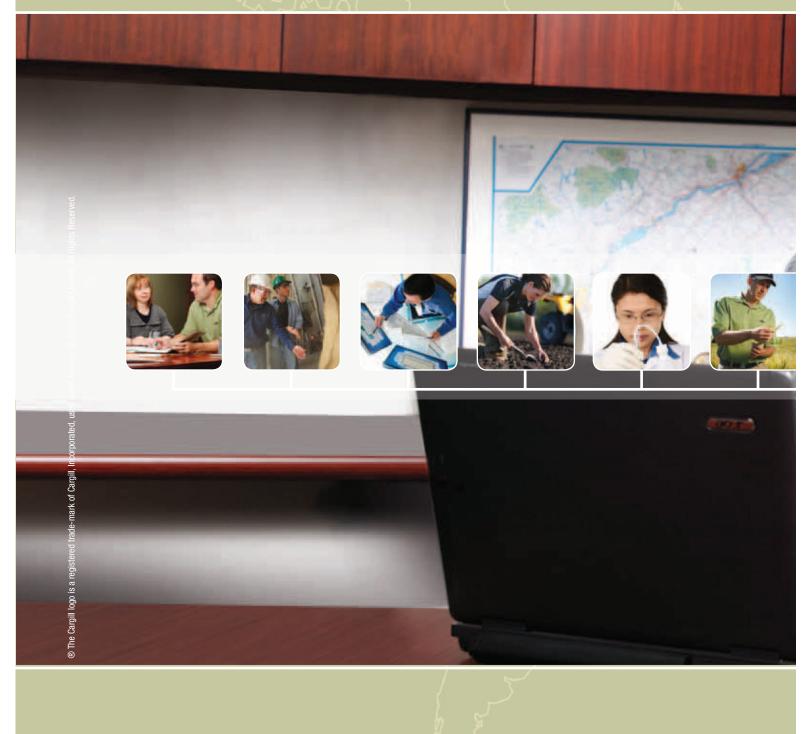
Klassen understands the importance of this investment. "Programs that create market demand are absolutely invaluable," he says. "We rely on them. If we're not creating demand, why increase production?

"Eighty-five percent of our canola is exported. This is why markets like Mexico are so important to Canadian growers." Equipped with this new information, the canola industry is now better positioned to explain why canola is important for both the health of Mexicans and their economy.

Anthony Gindin is a communications program manager with the Canola Council of Canada



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CONSIDERING **THE 2010 CROP**

By Kelly Green

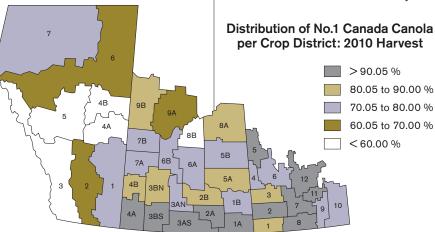
While 2010 growing conditions fell far short of ideal, canola farmers still managed to harvest 11.9 million tonnes of good quality canola. Here's how the rest of the 2010 numbers shook out.

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> here was excessive moisture, severe drought and far from ideal harvest conditions - including a killing frost that came too early for some latematuring crops. But Western Canadian farmers harvested 11.87 million tonnes of canola in 2010, reports Statistics Canada.

"Despite the fact that a significant amount of acreage was lost to too much rain, yields were better than originally expected," says Shaun Wildman, director, international grain for Viterra. In the end, the 2010 harvest fell shy of 2008's record production of 12.6 million tonnes and 2009's production of 12.4 million tonnes.

While production fell short of previous records, 2010 harvested acres exceeded all previous years, reaching 16.1 million acres. However, an average yield of 32.5 bushels per acre - six percent lower than the best yields achieved in 2008 and 2009 - pulled total production lower. Yield stories were particularly wide ranging in 2010 with some producers reporting their yields on record and others the poorest.



"The quality of the 2010 crop was generally good with oil content running marginally lower than last year," says Wildman, though he notes there were significant regional differences including high green seed in Alberta due to the lateness of the harvest.

For example, 88 percent of Manitoba canola samples graded No. 1, 78 percent of Saskatchewan samples graded No. 1 (though in northeastern Saskatchewan less than 70 percent graded No. 1) and only 63 percent of Alberta/Peace River samples graded at the top.

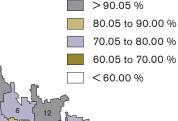
Historical Canola Production and Harvested Area

	2005	2006	2007	2008	2009	2010
Production (million tonnes)	9,483	9,000	9,529	12,643	12,417	11,866
Harvested Area (000 acres)	12,787	12,943	15,636	16,047	15,755	16,097
Yield (bushels per acre)	32.7	30.7	27.1	34.7	34.8	32.5

Source: Statistics Canada, Cereals and Oilseeds Review and Field Crop Reporting Series

These regional differences were most apparent in grade comparisons of Canadian Grain Commission (CGC) harvest samples. In 2010, 75 percent of Western Canadian canola samples graded No.1 Canada Canola, compared to 92 percent for 2009, 95 percent for 2008 and 88 percent for 2007.

Dr. Veronique Barthet, oilseeds program manager with the CGC's Grain Research Laboratory, leads the canola harvest sample program. She says the 2010 samples exhibited significant quality variations across regions of Western Canada. "We usually see a lot of consistency in harvest samples but the 2010 samples showed extreme variability reflecting exactly what happened in fields across the Prairies in 2010," she says.



High levels of green seed were a major contributor to lower than average canola grades for 2010. "Our analysis of the harvest samples shows that a killing frost on September 18, 2010, caused a lot of damage especially to later maturing crops in Alberta," reports Barthet, "and that really showed through in the green seed counts."

Barthet's analysis shows that the five-year average chlorophyll content for No. 1 canola is 13.8 milligrams per kilogram and the average chlorophyll content for 2010 was slightly lower at 12.6 milligrams per kilogram.

Analysis of oil content for the 2010 harvest samples shows strong performance at 44.3 percent, bettering the five-year average of 44.2 percent for No. 1 canola. While the 44.3 percent oil content for 2010 lags a strong performance in 2009 of 44.5 percent, the industry is still progressing towards its 45 percent oil target for 2015. Once again regional differences were very apparent in 2010 as shown in the table below.

Kelly Green is editor of Canola Digest and director of communications with Canadian Canola Growers Association.

2010 Harvest Survey No. 1 Canada Canola

	Chlorophyll (mg/kg)	Oil Content (%)
Manitoba	10.7	43.2
Saskatchewan	12.5	44.7
Alberta/Peace	14.8	44.6
West. Canada	12.6	44.3

Source: Oilseeds Section of the Canadian Grain Commission, Grain Research Laboratory

PARTICIPATE IN THE CANOLA HARVEST SAMPLE PROGRAM IN 2011

Each year canola producers send the Canadian Grain Commission (CGC) samples from their harvest and in return receive an unofficial CGC grade and quality results including oil, protein and chlorophyll content. The Harvest Sample Program is voluntary and free to producers.

In 2010, the CGC received 1,671 samples, including 423 from Manitoba, 751 from Saskatchewan and 497 from Alberta and north eastern British Columbia.

To learn more about the Harvest Sample Program, go to the Harvest Sample Program section of the CGC website at www.grainscanada.gc.ca/qualityqualite/hsp-per/hspm-mper-eng.htm •

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BIODIESEL ON THE EDGE OF OPPORTUNITY

By Dennis Rogoza

As the world focuses on reducing environmental emissions, demand for biodiesel will grow. But continued efforts in market development and regulatory affairs will be required to bring these opportunities to fruition for canola.

anola-based biodiesel is a market opportunity waiting just beyond the horizon. With a continued focus on market development and regulatory efforts in Canada, the U.S. and Europe, the canola industry is optimistic that more than two million tonnes of Canadian canola seed will be consumed in diesel engines around the world.

Brian Chorney, a canola farmer from East Selkirk, Manitoba, has been monitoring the biodiesel issue for some time. "There are compelling reasons for the use of biodiesel in our fuel supply," says Chorney. Biodiesel mixes easily with diesel to create a biodiesel (B) blend such as B2, which is two percent biodiesel and 98 percent diesel.

"Biodiesel is cleaner burning than petroleum diesel resulting in fewer smog-related emissions," says Chorney. It also has dramatically lower greenhouse gas emissions on a lifecycle basis compared to fossil diesel. Even the petroleum industry agrees that canola is the best feedstock for biodiesel in cold weather climates like Canada.

A study recently published by the Saskatchewan Research Council confirms biodiesel's compatibility with farm equipment. "The purpose of the study was to determine if biodiesel can meet the same operating characteristics of conventional diesel

"There are compelling reasons for the use of biodiesel in our fuel supply."

- Brian Chorney

in tough all-season farming conditions," says Dave Kutcher from New Energy Consulting Inc. and lead researcher on the study. "The answer was yes."

The study assessed the experiences of eight farmers near Foam Lake, Saskatchewan. The group used biodiesel blends in over 50 pieces of farm equipment – tractors, swathers and combines – during a 16-month period. The biodiesel was produced by Milligan Bio-Tech Inc. at its Foam Lake biodiesel plant.

Europe is the world's largest market for biodiesel, with the primary feedstock being rapeseed. Biodiesel blends are available at thousands of retail stations across Western Europe servicing their massive fleet of diesel powered vehicles.

Biodiesel has been established in Europe for a decade, but new legislation is expected to create a major expansion in demand and a significant shortage in feedstocks. The EU's Renewable Energy Directive (RED) requires that all 27 member states have 10 percent renewable content in transportation fuels by 2020.

The Directive took effect in December 2010, but full implementation throughout the EU is not expected until the end of 2011. As this market ramps up, there will be significant domestic feedstock shortages to supply the mandated demand for biodiesel. Europe simply cannot grow enough rapeseed to meet the market demand under the RED.

Some forecasts show the feedstock gap to be as large as 10 million tonnes of oil per year. This gap could be supplied by palm from Asia, soybean from South America or the U.S. or rapeseed/canola from non-EU countries in Europe. The gap also represents a major opportunity for Canadian canola because the vast majority of biodiesel plants in Europe were designed to process rapeseed/canola.

Under the RED criteria, to qualify for tax subsidies and count towards meeting the 10 percent mandate, renewable fuel feedstocks must meet minimum lifecycle thresholds (see sidebar) and

Off Road Biodiesel Demonstration, Agriculture Sector, published by the Saskatchewan Research Council can be found at www.src.sk.ca/html/research_technology/energy_conservation/biodiesel_demo/index.cfm

sustainability criteria. While canola easily meets the minimum lifecycle threshold, the sustainability criteria will challenge all feedstocks and the entire renewable fuel supply chain in the coming years.

The RED requires that all feedstocks be certified as sustainable under a voluntary certification system approved by RED. Farmers must declare that since 2008 no land has been cleared to grow the canola that is being certified for sale to the EU. A shopping list of other RED sustainability criteria must also be met.

"The Canola Council of Canada is leading an effort to assess the RED requirements," says JoAnne Buth, president, Canola Council of Canada (CCC). "Our goal is to evaluate different sustainability systems and determine the best approach for the Canadian canola industry." It is expected that this process will be completed in 2011.



Growers may be surprised to learn that in some years up to 15 percent of total annual

Canadian canola production has been exported to produce biodiesel at two of the largest biodiesel plants in the U.S. – Archer Daniels Midland (ADM) in Velva, North Dakota and Imperium Renewables at Grays Harbor, Washington. While the ADM plant accepts canola seed at its crush facility, the Imperium plant imports canola oil from crush plants in Alberta, Saskatchewan and Manitoba.

Exports to these two plants fell in 2010 because of a combination of factors. First, the U.S. blender's tax credit of \$1 per gallon expired at the end of December 2009, and was only reinstated in December 2010. This caused substantial uncertainty for U.S. fuel markets because without the tax credit biodiesel was priced at a premium to diesel.

Second, the U.S. Environmental Protection Agency's (EPA) Renewable Fuel Standard (RFS 2) legislation disadvantaged canola biodiesel versus soybean biodiesel. Under the RFS 2, fuel suppliers are required to use a minimum volume of biofuels in the gasoline and diesel fuel pools starting July 1, 2010. Only biofuels that have been evaluated and approved by the EPA can be used to meet the mandated volumes. The two criteria used by the

WHAT IS LIFECYCLE ANALYSIS?

EPA include a lifecycle analysis and sustainability criteria.

"When the EPA published its rule in February 2010 it did not include an approval for canola biodiesel under the lifecycle criteria," says Buth, "so canola was not an eligible feedstock under the RFS 2." However, the CCC and the U.S. Canola Association spearheaded a lifecycle analysis and canola was finally approved under the EPA lifecycle criteria in September 2010.

continued on page 29

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A new study shows that canola-based biodiesel reduces lifecycle greenhouse gas (GHG) emissions by 90 percent compared to fossil diesel. That's an important finding for governments looking for ways to reduce the amount of carbon humans release into the atmosphere.

One way to reduce carbon emissions is to replace some of our fossil fuel consumption with biofuels. But it's also important to use the types of biofuels that have the best carbon reduction effects. A tool that helps policy makers evaluate biofuels made from different feedstocks and compare them to conventional fuels is called lifecycle analysis.

Lifecycle refers to the major activities that occur during the course of a product's life. For canola biodiesel, lifecycle analysis calculates the carbon emissions that are created at each processing or handling step. When totalled, these carbon emissions are compared to those generated in the production of a conventional crude oil product like diesel. The difference is then described, as in the case of canola biodiesel, as having a percentage reduction in GHG emissions compared to fossil fuels.

The Canola Council of Canada commissioned a study by Don O'Connor to answer the question: what are the reductions in greenhouse gas emissions on a lifecycle basis when canola biodiesel is compared to fossil diesel? The study concluded that canola biodiesel reduces lifecycle GHG emissions by 90 percent compared to fossil diesel.

Lifecycle Analysis (LCA) Canola Biodiesel, was released this past November and can be found at **www.canolabiodiesel.org**.

O'Connor's report uses the lifecycle analysis model developed by the Government of Canada called GHGenius. For those interested in knowing more about the GHGenius model, and maybe even spending some time using it, it can be found at **www.ghgenius.ca** •

Rail tankers filled with Canadian canola oil are delivered to the Imperium Renewables biodiesel plant in Gray's Harbor, Washington, USA.

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While the U.S. will likely start a recovery in 2011 with producers returning to profitability and tentative herd rebuilding, the Canadian hog sector recovery may take longer due to a high Canadian to U.S. dollar exchange rate.

According to the USDA, Canada's soymeal consumption in 2010/11 is forecast to be 476,000 tonnes (19.2 percent) lower than 2006/07, with most of that decline occurring in 2008/09 and in the 2010 marketing year. In the same period, U.S. soymeal consumption has declined by 3.34 million tonnes (10.9 percent). In addition to lower demand due to liquidation in herds, a key reason for the decline has been the significant increase in DDGS usage.

In 2009/10 this decline was offset by record exports, with the U.S. stepping up following the drought that impacted the Argentine harvest in 2009. Since 2010, U.S. soymeal exports have declined back to normal levels. As a result,

Managing liquidity challenges... will be the key to a successful year for Canada's canola growers.

soybean processors in the U.S. and Canada have been busy finding a home for their excess soymeal, which is a strong competitor to canola meal as an alternative high-energy, high-value protein source.

Additionally, while the outcome of China's anti-dumping investigation in respect to U.S. DDGS exports remains uncertain, related bans may generate short-term, excess inventory in the U.S., which may place greater pressure on oilseed meal prices. China's annual imports of DDGS amount to more than 2.5 million tonnes, and the additional tariff barriers to U.S. exports will have a severe impact on meal markets in North America.

There are plenty of risks and volatility is likely to be heightened this year, but

we maintain a very constructive view of the commodity market early in the new year. Canadian canola producers will face challenges, particularly related to liquidity, which will be further challenged as markets move higher. More cash will be needed to purchase more costly inputs and to maintain and execute risk management positions. Managing liquidity challenges in a highly dynamic and volatile global oilseed market in 2011 will be the key to a successful year for Canada's canola growers.

Rabobank Group is an international financial services provider ranking among the world's 25 largest financial institutions. Internationally, the Rabobank Group is focused on the food and agri-food sector.



The opinions of the writers do not necessarily reflect the views of the publishers of Canola Digest.

AND IF YOU THINK GROWERS WERE IMPRESSED WITH NEXERA™ CANOLA PROFITS BEFORE.

Our new high-yielding hybrids will make results even healthier.





While a U.S. biodiesel plant can now use U.S. canola to meet the renewable fuel mandate, Canadian canola is not yet eligible under the sustainability criteria for foreign feedstocks. The EPA requires that foreign feedstocks must either meet the same criteria as U.S. agriculture, called the aggregate approach, or meet other EPA criteria.

"Canadian canola is not yet eligible under the sustainability criteria for foreign feedstocks [in the U.S.]."

The CCC worked together with the EPA and Agriculture and Agri-Food Canada to address this issue. In January 2011, the Government of Canada submitted a petition to the EPA requesting that Canadian feedstocks be accepted by the EPA using the aggregate approach. "The petition process will take us into spring, but we are anticipating a positive response and a re-opening of the U.S. biodiesel market to Canadian canola," says Buth.

Compared to the U.S. and Europe, the Canadian biodiesel market has been slow to develop, but rapid changes are underway. Both British Columbia and Manitoba have implemented biodiesel mandates and Alberta's mandate begins this year. The biggest market impact will come when the Government of Canada enacts a national biodiesel mandate, which it has indicated it will introduce later this year. These combined mandates will create demand for about 650 million litres of pure biodiesel (B100) in Canada and a market for about one million tonnes of canola.

"Today, we do not have adequate domestic plant capacity to meet a national two percent mandate," says Rick White, general manager of the Canadian Canola Growers Association, but the canola industry has been urging the federal government to support the build out of large volume plants in Western Canada so that a national biodiesel mandate can be supplied by Canadian biodiesel.

"Government mandates that require the fuel industry to incorporate biodiesel into the fuel supply not only meet environmental goals, but create a new, domestic market for canola and create economic growth for rural Canada," says White.

The use of canola as a feedstock for biodiesel is a proven technology with proven environmental benefits. As the world turns towards biofuels to reduce greenhouse and smog emissions both the domestic and international markets for biodiesel will grow. The result: new opportunities for Canadian canola growers, crushers and exporters.

Dennis Rogoza is an advisor on sustainability issues for the Canola Council of Canada. 29 •

Even prior to the introduction of Nexera[™] canola hybrids, these three Saskatchewan farmers had great things to say about the profitability of Nexera canola.

Truth is, we can't wait for them to experience our hybrids!

Until then, here's what Randy Gervais, Rick Bilous and Warren Kaeding had to say about Nexera canola on their farms in 2010.

The No. 1 reason to grow Nexera[™] canola is healthier profits – made possible by Omega-9 Oil. Gervais has seen it on his farm near Wauchope. Bilous has enjoyed the higher profits in the Yorkton region. And Kaeding has been counting the cash near Churchbridge.

"Profitability, that's the biggest one," says Kaeding when asked why he chooses to grow Nexera canola.

Adds Gervais, who is growing NEX-845 CL this year: "I grew it with other canolas but, the last few years, it has just been Nexera canola. When I did grow it with another canola, it was side-by-side with yield on our farm. The yield was right there, especially with these newer varieties." Bilous agrees.

"There is the dollar advantage – dollars produced per acre," Bilous says. "That's the most attractive reason to produce it." In fact, Nexera canola's reputation rests on a number of factors – healthier profits, to be sure, but also healthier oil and healthier demand.

Take Rodney Anderson, for instance. The Kelsey, AB farmer sees value in growing Nexera canola because of the Omega-9 Oil it produces. Anderson has been growing Nexera canola on his 1,000-acre farm since 2004.

"The biggest reason is it's a healthy product, healthy for people," says Anderson, who this year planted NX4-106 RR. "That's where agriculture has to be focused, is on the health trends."

Anderson's point is well taken when you consider that global demand for Omega-9 Oil has created – and will continue to create – business opportunities for farmers in western Canada. Currently, more than 100 international restaurant chains use Omega-9 Oil in their kitchens.

"We live in a unique part of the world, where canola can be grown," says Bilous, the Yorkton-area farmer. "And we have a captive market to ourselves."

To learn about Nexera canola hybrids, go to healthierprofits.ca.



BEYOND CASH RECEIPTS

By Crystal Klippenstein

New research reveals why farmers are choosing herbicide-tolerant canola, and why they aren't the only ones benefitting from it.

• 30 ver a span of 10 years, Canada's canola acres shifted from conventional to almost entirely herbicide-tolerant (HT) varieties. The quick rise in popularity has largely been attributed to the immediate financial benefits to farmers. But new findings suggest there is more than farm cash receipts fuelling HT canola growth; the environment has also been a benefactor of this transformation.

Unrestricted commercial production of HT canola started in 1997 and adoption was quick. In the first year, 26 percent of canola acres were planted to HT varieties, 78 percent by 2002 and by 2007 95 percent of canola acres were planted to HT varieties.

After 10 years of commercialization, researchers from the University of Saskatchewan and University of Ottawa surveyed producers in Western Canada on the observable impacts to their operations. The findings were recently released in a study titled *Assessing the Economic and Ecological Impacts of Herbicide Tolerant Canola in Western Canada*.

Dr. Stuart Smyth, co-lead researcher for the study and a research scientist at the University of Saskatchewan, says that one of the significant discoveries in the study was the high level of spill-over benefits, namely weed control, for crops following HT canola in the rotation. "I had heard from farmers that there were second-year benefits, but we weren't aware of any specific numbers available," says Smyth.

The study reports that over half of the surveyed farmers indicated a secondyear benefit from HT canola and of those, 63 percent indicated the value of this benefit was an average \$15 per acre. This is in addition to the previously reported \$11¹ per acre in direct financial benefits.

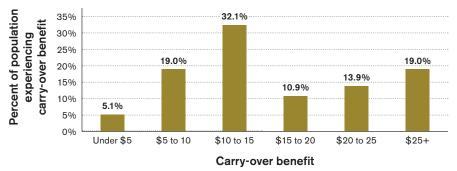
Erin Brock, Canola Council of Canada agronomy specialist in Peace River, Alberta finds it valuable to have a number associated with spill-over benefits.

"There's no doubt the farmers surveyed are reporting financial benefits that I've seen on the fields," she says. "Most growers would acknowledge a benefit, but to have a big number attached to it speaks volumes to the positive response we've had in Canada with HT canola."

Controlling volunteer canola has had an impact on the overall cost of growing HT canola, but the numbers aren't nearly as high as many had speculated. In fact, 74 percent of those surveyed indicated that controlling volunteer canola was the same or easier than before HT came onto the scene. Weed control costs are often outweighed by the spill-over benefits in weed control, which are somewhere between 33 and 45 percent of the total net benefits realized by producers.

Scott Day has been farming with his father near Deloraine, Manitoba for 25 years and says that if herbicide tolerance hadn't been introduced, he wouldn't have the resources needed to grow canola. "HT canola came at the perfect time for us. Without it, we wouldn't be able to grow canola today," he says.

Table 1: Estimated spill-over benefits per acre



¹ In 2003, researchers calculated the direct economic benefit of growing transgenic canola by subtracting the cost of seeding, tillage, herbicide and fertilizer management from revenue. They reported that the direct financial benefit of growing transgenic canola varieties for farmers was approximately \$11 per acre. In addition, they compared transgenic canola with conventional varieties and identified higher seed costs, lower herbicide costs, fewer herbicide applications, lower dockage and earlier seeding in transgenic varieties.

Year	Acres	Direct	•	-over llion)	Reduced tillage	Cost of volunteer	Total Benefits (million)	
rear	(million)	(million)	Low	High	(million)	control (million)	Low	High
2005	12.6	\$141	\$63	\$103	\$153	\$14	\$343	\$383
2006	12.8	\$143	\$64	\$105	\$153	\$14	\$346	\$387
2007	14.8	\$165	\$73	\$121	\$153	\$17	\$374	\$422
Average	13.4	\$150	\$67	\$110	\$153	\$15	\$354	\$397

Table 2: Direct and spill-over benefits of HT canola (C\$). Low and high refer to the low and high numbers of spill-over benefits reported by the surveyed farmers.

Day and his father started growing HT canola in the late 90s. In those years, he also grew a rapeseed variety that produced near-comparable yields and provided premiums up to \$60 per tonne. But when Day and his father compared HT canola to the additional inputs required by the rapeseed (labour, weed control and weed problems in following years), they found the rapeseed wasn't worth growing.

"This is a stark indication of the value we have put on HT," Day says. "If I could grow canola that was not HT and get similar premiums I still wouldn't because it would require so much more.

To learn that HT canola farmers are receiving \$26 per acre in financial benefit is fantastic news but Smyth's research unearthed another big winner in HT canola's story: the environment.

Though acreage increased by 21 percent between 1995 and 2007, farmers soften the environmental impact of growing canola by 35 percent. While this cannot be solely attributed to the adoption of HT canola, its benefits are widespread.

For example, farmers reported that they make about one less herbicide application per year with HT canola and the amount of active ingredient applied to canola fields has been reduced by 44 percent, which has financial benefits and reduces the impact on farm workers, the environment and consumers.

Smyth believes that HT canola is one of the most environmental-friendly farming options presently being practiced in Canada. "Organic crop technologies have captured consumer attention and support, but the only option they have for weed control is tillage," Smyth says. "We have demonstrated that there's a cost to tillage and it is environmental damage, erosion, increased carbon released into the atmosphere and reduced biodiversity."

In addition, the movement away from summerfallow has been another significant change of great benefit to the environment. Janice Tranberg, vicepresident, Western Canada for CropLife Canada and secretariat of the Council for Biotechnology Information says that the introduction of HT canola made growing canola under minimum and zero till conditions easier.

Approximately 65 percent of the canola grown on the Prairies is now grown using zero or minimum tillage methods. HT canola grown under conservation tillage allows for less soil erosion and increased moisture retention.

"The average consumer doesn't understand how much the farmer's ability to control weeds without tillage has changed things," says Tranberg.

With reduced soil disturbance, producers surveyed for Smyth's study indicated that soil erosion decreased and carbon stock maintenance in soil increased. The difference in carbon sequestering between conventional and HT canola is nearly one million tonnes annually, due to a decreased rate of crop residue decomposition and a reduction in the amount of carbon released into the atmosphere.

In addition to the positive relationship between HT canola and tillage reduction, Brock says she has observed that as the amount of land being farmed increases, producers are working even harder as stewards of the land.

"Farmers in Western Canada are improving their stewardship and that's something I see on a day-to-day basis when talking with them," she says. "Whether it's observing beneficial insects in their fields or taking note of more organic matter in their soil, they're so aware of what's going on."

Climate change is an obstacle to many areas of business and HT canola is a fantastic example of the industry's ability to assess needs – of the environment, farmers and other businesses – and adapt practices accordingly to ensure sustainable farming is available for future generations.

Day sums up by explaining why growing HT canola is the best decision he can make for his farm. "On our farm, economics are important, but we're also committed to zero till and protecting the environment. My grandfather was a pioneer committed to soil conservation and we have that legacy to build on." •

Crystal Klippenstein is a communications coordinator with the Canola Council of Canada.

To read Assessing the Economic and Ecological Impacts of Herbicide Tolerant Canola in Western Canada, go to **www.canolacouncil.org/biotechnology.aspx**



ABreport





Back Row (l-r) Elaine Bellamy (Region 8), Kelly McIntyre (Region 1), Terry Young (Region 7), Lee Markert (Region 9), Todd Hames (Region 10), Daryl Tuck (Region 4), Marlene Caskey (Region 12) Front Row (l-r) Harry Schudlo (Region 2), Jack Moser (Region 11), Jody Klassen (ACPC Chairman-Region 6), Colin Felstad (Region 5), Raymond Blanchette (Region 3).

NEW CHAIRMAN AND DIRECTORS FOR ACPC

Alberta canola producers elected three new directors to the board of the Alberta Canola Producers Commission (ACPC). Kelly McIntryre of Fairview was elected for region 1, Daryl Tuck of Vegreville for region 4 and Terry Young of Lacombe for region 7. Todd Hames of Marwayne was re-elected for region 10.

Following the ACPC Annual General Meeting, Jody Klassen of Mayerthorpe was elected to serve as chairman of the ACPC for the coming year. Colin Felstad of Dapp will serve as vice-chair.

Lee Markert of Vulcan will chair the agronomic research committee, Marlene Caskey of Oyen will chair the market development committee, and Jack Moser of Killam will chair the grower relations & extension committee. A complete list of committee members can be found at www.canola.ab.ca.

A fond farewell to outgoing ACPC directors

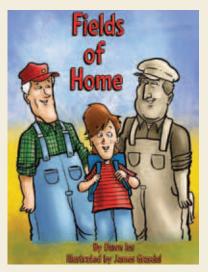
Retiring from the Board at the end of their second three-year terms were (I-r) Kevin Bender of Bentley, Greg Porozni of Mundare, and Nolan Robertson of Fairview. In their final year on the ACPC board, Bender served as ACPC chairman, Porozni as the ACPC

representative on the Canola Council of Canada board and Robertson as chair of the ACPC agronomic research committee.

"On behalf of Alberta's canola growers, I extend my sincere thanks to these gentlemen for their dedication and commitment to the canola industry and the producers they represented so professionally at a regional, provincial, national and international level," stated ACPC chairman Jody Klassen. "We wish them all the best in their future endeavours."



ABreport



First Printing: January 2011

FIELDS OF HOME LAUNCHED AT THE **ACPC ANNUAL** MEETING

Written by Dawn lus, and illustrated by James Grasdal, Fields of Home is an entertaining children's story-comic book targeting eight to eleven year-olds. Chase, a young track and field athlete, is charged with taking lunch to his grandfather who is scouting his canola field.

On a very hot day, Chase over-exerts himself in a mental competition with his track rivals. That's when he meets Mr. Slovonuk (originally Slovoniuk) from Shellbrook, Saskatchewan - the farmer who first brought rapeseed from Poland to Canada.

Fields of Home is part fantasy, relying on a tween's belief in perhaps. The story intertwines historical facts about canola and rapeseed, the transition from one seed to the other, and the man who started it all.

Copies of Fields of Home will soon be available for Alberta libraries. By September 2011, the book will be accompanied by an Alberta Education Language Arts resource built around the elements of a story: setting, characters and plot. ACPC, the book's publisher, will provide a copy of the book and the resource to any Alberta elementary school teacher free of charge.

Inquiries about Fields of Home may be made to simone@canola.ab.ca.

GLEN HODGSON

FARM FINANCIAL STRATEGIES **CONFERENCE 2011**

> Wednesday, March 23, 2011 **Mayfield Inn, Edmonton**

A one-day conference that will help you position your farm for financial success.

Senior Vice-President and Chief Economist The Conference Board of Canada

Globalization and the Future of Agriculture in Alberta

Glen Hodgson brings 29 years of experience and a specialization in international economic and financial issues to the position of senior vice-president and chief economist of The Conference Board of Canada.

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GREG GARTNER

Partner Felesky Flynn LLP

Top Ten Things Your Accountant Should Be Telling You

Greg's practice is focused in the area of tax advice to owner-managed businesses, with particular emphasis on business re-organizations, purchases, and sales and state planning. He is also regarded as a leading expert in agricultural tax.



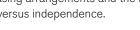
MERLE GOOD

Provincial Tax Specialist Alberta Agriculture & Rural Development

Farm Financial Strategies

Merle has been helping farmers better manage the business side of the farm for over 30 years. Merle will discuss counter-cyclical input buying, unique land-leasing arrangements and the need for integration versus independence.

For complete details and to register visit www.canola.ab.ca or call 1-800-551-6652. •



Sask Canola

SKreport



EXECUTIVE DIRECTOR'S REPORT

2011 got off to a busy start for SaskCanolal It began with participation at Crop Production Week, which ran from January 10 to 13, and hosting our Producer Conference and AGM on January 12. The conference and AGM attracted some 300 people, with presenters focusing on agronomy, crop production issues and industry markets.

Federal Agriculture Minister Gerry Ritz began the conference by announcing an investment in SaskCanola of over \$205,000 for research directed towards increasing the value and usage of canola protein in the food ingredient market.

The results of our board election were announced at the AGM. Stan Jeeves, pastpresident of the Saskatchewan Canola Growers Association (SCGA) was elected to the board and Joan Heath was elected for a second term. We also said good-bye to board chair Wayne Bacon who leaves after serving nine years on the board.

During the SCGA annual meeting on January 13, members discussed a proposal to merge SCGA and SaskCanola. Both director boards see this merger as a positive and timely opportunity to work in a more collective and coordinated approach. A year of transition is planned, during which time members from both boards will work to integrate operations. A final vote on the merger will be held at the SCGA AGM in January 2012.

A new market development initiative was also launched in January. Through the Commission's partnership with the Riders, we were able to enhance our Kickoff to Good Health campaign –promoting the health and nutrition benefits of canola oil – by presenting the inaugural Rider Hockey Challenge in four producer communities.

February saw SaskCanola hold five regional Producer Canola Days, which focused on key issues that producers face relative to this year's crop production. We were fortunate to source excellent presenters for each of these meetings. In March, SaskCanola will also offer a new series of producer webinars focusing on flooded and unseeded acres issues. Dates and registration information are listed in this report and on our website.

Our next Digest will be issued in the fall. We encourage you to keep in touch in the coming months through regularly sourcing the latest crop production, research and industry information on our website **www.saskcanola.com** or contacting us at 1-877-241-7044.

Sincerely,

Catherine Folkersen, Executive Director



Catherine Folkersen SaskCanola

SALUTING SERVICE!

After nine years as an active member and chair of the SaskCanola board of directors, Wayne Bacon bid adieu during the canola banquet on January 13, 2011.

Thanking Wayne for his years of service to the Commission and industry, board member Tim Wiens, presented Wayne with a gift on behalf of SaskCanola. "All of us at SaskCanola wish Wayne well and thank his family, notably his wife Carol, for supporting Wayne's many contributions to not only SaskCanola but also to our industry."



Wayne and Carol Bacon with gift of appreciation presented to Wayne for his years of service to SaskCanola.







2011 SaskCanola Board of Directors (l to r)Tim Wiens, Stan Jeeves, Franck Groeneweg, Joan Heath, Brett Halstead and Terry Youzwa.

SASKCANOLA BOARD OF DIRECTORS ANNOUNCED

Board members for 2011-2012 were announced at the SaskCanola Annual General Meeting on January 12, 2011.

Newly elected is Stan Jeeves from Wolseley, past-president of the Saskatchewan Canola Growers Association. Re-elected is Joan Heath from Radisson and returning are: Brett Halstead from Nokomis, Tim Wiens from Herschel, Terry Youzwa from Nipawin and Franck Groeneweg from Edgeley.

Subsequent to the AGM, the Board elected its executive committee: Brett Halstead, chair; Joan Heath, vice-chair and Tim Wiens, treasurer.

Brett Halstead and Stan Jeeves will represent canola producers on the Canadian Canola Growers Association; Terry Youzwa will continue as representative to the Canola Council of Canada; Franck Groeneweg will continue as chair of research; and Tim Wiens continues as chair, market development and communications. •

UNSEEDED AND FLOODED ACRES SERIES

SaskCanola will present four webinars dealing with unseeded and flooded acres: March 1, 3, 8, and 10. Various specialists will be on hand to present important information and answer producer questions. Webinars will be subsequently posted on our website at **www.saskcanola.com**. For information about each webinar and to register, go to **www.saskcanola.com**.

Schedule:

- Fertility Issues Tuesday, March 1, 2011 10:00 AM - 11:00 AM CST
- Field Management Issues Thursday, March 3, 2011 10:00 AM - 11:00 AM CST
- Disease Issues Tuesday, March 8, 2011 10:00 AM - 11:00 AM CST
- Weed Issues Thursday, March 10, 2011 10:00 AM - 11:00 AM CST •

COMING SOON!

Check www.saskcanola.com for a chance to win registrations to the national canola conference July 26-28, 2011 in Saskatoon.

CANOLA COUNTRY IS RIDER COUNTRY...EVEN DURING THE WINTER!

From January through March 2011, the Saskatchewan Roughriders traded in their cleats for skates as members of the club took part in the inaugural Rider Pride Hockey Challenge presented by SaskCanola.

"SaskCanola partnered with the Riders this winter to present the Hockey Challenge in the canola communities of Unity, Nipawin, Weyburn and Avonlea," says Catherine Folkersen, executive director. "This partnership furthers the Kickoff to Good Health campaign goal of informing consumers and fans alike about the health and nutrition benefits of the 'number 1' heart-healthy oil, canola oil."

Prior to each game, the community selected one of their young hockey stars to be the Canola 1 hockey player. With **Canola 1** on the back of their jersey, each child played as a member of the Rider team and participated in the official Challenge puck drop.

Hundreds of fans attended each community game, which began with a Rider autograph session. Copies of the SaskCanola's Canola 1- Kickoff to Good Health information and recipe booklets were also distributed.

"Our producers are proud of the relationship we have with the Riders and it was terrific to see the team coming out to the communities where our producers work and live," concludes Folkersen.



SaskCanola board member Terry Youzwa and Canola 1 hockey player, Andrew Lee, drop the puck to begin the Hockey Challenge in Nipawin on January 22, 2001.



MBreport



There was no ribbon to be cut by a giant pair of scissors or speeches that went on far too long. Instead, there was the aroma of beef tenderloin searing on a hot grill and the sight of a newbee baker expertly dusting his chocolate lava cake with icing sugar.

Welcome to the formal opening of Assiniboine Community College's (ACC) Culinary Theatre in Brandon, proudly supported by the Manitoba Canola Growers Association (MCGA).

Rob Pettinger, MCGA president, and Mark Frison, ACC president, were whisked to work in a friendly Iron Chef-type competition, much to the delight of friends and dignitaries who filled the room on January 17 for the formal dedication.

Pettinger's handiwork with a strawberry garnish on his lava cake was nothing short of professional, while Frison's steadfast attempt to balance a garlic shrimp on grilled beef tenderloin didn't go unnoticed by the crowd. The battling presidents got helping hands from ACC students Alannah Moody, Lena Hiebert, Bethanie Wasicuna and Kelsi Sorensen, finalist in Manitoba Canola Growers Culinary Arts Competition, which was held late last year.

The evening was hosted by the unsinkable Mairlyn Smith – home economist, award-winning author and alumnus of the Second City Comedy Troupe – who stamped the event with her hilarious brand of food and fun. Smith recently cobbled together a list of the top 10 foods that should be incorporated into any diet and canola oil made the list (see right).



Watch MCGA president, Rob Pettinger, "Iron Chef it" with ACC president, Mark Frison, in the Manitoba Canola Growers Culinary Theatre at Assiniboine Community College. Check out this and all other MCGA videos on the Canola Growers YouTube Channel at http://www.youtube.com/ user/CanolaOilGrowers

The culinary theatre is a top-notch, 45-seat room that benefits both culinary and media production students. It features an in-house control room, recording and broadcast equipment, moveable studio lighting, cameras, gas-fired grills, cooktops, a freezer, cooler, glass washer and several ovens. The space would make any television cooking show host swoon.

MCGA chipped in \$300,000 toward the \$1 million culinary theatre at ACC. The contribution enhances and expands upon an existing partnership with ACC.



"We see a real connection between education and what canola growers are all about," Pettinger said. "Plus, when it came to making our contributions this year, this was the one item on the agenda that everyone got excited about right away."

"Young people are truly important to Western Canada and what better way to show our support than to help them at the stage when they are getting an education," he added.

Frison, ACC president and CEO formally accepted the donation at the event. "This teaching studio and media lab are really helping to create exceptional learning programs here in the Westman region," he said.

To date, this is the largest contribution ever given by MCGA. MCGA represents 9,000 canola farmers around Manitoba who are dedicated to growing canola. When crushed into heart-healthy oil, canola makes its way into homes and professional kitchens around the world.

Mairlyn Smith's Top 10 Foods

- 1. Barley
- 2. Mushrooms
- 3. Berries
- 4. Deep Orange Fruits and Veggies
- 5. Dark Green Veggies
- 6. Onions and Garlic
- 7. Soybeans
- 8. Salmon
- 9. Nuts

10. Canola Oil. It's the lowest oil in saturated fat, contains omega-3 fatty acids, has a high smoke point, is incredibly versatile and is Canadian!

MBreport

MCGA'S ANNUAL REPORT ONLINE

The 2010 MCGA Annual Report is now available at **www.mcgacanola.org**

In the annual report you will find messages from MCGA's president, executive manager, education and promotion coordinator, web controller and agronomic research chair. You'll also find important canola statistics and MCGA's 2010 financial report.



JUNIOR CURLING

Lucky number seven. We know it's an important number for gamblers, but who knew it would play into the success of Manitoba's junior curlers? You see, both skips of this year's championship teams started curling when they were just seven years old.

Breanne Meakin's St. Vital rink from Winnipeg and Sam Good's Stonewall crew captured top honours in the Manitoba Canola Growers Junior Men's and Women's Provincial Curling Championships in Gimli, January 6 to 10, 2011. Meakin threw her first rocks at Winnipeg's Wildwood Curling Club. "I grew up watching a lot of curling, and my Dad played so I learned a lot from him and grew to love it," said the 20 year-old.

GR . WING

To date, the highlights of her curling career have been competing in the World Junior Curling Championships in Vancouver in 2009 and drawing to the four-foot to win the provincial championship last year. To pile up those kinds of accomplishments, the Human Nutritional Sciences student at the University of Manitoba pays keen attention to her health.



Ed Rempel, MCGA vice-president, awards Breanne Meakin's rink from Winnipeg with the 2011 Manitoba Canola Growers Junior Women's Provincial Curling Championship.

Sam Good's rink from Stonewall wins the 2011 Manitoba Canola Growers Junior Men's Provincial Curling Championship.

"Plenty of water, vegetables, fruit, whole grain foods and good sources of protein that are low in fat. And yes, canola is definitely part of my diet," she said.

The team – including third Briane Meilleur, second Erika Sigurdson and lead Krysten Karwacki – trained hard through the off-season.

Twenty year-old Good admits that the toughest shot of his career came at this year's provincial championships.

"I had to draw to the button to win the semi-finals. The sweepers swept it right out of my hand and put it on the button," says the resident of Balmoral. Good's grandparents, uncles and dad were canola growers in the area.

For Good, it's all about the mental game. "I love the strategy behind it and how everyone has to work together as a team to be successful."

Good's team includes Riley Smith, Taylor McIntyre, Dillon Bednarek, coach Guy Mao, and fifth Trevor Grenkow. The team practices twice a week and Good tries to get on the treadmill as much as possible. Nutrition is his primary focus.

"This is something I never really used to pay attention to, but this past March my Dad suffered a heart attack at 47, and his dad, my grandpa, died from a heart attack when he was 52, so my whole family has been more conscious of what we eat and we are all much healthier because of it," he said.

That healthy eating plan includes cooking only with canola oil and drinking plenty of water. "Staying hydrated is so important," he added.

Good said Manitoba Canola Growers' sponsorship of the event is appreciated by everyone in the sport.

"Junior events like these are so important to the development of athletes in our province and they just couldn't run without the generous support of sponsors. On behalf of every junior curler in Manitoba, we thank you," he said.

Manitoba Canola Growers made a threeyear commitment to sponsor Manitoba's Junior Curling Championships. The 2011 event was the first year of the agreement.



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No matter what your weed concerns are, Liberty[®] has an affordable, effective option for every field.

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- 1-Pass Liberty at the higher labelled rate
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CANOLA ALIGNED WITH NEW DIETARY GUIDELINES

By Angela Dansby

Dietary Guidelines for Americans 2010 calls for replacing saturated and solid fats with unsaturated fats – canola oil is a perfect fit.



n a country where two-thirds of all people are overweight or obese, cardiovascular disease (CVD) is the leading cause of death and type-2 diabetes (T2D) is increasing at an alarming rate. Dietary changes are critical.

To this end, the *Dietary Guidelines for Americans 2010*, issued on January 31, 2011 by the U.S. Department of Agriculture (USDA), aim to help consumers achieve or maintain normal weight and optimal well-being. The guidelines include a call for saturated fat intake to be less than 10 percent of total daily calories, replacing those calories with unsaturated fats, and using oils instead of solid fats where possible.

That's good news for the canola industry, since canola oil has the least amount of saturated fat of all cooking oils. It is specifically cited in the guidelines as a good source of monounsaturated fat. But it's even better for public health, since excess consumption of saturated and solid fats is associated with increased risk of CVD.

"The key to lowering the risk of both heart disease and type-2 diabetes is to replace saturated fat with healthpromoting mono- and polyunsaturated fats," said Jim Painter, Ph.D., R.D., chair, Department of Consumer and Family Sciences, Eastern Illinois University. "Such replacement decreases total and bad LDL cholesterol, improves insulin responsiveness, and reduces markers of inflammation."

In keeping with the 2005 dietary guidelines, the 2010 recommendations support total fat consumption of 20 to 35 percent of daily calories, mainly from unsaturated sources. They also call for people to keep trans fat consumption as low as possible and dietary cholesterol

...the 2010 guidelines note for the first time that "lowering saturated fat intake to seven percent of total daily calories can further reduce the risk of CVD." to less than 300 milligrams per day, as well as to limit intake of foods containing solid fats.

However, the 2010 guidelines note for the first time that "the types of fat consumed are more important in influencing the risk of CVD than the total amount of fat in the diet" and "lowering saturated fat intake to seven percent of total daily calories can further reduce the risk of CVD."

The June 2010 scientific report from the Dietary Guidelines Advisory Committee (DGAC) called for reducing intake of: (1) saturated fat from 10 to seven percent of total daily calories; (2) cholesterol-raising fats (saturated fat exclusive of stearic acid¹ and trans fat) to less than five to seven percent of energy; and (3) artificial (industrial) trans fat to zero. They also encouraged greater consumption of plant-based omega-3 fat, as found in canola oil.

"As the evidence indicates that a five percent energy decrease in [saturated fat], replaced by [mono- or polyun-

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saturated fat], results in meaningful reduction of risk of CVD or T2D, and given that in the U.S. population 11-12 percent of energy from [saturated fat] intake has remained unchanged for over 15 years, a reduction of this amount resulting in the goal of less than seven percent energy from [saturated fat] should, if attained, have a significant public health impact," said the DGAC report.

For example, if all solid fats were removed and replaced with liquid vegetable oils, saturated fat intake would be decreased to 7 or 7.5 percent of total calories and cholesterol-raising fats would be decreased to 5 or 5.5 percent of calories, estimated the DGAC.

In addition, the DGAC report cited "strong evidence that consumption of omega-3 fatty acids from seafood and plant sources has a significant cardioprotective effect and decreases cardiovascular mortality."

EATING SMART WITH CANADA'S FOOD GUIDE

by Shaunda Durance-Tod

The pattern of health issues in Canada closely resembles those of the U.S.. According to the 2009 report *Tracking Heart Disease and Stroke in Canada*, an estimated 1.6 million Canadians have cardiovascular disease and nine out of 10 Canadian adults have at least one risk factor for heart disease or stroke.

Two of the major risk factors, obesity and diabetes, are on the rise in Canada, with over 50 percent of the population being either overweight or obese and one in 16 Canadians having diabetes.

Canada's dietary recommendations are published by Health Canada in Eating Well with Canada's Food Guide. The Food Guide is designed to promote health and reduce the risk of nutrition-related chronic diseases.



Canada's Food Guide was last updated in 2007 and provides the following advice for fats and oils:

- Include a small amount 30 to 45 ml (2 to 3 tbsp) of unsaturated fat each day to get the fat you need. This amount includes oil used for cooking, salad dressings, margarine and mayonnaise. Canola oil tops Health Canada's list of unsaturated vegetable oils.
- Limit saturated fats, including butter, hard margarine, lard and shortening. Canadian adults currently consume about 10 percent of their total daily calories as saturated fat.
- Avoid trans fats.
- When choosing margarine, use the label's *Nutrition Facts* table to choose the margarine that has two or less grams of saturated and trans fats combined. •

Shaunda Durance-Tod is program manager of CanolaInfo. She is a registered dietitian and is based in Winnipeg.

continued on page 42 | and is based in ^a American Heart Association, Heart Disease & Stroke Statistics 2010 Update at-a-Glance, www.heart.org The replacement of solid fats with liquid oils was emphasized in the Dietary Guidelines for Americans 2010, but otherwise, the fat intake recommendations did not change from 2005. In spite of the DGAC's report, the 2010 guidelines do not call for more assertive limits on saturated or trans fats, nor greater consumption of plant-based omega-3 fat.

For the first time, the DGAC considered T2D along with CVD in its evaluation of dietary fats and cholesterol. T2D is a strong risk factor for CVD. In fact, at least 65 percent of people with diabetes die of heart disease or stroke, often earlier than those without diabetes.² Moreover, U.S. children and young adults are being diagnosed with T2D at an alarming rate today. As a

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result, type-1 diabetes is no longer referred to as "juvenile" diabetes.

"The key to lowering the risk of both heart disease and type-2 diabetes is to replace saturated fat with health-promoting monoand polyunsaturated fats."

- Jim Painter

"The age of onset of T2D is substantially younger than that of CVD and increasingly frequent in adolescence," said the DGAC report. "Reduction in [saturated fat] in children and young adults may provide benefits decades earlier than currently appreciated. The growing data to support a risk of T2D from [saturated fat] consumption supports the need for fat-modified diets in persons with pre-diabetes, including those with metabolic syndrome, and those with established diabetes."

The report adds that early signs of atherosclerotic CVD are seen in children. Studies indicate that the atherosclerotic process begins in childhood and is affected by high blood cholesterol levels. Reducing saturated fat intake among children and young adults may reduce the incidence of CVD and T2D decades earlier than previously recognized.

In the U.S., more than 81 million people (37 percent) have CVD, accounting for nearly 850,000 deaths a year. About 66 percent of Americans are overweight or obese and more than 23 million have diabetes, predominately T2D². Simple dietary changes, such as using a cooking oil like canola oil that's low in saturated fat, can help improve these statistics.

"Well-being is about taking ownership of your health and taking small steps each day to improve it," Painter said. "Choosing healthy cooking oil like canola is one example." •

Angela Dansby is communications manager for CanolaInfo based in Chicago, Illinois

ORANGE-GLAZED SALMON **OVER SAUTEE** SPINACH

By Roberta L. Duyff, food and nutrition consultant and author

This salmon looks pretty, tastes delicious and can be made any time of the year. It is infused with seasonal fresh orange and heart-healthy canola oil. Serve over slightly wilted spinach.

INGREDIENTS

1	orange, juice and grated peel
2 Tbsp (30 mL)	honey
1 Tbsp (15 mL)	brown sugar
1 Tbsp (15 mL)	canola oil, divided
¼ Tsp (1 mL)	red pepper flakes
1 (12 oz/350 g)	salmon fillet, cut in 4
8 oz (250 g)	fresh spinach, trimmed
1 Tbsp (15 mL)	lemon juice
⅓ Tsp (.5 mL)	freshly-ground black pepper

NUTRITIONAL ANALYSIS PER SERVING

Calories
Total Fat11 g
Saturated Fat 1.5 g
Cholesterol
Sodium85 mg
Carbohydrates17 g
Fiber2 g
Protein



INSTRUCTIONS

- 1 Combine orange juice, honey, brown sugar, 2 tsp (10 mL) canola oil and red pepper flakes.
- 2 Arrange salmon in a dish just big enough to hold the fillet; pour orange juice mixture over salmon. Marinate in the refrigerator for 30 minutes, turning salmon once to distribute flavours. Discard marinade.
- 3 Grill salmon skin side up, over medium heat for 5 to 7 minutes; turn and cook for another 5 to 7 minutes, until fish flakes easily.
- 4 Just before salmon is done, saute spinach in 1 tsp (5 mL) canola oil in a non-stick skillet just until wilted. Season with lemon juice and pepper.
- 5 Spoon spinach onto heated plates. Top with salmon. Sprinkle with grated orange peel.

Yield: 4 servings. Serving size: 3/4 cup (175 mL).

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