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Lentil Producers Unable to Use Glyphosate for Pre-harvest Weed Control

A difference in Canadian and European Union (EU) residue limits means preharvest glyphosate may not be a viable option for growers.

Canada exports a significant amount of lentil to the European Union (EU) which has a maximum residue limit (MRL) of 0.1 parts per million (ppm) for glyphosate residue on lentil imports. The Canadian MRL for lentil is 4 ppm. If a lentil grower applies pre-harvest glyphosate at the recommended label rate, it will meet the Canadian standard but will probably exceed the EU tolerance level, potentially damaging lentil trade relations between the EU and Canada.

“Some lentil growers have been accustomed to applying glyphosate before harvesting lentil to control perennial weeds and to dry down the crop vegetation for more ease of harvest,” says Neil Whatley, crop specialist, Alberta Ag-Info Centre, Stettler. “Perennial weeds like Canada thistle and perennial sow thistle have become more abundant in our minimum tillage farming system. Due to its systemic nature, glyphosate has the ability to translocate through plants, making it effective at controlling these types of perennial weeds especially when applied at the end of summer or in early fall.

“Lentil plants have an indeterminate growth habit, so, coinciding with pre-harvest weed control, a glyphosate application at this time can also assist with drying down the green vegetative growth of lentil plants which aids lentil harvesting.”

Although glyphosate continues to be registered for pre-harvest weed control in lentil in Canada, due to the EU’s MRL for glyphosate, Reglone Desiccant should be the chemical of choice used by lentil growers for crop dry down this harvest season.

“Reglone Desiccant, or simply called Reglone, contains diquat as an active ingredient and is the only true desiccant registered for lentil. As a non-systemic, contact type herbicide, Reglone is not as effective at controlling perennial weeds as glyphosate but is a very effective dry down product. The MRLs for Reglone use in Canada and the EU are both at 0.2 ppm so, when applied at the recommended label rate, Reglone seed residue meets the tolerance standard of both the EU and Canada.”

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Reglone should be applied when the lowermost lentil pods are tan coloured and their seeds rattle when shaken. A Reglone application does not speed the maturity of lentil crops and application before the recommended crop stage can result in reduced seed yield and quality.

“The Reglone application rate for ground spraying is 0.5 to 0.7 litres per acre, using the higher rate for a dense crop or a heavy weed infestation,” says Whatley. “The aerial application rate is 0.7 to 0.9 litres per acre. Addition of a surfactant at a rate of 1 litre per 1,000 litres of spray solution is necessary.”

Since Reglone is a contact herbicide, high water volumes are required to achieve thorough spray coverage. A minimum of 20 gallons of water per acre is recommended when ground spraying and four gallons of water per acre is the aerial recommendation.

“Optimal crop desiccation occurs when Reglone is applied on cloudy days or just prior to, or during, periods of darkness,” notes Whatley. “Rainfall after applying Reglone does not negatively affect its effectiveness as long as it occurs at least 15 minutes after application. Dry down time is generally 4 to 10 days, but can be longer and less effective if rainfall, humidity or low temperatures prevail after application.”

If these weather conditions exist prior to application, apply the high Reglone rate as well as a high water volume to obtain better results. Seed germination is not negatively affected by Reglone, so harvested lentil seed can be re-planted.

“Bottom line, is that lentil growers should not apply glyphosate as a pre-harvest weed control tool this year due to risk of damaging lentil trade relations with the EU,” concludes Whatley. “If perennial weeds are a problem in lentil crops, a producer can apply Reglone as a harvest desiccant and then apply glyphosate after harvest for weed control. Using glyphosate in the spring as a pre-seed weed control burnoff tool ahead of planting lentil is not a concern.”

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An End-to-end Commitment to Food Safety

Alberta’s 100 officially recognized farmers’ markets come in all shapes and sizes, with the province’s 3,000 vendors offering a wide variety of farm-grown products. If you ask consumers why they go out of their way to buy directly from farmers, they’ll often talk about taste, freshness and all-natural quality.

For many, fresh chickens grown by the province’s Hutterian Brethren are one of the most popular buys on any visit to a farmers’ market. Case in point: the Kingsland Colony near Lethbridge.

While the Colony takes pride in their chicken’s ultra-fresh taste and quality, Colony members are equally proud of their painstaking approach to food safety.

“On our most recent ARD audit last November, we scored 98 per cent,” says poultry manager Paul Kleinsasser. “There are many things that go into that, and we’re continuing to try to improve in everything we do.”

When you buy a Kingsland Colony chicken at a farmers’ market, you notice the quality immediately. What you don’t see is everything that takes place behind the scenes to make it that way. In 2010, the Colony invested aggressively in an upgrade of its production facilities and key management processes. This upgrade included several elements.

The Colony initiated a new food safety program, including program development and staff training. This review covered all facility procedures and resulted in a revised sanitation program with added focus on ensuring the facility and all equipment are maintained at the highest standard of cleanliness. A new water chlorination system helps keep water and the ice made from that water safe for use, and automated processing tools reduce the risk of product contamination with an added benefit that it reduces the incidence of worker fatigue.

The upgrade included the purchase of new refrigerated transport units that allow product to be delivered with food safety protocols closely observed. “With our new refrigerated transport units we can easily maintain product temperature below 4o C during transport, which is very important for product integrity and for our image as a professional and reliable processor.”

These measures allow this well-regarded processor to achieve high levels of food safety performance. In the unlikely event of a lapse, however, the consumer is protected. The final element of the project upgrade was a system for tracking product and, if needed, executing a swift and effective recall. A simulated recall exercise was found to be 100 per cent accurate in tracking all product produced on a given day to the end user which assures that if an issue does arise product can be removed from the market quickly.

Kingsland Colony's 2010 capital investment program was cost-shared by the Growing Forward Food Safety Processor Program. The program helps processors improve their food safety practices in several possible ways: through adoption of food safety systems, undergoing food safety audits, participating in food safety training or through capital equipment purchases that directly impact food safety. Capital purchases such as Kingsland's equipment upgrades can be cost-shared 50-50, up to a maximum of \$50,000.

Kingsland also engaged the services of a food safety consultant, with 70 per cent of that cost covered by the Growing Forward program. Under the program, a maximum of \$25,000 applies to such non-capital costs.

Kevin Smith of Alberta Agriculture and Rural Development, who worked closely with Kleinsasser on the project, applauds the Colony for its far-sighted investment philosophy.

"This was an extensive project by a very progressive group," says Smith. "They like to be on the cutting edge of production and they are highly focused on offering the public a safe, high-quality product."

Processors looking for more information can contact the Ag Info Centre at 310-FARM (3276) or visit the Growing Forward website at www.GrowingForward.Alberta.ca

Growing Forward is a federal-provincial-territorial initiative.

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Winter Wheat Seeding Rate

An Alberta Agriculture research scientist says that, when it comes to seeding winter wheat, to remember that the ideal seeding rate is higher than is used for spring wheat.

"Generally, in the Brown and Dark Brown soil zones, winter wheat should be seeded to achieve at least 23 to 25 plants/square foot, which is about 120 lb/ac depending on variety and seed size," says Dr. Ross McKenzie, agronomy research scientist, Alberta Agriculture, Lethbridge. "In the Thin Black and Black soil zones, winter wheat should be seeded to achieve at least 30 plants/square foot, which is about 150 lb/ac depending on variety and seed size.

"Actual seeding rate should be based on the 1000 kernel weight of the seed source to be planted. Winter wheat has considerable ability to tiller; however, best yields are obtained with higher seeding rates. Ideally, row spacing of seven to nine inches is best."

Winter wheat has a very short coleoptile, which is the extension of the seed embryo that pushes its way through the soil to the surface, and from which the first leaf develops. McKenzie says

it is very important to seed winter wheat 0.5 to 1.0 inch (1.5 to 2.5 cm) deep. Seeding winter wheat deeper than 1.0 inch will result in reduced emergence and crop establishment. Deeper seeding delays emergence and causes weaker, more spindly plants that are more susceptible to winter kill.

"Seeding winter wheat too deep is a common mistake made by newer winter wheat growers resulting in poor crop stand and lower than anticipated yield," says McKenzie. "Recent Alberta research compared direct seeding with a disc versus a hoe opener and showed increased spring plant density by 13 per cent with a disc compared to the hoe opener; however, opener type did not affect final grain yield."

Frequently, soil moisture is low in stubble fields in early September, which is the ideal time to seed winter wheat. Farmers are faced with the decision as to whether to seed into a dry seedbed or wait for rain. Saskatchewan research has shown that winter wheat will germinate at very low soil moisture levels. Ideally, it is best to seed winter wheat in the first two weeks of September rather than wait for rain, provided that the seeding operation ensures there is very good seed-soil contact and the seed firmly covered with no more than one inch of soil.

"Soil temperature can dramatically affect the time it takes winter wheat to germinate," says McKenzie. "For example in a moist soil, winter wheat will take about seven days to germinate and emerge at a soil temperature of 20°C, while it takes about 12 and 25 days to emerge at soil temperatures of 10 and 5°C, respectively. Therefore, seeding in late September or early October will result in a longer period of time for plants to germinate, emerge and develop a crown, which greatly increases the risk of poor stand establishment and winter survival."

Detailed information on winter wheat varieties can be found on Alberta Agriculture's website, and includes:

- agronomic management of winter wheat in Alberta
- fertilizing winter wheat in Alberta
- winter wheat in the Parkland area of Alberta
- winter wheat variety descriptions
- cereal seeding calculator

To find any of the above, go to Alberta Agriculture's webpage at www.rtw.ca and enter the title in the search field.

For further information on winter wheat varieties and a list of seed growers visit:

- Alberta Seed Guide - www.seed.ab.ca

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Turning Trends into a Business Opportunity

Knowing consumer trends can help you make wise decisions and capitalize on an opportunity.

“Healthy, convenient, local are key trends at the top of consumer’s minds,” says Kathy Bosse, new venture specialist, Alberta Agriculture and Rural Development, Red Deer. “Not only do consumers want the opportunity to easily access local products, they want to eat those products through food service opportunities, and meet and interact with the farmers in a tourism-like setting – to shop, eat and experience.”

So how do you tap into these trends? Bosse says the opportunities are almost endless. “They might include teaming up with a chef to provide local produce, value adding to products you grow and sell from your farm, or creating events and attractions on your farm. Keep in mind that many consumers are adventurous and looking for unique products and experiences. Regardless of the choice, careful consideration is required to determine the most appropriate venture for your farm, the area and you the operator.”

Before making any changes, Bosse advises doing some homework and developing a solid plan. It can easily take a year or more to develop a plan, and can include:

- Taking the time to visit ag tourism operations, farmers’ markets, chefs, etc. They can provide you with valuable information and may help you decide if this type of venture is for you.
- Listening to consumers to determine what they want. Provide what consumers are looking for not what you like or think they may want.
- Ensuring you have the adequate time and skills. Starting a new venture takes many hours and a lot of hard work.
- Evaluating what resources you have (such as historic buildings, great scenery or the ability to produce high quality products). These resources may help you decide what type of venture to start.
- Checking with your local municipal office to see if there are restrictions that would prevent you from diversifying your operation. If you plan on processing or serving food, you will need to comply with all food safety regulations.
- Making sure you have enough money to get the business up and operating. You may have a great idea but if you do not have enough money to adequately launch your venture, it will not succeed.
- Developing a marketing plan. If you do not have the time or the skills to do marketing, be sure you have someone in place that does.
- Seeking out sources of assistance. There are many associations, businesses and agencies that are available to

help you with your business idea. Take advantage of these resources as they can help you over hurdles that you may encounter.

“Knowing consumer trends can help you make wise decisions and capitalize on an opportunity,” adds Bosse. “Know your customer and create an experience so they will keep coming back.”

For further assistance in developing your business, contact a new venture specialist at Alberta Agriculture by calling 310-FARM (3276) toll-free.

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Wild Oat Control with Less Herbicide

A study at the Lacombe Research Centre is looking at ways to control wild oat without excessive chemical use and to help minimize potential weed resistance problems.

“At half a billion dollars per year, controlling wild oat is the biggest herbicide cost on the Prairies,” says Neil Harker, researcher, Agriculture and Agri-Food Canada, Lacombe.

“There’s also a lot of resistance to wild oat herbicides. So we’re looking at ways to try and deal with both the cost and resistance problems.”

Harker says his group is looking at control methods that have worked in the past, and are combining them for maximum effect. Some of these controls methods are:

- Early cut silage.
- Higher than normal seeding rates.
- Putting in a winter cereal such as winter triticale, fall rye or winter wheat winter. Cereals get such a head start on wild oat each spring that wild oat herbicides are usually not required.
- Cutting alfalfa to prevent viable wild oat seed.

“We’re combining these strategies over the course of several years in the hopes that, by then, wild oat populations will be low enough that we can more easily manage wild oat in an integrated manner with less emphasis on herbicides alone.”

Harker adds that while the research might look at other weeds down the road, their focus is currently entirely on wild oat due to the weed’s abundance and high control cost.

The Lacombe Research Centre is one of a network of 19 national agricultural research centres operated by Agriculture and Agri-Food Canada. The centre conducts research in field crops and livestock production relevant to the central Alberta region.

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Agri-News Briefs

Warm Season Annuals for Forage Production Field Day

The Peace Country Beef and Forage Association is holding a warm season annuals for forage production field day on August 23, 2011, at Odell and Lylian Raymond's in Peace River. Focus will be on the "how to" when incorporating warm season cereals into a grazing operation. Special guest is Beth Buritt, who will look at getting more out of your animals by promoting desired grazing behaviour. Start time is 10 a.m. Cost is \$50 for members and \$55 for non-members. For more information, call Morgan at 780-835-6799.

Vintage Tractor Meet

On August 27 and 28, 2011, residents of Strathcona County, Fort Saskatchewan and surrounding areas have the chance to step back in time as the Strathcona Vintage Tractor Association hosts its annual antique tractor pull and show at the historic Bremner House farm site. This two day event features pulling competitions with pre-1960 tractors and vintage farm equipment engaged in historical farming activities such as hay cutting, hay baling and threshing. Admission is \$5 per person per day. For more information, phone John Bowerman at 780-467-4282 or Ellis Kumpula at 780-922-6120.