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Roundup Ready Alfalfa Campaign Update

Our work to stop the introduction of Roundup Ready alfalfa is still going strong. The April 9 Day of Action called by the NFU in Ontario showed there is widespread public support for our position among farmers and consumers all across Canada. In spite of the strong message sent that day, just two weeks later, on April 26, the CFIA registered one variety of GM alfalfa, *WL 373HQ.RR,* making it legal to sell the seed in Canada. Gold Medal Seeds Ltd., a subsidiary of Forage Genetics International, registered the variety and named as its distributors the Growmark network of co-op farm supply stores in Ontario and Synagri, a Cargill subsidiary, in Quebec. Members who deal with these distributors might want to make their views known to local store managers, and in the case of Growmark (and FS Partners, Growmark's subsidiary), to the local co-op board members as well.

Coexistence Plan Challenged

Forage Genetics International has said it would not start selling GM alfalfa until a "co-existence plan" is in place. The Canadian Seed Trade Association (CSTA) has been working on a coexistence plan for alfalfa, and seemed ready to finalize it at its AGM in mid-July. In advance of this meeting, the NFU and the Canadian Biotech Action Network (CBAN) wrote a rebuttal, *The Canadian Seed Trade Association's So-called "Coexistence Plan" is a Gateway to GM Alfalfa Contamination,* which is posted on the NFU website.

The goal of coexistence planning, according to the CSTA, is to "provide producers with freedom of choice and opportunity to pursue diverse markets." However, our rebuttal says, "without GM alfalfa, producers are already free to pursue established and growing markets for certified organic and non-GM products. By allowing GM alfalfa to contaminate the environment, Monsanto and FGI would gain a market for their seed and chemicals with a tiny minority of farmers, while imposing costs and losses on all other participants in the sector. The CSTA's "coexistence plan" is an aggressive, harmful intrusion into the existing, well-functioning farming systems and markets that benefit from alfalfa use."

The report's overview states: "The CSTA's coexistence plan fails before it even begins. Science already tells us that containment is not possible. Furthermore, the CSTA has no jurisdiction over coexistence measures except that corporate members of the CSTA may request or require that farmers use them. The time and cost burden of implementing any measures to reduce risk largely resides with the farmers who are trying to protect their current farming system from contamination. The CSTA's coexistence plan suggests unrealistic practices for farmers that they may be unable to implement, and which certainly could not be maintained by all farmers in every instance in perpetuity. For example, the plan relies heavily on good communication and "mutual respect" between neighbours, which, though a goal to strive for, is highly variable and unpredictable in reality. Similarly, the plan does not recognize the real constraints that farmers face in suggested containment measures such as cleaning out equipment to remove every last tiny alfalfa seed. The plan does not address the fact that even if the probability of contamination were, as it claims, very low (which it isn't), a low probability is still a probability. If even a single one of the proposed practices fails, contamination cannot be undone, flowers cannot be un-pollinated, and GM alfalfa cannot be taken back. This is a very limited risk reduction plan, not a coexistence or containment plan."

Pressure from CBAN, including the NFU and Vigilance OGM, the CBAN member that held a demonstration in front of the CSTA meeting in Quebec City, likely contributed to the CSTA's decision not to finalize its coexistence plan in July.

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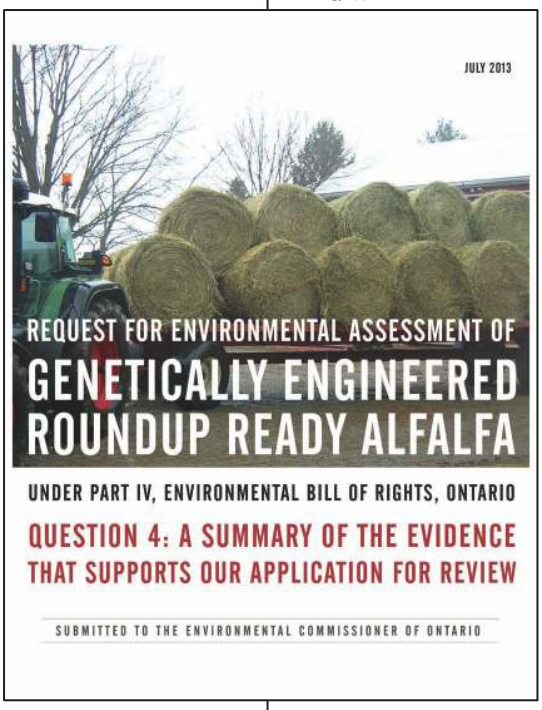
Ontario Environmental Assessment Requested

The federal regulatory system has steadfastly excluded the public, including farmers, from decision-making on the introduction of GM alfalfa (or any new GM crop). The CFIA's rationale is that decision-making must be "science-based" and not admit any social, cultural or economic factors. In contrast, Ontario's Environmental Bill of Rights invites Ontario residents to request an environmental assessment if they believe a major new commercial activity could negatively affect the environment and economy of Ontario. Because Ontario is a target market for Roundup Ready alfalfa, this process allows us to formally and officially put on the public record scientific information that has not been considered under the CFIA process, as well as evidence of the potential social, cultural and economic impacts.



On July 25, certified organic dairy farmer, Diane Dowling and mixed farmer and grass-fed beef producer, Dave Lewington, both active NFU members, formally asked the Ontario government to carry out an environmental assessment of genetically modified (GM) alfalfa before the seed is sold in the province. Their application under Ontario's Environmental Bill of Rights is the first ever request relating to the issue of GM crops.

The application points out that GM contamination would be unavoidable. It also details the environmental and economic costs of herbicide resistant weeds and increased herbicide use that would result from GM Roundup Ready alfalfa. The submission was prepared by a large community of individuals and groups, including the NFU, the Canadian Biotechnology Action Network (CBAN) and Saskatchewan-based Organic Agriculture Protection Fund (OAPF), who share concerns about the risks that GM alfalfa poses.

Diane is president of the National Farmers Union Local 316 – Frontenac, Lennox-Addington and a member of Organic Meadow Co-operative. She says, "Our family has been active in the local farm and food movement in the Kingston area for over a decade, and we are very familiar with the aspirations and expectations of people involved in that movement. The trust that has developed between local farmers and local eaters is based on knowing how the food is grown and what is in the food. People want food that is grown as naturally as possible, that is uncontaminated with chemicals and GMOs, and that has had as little impact as possible on the environment. We do not want to risk having GMOs in any part of the food chain and in the environment. If Roundup Ready alfalfa were grown near our farm, we could be affected by contamination of other species in our fields, or by the use of other pesticides that could be used to compensate for Roundup-resistant weeds."

Dave is Vice President of National Farmers Union Local 333 - NFU-O North. He and his wife Chantal, with their children Caleb, Jacob, Olivia and Emma, farm near Sudbury Ontario. They sell a wide variety of vegetables, chicken, grass-fed beef and pork, and operate a Community Shared Agriculture. He says, "GM alfalfa would be the first perennial GM crop released in Canada and that creates another whole new set of headaches for farmers like us who want to avoid GM crops. We have alfalfa on our farm in hay fields and pastures where we have never planted any alfalfa! If another farmer in the community plants GM alfalfa it is inevitable that ours will be cross pollinated and contaminated by that GM alfalfa, and then guess what, we suddenly have GM alfalfa growing on our farm."

The summary of evidence in support of the application is posted on the NFU website at http://www.nfu.ca/issues/stop-genetically-modified-alfalfa .

The Ontario government is expected to decide whether or not to require an environmental assessment under the Act in September. In the meantime, CBAN and the NFU will provide tools, such as a letter template for letters to your premier (for each province), to help you to voice your concerns. Check both websites – www.cban.ca and www.nfu.ca for the latest news. To donate funds in support, visit http://oapf.saskorganic.com .

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NFU says NO to GM Low Lignin Alfalfa

The NFU has learned that Monsanto and Forage Genetics International (FGI) want to sell another genetically modified alfalfa in Canada. The Canadian Food Inspection Agency (CFIA) posted a notice that the companies are seeking approval for food and livestock feed use and unconfined environmental release of alfalfa genetically modified for reduced lignin. There was a 60-day comment period that expired on July 18.

We would have liked to comment on the material submitted by Monsanto and FGI, but that information is not being made available to the public. Correspondence with the CFIA revealed that there is no requirement for public disclosure of documentation related to approval of genetically modified plant varieties, and any information made public is at the discretion of the proponent. In fact, it is up to the company to decide whether Canadians will even be notified that it is seeking regulatory approval for a new GMO. This process is based on an agreement negotiated behind closed doors between the CFIA and Croplife Canada, the lobby group representing biotech and agri-chemical companies.

The CFIA directed us to contact Monsanto for information about reduced lignin alfalfa, so we did. Monsanto in turn provided a link to its Petition to the United States Department of Agriculture, saying "The detail you are seeking is already publicly available through the USDA petition process for reduced lignin alfalfa. I would direct you to the following link where you will be able to access everything you are looking for: http://www.aphis.usda.gov/brs/aphisdocs/12_32101p.pdf."

Before we even began to look into GM low lignin alfalfa, we discovered that the Canadian regulatory process is essentially a black box and that it is the proponent -- not the public regulator -- that gets to decide how much information citizens can have before a new GMO is irreversibly introduced into our environment and food supply. Furthermore, it appears that Canada's regulatory system may simply rely on the USA's: we were provided with no evidence that the CFIA is doing any independent investigation or assessment.

In spite of these grave concerns about the process, we did submit our comments, which are summarized as follows.

What is Low Lignin Alfalfa? GM Low Lignin Alfalfa (LLA) produces less of one type of lignin, a substance that makes plant cell walls stiff. This means that mature plants would be less "stalky" so alfalfa hay would still be palatable if harvested later when older and larger, or it could be cut at the usual mid-bud to early flower stage, resulting in hay with the characteristics of younger alfalfa. Delayed harvest would not only increase yield, but also increase the number of flowering days before the hay is harvested. With more flowers, there would be more GM pollen, which would make cross-pollination and contamination issues more severe.

Higher contamination risk. The coexistence plans currently proposed to manage Roundup Ready alfalfa (RRA) aim to ensure all RRA is cut by the 10% bloom stage. Monsanto now seeks to market a GM trait that would extend the cutting period into the 20% to 50% bloom stage without loss of palatability or nutrition, claiming this will not significantly increase gene flow. Yet USDA research has already documented RRA trait presence of up to 2% in US conventional alfalfa seed, as well as in feral (wild) alfalfa populations in states where RRA was grown between 2005 and 2007.

Stacked traits. Monsanto plans to cross-breed LLA with RRA and sell it as a stacked trait – without the need for any regulatory authority to evaluate potential health and environmental effects of the combination. Synergy in the effects of LLA-RRA crosses should be investigated, as research increasingly shows a strong association between glyphosate application and increased fungal disease pressure. Will LLA-RRA crosses be at higher risk for disease susceptibility when sprayed with glyphosate? The CFIA should also consider the effect of an increased risk of disease from LLA-RRA on nearby non-GM alfalfa.

LLA uses RNA interference (RNAi). RNAi *interferes* with gene expression. It is a new technology likely to produce unexpected consequences. The technology is complex. It changes RNA in cells to silence specific genes so that less -- or none -- of the protein specified by those genes is produced. In the case of LLA, RNAi suppresses a key enzyme in the lignin biosynthetic pathway. This RNAi process may also silence other genes, causing "off-target effects" that cannot be predicted.

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Proposed changes to Canada's variety registration system would, if adopted, mean that this LLA could be registered as a commercial variety and marketed without independent performance assessment. Farmers who then plant the LLA seed would be left to bear the costs of any unexpected results of the RNAi insertion.

Nitrogen-fixing issues. In the USDA Petition, Monsanto briefly describes its investigation into differences in root nodulation (indicating presence of rhizobia, the nitrogen-fixing bacteria) between LLA and conventional alfalfa, but stops short of providing the results. This is a red flag. If root nodulation is poor, LLA would have lower protein levels and would add less nitrogen than conventional alfalfa typically contributes to the soil. As well, there is other evidence that glyphosate compromises rhizobia which would further hinder the performance of the LLA-RRA cross.

Nutritional issues. Monsanto claims that LLA would allow farmers to harvest later without losing quality, or alternatively, to harvest at the regular time with better quality. This may seem advantageous, however cattle evolved on a high fibre, grass-based diet. Farmers mix alfalfa with grass which increases the protein content of hay. If pure alfalfa is fed to cattle, it has to be introduced slowly and carefully to avoid bloat, which can be fatal. LLA would increase the risk of bloat if harvested at the less fibrous 10% bloom stage. If harvested at a later stage, the hay quality would still decline because older alfalfa, whether LLA or conventional, drops its lower leaves.

Lodging. Lignin provides structural strength. With less total lignin, the plant would have weaker stems. Under excellent growing conditions, LLA would be less able to support itself under its own weight, making it susceptible to lodging and difficult to harvest.

Diseases and pests. Introduction of LLA is likely to lead to more disease and pest problems because lignin is a key plant defence system. Reduced lignin makes plants more digestible for cattle, but also for the disease and pest organisms. If glyphosate is sprayed on a weakened LLA plant, disease problems may be even worse as glyphosate promotes certain types of fungi. LLA hay would also be more susceptible to mould (a fungus), increasing the risk of harmful mycotoxins.

Reduced drought and moisture tolerance. Lignin is an essential component of the plant tissue that moves water from the roots to leaves. Reduced lignin would compromise this tissue and make LLA more susceptible to damage from drought and excess moisture conditions. Reduced water transport capacity may contribute to poor winter survival, a problem associated with reduced lignin in other perennials.

Reduced carbon sequestration. Lignin contains a high proportion of carbon and decomposes very slowly, thus it makes up much of the carbon sequestered in soils, often in the form of humus. In soil, humus interacts with water somewhat like a sponge, such that it mitigates both drought and flood conditions. In the face of climate change, this capacity is essential and should be encouraged. LLA would diminish both the carbon sequestered and humus formed when LLA stands are ploughed in. In short, removing 20% of the lignin from alfalfa would make LLA less valuable as a soil-building crop.

For all of the above reasons, the NFU recommends that the CFIA deny approval for GM low lignin alfalfa.

The NFU's complete submission is posted at http://www.nfu.ca/story/nfu-submission-re-gm-low-lignin-alfalfa . —nfu—