



## **NEW:** *Save Our Seeds* Video Series

The National Farmers Union Youth have produced a three-part video series that addresses major concerns with the proposed changes to Canada's Plant Breeders' Rights Act included in the omnibus agriculture bill, *The Agricultural Growth Act* (Bill C-18).

The three short videos (ranging from two and half minutes to five and a half minutes each) feature fellow NFU farmers and seed experts speaking from the heart, from experience and from their extensive knowledge about this issue. The series highlights key mechanisms in Bill C-18 that increase the power and control of large plant breeders and severely restrict farmers' autonomy and Canadian food sovereignty.

Interview footage was recorded in November 2013 while members were gathered for National Convention in Ottawa. NFU Youth members developed interview questions, organized the filming, told their stories, transcribed the recordings and helped with final editing and production. NFU members participated by sharing their knowledge and understanding of seed issues. PhD candidate and Associate Member, Terran Giacomini, got involved in the video project as part of her studies. She chose to work with the NFU as a way to combine a course work with her commitment to the global movement for farmer justice.

The video project's goal is to help farmers and the public in general understand that making Canada's laws compliant with UPOV '91 through Bill C-18 would create a vast new area of rights

for corporate plant breeders while taking away rights and creating a whole host of new problems for farmers. The NFU Youth took on this project as a way to bring these important and complex issues to new audiences through social media such as YouTube, Facebook and Twitter.

"With this video series, we as young farmers, want to raise the awareness of city people and farmers alike so that we can stop Bill C-18 from becoming law," explained NFU Youth Vice-President, Lisa Lundgard. "We are committed to building a better future for farmers and eaters – one that is based on a seed system that serves farmers instead of corporations." — nfu—

- WATCH:**
- **Save Our Seeds - Part 1: What is UPOV '91?**
  - **Save Our Seeds - Part 2: Royalties & Cascading Rights**
  - **Save Our Seeds - Part 3: Innovation Manipulation**

The video series can be viewed at: <http://www.nfu.ca/issue/video-series-save-our-seeds>

### **Do you use Social Media?**

Check out the NFU Blog at: <http://www.nfu.ca/blog>

Like our Facebook Page at:

<https://www.facebook.com/nfuCanada>  
 "like" and share posts to help raise our profile

Follow the NFU on Twitter:

@NFUCanada, hashtag #NFUCanada

Re-tweet NFU tweets so we can reach a wider audience

## **Grassroots campaign keeps GM alfalfa at bay for the time being**

The NFU, along with the Canadian Biotechnology Action Network, its member groups and other concerned Canadians have been working hard to stop the release of GM alfalfa. The CFIA registered several varieties of Roundup Ready (RR) alfalfa in April and September 2013. Now, Forage Genetics International, which has been licensed by Monsanto to use Roundup Ready genes in alfalfa seed, is able to legally sell GM alfalfa in Canada. In mid-March, the company stated it has decided not to begin selling herbicide-tolerant genetically modified (GM) alfalfa this spring.

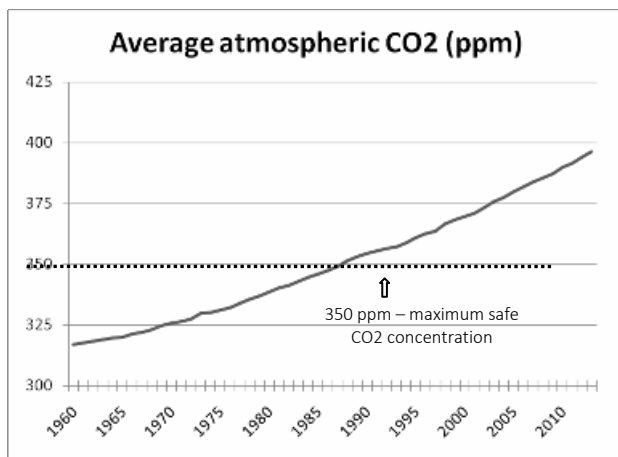
This year's decision reflects the strength of our campaign. At some level the company

is admitting that the concerns of farmers across Canada are serious. NFU members, CBAN and concerned Canadians will continue to pressure both industry and the government to stop the release of GM alfalfa. Furthermore, the NFU is calling on the federal government to de-register all varieties of genetically modified alfalfa and to improve the regulatory process so that a full assessment of the environmental, economic and social impacts based on independent, third-party research and input from a cross-section of farmers and Canadians is conducted before approving any more genetically modified crops, rather than simply relying on information provided by the seed and biotechnology companies.

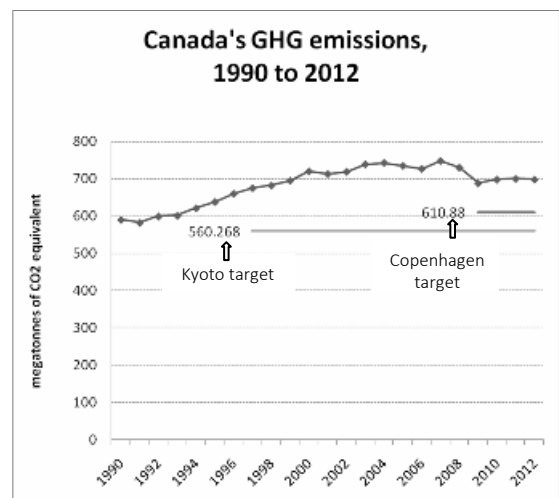
# Climate Change Requires Top Priority Policy Response

Key performance indicators (KPIs) are used by many businesses to measure and report on relevant factors to help managers adjust operations to move toward agreed-upon goals. With climate change, policy-makers' KPIs are greenhouse gas emission (GHG) rates and total atmospheric carbon dioxide (CO<sub>2</sub>). The goal is to prevent catastrophic climate instability. Atmospheric carbon must be reduced to 350 parts per million (ppm) to ensure Earth's climate remains liveable. Yet governments seem to be treating atmospheric CO<sub>2</sub> levels as a minor irritant rather than an actionable KPI.

In 1997, when atmospheric CO<sub>2</sub> was 364 ppm, the Kyoto Protocol set an enforceable GHG emission rate target for industrialized countries of 5.2% below their 1990 emission rates. Canada failed to meet this goal, and in December 2011 officially withdrew from Kyoto. In 2009, with global atmospheric CO<sub>2</sub> at 387 ppm, Canada joined the voluntary Copenhagen Accord, and offered to reduce emission rates to 17 percent below 2005 levels by 2020. In spite of these agreements global CO<sub>2</sub> levels continue to rise, and at an increasing rate. Today, the world's atmosphere contains 402 ppm, well above the safe limit.



Source: National Oceanic and Atmospheric Administration

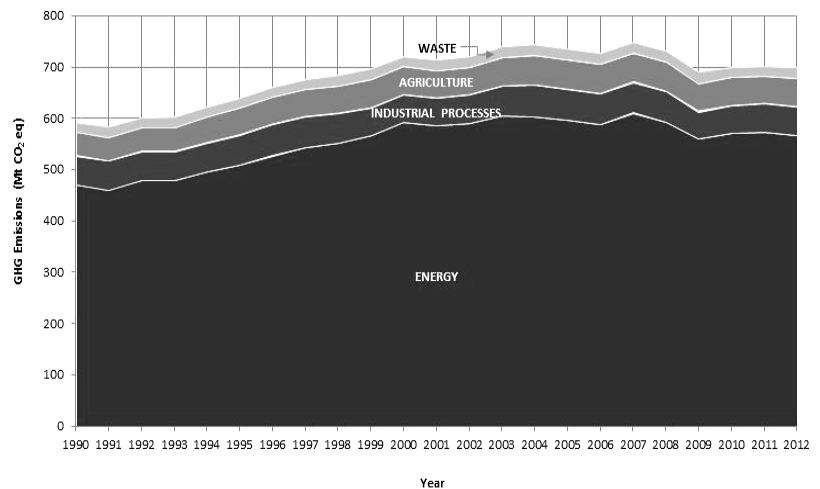


Source: Environment Canada

The emissions rate determines how quickly the atmosphere fills with GHGs. CO<sub>2</sub>, the most common GHG, stays in the atmosphere about 100 years, so even if we reduce our rate of emissions we are still adding to the total GHG content of the atmosphere if annual emissions are more than those of a century ago. If we slow down our emissions rate enough, we can continue to safely use fossil fuels well into the future. If we emit more rapidly, both our climate and our access to oil will deteriorate rapidly.

In Canada, the energy sector (mining, oil and gas extraction and transportation) dominates emissions, producing ten times more CO<sub>2</sub> equivalent than the agriculture sector. In 2012, GHGs from oil and gas extraction were five times and transportation was 37% higher than 1990, the Kyoto benchmark year. Today, fugitive emissions and venting from Saskatchewan's oil and gas industry is responsible for more GHGs than all of the province's agriculture, simply because it is cheaper for companies to waste natural gas than to invest in the equipment to capture it.

(continued on page 3...)



Source: Environment Canada

Emissions from agriculture have increased 19% since 1990, mostly due to increased use of nitrogen fertilizer on prairie crops and the intensification of livestock production. Both nitrous oxide (from fertilizer) and methane (from anaerobic decomposition of manure) are more potent GHGs than CO<sub>2</sub> and are included in CO<sub>2</sub> equivalent measures. Land use changes have also contributed to Canada's GHG emission picture. While not counted as part of agriculture statistics, the decline in acres summerfallowed, less tillage and less clearing of forest for agriculture are helping reduce atmospheric CO<sub>2</sub> by promoting carbon sequestration, while wetland drainage, urban sprawl and loss of grasslands have the opposite effect.

There is a connection between agricultural policies and increasing emissions from agriculture. More acres and higher yields are required to make a living when low net farm income levels remain virtually unchanged for decades, promoting increased use of synthetic fertilizers. Hog production has intensified due to destruction of single-desk marketing. Beef production has intensified due to the corporate concentration that has greatly expanded the feedlot system. As railroads "rationalize" and branch lines disappear, more grain transportation is done via less energy-efficient trucking. As land prices climb due to various factors, more bush is cleared, marginal land cultivated and cropping practices shifted towards annual cash crops and away from hay and pasture land in order to provide income to pay rents.

Of all Canadians, farmers are among the most directly affected by climate instability, as we depend on getting the right amounts of sun and rain at the right times. Excess GHGs allow the atmosphere to retain more energy in the form of heat, increasing its capacity to carry moisture, thus altering the global water cycle. Floods are more frequent and intense throughout the world. More of our precipitation is coming in the form of extreme events due to stalled fronts – large weather systems that "park" and dump huge amount of rain on a region over several days. More energy in the atmosphere drives stronger winds, and tornados and plough winds become common. Changing temperature differentials between the poles and mid-latitudes alter jet stream patterns which then cause extended droughts. Crop yields, livestock health, farm building repairs, maintenance of rural infrastructure are all affected by the new and uncertain reality.

Clearly, we need to immediately and drastically reduce GHG emissions while building a more resilient culture of agriculture to withstand the climate chaos that will continue until we return to a safe CO<sub>2</sub> level. All policy should be run through a "climate change filter" to

evaluate its downstream effects on GHG emissions, fossil fuel use, and the resilience of both farming communities and natural ecosystems. With a planned, yet rapid, downsizing of our GHG footprint we will be able to safely use a smaller quantity of fossil fuels for a longer time. Agroecology (see *Union Farmer Newsletter* October 2013) provides a pathway towards a more climate-friendly food production system, while business as usual bodes ill for both the climate and the family farm.

On April 25 the *European Nitrogen Assessment*<sup>i</sup> released its report on GHGs in European agriculture. In addition to its findings regarding nitrogen emissions from European meat production and consumption, the authors observed that countries hesitate to regulate on nitrous oxide pollution in case it results in a food trade disadvantage. To avoid this policy deadlock they recommended individual Europeans consume less meat to avoid GHGs from livestock production. In effect, the authors despair of policy change and are calling for grassroots action instead.

At the *Saskatchewan Citizens' Hearings on Climate Change*<sup>ii</sup>, Kathleen Dean Moore spoke of the petrochemical industry's "externalization of shame". She observed, "They blame us for driving our cars or flying, and they immobilize us by suggesting we are primarily to blame for climate change. Meanwhile, these corporations spend billions of dollars attempting to transform us into consumers, fracking oil and gas deposits, extracting tar sands, and undermining regulations in order to exploit the Arctic."

The major structural changes we need to prevent catastrophic climate change are beyond the scope of individual action. In our current political environment there seems to be only one KPI, and that is the dollar. Political action is necessary to displace the GDP and the stock market with GHG emissions and CO<sub>2</sub> levels as the critical feedback that governments must respond to when adopting policy at all levels.

— nfu —

<sup>i</sup> *ENA Special Report on Nitrogen and Food Nitrogen on the Table: The influence of food choices on nitrogen emissions and the European environment* by Henk Westhoek, Jan Peter Lesschen, Trudy Rood, Susanne Wagner, Adrian Leip, Alessandra De Marco and Donal Murphy - Bokern, Mark A. Sutton and Oene Oenema. [http://www.clrtap-tfrn.org/webfm\\_send/555](http://www.clrtap-tfrn.org/webfm_send/555)

<sup>ii</sup> *The Saskatchewan Citizens' Hearings on Climate Change Final Report*. <http://skclimatehearings.org/the-final-report/>

# Closure of Cereal Research Centre part of Federal UPOV '91 Agenda

- by Glenn Tait

The Cereal Research Centre (CRC) is being closed this month, marking the end of nearly a century of public plant breeding in Winnipeg. It is another sorry landmark on the Harper government's systematic path of destruction through Canada's public agriculture institutions.

Publicly funded plant breeding at the CRC, along with other Agriculture Canada research stations and several Canadian universities, has produced most of Canada's cereal crop varieties, which are the foundation for our multi-billion dollar grain industry. According to Industry Canada, approximately 50% of wheat and oat acreage in Canada is seeded to varieties developed at the CRC — varieties that represent a farm-gate value of close to \$2.5 billion.

The federal government is not only closing the CRC, but is winding down all public funding for spring wheat plant breeding to make way for private sector investment. Ag Canada will allow scientists to continue work already in progress, but will not support new breeding, nor allow the current work to proceed to the final stage of producing the actual varieties that farmers can buy. The CRC's top-notch spring wheat team has been broken up, and only a handful of Ag Canada wheat breeders remain at the Brandon, Swift Current and Lethbridge research stations.

At a 2013 meeting of the Canadian Seed Trade Association, Agriculture and Agri-Food Canada (AAFC) Director General Stephen Morgan Jones laid out the federal government's vision: AAFC would "vacate" variety finishing; germplasm developed by AAFC scientists would be sold to private companies; intellectual property rights rules would be redrawn to benefit private breeders; and variety registration rules would be revisited.

Yet public plant breeding gives a very high return on investment. Studies by University of Saskatchewan agricultural economist Dr. Richard Gray show that every dollar invested in cereals breeding returns at least \$20, and often more. When the federal government invests \$30 million annually in wheat breeding it creates at least \$600 million in value that is distributed among farmers in the form of better crops, providing income to pay wages, taxes, and check-offs for additional research, while supporting agriculture-related businesses in rural communities and helping processors and consumers who benefit from better wheat.

When private companies invest, however, most of these high returns go to private shareholders — a majority being wealthy non-Canadians. In the case of genetically modified canola, soy and corn, gene patents, hybridization and contracts ensure companies can hold onto most, if not all of the returns by forcing farmers to buy expensive new seed each year.

Dr. Gray's research not only shows high returns to investment in plant breeding, but also documents that when private seed companies are involved (as is the case in canola) they reinvest only a small portion of their returns into new research. Research by Dr. R. J. Graf shows that private breeding is also less economically efficient — a comparable yield increase was achieved in wheat for a \$25 million annual public investment but required \$80 million private dollars in canola breeding.

Whether the federal government has decided to bring in UPOV '91 via Bill C-18 in spite of — or because of — this disparity in how returns to plant breeding are distributed, it will guarantee the likes of Bayer, Syngenta, Monsanto and Dow a massive new revenue stream. By de-funding and vacating public spring wheat breeding, the federal government is handing these companies an incredibly lucrative new source of profits.

Under this new funding policy and the UPOV '91 Plant Breeders Regime that underpins it, Canadian grain farmers not only lose the future varieties that the CRC would have developed, but will pay higher seed prices and increased royalties, whether on the purchase of new seed or as end point royalties on crops harvested from farm-saved seed. If changes to variety registration rules proposed in May 2013 are adopted, companies will be able to deregister older varieties that no longer provide them with royalties, forcing farmers to choose among fewer and more expensive varieties.

When the Dominion Rust Research Laboratory, the CRC's predecessor, was established in 1925, Prairie farmers were fighting for a fair share against the oligopolies of the banks, railways and grain companies, and we eventually built the Canadian Wheat Board as a counterweight with power to act in the farmers' interest. Today, in the shadow of the economic disaster the Conservative government unleashed by tearing down the CWB, it is now adding insult to injury by creating a new seed oligopoly. — nfu—

—Glenn Tait is a National Farmers Union board member. He farms grain and cattle on his family farm near Meota, SK.