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union farmer monthly

NFU calls for a GM-crop-free PEI

In a presentation to the Prince Edward Island Standing Committee on Agriculture, Forestry, and Environment on September 14, PEI NFU officials and members told the Committee members that “The choice for PEI is either to embrace GM crop technology with its many risks and costs and its few benefits, or to forgo this defective, damaging, third-rate technology and embrace the numerous economic benefits of becoming North America’s first GM-crop-free zone. The NFU strongly recommends the latter course for the Island, our people, our environment, and our economy.” The Committee has been holding hearings since early in the year on the question of making PEI “GM free.”

The NFU presented a brief to the Committee entitled “GM Crops: Not Needed on the Island.” That brief examines the benefits claimed by GM crop proponents—higher yields, lower costs, increased farm profitability, lower pesticide use—and it uses detailed data to show that these claims are either wildly overstated or simply false. The brief then shows that the risks and costs of GM crops have been greatly understated. For instance, the health impacts of GM crops are almost completely untested—with fewer than ten independent studies published in peer-reviewed journals worldwide. Finally, the NFU brief demonstrates that GM crop agriculture is incompatible with other forms of farming—non-GM and organic, for instance—because GM crops contaminate and because segregation is impossible.

The following is a synopsis of that 22-page report. Copies of the complete PEI brief are available from the NFU National Office.

(continued on page 5...)

Canada’s natural gas: burning a billion-year legacy in two generations

Last month’s Union Farmer Monthly looked at Peak Oil in the broad context—globally, and over thousands of years. This issue takes a more focused view, looking at Canada’s natural gas supplies over the coming two decades. Here is part 2 of the NFU’s coverage of the Peak Oil debate.

Natural gas is key

In Canada, natural gas is a critical fuel for a wide range of uses. We live in a cold climate and natural gas is the fuel of choice for home heating—cheap, relatively clean, convenient. Nearly 3/4 of Canadian homes are heated with gas. With prices rising for every form of energy, there seems to be few economical replacements for natural gas as a home heating fuel.

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IMPORTANT EVENTS

NFU 36TH ANNUAL CONVENTION
November 17-19, 2005
OTTAWA, ONTARIO

(See page 24 for more convention details)

Trade agreements force us to accept GM wheat

In August, the NFU received a letter from Minister of Agriculture Andy Mitchell confirming our organization's long-held belief that, when it comes to protecting farmers from the billion-dollar losses that would result from the introduction of genetically modified (GM) wheat, the federal government has tied its hands through trade agreements.

The NFU initiated repeated letters to the Minister and his officials following comments from senior Ag. Canada staff person Peter Pauker who said "Our trading partners would never accept us limiting the introduction of a novel or GM crop on the basis of its economic impact." Pauker made his comments to farm leaders and others last November at the Canadian Wheat Board's industry consultations on the introduction of GM wheat. NFU former Vice-President Fred Tait was representing the NFU at those meetings and worked to follow up with Pauker and Minister Mitchell, to gain clarification of the comments.

In a letter to the NFU dated August 3, Minister Mitchell said:

The Government of Canada interprets its trade obligations under the General Agreement on Tariffs and Trade (GATT) and the World Trade Organization (WTO) agreement on Technical Barriers to Trade (TBT Agreement) to be that once the Canadian government found a product to be safe following a science-based risk assessment, the role for government in managing commercial risks is limited.

Direct management of the commercial acceptability of a product based on how the product is made would likely be contrary to the letter and spirit of the GATT and WTO Agreements.

It is widely accepted that the introduction of GM wheat would cost Canada key international markets, lower the price for that crop, severely damage organic agriculture, and create new costs to control herbicide-resistant volunteer wheat. Losses to farmers could total a billion dollars per year. Ironically, complying with trade agreements may destroy Canada's market access.

In addition to limiting the government's ability to protect markets for our wheat, many other powers and policy options are constrained by trade agreements. Previous correspondence with the federal government affirms that NAFTA Chapter 11 and other trade provisions effectively prohibit adding additional grains to the Canadian Wheat Board's marketing mandate. Similar provisions bar the government from imposing common running rights or open access on CN and CP rail lines. An ongoing NAFTA Chapter 11 suit by Crompton Corporation—maker of the insecticide "Vitavax"—calls into question the government's authority to protect the environment and human health.

Further, the government continues to bargain away policy tools and farmers' protections. Right now, trade officials are ploughing forward with a WTO agreement that seems certain to end the government's ability to backstop CWB payments, and that seems likely to lead to the termination of the CWB's single-desk marketing powers—essentially destroying the CWB. Furthermore, ongoing rounds of WTO talks pose a growing threat to Canada's supply management systems.

In a news release following receipt of Minister Mitchell's letter, Fred Tait said: "Trade agreements are undermining the government's abilities to protect farmers, to deal with the farm income crisis, and to pursue ag. and food policies in the best interests of Canadians. Few Canadians understand these agreements, and the government wants to prevent farmers and others from learning how much we have given away at the trade table. There are many unknowns; for example, can we still use our competition law to block damaging mergers and takeovers? Can we say 'no' to Cargill when it comes looking to buy a Canadian packer?"

Tate concluded: "For farmers, the benefits of trade agreements are too small, and the costs too large. If shipping another boatload of grain to China costs us our ability to protect ourselves from market-destroying crop varieties, our ability to create marketing systems that benefit farm families, or our ability to rein in the power of railways or packers, then those exports come at too high a price."

— nfu —

New study means CFIA must stop approvals of glyphosate-resistant varieties

An article by several Saskatchewan crop scientists in the latest issue of a scholarly journal proves there is a clear correlation between the application of glyphosate herbicides and increased incidence of fusarium head blight in wheat.

The article, entitled “Crop Production Factors Associated with Fusarium Head Blight in Spring Wheat in Eastern Saskatchewan” was published in *Crop Science*, the journal of the Crop Science Society of America, on August 26, 2005. The research was conducted between 1999 and 2002 and involved samples from 659 fields. Information on agronomic practices used in these fields was also factored into the calculations.

In a September 20 news release the National Farmers Union said that this research suggests glyphosate-resistant crops are therefore contributing to the spread of a disease which is costing western Canadian farmers hundreds of millions of dollars per year in lost yields and markets.

In a letter to Canadian Food Inspection Agency (CFIA) President François Guimont, NFU President Stewart Wells called on the CFIA to “immediately stop approvals of additional glyphosate-resistant cultivars, including

glyphosate-resistant alfalfa, and re-evaluate the approval of glyphosate-resistant varieties currently on the market until all the fusarium links are clearly understood.”

Since June, 2003, the NFU has repeatedly asked the CFIA to investigate the potential link between glyphosate resistant crops and the increased incidence of fusarium, but the CFIA has evaded the issue.

Over the past two years, and as the evidence of a glyphosate herbicide/fusarium link has mounted, the CFIA has adopted a moving target for the burden of proof. Initially, the CFIA said there was *no research* on this issue. Then, the CFIA stated it was not aware of any *published research*. Finally, the CFIA said it was not aware of any *peer-reviewed research*. The publication of this recent research in the prestigious *Crop Science* journal is clearly “peer-reviewed research.” In the NFU release, Wells said: “This is another example of the tremendous contribution of Canada’s public researchers. It is very likely that more research on this subject could save Canadian farmers hundreds of millions of dollars, and on a global scale the benefit would climb into the billions of dollars.”

— nfu —

Correction

In the article “Update on Seed Saver Campaign” (page 14 of the August issue of the *Union Farmer Monthly*), the second-last sentence should have read “You cannot sign a contract to eliminate your human rights and become a slave”, not “you can sign....”

This was a production error at National Office, not an error by the article’s author, NFU Vice-President Terry Boehm.

NFU meets with Ontario Ag Minister

Ontario NFU Co-ordinator Don Mills met with Leona Dombrowsky, Ontario Minister of Agriculture, Food, and Rural Affairs in Toronto in late August. Mills told the Minister that the farm income crisis must be made the number one priority of the Ontario Department of Agriculture and he asked the minister to commit to implementing policies aimed at raising net farm incomes for family farmers across the province.

Mills urged the Ontario government to support recommendations contained in the report released recently by Wayne Easter, Parliamentary Secretary to the federal Minister of Agriculture. Easter's report, entitled "Empowering Canadian Farmers in the Marketplace", pinpoints corporate concentration as a primary reason for chronically-low net farm incomes.

"The main issue facing Ontario farmers is that we are not getting returns from the marketplace for our production," Mills told the Minister. "This is clearly unsustainable for Ontario farm families, and we need to look at fundamental changes to agricultural policies. It's not enough to tinker around the edges. We have to address the fundamental imbalance of power in the marketplace."

Mills said the NFU is looking forward to building an ongoing positive relationship with the Ontario Agriculture Minister. "It's encouraging to note that the Minister of Agriculture has retained her position on the Priorities and Planning Committee of Cabinet," he said. "Hopefully the government is gaining an increased understanding of the importance of agriculture in Ontario."

—nfu—

NFU Youth urge government to implement Easter recommendations

"Improving producers' net income is the most important factor in creating an environment that encourages the younger generation to remain on the family farm or to start new operations," said NFU Youth President Dave Lewington in a September 12 news release. "The federal government should move quickly to help young farmers by implementing recommendations contained in the recent report by Wayne Easter," said Lewington who operates a mixed farm near Lavigne, Ontario.

NFU Youth Vice-President Nigel Weber of Hanna, Alberta cited several specific recommendations in the Easter report which would directly benefit young farmers, including:

1. Ensuring access by young farmers to the Farm Improvement and Marketing Cooperatives Loans Act;
2. Directing government funding to community-based land banks and land trusts that could help new farmers enter the business;

3. Extending child-care initiatives to parents who choose to stay on the farm while raising their young children; and
4. Providing financial support to students who return to work in farming communities but who cannot repay their student loans immediately.

The NFU Youth officials said the first choice of many young people is to own and operate their own farms, but current economic circumstances and the educational system itself is increasingly channeling youth into "agribusiness-related" careers.

"What we would like to see is more opportunities for young people to actually farm instead of creating an army of young 'know it all' college and university-educated youth who enter agribusiness and tell experienced farmers how to farm," stated Lewington. "It's not really appreciated by established farmers who have struggled to make a living, and it's not necessarily what the young people themselves want to do. But it's what some feel forced to do because they don't have access to capital or land to begin farming themselves."

—nfu—

(NFU call for a GM-crop-free PEI, from page 1)

The benefits of GM crops

Seed and gene corporations, media pundits, and many government representatives tout the alleged benefits of GM crops: higher yields, lower costs, increased farm profitability, lower pesticide use. There is, however, little or no data to support such claims. To the contrary, available data seems to contradict such claims. Corporate and government GM crop proponents almost never back up their assertions with data.

Decreased pesticide use

[B]iotechnology offers a useful tool to help farmers control pests more efficiently using less pesticide. . . .

—AgCare August 5, 2004, news release

The key environmental benefit claimed by GM-crop promoters—reduced pesticide use—is almost certainly false. Proving or disproving this claim, however, is complicated by lack of data. In a recent OECD (Organization for Economic Cooperation and Development) survey on pesticide use, two countries responded that they did not collect such data: Canada and the Slovak Republic.

Nevertheless, we do have some public data, and that data raises doubts about industry claims that switching to GM crops results in lower pesticide use. Figure 1, below, graphs the area (acreage) of Canadian farmland that farmers sprayed with pesticides in each of the recent Census of Agriculture years. The trendline points sharply upward. On the basis of this data, it would be challenging for GM-crop companies to prove their assertions of lower pesticide use.

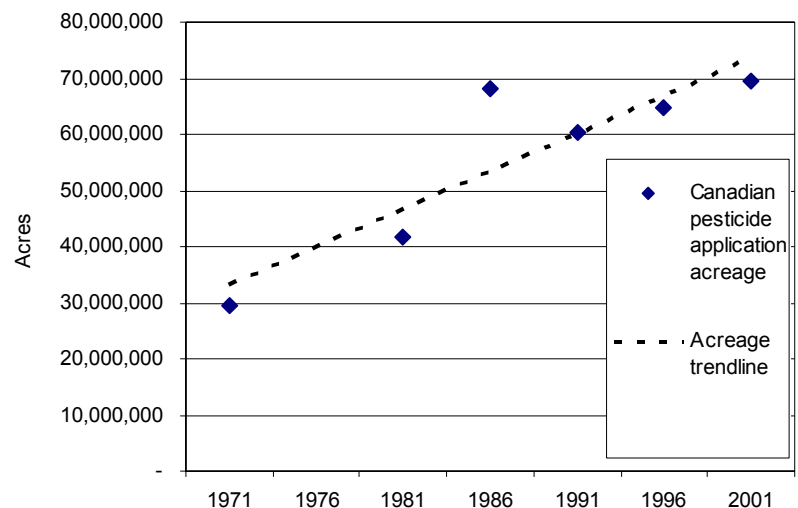
However, Figure 1 actually *under-represents* increases in pesticide use. Farmers are spraying more acres, but they are also spraying each acre *more times*. Before the mid-90s, a grain farmer might have sprayed a field once in a year. Now, it is not uncommon for a grain farmer to spray before seeding, to spray once or twice in the weeks after a crop emerges, and sometimes to spray again just before harvest. Farmers who grow potatoes and other vegetables spray numerous times.

Despite a shortage of public data, it is easy to predict that Canadian pesticide usage is up, not down. This is because, over the past decade, chemical herbicides have increasingly displaced tillage as the main means of weed control. Roundup Ready (RR) and other glyphosate-tolerant canola, soybean, and corn varieties are *designed* to be sprayed. These seeds facilitate a form of agriculture—“minimum till” or “direct seeding”—that replaces tillage with herbicides for weed control. It is only logical to see that—on their own, and as part of a chemical-intensive, tillage-minimizing production system—glyphosate-tolerant GM crops will *increase* herbicide use.

Some GM crops—for example, corn and cotton, which are modified to produce insecticides internally—do have the *potential* to reduce the amount of insecticide applied externally. But any decrease in insecticide use associated with these crops is overwhelmed by larger *increases* in herbicide use associated with Roundup Ready and other herbicide-tolerant GM crops. The overall effect of GM crops—intertwined with the intensive, chemical-dependant production systems they are designed to facilitate—seems to be to *increase* pesticide use.

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Figure 1: Canadian herbicide application area: 1971-2001



(NFU call for a GM-crop-free PEI, from page 5)

In the US, the most recent examination of pesticide use can be found in Dr. Charles Benbrook’s *Genetically Engineered Crops and Pesticide Use in the United States: The First Nine Years*. Benbrook finds that since 1996 “GE crops . . . have increased corn, soybean, and cotton pesticide use by 122.4 million pounds, or about 4%.” Further, the rate of increase is increasing—with the year-over-year increase peaking at over 16% in 2004. Benbrook attributes such increases to the proliferation of glyphosate-resistant weeds.

Higher net farm income

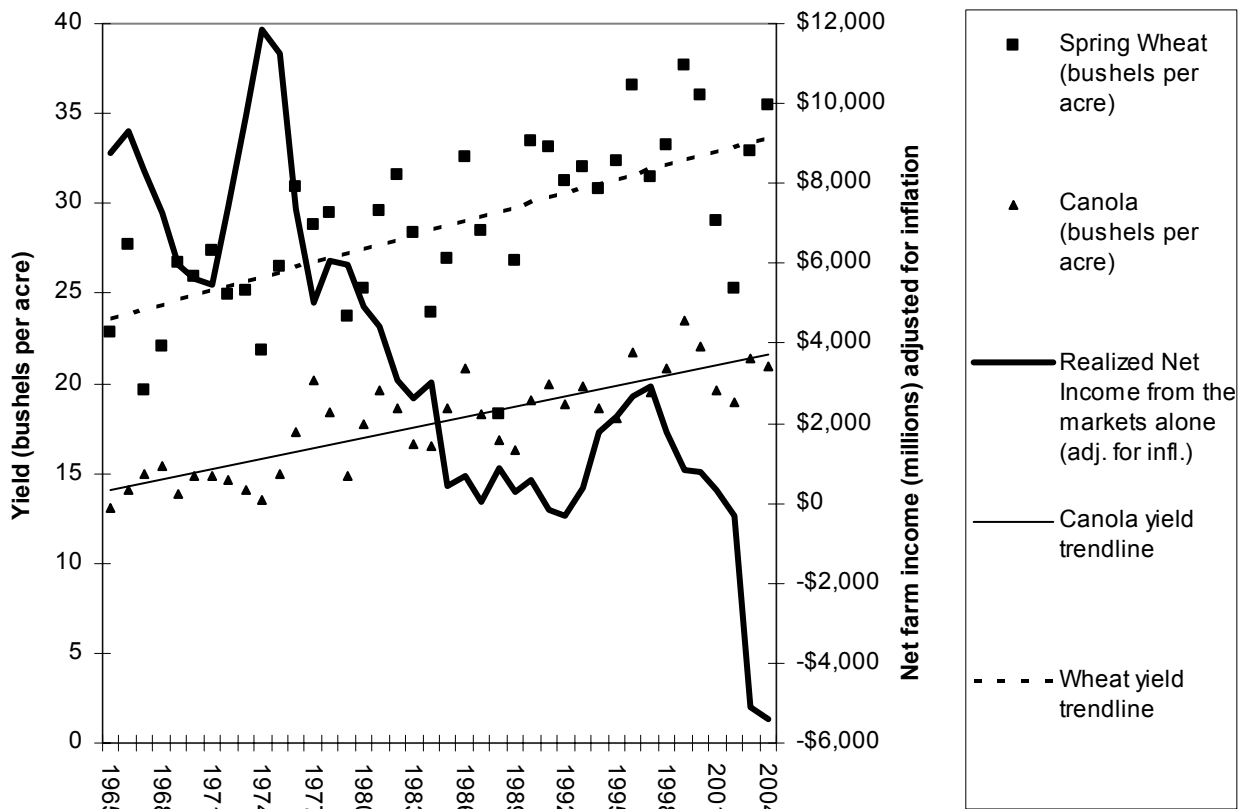
GM seed proponents—both the corporate and government versions—assert that GM crops will benefit farmers through higher yields and/or lower costs, both of which will combine to create the ultimate benefit to farmers: higher net farm income.

Although data is lacking to prove definitively that such claims are false, the following graph raises crucial doubts. Figure 3, below, charts 40 years of increases in per-acre yields brought about through conventional and GM seed breeding; changes in farming systems; and increased use of fertilizers, chemicals, irrigation, and other technologies.

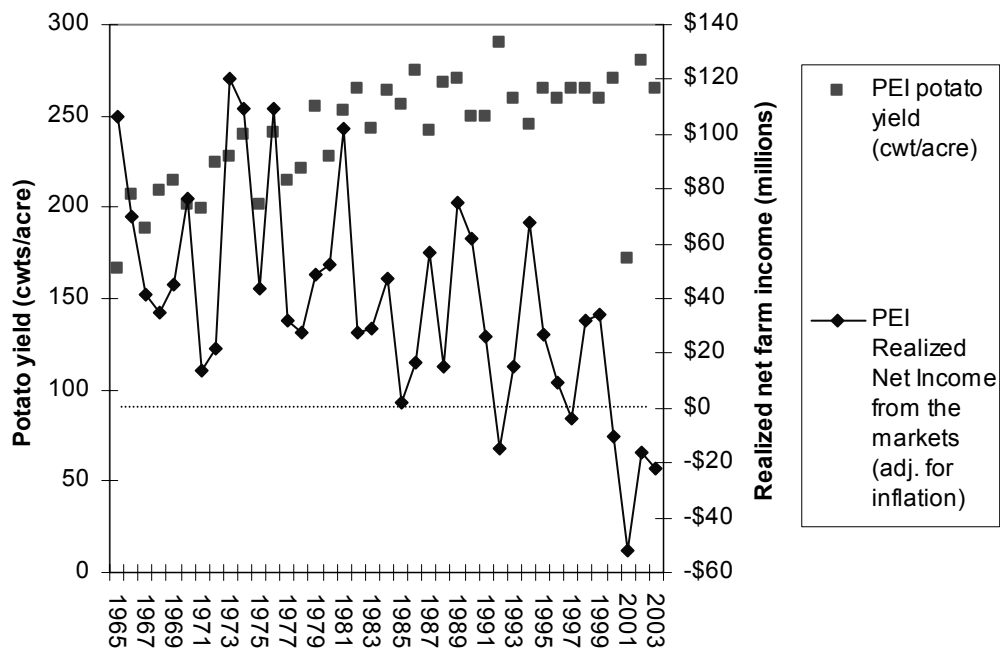
Figure 3 also charts realized net farm income from the markets, adjusted for inflation. There is no positive correlation between per-acre yield, on the one hand, and realized net farm income from the markets, on the other. A determined pessimist might even point out a negative correlation.

To reinforce the national data presented for cereal and oilseed crops in Figure 3, Figure 4 graphs PEI potato yields and realized net farm income from the markets (adjusted for inflation). Again, those who wish to equate increased seed performance or crop yield with higher net income will be disappointed.

Figure 3: Seed yield and Canadian net farm income: 1965-2004



(continued on page 7...)

Figure 4: Potato yield and PEI net farm income: 1965-2003

No one should be surprised if GM crops fail to deliver on promises of increased profitability. Such a failure would simply repeat a long-established pattern. Fertilizer was supposed to make our farms profitable. So were weed sprays, large tractors, multi-row potato diggers, airseeders, bigger barns, high-tech milkers, and computers. Farmers have embraced all these technologies and the most common result is not increased profit, but a global farm crisis. Now we are told that GM seeds will make our farms profitable. The experience of the past 50 years shows that farmers should be very skeptical of corporations peddling products and promising profits. There are profits all right, but the profits almost always go to the corporations, not to farmers.

Higher yields

If, as the previous section shows, increased yields fail to translate into increased farm prosperity, then the question of whether GM crop technologies actually do contribute to higher yields is essentially moot; whether yields improve or not, farmers will be no better off. Nevertheless, it is interesting to touch on some of the debate now swirling around regarding GM seeds and their effects on yields.

In August 2004, Ron Eliason and Lynn Jones made a presentation entitled *Stagnating National Bean Yields* to the Midwest Soybean Conference in Des Moines, Iowa. Their presentation showed that, after two decades of consistent yield increases, soybean yields ceased rising in the mid-1990s. Between 1972 and 1994, US soybean yields rose by nearly half a bushel per acre per year—increasing from about 27 bushels per acre in the early 1970s to nearly 39 bushels per acre in 1994. Since 1995, however, US soybean yields have not increased at all. It was in 1995 that GM soybeans were first introduced into commercial production in the US, and some commentators are speculating that there is a link between these flat yields and a defect in the performance of GM soybeans. But one need not accept that the flat yields are caused by changes brought on by the genetic modification process. What is important to understand, however, is that for the most important commercial crop in the US, and the crop that represents the highest planted acreage of any GM crop in the world, it is not possible to demonstrate *any* positive effect on yields. And it is easy, if one wishes, to demonstrate a negative effect.

The situation with corn is only slightly different. For the 21 years between 1972 and 1993, corn yields increased by 1.56 bushels per acre per year. Between 1994 and 2003, that yield increase was 1.62 bushels per

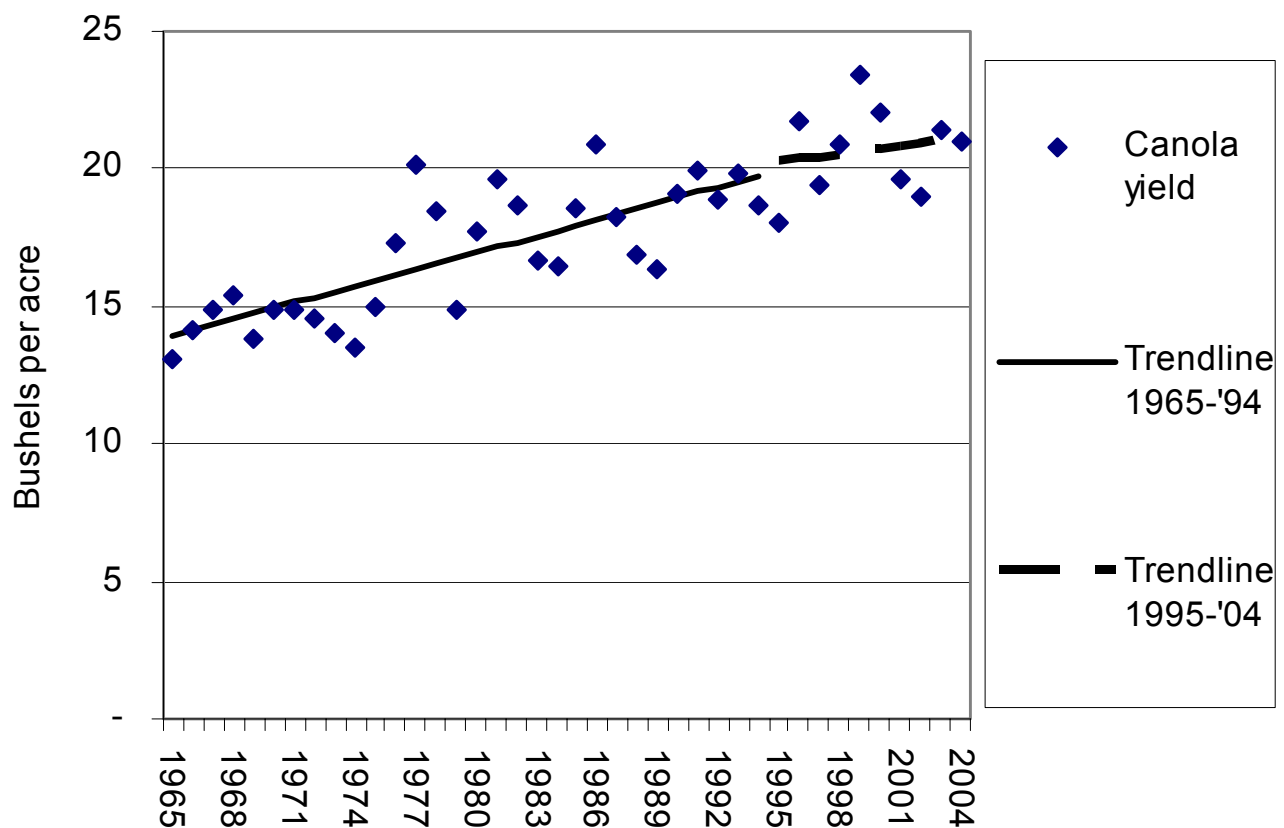
(continued on page 8...)

(NFU call for a GM-crop-free PEI, from page 7)

acre—a difference of just six one-hundredths of a bushel per acre per year. Eliason and Jones comment that “For corn, there is no statistical difference in trend yield gains for any time period.” Even if Monsanto and other GM corn seed sellers were to claim that a 0.06 bushel per acre per year yield gain was statistically significant and that all that gain was attributable to their products, they would be taking credit for an accumulated gain of just 24¢ (Cdn\$) per acre. Monsanto’s technology use fee for US corn is about \$15.00 per acre. This high fee—relative to yield changes that seem either disappearingly small, or negative—may help to explain why GM crops have not had the salutary effect on farmers’ net income that technology promoters promised.

The story of canola is similar to those of corn and soybeans: Increased yields attributable to GM varieties are hard to find. Figure 6, below, shows that canola yields from 1965 to 1994 increased on a trendline average of 0.2 bushels per acre per year. From 1995 to 2004, yield increases on a trendline were just 0.1 bushel per year.

Figure 6: Canadian canola yields, 1965-2004



So as to avoid charges of “voodoo” trendline manipulation, the NFU will readily admit that prairie droughts in several recent years will have affected yields and trendlines. But the point remains: Those who claim that GM crop technologies positively contribute to yield—either directly or indirectly—have no data to prove that assertion. If the data is taken at face value, it proves only that GM seed varieties *reduce* yields.

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(NFU call for a GM-crop-free PEI, from page 8)

Bigger farms

The primary benefits claimed for GM crops—reduced chemical use, increased net farm income, increased yields—are either false or dramatically overstated. GM crops provide no such benefits, or benefits that are completely negated by the costs and risks these crops create.

But such a contention flies in the face of widespread adoption of GM varieties by farmers—GM crop acreage is high and it continues to rise. A rational observer would ask: If GM crops provide no real benefits, why are farmers adopting them so readily? The answer is that GM crops do provide one indisputable benefit: GM crops—especially those modified to resist glyphosate—make it much easier for farmers to crop vast acreages. Direct seeding coupled with large sprayers, satellite navigation systems, and GM glyphosate-resistant seeds make it possible for farmers to seed and spray vast acreages in a short time. This is the main advantage of GM seeds and their attendant technologies. And when per-acre net returns are plummeting, technologies that allow a farmer to cover more acres are attractive.

But the benefit of bigger farms has an inescapable converse: fewer farms. Farming more acres is perverse survival strategy for farmers, because it requires that fewer and fewer farmers survive. This clearly is a two-edged sword, with the sharp and cutting edge being applied to family farmers.

If our farm crisis is defined, at least partly, as the loss of farmers, then GM crops and the larger farms that they make possible cannot be a cure for that crisis. Because, by helping to increase farm size, these crops also help to *decrease* farm numbers. Cannibalism may be a tolerable survival strategy during a famine, but it is surely not a positive or preferred strategy. GM-crop-facilitated farm cannibalism cannot be a solution to the farm crisis.

Having disposed of the alleged benefits of GM crops, the NFU brief goes on to list the costs and risks—to human health, the environment, markets, and to our ability to democratically control our food and seed systems. In its conclusion, the NFU report says:

The world is losing biodiversity. GM seed contamination of heritage varieties is becoming a growing problem. GM contamination is making organic production of many foods impossible. Because it is an island, if it bans the production of GM crops, PEI could become a major centre for plant development and research, for the propagation of a huge variety of new crops and heritage varieties, and for organic production. While other Atlantic provinces pursue “call centres,” PEI could create “grow centres”—beautiful, sustainable, and commercial centres where North American scientists could grow plants and do research without having to guard against contamination from GM plants. In addition to commercial potato, dairy, meat, and crop production that will always be important to the PEI economy, the province could become a North American centre for plant propagation, research, and the preservation of biodiversity, making PEI a genuine garden province.

The National Farmers Union recommends that the government of Prince Edward Island declare itself a GM-free zone and that it work with farmers and other citizens toward ending the cultivation of GM plants on the Island within the next 12 months.

The NFU further recommends that the PEI government encourage and help farmers and other citizens to take advantage of the numerous economic opportunities that GM-free status presents.

— nfu —

The NFU's Seed Saver Campaign: How the seed industry sees it

The NFU has taken the lead in Canada in a successful campaign to assert and safeguard farmers' rights to save, re-use, exchange, and sell seeds. The NFU played a key role in convincing the federal government not to proceed at this time with proposed changes to the *Plant Breeders' Rights Act*. In its work on that issue, NFU members and legions of non-member supporters worked to collect over 35,000 signatures on petitions that call on the federal government to refrain from making any changes that limit farmers' rights to their seeds. Had PBR changes gone ahead, that legislation would have taken the powerful tools—crop seizure, massive liability, etc.—that Monsanto and other seed companies can now use to investigate and prosecute farmers who allegedly misuse seeds containing patented genes and extended those powers to apply to the vast majority of

seeds that do not contain patented genes. PBR changes would have created dozens of Schmeiser-style cases.

The seed industry has not been happy that farmers and citizens are pushing back against their seed supply takeover. Recently, *Germination*, "The Magazine of the Canadian Seed Industry" ran a detailed chronology of recent events in the struggle for control of Canada's seed supply. The NFU requested permission to reprint that chronology, but staff at *Germination* refused such permission. Nevertheless, the following excerpts from that very detailed chronology give you a sense of the article.

October 15 [2004] – NFU releases a statement, "Biodiversity and Food Security Undermined by SSR", which criticizes the Seed Sector Review (SSR).

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Increased oil prices a concern for farmers

The following is based on a news release issued September 2 by the NFU's Renfrew Local.

Mechanized agriculture in this country is based on the premise of cheap fuel. For the first time, gasoline prices have topped well over a dollar per litre and diesel, most used in mechanized agriculture, has jumped from 60 cents a litre a year ago to 83 cents a litre today, which translates into a 38.3% increase in just 12 months.

"The recent increase in oil prices and the devastation left in the wake of Hurricane Katrina has turned oil into gold—farmers are very concerned," reports Kyle Dickson, President of the Renfrew County (Ontario) local of the NFU.

Dickson understands that every segment of society is hurting. However, farmers who already are receiving low prices for their commodities at the farm gate are facing drastic increases in the fuel used to operate equipment. In addition, farmers do not have much room for conservation. They have to harvest their crops!

Since most economists predict that the present fuel prices will be a fact of life for the foreseeable future, Dickson predicts many producers will be forced to rethink the entire concept of industrialized agriculture.

He also said that higher prices of oil and other fuels will create higher costs for byproducts farmers use such as silage wrap, fertilizer, feed costs and the list goes on.

For those farmers under supply management, the added fuel cost will eventually be built into their cost-of-production formula. The NFU is working with government to adopt a cost of production for all commodities. It is very difficult for those in power to see the need for farmers to get their cost of production.

This dilemma farmers are presently facing may open the eyes of those responsible for agricultural policy, concludes Dickson.

– nfu –

NFU attending National Forum on Seeds meeting

In May of 2004, most farmers hadn't heard of the Seed Sector Review (SSR). But farmers soon learned of that industry organization after it released its *Report of the Seed Sector Advisory Committee*.

The original SSR members were the Canadian Seed Growers Association, the Canadian Seed Trade Association, the Canadian Seed Institute, and the Grain Growers of Canada. The SSR modelled itself as a consultative body to examine seed issues and provide advice to government. Much of that advice focused on seed-company-friendly changes to Canadian laws, such as new *Plant Breeders' Rights* legislation that would enable seed corporations to sue farmers for farm-destroying amounts of money if those companies alleged that the farmers had misappropriated PBR-protected seeds.

NFU President Terry Boehm, long active in monitoring and analyzing "Intellectual Property" (IP) issues, was instrumental in helping the NFU understand the implications of the SSR's many recommendations and in helping the NFU launch an extraordinarily effective multi-part campaign to safeguard farmers' rights to save, re-use, exchange, and sell seeds. Part of that campaign generated nearly 1,000 letters to the CFIA opposing PBR changes and over 35,000 signatures on petitions. As a result of the NFU's work, and that of allied organizations and citizens, the government of Canada has, at least for now, backed away from any plans to overhaul this country's PBR system.

The NFU actions also showed the government of Canada that the self-selected industry organizations of the Seed Sector Review did not speak for farmers or Canadians. Thus, the SSR lost credibility with the government and came under increasing pressure to reform itself and, in particular, to make space at the table for dissenting opinions, like those from the NFU.

The SSR transformed itself into the National Forum on Seeds (NFS). Probably under pressure from the government, the NFS began repeatedly asking the NFU to join the Forum.

In its initial invitations to the NFU, the NFS proposed a gerrymandered governance structure that retained decision-making power with the original SSR members. The NFU objected in a series of detailed letters sent to the Minister of Agriculture. The NFS relented and adopted a much more representative structure, but one that still retains many problems. As a result of the restructuring of the NFS structure, the NFU has agreed to take a seat at the table in order to help represent the essential interests of farmers.

NFU Vice-President Terry Boehm represented the NFU at the July meeting of the NFS in Winnipeg. Boehm made important interventions, but he remains concerned about the structure of the NFS.

One of Boehm's successes at the meeting came when a Seed Growers' Association representative gave a presentation on innovation in the seed sector and made the case for more stringent Intellectual Property protections—namely stronger Plant Breeders' Rights legislation. Boehm rose and cited a letter from the NFS that stated that the Forum would not be dealing with PBR. Meeting participants agreed that there would be no further discussion of PBR changes.

One of the primary flaws of the NFS structure and process is that it is largely dependant on "Working Groups" for its decision-making. These working groups—on issues such as variety registration—are projected to have very broad membership, with each containing possibly as many as 50 representatives. There seems to be no clear criteria for participation in the Working Groups. And, as it stands now, each organization will have to fund their own participation in numerous

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(National Forum on Seed Meetings, from page 11)

groups, with each, potentially, holding numerous meetings. Thus, effective input into the Working Groups is weighted toward industry organizations who have nearly unlimited resources to attend and participate. Further, the upper-level decision-making structure of the Forum is constrained from making any significant alterations to the recommendations of the Working Groups in areas where those Groups have reached consensus. And there is a very good chance that the Working Groups will be tightly “facilitated”—steered toward the outcomes desired by the industry organizations that founded the SSR.

The NFU has critical concerns about this structure, especially because the federal government has indicated that, if successful, the NFS may become a model for similar consultative models in other sectors.

While the NFU has agreed to come to the table, at least for now, its continued participation will hinge on whether there are indications from the Forum that all viewpoints will be represented back to government. The test will be to see if the NFS/SSR—originally designed as a machine to fabricate consensus where none existed—is actually reformed and has the complexity and integrity to reflect back to government the interests of seed companies, on the one hand, and the very different interests of family farmers, on the other.

Upcoming National Forum on Seed meetings

Variety Registration Workshop Group III
October 25, 2005

Innovation Planning Workshop I
October 26-27, 2005

National Forum on Seed Meeting
December 7, 2005
March 6-7, 2006

The NFU has told the government that the SSR/NFS process is far too narrow. All Canadians are affected by seeds, food production choices, and agriculture. Canadians have taken a keen interest in genetically-modified seeds and in the rights of farmers, gardeners, and other Canadians to save, re-use, exchange, and sell seeds. In order to shape Canada’s seed system for the public good, much broader consultations are needed.

The NFU will continue to participate in and monitor the NFS process, but the NFU will also continue its Seed Saver campaign—working to help farmers and other citizens cooperate to safeguard Canadian’s vital rights to save, re-use, exchange, and sell seeds.

— nfu —

Support Easter report: NFU to Layton

During a meeting with federal NDP Leader Jack Layton in late August, NFU members called for farm policies which promote economic justice for farmers and rural communities. The meeting in Strathroy, Ontario provided local farmers and farm organizations an opportunity to press for positive changes in federal farm policies.

During the meeting, Don Mills, Ontario NFU Coordinator, suggested the recent report by Wayne Easter, entitled “Empowering Canadian Farmers in the Marketplace”, offers an excellent starting point for a new direction in federal agricultural policy. “It’s important for the NDP to keep the Liberals’ feet to the fire on this issue, and not let the government ignore the recommendations contained in Easter’s report,” said Mills. “The government needs to follow through on its commitment to increase net incomes for farmers.”

The Easter report acknowledges that farmers are among the most efficient sectors of the economy, but they lack the market power to capture the economic benefits of their investment and labour. Farmers’ share of the wealth they create is low because corporate ownership in the agri-food sector is highly concentrated.

(Canada's natural gas, from page 1)

But natural gas is used for much more than heating. As noted in last month's article on Peak Oil, natural gas underpins our grain production system. Canadian farmers used millions of tonnes of nitrogen fertilizer last year, all of it made directly from natural gas. This is important to crop producers, but also to other farmers; without the production-boosting effects of nitrogen fertilizer, livestock producers would face reduced supplies of feedgrains, straw, and forage.

Natural gas is increasingly the fuel of choice for generating electricity. Most of the power plants built in North America over the past two decades run on natural gas. For many utilities, the primary strategy for meeting Kyoto Agreement greenhouse gas reduction targets is to steadily convert from coal-fired electricity production to gas-fired.

The development of Canada's tar sands oil resources will require a huge amount of energy—utilizing perhaps as much as 10% to 20% of Canada's annual natural gas production if projections of rapid oil recovery are to be realized.

Natural gas is also a key feedstock for chemical industries, especially the manufacture of plastics. Much of our clothing is made from natural gas-derived fibres. A spin-off effect of producing our clothing fibre from fossil fuels instead of on our land—from cotton and sheep—is that this has increased the amount of food available for humans.

Natural gas is used to dry grain, effectively extending the growing season for some farmers and allowing us to expand the world's grain growing region and food supply.

We depend on natural gas for heat, food, electricity, oil production, chemicals, clothes, and the production of many of the durable goods we purchase. So how good a job are we doing at shepherding our natural gas endowment, at ensuring that we have reliable and affordable supplies of natural gas and natural-gas-derived products for generations to come? Abysmal, reprehensible, criminal, scandalous. Canada's irreplaceable natural gas reserves are being pumped, sold, and shipped at an accelerating rate for short-term profit. Canadian natural gas production may have peaked, or may soon peak; after peak production will begin an irrevocable decline—raising the spectre of a much poorer and colder Canadian population for generations to come. It is chilling to think that the only factor slowing the sell-off of Canada's natural gas supplies is that companies just can't get the gas out of the ground any faster.

Canadian supplies

Energy supply analysis is the ultimate glass-is-half-empty, glass-is-half-full game. Energy optimists will tell us, correctly, that we've only burned about 30% of total Canadian natural gas. These optimists will point to large, untapped reserves in Northern Canada and off our East Coast. They'll tell us that, four or five decades after we've started seriously burning natural gas, we're less than a third of the way through our "ultimate potential" reserves of natural gas. And they'd be correct, but in a very deceptive way.

Last month's *Union Farmer* article about Peak Oil noted that there is growing acceptance that energy production follows a bell curve—with production reaching its peak when about half the total resource is used up. Also, the cost of finding, extracting, and delivering that second half of the resource is much higher than the cost for the first half,

(continued on page 14...)

A natural gas bell curve?

Oil production seems to follow a bell curve: rising slowly, then rapidly, then peaking and falling.

Natural gas production may follow a similar but not identical pattern. The natural gas curve may have a broad plateau at or near peak production. This is because gas production is often constrained by pipeline capacity. This bottleneck may shave some height off the production peak and prolong the peak period, but it may also mask signs of depletion.

Canadian natural gas is generally not facing such deliverability constraints. We have surplus pipeline capacity from our major producing region.

(Canada's natural gas, from page 13)

because the second half of the resource tends to be located in more remote locations, deeper under the ground, under deep water, in challenging climates, in environmentally-sensitive areas, or far from production and distribution infrastructure and consumers (far from pipelines or cities). To conceptualize this, think about the relative cost of producing and delivering Alberta natural gas versus Arctic gas.

So how far are we from reaching the possible peak of natural gas production, the point where we have used up about half our endowment? At current rates of production, 16 years from now we will have used half the natural gas that ever existed in Canada and we will be almost assured of facing irreversible declining production. This declining production will come despite the fact that demand will almost certainly continue to rise. Natural gas from coal (NGC), also referred to as “coal bed methane” may alter this outlook, but only slightly.

But the situation may be much worse; we may be at peak Canadian production right now (although that peak may level off into a plateau that will hold for some years). So far, Canada has focused on developing natural gas fields in the Western Canadian Sedimentary Basin (WCSB), an area that covers much of Alberta and parts of Southwest Saskatchewan and Northeast B.C. The WCSB accounts for 98% of natural gas production in Canada. WCSB gas is accessible from dry land, in a relatively benign climate, close to the North American pipeline infrastructure. But we've used up a great deal of that WCSB gas. The bulk of Canada's remaining natural gas reserves lie under the Beaufort Sea, among the Arctic Islands, or under the ocean off the East Coast. These resources cannot be brought to users quickly or cheaply.

While energy companies will continue to bring Arctic, Beaufort, and East Coast gas reserves into production, the prospects for raising Canadian production (or even maintaining it) relies heavily on maintaining current production in the Western Canadian Sedimentary Basin, and that seems to be an increasing challenge. New natural gas wells in the WCSB tend to deplete extremely quickly. And major gas discoveries are ever rarer. Here's what Canada's National Energy Board (NEB) has to say

about the prospects for WCSB natural gas production:

“Since 2001, Canadian production has stayed stubbornly flat despite strong pricing and record-breaking drilling activity. ... [T]he average initial productivity of new well connections in conventional gas areas of the WCSB continues to trend downward. To offset this slippage in productivity, an increasing number of new gas well connections are needed each year to maintain conventional WCSB deliverability.”

—November 2004, p. vi.

“The NEB's outlook for deliverability from the WCSB over the next couple of years is for production to fall slightly. It appears that it will be a challenge to increase production from conventional sources in Canada.”

—August 2004, p. 3.

The NEB gives an indication of the frantic pace of gas development in the WCSB when it says “the number of gas wells drilled would need to increase from 15,100 in 2003 to about ... 17,900 in 2006 in order to maintain current production.” (November 2004, p. 21.)

An April 2004 NEB report says that despite natural gas development off the East Coast of Canada, overall “Canadian gas production is likely to remain flat through to 2010.” A careful look at production prospects might show this to be an optimistic assessment, in that there is little prospect for an upturn in production *after* 2010 either. It seems we are at peak.

Canadian gas in a North American market

But while Canadian natural gas production may be at peak now, or may reach peak soon, the situation is really much worse because (and cattle producers will smile at this one) Canada is part of an “integrated North American Market” for natural gas, and *North America, as a whole, is past peak production and into decline, even as demand continues to rise.*

Increasingly, Canadian natural gas is being sold off to the United States. Canadian natural gas exports to the US tripled since the implementation of the 1988 Canada-US Free Trade Agreement. Today, about 60% of Canadian production is shipped south.

(continued on page 15...)

(Canada's natural gas, from page 14)

Although pipelines carry most of the natural gas we export, that gas is shipped south in other forms. We export nitrogen fertilizer made from natural gas. We export grain, grown with nitrogen derived from natural gas. We export electricity made from natural gas, or made from hydroelectric power that could, if that electricity was not exported, displace gas-fired generation elsewhere in Canada. And, as noted earlier, the tar sands project may soon require 10% to 20% of Canada's annual natural gas production. This last figure is even more ominous than it first appears; this is because our *domestic consumption* is equal to about 40% of *total production*, this means that tar sands gas consumption could soon come close to equalling half of current Canadian domestic gas consumption for all other uses. And much of that tar sands oil will be exported. The tar sands project is a great gas-into-oil alchemy scheme and, as such, it is another way that we will export our dwindling natural gas (and oil) supplies.

These "hidden" exports come on top of the 60% of Canadian natural gas production that flows south through pipelines. Counting tar sands oil, fertilizer, grain, and electricity, the portion of Canadian natural gas exported, directly or indirectly, may be approaching 2/3 of Canadian annual production.

The US is sucking huge quantities of natural gas (and gas-derived oil, electricity, fertilizer, and grain) out of Canada because US production is past peak and in decline. Rather than reduce its demand for natural gas, the US followed the same strategy as they did for oil: secure import sources. And because natural gas is best shipped over land and cannot easily be shipped from one continent to another (more on this, below), Canada is America's last best source for natural gas. To a very significant extent, the NAFTA and CUSTA (see box) were a successful attempt by the US to deal with its oil and gas depletion by taking effective control of Canadian supplies.

The enemy is us

But blaming the Americans for our natural gas depletion is too convenient. When it comes to squandering natural gas, Canadians can look in the mirror. A significant portion of our irreplaceable gas is used in Canada, not to just to heat our houses in the

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NAFTA energy provisions

In the Canada-US Free Trade Agreement (CUSTA) and North American Free Trade Agreement (NAFTA), our government signed away our ability to restrict energy exports. NAFTA's "proportionality" clause (605a) gives the US the right to maintain its consumption of Canadian oil and gas at the same proportion of Canadian production that the US received in the previous three years. Thus, if we've been shipping 60% of our gas south, the Canadian government can't restrict US-bound exports to less than 60% of our production. We *can* reduce exports to the US by a given percentage, but only if we reduce our own consumption similarly. Under such provisions, a decade or two from now, as Canadians pursue radical efficiency programs and impose rationing in an attempt to deal with natural gas depletion, we would still be forced to ship south two cubic metres of gas for every one we burn.

NAFTA gives the US the power to suck the last ounce of oil and the last cubic meter of gas out of Canada. Canadians, even as we go cold in our own homes, won't be allowed to shut off the taps. Although a NAFTA signatory, Mexico refused to sign proportionality provisions that lock Canada into supplying the US. No other country has so completely signed away control over its energy resources.

Not just the Free Trade Agreements

Until the mid-80s, natural gas could not be exported from Canada unless it could be demonstrated that there existed established reserves sufficient to meet Canadian needs and anticipated exports for 25 years. In 1986, two years before the CUSTA, our federal government terminated those energy security provisions. By 1990, US-bound exports had doubled; by 1996, they'd quadrupled.

A government of Canada website explains the policy change thus "In the 1970s and early 1980s the focus was on [energy] security, pursued through export controls and a fiscal regime that encouraged Canadian ownership. Beginning in the mid-1980s, the emphasis shifted to prosperity, underpinned by an emphasis on market-based policies."

(Canada's natural gas, from page 15)

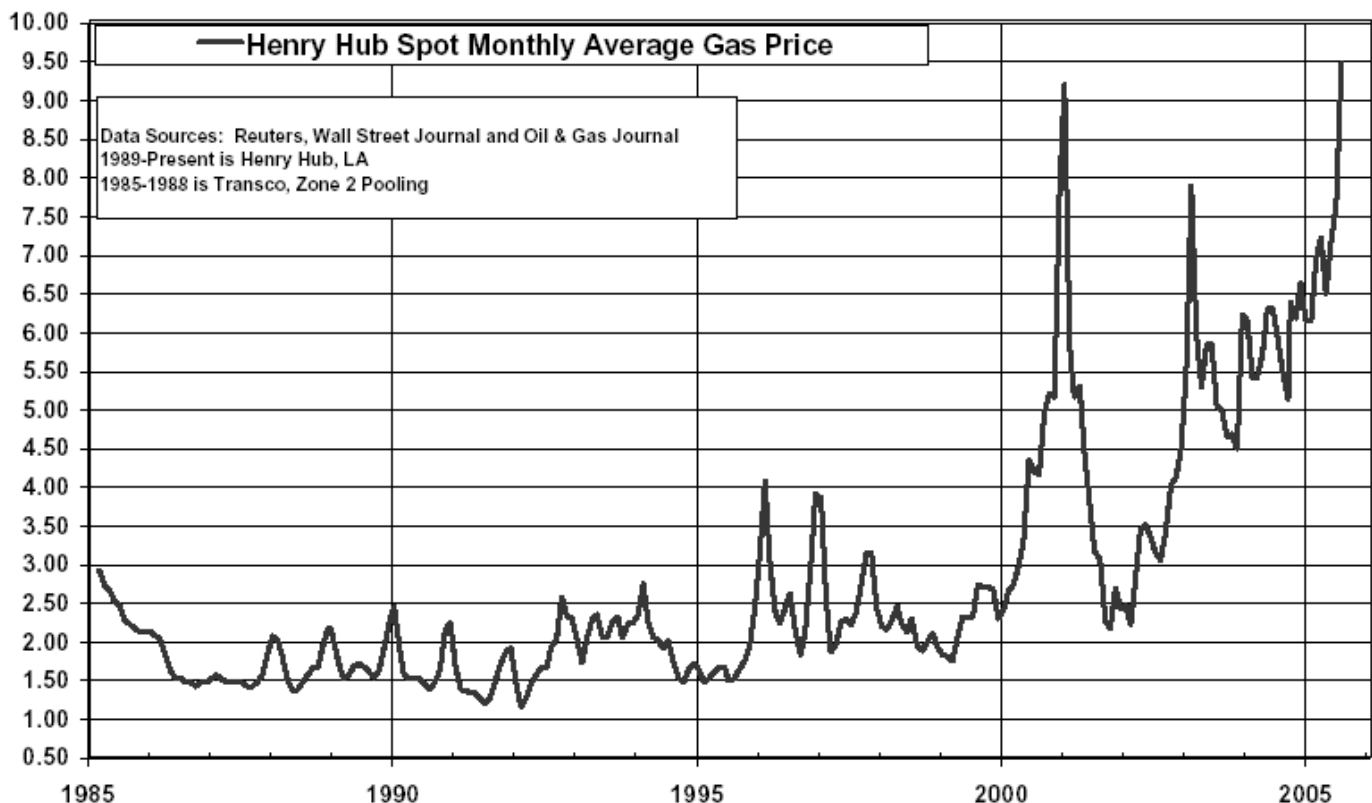
winter, but to produce electricity to air-condition them in the summer. And those houses are getting bigger. Nearly every Canadian city is ringed by patches of super-sized 2,000 square foot+ homes that (although empty most of the day) require huge amounts of energy to heat and cool. Many of us are heating our garages with natural gas so we never have to sit in a cold car. Canadian domestic natural gas consumption is up 50% since 1987, and our use continues to grow at about 1.7% per year.

Post-peak prices

In our cars, we drive by filling stations every day and see the rapid rise in gasoline prices. The rapid escalation of natural gas prices, however, is much less visible, *but much more rapid*. While gasoline prices have doubled (or slightly more) over the past ten years, natural gas prices have *tripled or quadrupled*.

Because we're in an integrated North American market natural gas, Canadian markets and prices are already functioning as if this country was well past peak production. The natural gas price graph, below, shows that from about 1985 to 1995, North American natural gas prices were relatively stable at \$1.50 (US\$) to \$2.00 (US\$) per million Btus. In 2005, however, we've seen natural gas prices fluctuate between \$6.00 (US\$) to \$9.50 (US\$) per million Btus, and the trendline continues to point sharply upward. What's happening here? North America is running out of gas.

Henry Hub Spot Gas Prices (\$/MMBTU)



Source: The Scotia Group. www.scotia-group.com/downloads/gas.asp

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North America past peak: the next fix

“While continental production is essentially flat, natural gas demand is expected to grow strongly.... In the face of growing demand and flattening supply, the market is faced with a major question—where will the gas come from to satisfy the demand to the end of the decade?” This question is asked by the NEB in their August 2004 report. Skirting the obvious word, “shortage”, the NEB goes on to speculate about ways to address this “supply gap.”

Now that North America is fully exploiting nearly all its natural gas resources and is unable to meet rising demand, what’s the next step? Liquid natural gas (LNG): gas that is liquefied and brought in by special tankers from overseas suppliers.

Canada is about to begin importing LNG even as it continues to export natural gas to the US. The NEB says in its August 2004 report that “[T]here is tremendous interest to develop capacity to import LNG to North America ... Imports to Canada, in the form of LNG are possible by 2010, but there is significant uncertainty surrounding the proposed import terminals.” Two projects in Eastern Canada—Canaport in New Brunswick and Bear Head in Nova Scotia—have already received provincial regulatory approvals. By the end of this decade, these facilities could be importing natural gas volumes equal to more than 20% of Canadian annual consumption.

To liquefy natural gas, you have to supercool it to **negative** 160°C. It must be then transported on highly specialized ships and re-heated at the receiving terminal and pumped into the local pipeline system. Cooling, transporting, and re-heating uses up energy equivalent to about 15% of the original volume of gas.

There are significant questions regarding the affordability of massive LNG development. Liquefaction terminals are needed in the exporting countries and re-gasification terminals are needed in receiving nations. These terminals, along with dozens of LNG transport ships, will cost hundreds-of-billions of dollars. And given tightening markets and rising prices for both steel and ships, this is not a good time to be in the market for several dozen huge, double-hulled, cryogenic LNG tankers.

Moving to LNG also creates uncertainty about supply. LNG for North America will come mainly from Russia, the Middle East, and North Africa. Thus, we

will shift from using local, secure supplies located near Edmonton, to dependence on supplies located in the back-yards of Oligarchs, Al Queda, and corrupt and precarious military regimes.

In addition to questions over security of supply, there are other security concerns. LNG tanker ships, with their megaton detonation potentials, cannot have escaped the attention of terrorist bombers. Even if they can’t get the tanker to explode all at once, these ships and their loading and unloading facilities create the potential for devastating firestorms that could be triggered by terrorists or merely by an accident. For this reason, few people want an LNG receiving terminal anywhere near their homes.

Canada is taking local, secure, easy to access, cheap gas and exporting it to the US; to cover over growing shortages, we plan to import distant, insecure, difficult to transport, expensive gas to heat Canadian homes and service US customers. Canada is racing from energy security to insecurity.

World natural gas reserves

Increased overseas LNG transport effectively globalizes natural gas markets that were predominantly national or regional. With LNG imports, Canada and the US will no longer be constrained by continental reserves; we will have access to the world’s gas. Compared to North America, global reserves are relatively untapped, and large. The energy-optimists would remind us that there is 20 times as much gas in the world than there is in North America. ... Yes, but there will soon be nearly 20 times as many people in the world than there are in North America. And, if oil production begins to decline and population and economic activity continue to grow, there will be intensifying demand for natural gas—for oil-substitution, fertilizer, electricity, and other energy services. Given that we have already burned through our per-capita allocation of natural gas (and several times our per-capita allocation of oil), and given that such fuels are irreplaceable if the vast majority of humanity who lack adequate food, water, shelter, and medicine are ever to rise from their poverty, then we should consider restraining ourselves. Having burnt our own gas, we should perhaps not take the liberty of burning the world’s.

But even if we ignore the ethical imperatives and decide that we can take an ever-larger chunk of the planet’s irreplaceable natural gas reserves, this will buy

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(Canada's natural gas, from page 17)

us only a few decades. World-wide, natural gas discoveries peaked in the early 1970s. We're now burning natural gas much faster than we're finding it. A global gas production peak and plateau are distinct possibilities long before mid-century.

North America past peak: a fertility problem

Returning from the global picture to the regional, North America is ahead of most of the world in passing beyond its natural gas production peak and facing post-peak prices. Canada and the US are now in transition from having some of the lowest natural gas prices in the world to having some of the highest. Given the previously examined link between natural gas, nitrogen, and food; and given North America's position as a major food producer and exporter; world-topping natural gas and nitrogen prices are not good news for family farmers already over the brink and hanging on by their fingernails.

Europe, China, Brazil, Australia and most of the rest of the food-producing world will remain connected, by pipelines, to natural gas fields with increasing production volumes. Thus, farmers in these nations will not experience natural gas and nitrogen price shocks to the same extent that North American farmers will. Canada and the US will become increasingly reliant on gas delivered by high-cost LNG tankers or on nitrogen delivered on cargo ships. For a farmer near Red Deer or Tilsenberg or Grand Falls, the price of fertilizer may be about to go from world-price-less-freight to world-price-plus-freight. The "global competitiveness" of Canadian agriculture may be about to take a hit.

One outcome of the post-peak gas pricing landscape in North America seems to be that fertilizer companies are decamping from the continent. Initial indications, which the NFU will research in the coming months, are that major nitrogen fertilizer producers such as Mosaic (Cargill and IMC), Agrium, Potash Corporation of Saskatchewan, Terra, and others are reducing production at, or closing, North American nitrogen plants and moving to expand production in places like Trinidad. These companies are also sourcing more of their nitrogen supplies from overseas via contracts. In the future, much of our nitrogen may come from Russia, Saudi Arabia, and Africa.

While Canadian natural gas export policies are disastrous in terms of energy security, they seem equally disastrous in terms of food security. The essential fertility of our soils, upon which farming depends, will have to be purchased from overseas nations.

North America past peak: some of the other problems

High natural gas prices have implications for our entire economy. The NEB says "Canadian industry has historically had access to lower cost energy than many of its overseas competitors and that is now changing, with potentially large costs to the Canadian economy. It was noted that many towns in Canada are dependent on a single large industry and that plant shutdowns could have wide-ranging social and economic impacts, including the loss of well-paying jobs." (Aug 2004, p. 14.)

One can hardly contemplate the threats that energy depletion seems to be lining up for Canada and North America: lost jobs, globally-uncompetitive energy costs, higher heating costs, higher transportation costs, inflation, the possibility of higher interest rates and higher mortgage payments, the loss of much of our nitrogen production capacity, higher food production costs, economic downturn—the list goes on. Over the past two decades, a catastrophic Canadian energy policy and a public that is blissfully unaware how much its privileged lifestyles depend on energy hyper-consumption have combined to bring us to a critical point. The threats and the solutions are both obvious. What is not clear is whether we will have the courage to face both.

Conclusion

North American Natural Gas Vision, a 2005 report by the "Experts Group on Natural Gas Trade and Interconnections" of the "North American Energy Working Group" (essentially, North American energy companies) includes a short section on "Energy Policy." (p. 27.) Without a hint of irony, that section relates that "Canadian energy policy has been guided by the principles of sustainable development. Sustainable development is development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs." If only it were so.

(continued on page 19...)

(Canada's natural gas, from page 18)

Increasingly, global food policies will be revealed to be inextricably entwined with global energy and water policies. The NFU is taking a lead role in helping citizens and policymakers understand the direct links between food and energy and the civilization-threatening risks we face today.

The NFU wants to recognize the work of Julian Darley, specifically his book "High Noon for Natural Gas", a groundbreaking examination of the issues surrounding gas depletion. Much of the preceding analysis owes a debt to Darley's work. Julian Darley, a British researcher and world expert in energy issues, now lives in Vancouver. www.postcarbon.org

— nfu —

More information on the peak oil debate

New books on peak oil are coming out monthly. There is also one very good documentary video available. Some of the recommended titles are:

- ▶ *The End of Suburbia: Oil Depletion and the Collapse of the American Dream*, Gregory Greene (Director), Barry Silverthorn (Producer), DVD or VHS, \$25.00 + GST (\$26.75). [Saskatchewan residents please add P.S.T., for a total of \$28.50.]
- ▶ *The Party's Over: Oil, War and the Fate of Industrial Societies* (Revised Edition) by Richard Heinberg, \$26.95 + GST (\$28.84).
- ▶ *Powerdown: Options and Actions for a Post-Carbon World* by Richard Heinberg, \$22.95 + GST (\$24.56).
- ▶ *The Long Emergency: Surviving the Converging Catastrophes of the Twenty-First Century* by James Howard Kunstler, \$35.00 + GST (\$37.45).
- ▶ *High Noon for Natural Gas: The New Energy Crisis* by Julian Darley, \$23.50 + GST (\$25.15).

Saskatoon's "Turning the Tide" bookstore stocks these titles and can ship them to you if you cannot find a local source. Shipping and Handling charges are: \$7.00 for the first title; \$2.00 for second title. Free shipping for orders of 3 titles or more. **Contact: Turning the Tide Bookstore, 525-11th St. E., Saskatoon, SK S7N 0G1, phone: (306) 955-3070 inquiry@turning.ca**

(Payment by Cheque, Money Order or Credit Card (Visa, MasterCard, AMEX) over the phone accepted.)

Convention sponsorship

This year's NFU National Convention in Ottawa promises to be one of the best ever. Set in the nation's Capital and packed with great speakers, including the federal Minister of Agriculture, NFU delegates and guests will have a great three days of debate, education, policy-making, and fun.

There's something new at this year's Convention: Convention sponsors. The NFU has asked organizations, agencies, and companies related to agriculture and rural issues to become sponsors of the NFU's National Convention. We've sent letters to commodity boards, orderly marketing agencies, machinery companies, unions, civil society organizations, grain companies, government departments, and others asking them to sponsor the NFU's Convention. You may see some of these sponsors listed on boards at the Convention and see their representatives at booths outside the Convention hall.

The NFU Board and Executive gave careful consideration to the decision to pursue sponsorship for our Convention. If you have any questions about this move, please contact your Board member or the National Office.

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Yield, Plant Breeders' Rights, KVD, and access to varieties

Though never stated in such bald terms, the essence of the argument goes something like this: Canada needs to begin to dismantle its wheat quality assurance system—which is now based on KVD (kernel visual distinguishability)—so that Canadian farmers can access higher-yielding wheat varieties. A close relative of this argument goes something like this: Canada must adopt stricter Plant Breeders' Rights (PBR) regulations—such as those based on “UPOV 91”—so that Canadian farmers can gain access to higher yielding varieties.

The implication is that there are regulatory impediments—quality standards that are too stringent and Intellectual Property (IP) protections that are not stringent enough—that are preventing Canadian farmers from gaining access to the best performing varieties in the world. It is certainly true that Canada, in its quest to create a wheat quality system that delivers high and consistent quality, has blocked the introduction of some high-yielding varieties. The question is: What is the cost of our regulatory, quality system, and IP protection choices? How much better off would Canadian farmers be if we, for instance, adopted US-style quality, variety-registration, and Plant Breeders' Rights systems? Are we sacrificing too much yield for quality? Are we failing to ensure that farmers have access to high performance varieties?

Agriculture and Agri-Food Canada's publication the *Bi-weekly Bulletin* recently published a statistical analysis that compared the yield and protein levels of Canadian and US hard red spring (HRS) wheat lines grown

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(NFU Seed Saver Campaign, from page 10)

November 8 – CFIA launches internet-based consultation document on proposed amendments to PBR Act and posts it for review on its web site.

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November 9 – First reference appears in Ontario Farmer that PBR amendments threaten the way things have been done for years by farmers. Terry Pugh, NFU Executive Secretary, says farmers have controlled the seed for thousands of years, “but what we are seeing now is a fundamental shift in who owns the seeds.”

...

November 25 – First direct attacks from NFU appear in Western Producer. In an article titled “Seed Rights Could be Limited: NFU”, the organization says it anticipates a pivotal battle against the Canadian seed industry. Terry Boehm, NFU Vice-President, says that the proposed changes will expand seed companies' control, increase the period companies can collect royalties from 15 years to 20, and further restrict how farmers are allowed to market and use crops that are protected under PBR.

...

December 9 – First letter to the Editor regarding seed saving appears in Western Producer. Called “Saving Seed”, the letter again quotes the Executive Director of CSTA as saying, “I don't think farmers ought to have a legal right to save seeds” and states that the CSTA stand represents seed companies.

...

January 18 [2005] – First letter to the Editor appears in Ontario Farmer. It offers another reference to how the PBR amendments are changing something farmers have always done. “Agriculture is heading down a dangerous path with proposed changes to Canada's Seeds Act and PBR Act. Large companies are making a concentrated effort to change a ‘centuries old’ method of saving, re-using and selling seed.”

...

February 3 – Western Producer reports on PBR amendments as the deadline nears for comments on CFIA's discussion paper. With just over a month left to give opinions, this story features comments on the CFIA paper from NFU President Stewart Wells. —nfu—

Cuban farmers seek to work with NFU toward common goals

In September, NFU representatives met in Saskatoon with representatives of the Cuban farm organization ANAP (Asociacion Nacional de Agricultores Pequeños, or National Association of Small Farmers). The following summary of that meeting is written by NFU Executive Secretary Terry Pugh.

Cuban farmers may not have the biggest machinery or the latest technology, but they have one key advantage their Canadian colleagues wouldn't mind copying.

Producers in this Caribbean island nation of 11.2 million people earn returns from the sale of their products that cover their cost of production and even provide a modest profit. While Canadian farmers struggle to make ends meet by balancing excessive debt loads and negative net income, Cuban farmers are focusing on maximizing production for their own domestic market while earning considerably more than the average workers' wage.

For the Cuban government, recognition that smaller-scale, co-operative and family-based farms are the most efficient, equitable and sustainable method of food production has been a lesson that has taken decades to learn. Following the Cuban revolution in 1959, agrarian reform measures were adopted which collectivized the land base and imposed a large-scale, high-input approach to food production. Cuba also increased its dependence on export markets for sugar, particularly to the Soviet Union, in exchange for trade in manufactured goods and petroleum. Production, storage, transportation and distribution of food in Cuba fell under the jurisdiction of a state agency. Sugar production took up much of the most productive land in Cuba, with cultivation of food crops for domestic consumption relegated to less fertile areas. During the 1960s and 1970s Cuba dramatically increased its dependence on chemical pesticides and fertilizers. During this period, there was a heavy exodus of rural people from the countryside into the cities, particularly Havana.

When the Soviet Union collapsed in 1991, the impact was felt immediately in Cuba, and the fallout

continued for more than a decade. Shipments of imports from Eastern Europe dried up, and with the US economic blockade still in place, the Cuban economy faltered badly. Food shortages emerged as a serious problem, and to combat this, the Cuban government implemented reforms aimed at boosting food production. A key element in this strategy was providing material incentives to Cuban farmers.

A key reform in 1989 allowed for the set-aside of land on all state-owned farms for subsistence food production. By the mid-1990s, virtually all farms in Cuba placed strong emphasis on supplying the domestic market, with many farmers delivering directly to urban consumers.

The realignment of Cuba's agricultural production toward increased self-reliance is a trend that has the backing of a majority of the country's farmers. Approximately 96% of Cuba's farmers are members of the National Association of Small Farmers (ANAP). ANAP is a constituent member of Via Campesina, the international organization of which the NFU is also a member.

In early September, a delegation of ANAP members toured farms in western Canada. Two members of that delegation, Maria del Carmen Barroso Gonzalez and Juan Miraldo Mir Lopez, met with NFU President Stewart Wells in Swift Current and later with NFU Vice-President Terry Boehm at the NFU office in Saskatoon. During the meeting in Saskatoon, the ANAP members expressed genuine surprise at the extent of Canada's farm debt load, which currently stands at \$48.9 billion. Twenty years ago, total farm debt outstanding was \$22.13 billion.

(continued on page 22...)

(Cuban farmers, from page 21)

Ironically, the current Canadian farm debt is actually masking the true extent of the crisis, because historic low interest rates have made it possible to carry this staggering debt load, whereas in the early 1980s, farm bankruptcies and foreclosures mushroomed when interest rates spiked to unprecedented levels—as high as 24%. Farmers currently faced with declining commodity prices in Canada are struggling to make payments on that debt, but if interest rates rise appreciably the debt load will be unsustainable.

Outside of Canada's supply-managed sectors, commodity prices are set by the market and bear little or no relation to the cost of production. In Cuba, however, farmers have a direct say in the prices they are paid.

"The only risk we have to worry about is the risk from the weather," explained Lopez, president of a 64-member co-operative farm in the south central Cuban province of Cinfuegos. "Prices are set before the farmers plant anything, and then each month prices are adjusted according to circumstances. Farmers can sell to the state or they can sell direct to the market."

In Cuba, there are two government departments responsible for agricultural production and distribution, according to Maria Gonzalez. The Ministry of Sugar is responsible for the production and export of sugar cane and related commodities, while the Ministry of Agriculture handles all other commodities for the domestic and export markets.

"Every month, meetings are held between the government and ANAP to negotiate commodity prices," explained Gonzalez. "ANAP sells to the state and then the state exports or distributes domestically." In addition to the official market channels offered by the state trading agency, farmers are also able to sell privately direct to consumers, as part of the shift from exports to filling domestic needs.

"The first priority for farmers is to produce food for the people," she explained. "There is a changing focus from export to domestic needs. Cuba has closed over half its sugar mills, and is in the process of converting these older mills to other uses such as pasta manufacturing for domestic consumption."

The membership of ANAP is divided roughly equally between co-operative farms known as

Cooperativas de Produccion Agropecuaria (CPAs), where farmers own the land collectively; and Cooperativas de Creditos y Servicios (CCS) where the co-op provides services and credits to individual farmers. When ANAP was first formed in 1961, almost 100 percent of the membership was comprised of CCS members, but by 1976, many farmers proposed collective land ownership, and the CPAs were formed.

On the co-operative farms, 55% of the earnings are returned to the membership, and 45% are reinvested back into the co-op, with the membership deciding whether the investment goes into production, a social/cultural fund, or a contingency fund. Because farmers are encouraged to produce and sell their surplus, which increases their incomes and standard of living, there has been a movement of people back to the countryside after decades of rural depopulation, according to Lopez. "There is an incentive to come back to the farms. People who grow up on the farms are given a priority when it comes to membership in the co-operatives."

The shift toward domestic production has meant many farms have had to convert land from one commodity to another, added Lopez. On his cooperative farm, for example, land previously devoted to sugar cane production was given over to cattle. "The government recommended the change in land use," he explained. "The co-op was paid 150,000 pesos in compensation, and then the members of the co-op reinvested that money as they saw fit. A large portion was put into cattle and other livestock, and some was put back into the co-op fund and some paid directly to the membership."

ANAP is working to strengthen relationships with farmers' organizations in Canada and the United States, as well as with other groups in Latin America. Gonzalez says the goals of the Cuban farmers organization are similar to those of family-farm based organizations in North America. An invitation was extended to the NFU to send a representative to the ANAP national congress next year in Cuba. —nfu—

The NFU thanks the Saskatchewan Council for International Cooperation (SCIC) for providing the financial support to make possible the Saskatoon meeting.

(Yield, Plant Breeders' Rights, from page 20)

side by side in the Hard Red Spring Wheat Uniform Regional Nursery (HRSWURN) cooperative nursery. The HRSWURN program is administered by the US Department of Agriculture (USDA). The analysis of US and Canadian data was based on work by Dr. Brian Oleson.

Data from 1995 to 2004 point to a yield advantage of 1.83 bushels per acre or 3.68% for the US wheat lines. But the data also shows that the Canadian lines had average protein that was about 4/10ths a percent higher than US lines (0.417%).

The Ag. Canada analysis of the USDA data pointed out that “there exists a trade-off between quality and quantity in wheat production, as certain quality parameters, such as protein content, are inversely proportional to yield.” The Ag. Canada study quoted Dr. Brian Oleson who wrote “As a rule of thumb, for current [Red Spring] wheat varieties, it is generally accepted that, given time, if the protein were lowered by 1%, all else staying the same, yield could be increased by 10%.” The *Bi-weekly Bulletin* states: “If the 10% yield for 1% protein tradeoff... is correct, then the observed US yield advantage of 3.68% in our sample can likely be fully explained by the 0.417% Canadian protein advantage.

In terms of farmers' bottom lines, we have to ask whether a slightly smaller crop with higher protein is worth more than a larger crop with lower protein. This process is extremely complicated and, in the end, there may be too many unknowns to make direct comparison possible. Nevertheless, an attempt is instructive.

First, we need to make some assumptions. We can't use the absolute yield numbers from the USDA trials, because they are too high: 51.56 bushels per acre for the US varieties and 49.73 bushels per acre for the Canadian varieties. So we will need to scale these back to better reflect real farm performance. Let's assume 35 bushels per acre for the Canadian varieties and 36.288 for the US varieties (reflecting the US varieties' 3.68% yield advantage).

Next, let's assume a baseline of \$4 per bushel farmgate price for wheat. Analyzing wheat prices from 1993/94 to 2002/03 shows us that, on average, that 4/10ths of one percent of protein would be worth 16¢ per bushel. Thus, the higher protein, Canadian variety would sell for \$4.16 per bushel. Roughly, here are the farmers' returns:

Canadian farmers growing current varieties

35 bushels X \$4.16 per bushel = \$145.60 farmgate return.

Canadian farmers with access to US varieties

36.288 bushels X \$4.00 per bushel = \$145.15 farmgate return

In this scenario, higher yielding but lower protein US varieties would reduce Canadian farmers' revenues. But even if the results were different and the US varieties brought higher overall revenues, there would be costs. Let's say we did relax KVD rules and change Plant Breeders' Rights laws so that our farmers had access to exactly the same varieties that US farmers have access to. One result would be that the Canadian wheat quality and segregation systems would have to be scrapped. We would have to find a replacement for KVD (at some cost) and the Canadian quality advantage in the world market (worth millions per year) would largely disappear. Adopting US varieties means adopting a US-style quality system and abandoning the Canadian system which has returned premium prices to this country for years.

In conclusion, there seem to be no financial benefits from overhauling our quality and PBR systems to allow for the introduction of “high yielding” US-style varieties. Those clamouring for the end of KVD or a new version of PBR on the basis that these changes will give us access to improved varieties had better look at the size of the dollars-and-cents benefits, and the size of the costs.

— nfu —

While communism is the control of business by government, fascism is the control of government by business. ... Mussolini said that “fascism should be called corporatism because it is the merger of state and corporate power.”

—Robert Kennedy Jr., *Crimes Against Nature: How George W. Bush and his Corporate Pals Are Plundering the Country and Hijacking Our Democracy* (HarperCollins, 2004). As cited in Russell Mokhiber and Robert Weissman “Kennedy: Fascist America”, *Common Dreams* www.commondreams.org

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