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"Peak Oil": The short, medium, and long term

"It took us 125 years to use the first trillion barrels of oil. We'll use the next trillion in 30. ... The world consumes two barrels of oil for every barrel discovered. ... Energy will be one of the defining issues of this century. One thing is clear; the era of easy oil is over...."

—David J. O'Reilly, Chairman & C.E.O., Chevron Oil

From Chevron advertisements that began appearing in early July. The ads are partly in response to a bid by the Government of China to buy US oil company Unocal.

The Chinese are also trying to take an increased ownership stake in Canada's tar sands.

"Everybody in OPEC is at full capacity—maybe Saudi Arabia has something left but it is heavy oil —so in practical physical terms we have nothing,"

—Libyan Energy Minister Fathi Bin Shatwan

"OPEC runs low on ammunition to tackle oil price", Peg Mackey and Simon Webb,

Reuters, July 14, 2005

NFU Director of Research Darrin Qualman recently returned from a conference in Dublin, Ireland entitled "What Will We Eat as the Oil Runs Out?" Based on that conference and other research, he offers this brief primer on Peak Oil.

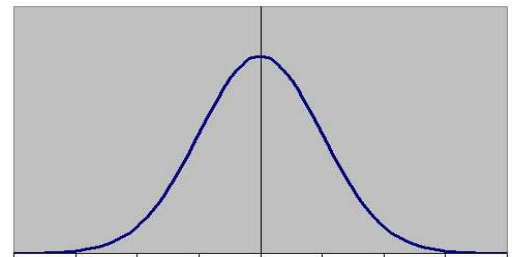
Hubbert's Peak

M. K. Hubbert (1903-1989) worked as a geologist at Shell Oil for 20 years and at the United States Geological Survey for 12. He also taught geology and geophysics at Stanford and Berkeley. He is best known, however, for predicting peak oil production.

Hubbert's first insight was that oil production would roughly conform to a bell curve—increasing slowly at first and then quite rapidly, then reaching a peak or plateau, after which production would fall.

Further, he predicted that a given country or region would reach the peak of

Bell curve



that production curve at approximately the point when half of its oil was used up. This means, ironically, that peak production might occur at the time when declared oil reserves are at their highest point.

(continued on page 2...)

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(See page 9 for more details)

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Hubbert's second notable insight came in 1956 when—based on data for US oil production, reserves, and discoveries—Hubbert predicted that US oil production (from the lower 48 states) would peak in the early 1970s. In the '50s and '60s, most geologists and policy makers dismissed his prediction.

But, as Hubbert predicted, US oil production peaked in 1971, right on schedule, although the peak was only visible several years later, in looking back at the data.

However, it's not only US oil production that will follow a bell curve—peaking and then declining. World oil (and natural gas) production will follow a similar pattern. Since the 1970s, many people have attempted to use variants of Hubbert's analysis to predict the year in which global oil and natural gas production will peak. There is a growing consensus among a significant number of those analysts that we are within years of reaching that peak. Many even say that the peak is occurring now.

The following graph is produced by the Association for the Study of Peak Oil (ASPO) and the Uppsala Hydrocarbon Depletion Study Group. This graph shows the production of oil and natural gas liquids peaking in about 2006 and trailing off thereafter. If this scenario comes to pass, declining oil production will run smack into rapidly increasing demand—demand from China, India, the US, and

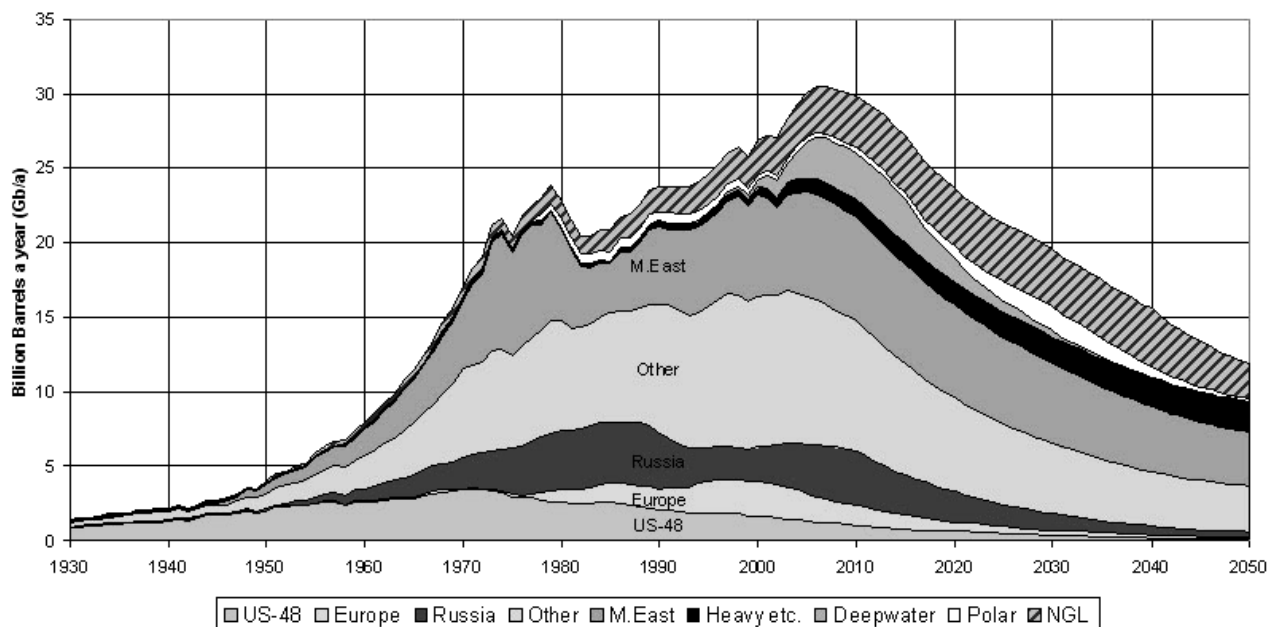
elsewhere. The effects of this supply and demand crunch on oil prices are easily predictable. The effects on food production, our economy, human population, and on the stability our civilization are harder to predict.

The creators of this graph, and many other Peak Oil prophets, want us to believe that global oil production is peaking now, or that it will peak in the next couple of years. That assertion is far from certain (see sidebar on "How much oil do we have"). What is certain, however, is the following:

- Peak Oil will probably come relatively soon—if not in the next few years, then in the next decade or two;
- Despite hype about hydrogen, ethanol, and biodiesel, there is no "plan B" when it comes to replacing oil and natural gas;
- Solar and wind can supply some of our electricity needs, but only a fraction of the energy needed to power North America's strip mall, suburban McMansion, air conditioned, commuter jet, sport utility vehicle culture. (To visualize a solar and wind-based society, think Europe in the 1960s.); and
- The effects of decreasing energy availability on our economy and society will be wrenching and transformative.

Thus, whether we believe peak oil production will occur in 2006 or whether we believe it will occur in 2026, peak oil is a problem we must address immediately.

OIL AND GAS LIQUIDS 2004 Scenario



The longer term is more certain

When talking about the future of our energy supplies and about the shape of the economies and civilizations dependent on that energy, the long term is much more certain than the short term. For instance, Graph 3 shows the *very* long term—4,000 years—and it shows a dramatic increase in humankind's use of fossil fuel energy over the past 125 years. It also forecasts an equally rapid decline in the availability and use of energy over the next 125 years. While the decline need not be as absolute as Graph 3 predicts, there will almost certainly be a dramatic decline in energy use over the coming decades—either as a result of oil depletion or of the need to deal with climate change.

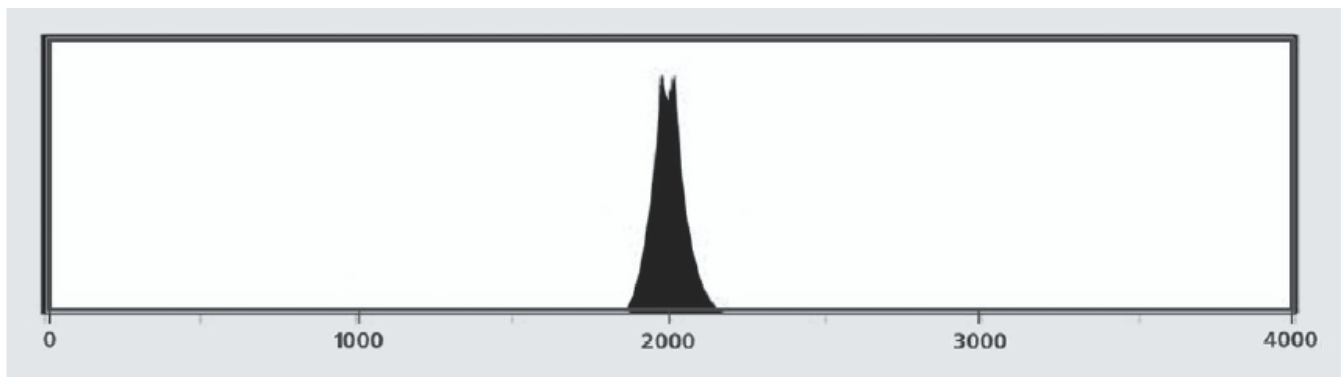
How much oil do we have?

Why the uncertainty over when oil production will peak? First, we don't know how much oil we will eventually find (although indications are that the vast majority of oil has been located). But there's a bigger problem: no one knows how much oil has already been found; no one knows the size of current reserves.

In the 1980s, OPEC changed its quota system and began basing production quotas on reserves. As a result, OPEC members began inflating their reserve estimates. In 1985, Kuwait announced a 50% increase in reserves. Saudi Arabia and others followed suit. And today, despite decades of pumping and billions of barrels of production, many reserve claims remain nearly unchanged. No one is allowed to audit such claims.

Some analysts predict that Saudi Arabia is about to hit peak production capacity, and that, globally, there is no significant excess production capacity.

Graph 3: Past and future fossil fuel use



But energy use (fossil fuel and otherwise) is at the base of our economy, our civilization, and, to an increasing extent, of human biology. Food is energy, and energy is increasingly transformed into food for humans. Declines in energy availability and use will have dramatic effects on every aspect of our lives.

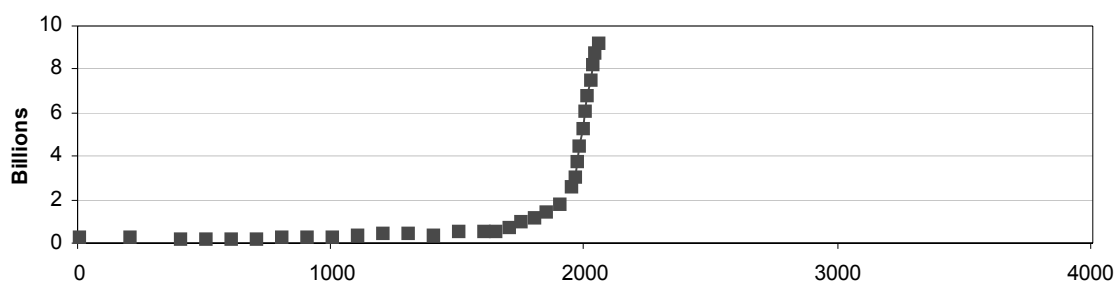
For many reasons, human population is closely tied to energy use. The most obvious reason for this linkage is that growth in human population will, other things being equal, bring with it a growth in energy use—more people will use more energy. But equally valid, reversing cause and effect, we could

point out that a growth in energy use—especially energy used in food production—will allow an increase in human population.

The following graph plots human population over a timeframe similar to the energy graph above—showing human population growth (and projections) from about 0 AD to 2050 AD. Note the strong correlation between Graphs 3 and 4, between the sudden spike in energy availability/use and the spike in human population. This is no coincidence. Massive energy use has allowed us to multiply our numbers tenfold.

(continued on page 4...)

Graph 4: Human population



These two graphs beg the question: If population has risen as energy use has risen, will the reverse be true also? This is not to ask the trivial question: Will fewer people result in less energy use? The converse is much more important: Will declining energy availability drive down human population? Will population follow energy use on the downslope, as it has on the upslope? Put another way, one could ask, is a human population of 7 to 10 billion sustainable in the long term? Or are we merely in the midst of a brief exuberance of the human species? Will a human population at the current level be a long-term feature of the Earth? Or are we mimicking the boom-and-crash population dynamics of rabbits, lemmings, and fruit flies?

Energy and food

To understand whether Peak Oil might also mean peak population we have to better understand the tie between energy and food.

Currently, we are feeding 6.8 billion people, and projections are that global population will rise to 9 or 10 billion. And we will attempt to feed this increased population without any additional land (additions to the cropland base, in Brazil and elsewhere, will more-or-less balance losses).

Today, we are feeding about four times as many people than we fed in 1900 (about 6.8 billion today versus 1.6 billion in 1900). And at current population growth rates, we are adding the equivalent of a North America every 6 years. The amount of cropland per person is shrinking rapidly and significantly. By 2025, we will have only half the cropland per person that we had in 1969.

As population grows swiftly, there are growing signs that food production is not keeping up. In five of the last six years, globally, we consumed more grain than we produced. In just the past 6 years, we drew down global grain stocks from a 111 day supply to a 66 day supply. Current stocks/use ratios for world total grains are at their lowest level in 30 years. To be sanguine about the prospects for feeding 40% or 50% more people on a static landbase is to be reckless in the extreme. But to stare into the face of this looming food crisis (potentially exacerbated by energy shortages, climate change, or both) while simultaneously smashing family farms on the pretense of “oversupply” and “surplus” is a madness we will have much time to lament.

A cornerstone of our ability to feed 6.8 billion people on a planet that supported just 1.6 billion a century ago is our use of nitrogen fertilizer. Nitrogen is produced from natural gas. Up to a third of the energy used in agriculture in the developed world goes into making fertilizer. In a modern nitrogen fertilizer plant, a big natural gas pipeline goes in one side and a big ammonia (nitrogen fertilizer) pipe comes out the other side. In a fairly direct way, we are transforming natural gas into fertility, energy into food.

Everything is energy

Nearly everything we value and desire in our economy is a form of energy. Energy=wealth. Let's begin with the classics needs: food, clothing, and shelter.

Food is energy: Solar energy is alchemized into carbohydrates within plants. Seen another way, the ditch digger eats a hearty breakfast and turns that food into the mechanical energy to move a ton of dirt.

Clothing and shelter are energy: Both take energy to produce, and one of their main roles is to modulate and manage the energy (temperature) of our bodies.

“Naked, hungry, and cold” is often used to evoke absolute poverty.

Travel is clearly energy.

War is energy: Fists, guns, and bombs are means to deliver energy to disrupt buildings, tissues, and societies. Security is the ability to deter the delivery of these disruptive energies.

Money is a system of energy storage tokens—potential food, clothing, heating, housing, travel.

Civilization, to a very real extent, is a reflection of energy manipulation. Our society is rooted in the industrial revolution and its discoveries of how to turn coal into linear, rotational, and geographic motion. Steam engines were then hooked to power looms and passenger trains—producing fossil energy-derived cloth and travel. As we leveraged more coal and oil to augment our muscles, the middle and working classes rose into relative privilege and comfort.

Some “goods” that seem to defy this energy=wealth equation. Books, movies, poems, and songs seem to have a low fossil fuel content. But these creative products are energy dependent. By multiplying the work that a farmer or worker can do (think assembly line, large tractor, fishing trawler, or chainsaw), fossil energy “frees up” other people to create the books, blueprints, movies, and music performances that constitute modern culture and form much of the “wealth” of our life. Without fossil fuels, most novelists and pop stars would be hoeing the fields.

Our lives of privilege depend on energy. A gallon of gas yields the equivalent energy of 120 hours of human labour, and this gasoline can be purchased with the wages from 30 minutes of work. The work we do with our muscles is augmented by the work done by energy. In Canada, each of us burns energy equivalent to the work of 361 human beings. This, more than any other factor, explains our affluence.

Leaving aside the argument about whether organic agriculture can feed the world, it seems clear that in the short and medium term, taking nitrogen fertilizer out of the food system will make a very tight food situation even tighter. US and Canadian corn fields fed by natural gas-derived nitrogen produce well over 120 bushels per acre. Remove the nitrogen, and the yields fall by as much as half. Seen another way, since we can't find more acres, we've been injecting energy (in the form of nitrogen fertilizer) to make one acre produce the food of two. Our population of 6.8-billion-going-on-ten-billion is supported by hundreds-of-millions of "ghost acres." Increasingly, our food supply is produced as much by our oil fields as by our grain fields.

An economy addicted to energy

For various reasons, including the way that interest must be paid on borrowed money and the way employment and investment are structured by corporations, our modern economies depend on growth. We have a word for a short-term cessation of economic growth: "recession." And the word for a longer period without growth is "depression."

Since economic growth usually parallels energy growth, energy contraction may lead to economic contraction. The effects of such contraction and instability could include: trillions lost as various stockmarket bubbles burst; recession after recession, each deeper than the preceding one because the expulsion of workers and the tightening of investment exacerbates the decline in each cycle; and the beginning of an uncontrolled spiral downward, such as was seen in the 1930s.

And declines on the economic and energy fronts may be paralleled by disturbing developments on the political front. If privileged North Americans begin to see their economies sinking and their energy-enhanced lifestyles slipping away, out of fear they may be drawn to elect politicians who promise solutions, no matter how far-fetched. There will be deep political divisions over the wisdom of investing massively in nuclear power and nuclear-derived hydrogen fuels. There will be increasingly desperate attempts to prolong the SUV culture and the consumerist American dream.

Oil depletion vs. climate change: Is there too much oil or too little?

Many people reading the preceding paragraphs will feel a growing unease with the idea that oil depletion is our gravest problem. These people will rightly point out:

oil depletion threatens our economies and, perhaps, our societies and civilizations, but climate change threatens the *Earth*—the caribou and polar bears, the ocean currents and ice caps, the coral reefs and the rain forests. Since we absolutely must get greenhouse gas emissions and climate change under control anyway, perhaps Peak Oil is, at least partly, a blessing—as much cure as disease.

Admittedly, running out of oil is preferable to destroying the planet with it. But pointing out that Peak Oil is the lesser of two evils is a long way from saying that Peak Oil is a blessing. While Peak Oil may make the future better than the nightmare alternative of runaway climate change, Peak Oil will not necessarily make the future better than the present. And by many scenarios, Peak Oil will make the future a whole lot worse.

Perhaps a bit of nuance is necessary. The problem isn't simply Peak Oil. The problem is Peak Oil in the current economic and political context—in a growth-addicted, corporate-friendly, laissez faire economy overseen by a political class transfixed and corrupted by its economic system. The problem is the combination of Peak Oil and an economic system in which (the market ideologues rightly point out) "no one is in control." Ours is a system where it is no one's job to look past next year's profits, to take stock of how this year's production might affect next decade's weather, where we fish the last of the cod and then go after the haddock, where we become ever more dependent on energy despite the fact that no one is keeping an eye on the fuel gauge.

Here is an example of market-think: We need not worry about resource depletion because as resources become rarer, their prices will rise, making alternatives relatively more desirable. As oil and natural gas run out, they will become more expensive, making solar and wind power relatively more affordable. This is the miraculous invisible hand of automatic allocation and substitution.

But let's look at how that might work in practice. If the Peak Oil crowd is correct, it is probable that natural gas prices will triple or quadruple in the next decade. Some analysts predict that prices might increase ten-fold. According to the market ideologues, the automatic reaction to these high prices for oil and natural gas (and the electricity that is increasingly generated from natural gas) will be to make wind turbines more affordable, indeed, highly profitable.

(continued on page 6...)

But modern wind turbines are made of steel and aluminium. Aluminium is a relatively common element, but a huge amount of energy is needed to smelt aluminium to make it useful for construction. By some estimates, 97% of the cost of aluminium is the cost of the energy to smelt it. Thus, if we wait until oil, natural gas, and electricity prices double or triple before we begin to build our wind turbines, we will find that 1) the cost of the materials for those turbines has gone up dramatically, and 2) wind turbine construction capacity constraints will further increase the cost as everyone scrambles to buy and install turbines at the same time. Clearly, in a rational system, where it was someone's job to look forward and to make plans that take into account resource and environmental limits, we would be building wind turbines now, at the fastest possible pace. But this is not the case. For the most part, we are leaving such matters to the market. There is a faith (hardly more than a *superstition*) based on 50 years of experience gained during the post-war period of unprecedented stability, that the undirected market is best able to make course changes for our increasingly global civilization.

Of course this is not true. The invisible hand of the global economy has been given far, far too much responsibility. This is apparent even in the relatively unchallenging times of stability and prosperity over the past two generations. It will become piercingly clear, however, when we are challenged by biological, resource, and environmental limits. The invisible hand is the hand of an idiot savant—talented at orchestrating the economy so long as the economy is free to expand without limit and to burn, consume, and degrade a bounty of resources that took billions of years to accumulate. But when faced with limits, disturbances, and the need to pursue and balance multiple, conflicting goals (not just a simple focus on growth and profit), the invisible hand will be revealed as disastrously inept.

The problem isn't just Peak Oil, it's Peak Oil's impact on a world-wide mono-economy, an economy addicted to growth, an economy that, if it even sniffs economic contraction, may well begin hurling off workers and closing plants, passing the most devastating impacts of economic contraction down to the people least able to absorb the effects and, at the same time, ensuring that each subsequent round of recession is deeper and more

dangerous than the last. On both fronts—climate change and oil depletion—thoughtful analysis, careful planning, and a managed transition that utilizes the best of our technological options could bring us relatively comfortably to a high-tech version of a 1950s lifestyle. We might, if we work collectively and intelligently, be able to make a relatively smooth transition to a new way of living that could include a vast range of benefits. It is not utopian to suggest that a new economy that is respectful of both environmental and resource limits might include a four-day work week, more gardening, relocalized food and manufacturing systems that offer a greater variety of jobs and that capture and retain more wealth in local communities. We might rediscover train travel, bike paths, and diverse local shops. None of this is Utopian because all these ways of living and working and travelling have existed in our past—and coexisted with much lower energy use and greenhouse gas creation.

We need not merely go back, however. In fact we cannot. Whereas in the 1950s we had 2.5 billion people on the planet, soon we will have 9 or 10 billion. To fully tackle the challenges of a growing population, resource depletion, pollution, climate change, and a host of other econo-pathologies, we will have to integrate a carefully-selected basket of our most promising cutting edge technology. The future won't be the '50s reprised; the future will include the internet; (a limited number of) cars that achieve 5 to 10 times the mileage of the '57 Chevy; smart homes that use a minimum of energy to create a maximum of comfort; manufacturing techniques that reduce energy and resource use several-fold; widespread recycling; new, low-energy materials technologies; telecommunications; and a vast range of resources-saving, life-enhancing technologies. We will need to learn about biodiversity in crops, about permaculture, and about reduced-input agriculture. We will have to rethink a global trade system where all of our shoes, toilet seats, T-shirts, and telephones are made on the other side of the planet. Finally, we will have to rediscover alternatives to consumption and accumulation as the primary means of personal growth and self-actualization. All of these can be positive developments. These changes are, perhaps, absolutely necessary, whether Peak Oil is a reality this year or next century. Many positive futures are possible. What seems certain, however, is that the short-sighted, growth-based economic system that has brought us to

the brink of multiple calamities is not capable of leading us away from that brink. To find the way forward, we need to constrain “the markets” within a forward-looking, democratic decision-making process. Human beings need to do what human beings do well: look ahead, survey the terrain, see the dangers, make a plan, and cooperate to implement that plan. Sooner or later, the mania of unrestrained growth is bound to bang into some limit—if not Peak Oil, then climate change or water depletion. The challenge for us is not the narrow one of restructuring our energy supply; the challenge is restructuring the guidance systems of our economy and society. — 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).

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NFU works with Competition Bureau to block Cargill grab

The NFU continues to meet with the Competition Bureau to discuss the proposed Cargill takeover of Better Beef. The NFU met with Bureau representatives on June 20 in Calgary and on June 23 in Saskatoon, and more meetings are planned.

At the meeting in Saskatoon, NFU President Stewart Wells and NFU Vice-President Terry Boehm told Competition Bureau representatives that if the takeover is allowed to proceed, Cargill would capture over 50% of the total Canadian beef processing capacity. They said this scenario would give a single company excessive market control, and spell disaster for smaller independent processors and family farmers.

During the meeting in Calgary, NFU Alberta Coordinator Jan Slomp said farmers in that province have felt the negative effects of market concentration for many years. The BSE crisis and the closure of the US border to live cattle exports highlighted the vulnerability of farmers to price manipulation by the three big packers: Cargill, Tyson and XL Foods.

In addition to owning one of the largest packing plants in Alberta, Cargill also owns significant numbers of cattle in large Alberta feedlots, a massive “case-ready” boxed beef distribution facility in Toronto, and other vertically-integrated ventures. Cargill is also one of four dominant packers in the United States. — nfu —

Website names corporations taking control of the food system

What companies are the largest food retailers in Canada? Which firms control US fertilizer production? Where is Wal-Mart expanding in Asia? What is Cargill's market share in beef packing in Canada and the US? Which agro-chemical companies dominate the world market? What portion of the Canadian flour milling market is controlled by the top four firms?

The Market Share Matrix is designed to answer these questions and many more.

The Market Share Matrix is an ambitious research project to map the global food system—to name the transnationals that dominate each link in the agri-food chain, to calculate companies' market shares and global reach, to quantify corporate concentration, and to use internet-based computing to reveal patterns in this data. The Matrix is a joint project of the National Farmers Union (NFU), the US-based Agribusiness Accountability Initiative (AAI), and researchers and activists around the world. While the project has been underway for nearly two years, the website was publicly launched on June 30 at www.marketsharematrix.org

The Market Share Matrix Project is comprised of two main parts: a growing network of academics, organizations, and activists who are researching the corporate makeup of the agri-food chain in various countries; and a website that centralizes the results of this dispersed research.

Most important, the Matrix website will include powerful analysis and reporting tools. For instance, users will be able to enter the name of a corporation and the site will "light up" the sectors and countries where that transnational is operating. Key in "Cargill," and the site will highlight squares that contain links to data

What's a CR4?

"CR4" stands for "Concentration Ratio of the top 4 firms." Each corporation in a sector has a "market share"—the amount of the market that that corporation controls. For instance, Cargill's market share of the Canadian beef packing system will be nearly 50% following its takeover of Better Beef and the expansion of Cargill's Alberta plant.

The CR4 is calculated by adding up the market shares of the biggest 4 players. For instance, the four biggest players in the Canadian nitrogen fertilizer sector are Agrium, Saskferco (partly owned by Cargill), Canadian Fertilizers Ltd. (a joint venture of various co-ops and corporations), and Simplot Canada. The CR4 for the sector is 81.3%.

A generation ago, economist said that markets would have insufficient competition if the CR4 rose above 40%.

documents detailing "Canadian beef packing," "US fertilizer production," "Brazilian food processing," and many more. Thus, the Matrix will not be simply a way to distribute research; it will be a research engine that will generate its own insights and conclusions. While research about corporate ownership in various countries exists in many scattered reports, the Matrix will bring that disparate data together and create a map that can be programmed to reveal patterns in the shifting topography of corporate control. Matrix data will be detailed and precise for researchers, and easily grasped by non-experts and policy-makers.

The Matrix is growing as new market share documents are added each month. — nfu —

NFU thanks SCIC—The last issue of the *Union Farmer* contained an article written by Keith Carter entitled "Can Costa Rican vegetable farmers benefit by studying Canadian efficiency?" The NFU would like to recognize the financial contribution that the Saskatchewan Council for International Cooperation (SCIC) made to the production and publication of that article, and to acknowledge SCIC's ongoing support for the NFU and its international work. Thank you to the SCIC.



NFU 36th Annual Convention IN OTTAWA



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MAUDE BARLOW (Chair of the Council of Canadians)

Continental economic integration and its impact on Canada's food system



ANNA PASKAL (Inter Pares); **LUCY SHARRATT** (International "Ban Terminator" Campaign); and

MARGARET HAYDON (invited) (Former Health Canada whistleblower)

Behind Closed Doors: Biological, Technological and Political control of the food system



GIB DRURY (Quebec Farmers' Assoc), **NEIL PEACOCK** (Peace Country Tender Beef Co-op),

and **SHIV CHOPRA** (invited) (Former Health Canada Whistleblower)

The aftermath of the BSE Crisis: Reclaiming Power in the Public Interest



DR. HUMBERTO RIO LABRADA (Cuban National Plant Breeding Program), and

TERRY BOEHM (NFU Vice President)

Public Sector Plant Breeding: Reclaiming Seed Savers' Rights



ANNETTE DESMARAIS (Via Campesina/NFU) and **MAXIME LAPLANTE** (Union Paysanne)

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Too much coffee?

“The market is severely oversupplied: the volume of coffee produced to be traded far outstrips demand.”

—*Mugged: Poverty in your coffee cup*, Oxfam America, September 2002, p. 16.

www.oxfamamerica.org/newsandpublications/publications/research_reports/mugged/?searchterm=mugged

“It hasn't been a good year for coffee—oversupply of the commodity is bringing prices down and keeping them there. Industry sources are stating prices will continue to stay depressed for the next two years.”

—Jane McCabe, Editor & Co-Publisher, *Tea & Coffee Trade Journal*, Volume 174, Number 2, February/March 2001

<http://www.teaandcoffee.net/0201/editor.htm>

“World coffee prices are low because there is an oversupply of coffee”

—“Why cheap beans don't make cheap coffee”, BBC News, Wednesday, 18 September, 2002, 09:55 GMT 10:55 UK

<http://news.bbc.co.uk/2/hi/business/1307081.stm>

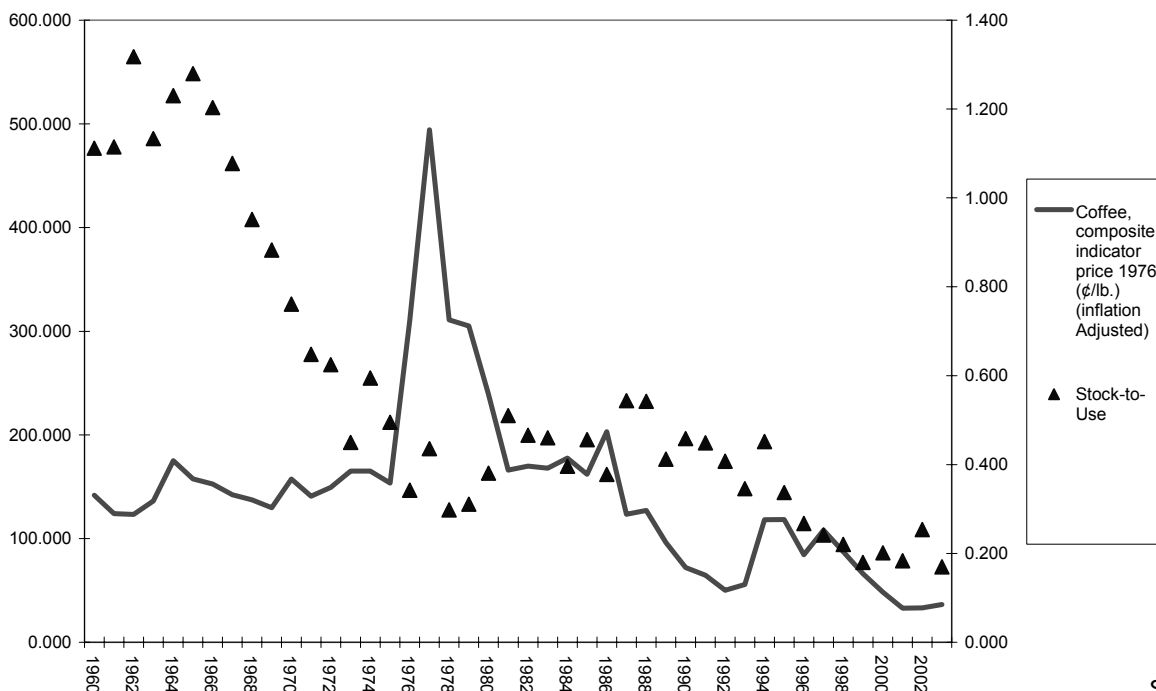
Leaving coffee aside for a moment, let's start with grain. The worst farm income crisis in Canadian history is often blamed on low prices triggered by a global grain oversupply. But the truth is that in five out of the last 6 years, the world consumed more grain than it produced. What everybody knows about grain—that there is oversupply—is probably wrong.

The same may be true for coffee—that the oft-repeated talk about record-low prices being caused by oversupply may be false. The following graph shows coffee prices adjusted for inflation (solid line) and coffee stocks/use ratios (triangle markers).

Stocks/use ratios are the amount of coffee left at the end of the year divided by the amount used during the year. One way of thinking about stocks/use ratios is to think about “days of supply.” For instance, a 10% stocks/use ratio means that at the end of the year, the world had a 36½ day supply on hand (365 X 10%).

(continued on page 11...)

World Stock-to-Use and Prices Coffee



Source: USDA

CWB elections review panel flawed

In a June 20, 2005 news release, the NFU strenuously objected to the federal government's announcement that its Canadian Wheat Board (CWB) elections review panel would include Greg Porozni.

There were several omissions in the federal government's description of Porozni in its news release, these omissions include:

- Greg Porozni ran in the 2002 CWB Director elections and was soundly defeated;
- Porozni was supported in his campaign by an organization called "CARE" which was previously found to have funneled money from grain companies to anti-CWB candidates at a time when CARE was not registered as an intervenor;
- During the 2002 CWB election, Porozni was found to be working with a secret committee of Monsanto to "assist in ensuring the positive market introduction of Roundup Ready wheat in Canada"; and
- Porozni failed to disclose that he was working under the terms of a confidential Monsanto agreement.

"How can a person that was at the centre of so many election problems possibly be called on to correct the problems?" asked Wells. "Surely if the Government needed to appoint an anti-CWB campaigner to the panel, they could have found someone who was not a failed candidate and also working under a Monsanto agreement at the time," said NFU President Stewart Wells.

The NFU release concluded: "The NFU has consistently raised many legitimate questions and concerns over the governance and policing of the CWB elections since 1998. Our concerns ranged from the need for involvement of an independent, non-partisan agency like Elections Canada to concerns over candidate financing; grain companies funneling money to anti-CWB candidates, conflict-of-interest and non-disclosure issues, and candidate over-spending. It is probable that the NFU has raised more issues and have had more correspondence with the government and election coordinators than all of the other farm organizations combined. Even if the panel chooses to consult with us, these legitimate views and concerns of farmers are likely to have a very short shelf life on Mr. Porozni's panel."

— nfu —

(Too much coffee, from page 10)

This graph, prepared by Food First policy analyst Karl Beitel, shows that global coffee stocks/use ratios are today at their lowest level in the past 45 years—1/3 the levels of the late-'80s, and 1/8 the level of the mid-'60s. In ten of the past twelve years, the world consumed more coffee than it produced—drawing down world stocks by half (stocks, not just stocks/use ratios, are falling). Yet all around are cries of "oversupply."

But in the face of record-low supplies, coffee producers also face record-low prices. (While prices have recovered slightly since the 2003 cut-off for the above graph, in real terms, they remain a fraction of the price levels of previous decades.) Clearly, supply and demand are not functioning as predicted in coffee markets.

The NFU believes that talk of "oversupply"—in coffee as in grains—is often misguided and misleading. The much larger culprit in the global crisis destroying farmers is corporate power. While the price of a cup of coffee on main street soars, the price of the beans in the field falls. Bread prices rise while wheat prices fall. Whether its coffee or canola or cows, the corporations that process and retail the products thrive, while the farmers wither. With coffee, the problem isn't too many beans; the problem is too much power in the hands of the few corporations that control the global coffee trade.

— nfu —

EU organic transition payments

In our reports to Wayne Easter's farm income consultations and to the Ministers of Agriculture meeting, the NFU put forward a comprehensive set of linked initiatives that could solve the farm crisis. One of the solutions the NFU stressed was that the government needed to help farmers unhook from profit-draining input makers. The NFU called on the government to begin offering transitional support to farmers who want to make the transition to input-reduced, organic, and more-sustainable forms of agricultural production.

European Union (EU) countries already have programs that pay farmers to make the transition to organic farming. These programs often offer one amount in years one and two, and then offer ongoing amounts thereafter. The payments are lucrative, and range as high as \$243 per acre in years one and two for cropland ("arable"). The following is a synopsis of conversion assistance amounts from selected EU countries. (To convert from Euros per Hectare to Dollar per Acre, multiple the numbers below by 0.59 .) Thanks to the UK's Soil Association for providing this table.

Member state	CONVERSION AID (Euro/Ha/Year)	ON-GOING PAYMENTS (Euro/Ha/Year)	
UK England	<u>Yrs 1 & 2 (average)</u>		
	Arable (AAPS) & permanent crops	265	88
	Other improved land	206	88
	Unimproved land	26	88
	Top fruit (Yrs 1-3)	882	88
Scotland	Arable	323	44
	Vegetable & fruit	441	21
	Improved	176	21
	Unimproved or rough grazing (Also capital payments provided)	7	735 fixed payment for any sized area
Austria	Arable	327	327 (all as for conversion)
	Market gardens	508	508
	Grass	250	250
	Vines, hops, Fruit	800	800
Denmark	<u>All farms</u>		<u>All farms</u> 114
	Arable with no milk production	409 in Yrs 1&2, 275 in Yr 3	
	Intensive pig holdings	382 in Yrs 3-5	
France		Yrs 1&2 Yr3 Yr4 Yr5	None
	Seeds and Vegetables	511 255 255 170	
	Other annual crops	409 205 205 136	
	Orchards	511 255 255 170	
	Grass	180 90 90 60	
	Olives	640 640 385 255	
	Other permanent crops	980 980 588 392	
Germany (National rates can be varied -20% to +40% by Lander)	Arable and grass	125	100
	Permanent crop	600	500
Italy	Paid under regional programmes		(all as for conversion)
	Arable	90-250	90-250
	Grass	200-250	200-250
	Olives	320-400	320-400
	Vines and fruit trees	450-700	
Netherlands	None		None
Poland	Arable	70	58
	Vegetable	116	93
	Top Fruit	140	128
	Berries	128	116
	Grassland	23	19
	Spain	Paid under regional programmes	305 across regions

Update on Seed Saver Campaign

—by Terry Boehm, NFU Vice President

In our ongoing campaign to stop the elimination of farmers' rights to save, re-use, exchange and sell seeds, we have been fighting new proposals for toughening our Plant Breeders Rights (PBR) legislation – specifically moving from UPOV '78 to UPOV '91-style legislation.

The CFIA had proposed via the internet only a 60-day consultation last November on the changes. It was rumoured that legislation would be introduced by the end of 2004, even before the consultation was finished. The NFU was able to push the consultation period to March of 2005, and we are told the legislation is now not on the horizon.

We therefore have had some success. We held numerous meetings across the country on this issue, educating farmers and the public on what this would mean and have collected over 35,000 signatures on our petition. We attended provincial Seed Growers Association meetings and made our case.

The public awareness that now exists was done through alternative networks, church groups, on the internet and on some mainstream farm print media. However, so-called general consumption papers have only touched on this issue. Other farm organizations have not been particularly helpful, including the Canadian Federation of Agriculture.

In spite of our public meetings and efforts, we have not seen a surge in NFU memberships. While we have had some memberships, I think we have good will in the countryside like never before, and we could pick up many memberships with some canvassing.

The CFIA consultation process received over 1000 letters as well as internet responses. They have not compiled the results as of yet, but intend to filter this through the Plant Breeders Rights Committee, which has been largely inactive for ten years. Originally, this was to be part of the Seed

of the Seed Sector Review process. We pushed them back from that and have had their office removed from the Ag Canada buildings in Ottawa. The old Seed Sector Review participants have renamed themselves the National Forum on Seeds, and as stated earlier, are no longer dealing with PBR issues. We tried to delay their process as long as possible, and did have success there. We requested a spot on the PBR committee I mentioned earlier, so I expect the real dirty work will be done there. We have thus far been rejected.

We have confirmed we will participate at meetings of the National Forum on Seeds, for information purposes only, so that we can let the public know what they are up to.

One year ago last May; the NFU was the only group talking about the Seed Sector Review, and what it meant. This is still the case but other groups did not know it even existed. Without our campaign the PBR changes would have flowed seamlessly through Parliament and the bureaucracy. We should be proud of our success. However, we all know it is likely temporary and that this monster will return again and again. There are also many other aspects to this problem. There are a number of biological methods to accomplish what legislation may not. These are known as Genetic Use Restriction Technology (GURTS) or "Terminator Technology." These "suicide seeds" are an affront to nature but would accomplish what the seed companies want – total control over the seed supply, forcing farmers to buy seeds at their price and on their terms. With PBR legislation, GURTS, and commercial contracts, we would become serfs again by every definition. We only need to look at the restrictions of TUA contracts and the price of canola seed to see what is in store. No seed saving and paying \$350 per bushel for seed that the farmer receives \$6.25 for. This is being capped slightly by farmers still having access to conventional varieties and being able to re-use

(continued on page 14...)

(Seed Saver Update, from page 13)

their seed. What will happen when that is lost? I really don't think a doubling or tripling of the seed costs for canola from today's highest levels would be unlikely. This is simply a tool of economic extraction to suck up the equity that generations of farmers have built up.

Back to GURTS. In February, the Canadian Government delegation went to a technical meeting on the Convention on Biological Diversity in Bangkok. They went there with the express purpose of destroying the de-facto moratorium on terminator technology. This was under the auspices of the Department of Environment. The NFU found out about this and embarrassed them at the 11th hour and caused them to back off a little. The moratorium held, but weakly. Canada states we have to test this affront to nature and humanity to make sound science based decisions. The NFU is now part of an organizing committee to stop terminator technologies. What are our next steps? Well, we intend to keep pressure on all fronts and use our petitions to back farmers' seed legislation proposals to keep the issue alive. We will participate in the coalitions against terminator domestically and internationally. We are calling into question the focus of agricultural research in Canada and how it is financed. We need to watch the Canadian Grain Commission and what they are trying to do to end KVD grading methods. We will keep talking about this because if we rest, the legislation will be passed and the last stage of the total corporate dominance of farmers will be completed.

This is an issue which people understand and they all know the kind of food they eat and who, and how it is grown is at stake. I think the immorality of Terminator is immediately understood by everyone. We have all of these things on our side. Farmers need to understand they can say "No" to these things and that it is as simple as saying "No" and cooperating with sane people that they don't have to become serfs again. You can sign a contract to eliminate your human rights and become a slave. Why would we sign a contract to eliminate our farmers' right to seed? — nfu —

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Canada far behind on Kyoto commitments

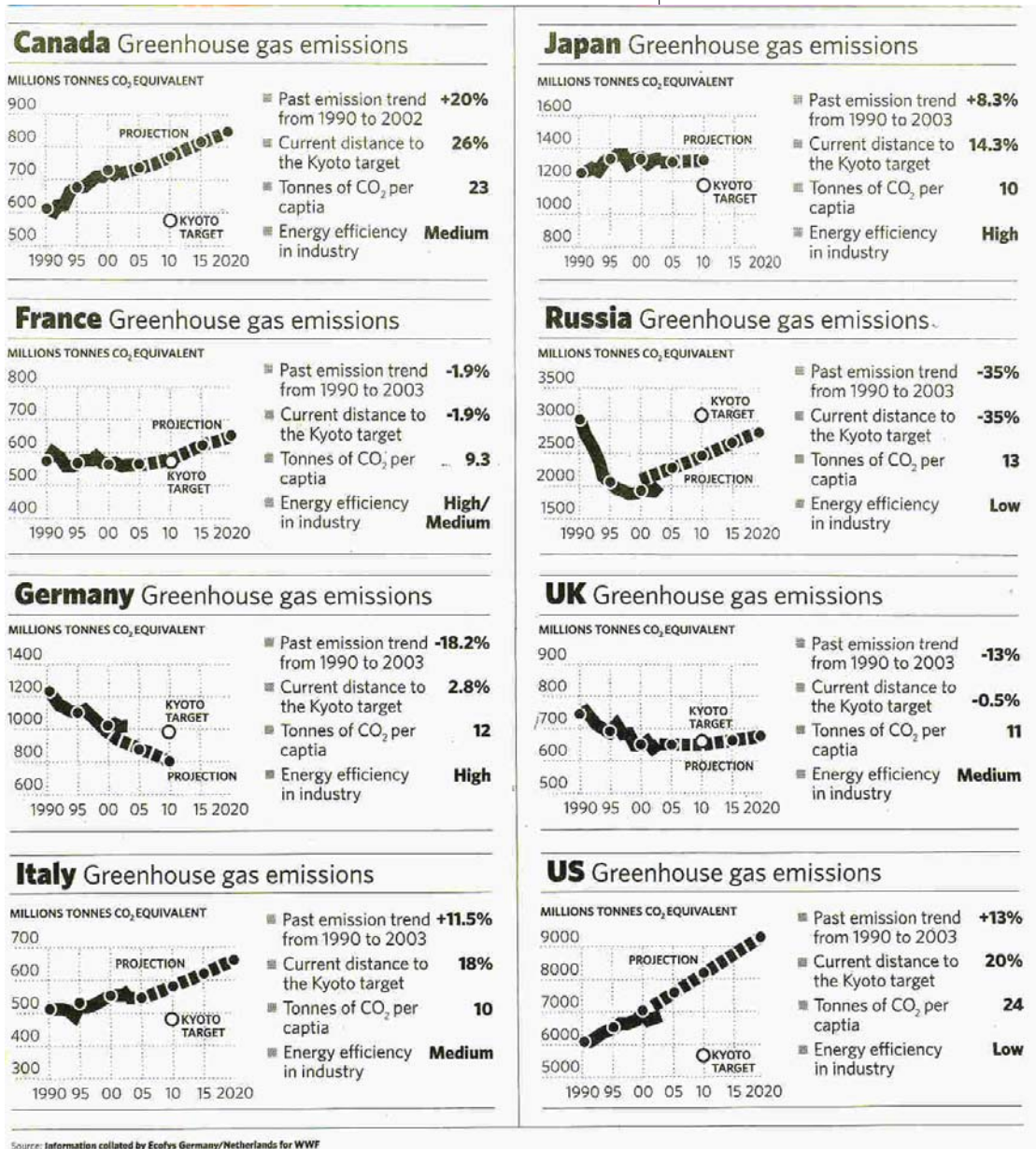
Given talk about Peak Oil (see cover story) and climate change, it's hard to say which is the bigger threat: that we'll run out of oil, or that we won't. For now, at least, climate change seems the larger problem. Of the 20 hottest years in the last 150, 19 have occurred since 1980. Atmospheric CO₂ concentrations are up 17% since 1958.

The recent G8 meeting at Gleneagles, Scotland focused on Africa and climate change. So how is Canada doing in its efforts to slow climate change?

The following graphs are reproduced from the UK newspaper *The Independent* (July 5, 2005). The graphs show that Canada, of all the G8 countries, is farthest from its Kyoto Agreement commitments.

Canada is currently 26% above its Kyoto target, the US is 20% above, and countries such as Germany, France, and the UK are at or below their target.

Even more troubling, Canadian CO₂ emissions are predicted to continue rising steadily. — nfu —



The G8?

"G8" is shorthand for "the Group of eight of the world's leading industrialized, democratic nations." The G8 includes France, Germany, Italy, Japan, the United Kingdom, the United States, Canada, and Russia.

Source: Information collated by Ecofys Germany/Netherlands for WWF

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Farms: bigger isn't better

“[Small and medium sized farms are just as efficient as the large ones. ... Total factor productivity [another name for “efficiency”] does not increase as farm size grows.” These are the findings of a recent study by the Centre for Agriculture Policy and Trade Studies at North Dakota State University. The study was prepared by Kranti Mulik, Richard Taylor, and Won Koo.

The graph below is reproduced from that study. It shows several things including:

1. The smallest farms—those about 600 acres and smaller—had the highest efficiency or “Total Factor Productivity”; and
2. Overall, efficiency did not increase as size increased—with Total Factor Productivity staying near 1.3 across a very broad range of farm sizes.

The NFU’s November, 2003 report *The Farm Crisis, Bigger Farms, and the Myths of Competition and Efficiency* came to a similar conclusion: the move to larger farms is increasing the use of energy, water, pesticides, and capital; the only “input” that is being minimized as we move to larger farms is the use of farmers.

— nfu —

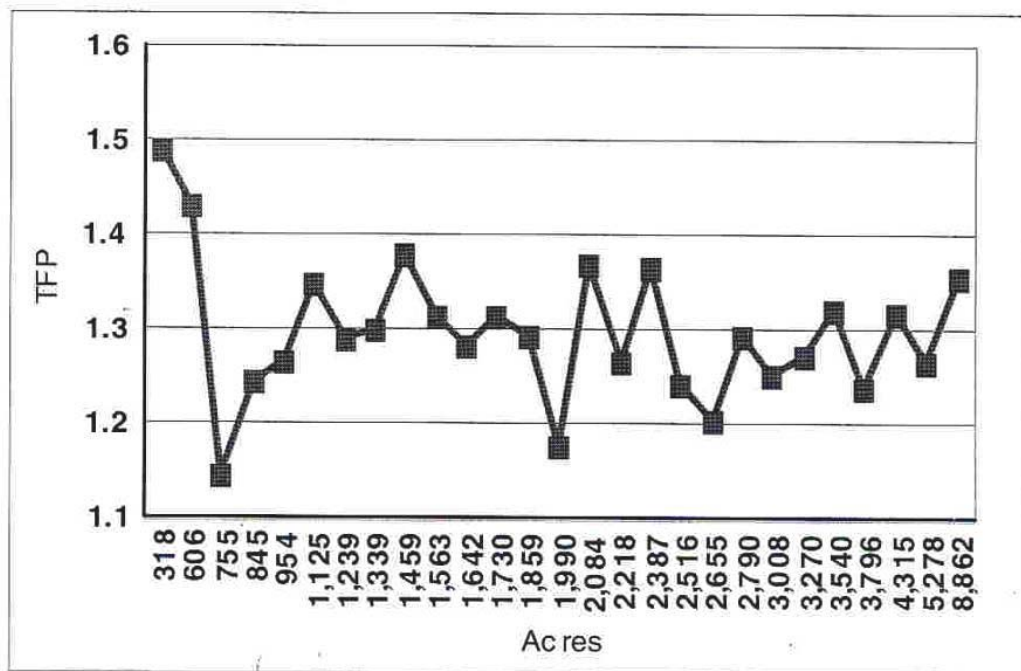


Figure 1. Total Factor Profitability for North Dakota Farms in 2003