



# THE RAM'S HORN

A MONTHLY NEWSLETTER OF FOOD SYSTEM ANALYSIS

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## Food & Population

The spectre of 1.2 billion hungry people – and not all in Africa – haunts policy-makers, particularly in the rich countries. Who will feed them? Perhaps there are just too many of ‘them’?

The biotech industry – primarily Monsanto and now Syngenta – responds with the loudest voice, greatly augmented by the Gates-Rockefeller-Bufferet conglomerate, appearing in Africa as AGRA, ‘A new Green Revolution for Africa’. The synthetic fertilizer industry is a close second. Their solution: science, technology and ‘the market’; and they have been loudly promoting it at the recent summits on food and climate change.

The major obstacle to their salvific program is the people who are actually producing food for themselves and their neighbours, since technological industrialization uses the smallest possible workforce. Small and subsistence farmers must be gotten rid of, migrated to the cities where they are supposed to find employment and buy their food. This scenario is a cruel joke. If our global industrial food system is so efficient and productive, why are there more and more people going hungry, even in the USA and Canada?

“49 million people in the USA struggled to get enough to eat in 2008, a huge increase from the year before when 36.2 million had trouble getting enough to eat.”<sup>1</sup>

The latest Canadian Community Health Survey indicated that 9.2% of Canadian households experienced income-related problems of insecure and limited food access in 2004. This means that food insecurity affected an estimated 2.7 million Canadians in the ten provinces. Much higher prevalence rates have been documented in the territories, among on-reserve aboriginals, and

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among homeless people – groups not included in the CCHS survey. Thus the total number of Canadians affected by food insecurity must approach, if not exceed, 3 million out of a population of 33.5 million.

Dr. Valerie Tarasuk at the University of Toronto adds that the estimated prevalence of household food insecurity in Canada is many times larger than the number of Canadians using food banks, as reported in Food Banks Canada's annual ‘HungerCount’ (which reported that about 800,000 Canadians used food banks in March, 2009, 11% of whom were identified as rural Canadians.) Canadian population surveys indicate that only 20-30% of people experiencing income-related food access problems report seeking charitable food assistance.

A 1997 report of the World Bank Panel on Bioengineering of Crops states that “more than 1 billion people do not get enough to eat”. It adds, “had the world's food supply been distributed evenly in 1994, it

...continued next page



would have provided an adequate diet of about 2350 calories a day per person for 6.4 billion people, more than the actual population.”

Total energy in the food systems of OECD states is approximately 4 Kilocalories (Kcal) invested to supply 1 Kcal of food, while in the global South the ratio is approximately 1 Kcal to supply 1 Kcal of food.<sup>2</sup> And much of this goes to waste: in Canada, 802 calories of the 3950 calories available daily in 2002 were wasted.<sup>3</sup>

In reality, 85% of the world’s cultivated food is grown and consumed locally, and not less than 70% of the South’s food supply is the work of peasants.<sup>4</sup>

–Notes: 1. *G&M* 17 / 11 / 09; 2. *Marion Nestle*; 3. *ETC Group*; 4. *Uwe Hoering, Who Feeds the World?, Church Development Service* 5 / 08

*So are there too many of ‘them’?*

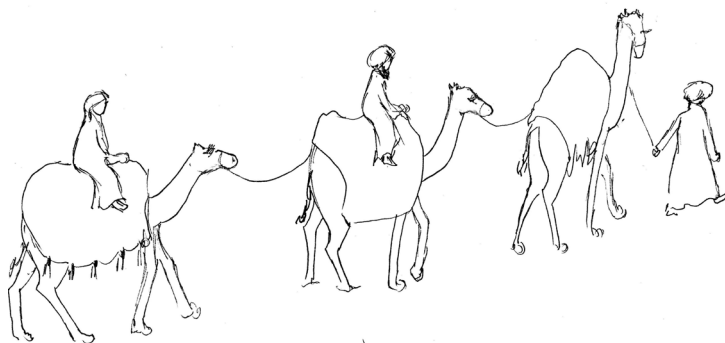
In 1954 Brewster wrote a term paper for an economic development course at Cornell University on population and development. His findings:

- mature, industrialized societies experience reductions in birth rate and population growth
- the destitute have more children, to care for them in old age and to make up for early deaths.

This is truer than ever today. In the 1970s the global fertility rate was 5-6 per woman. By 2004 it had dropped to 2.9. In some highly developed industrial societies (and Russia) it is now below the replacement rate of 2.1. The exceptions are Africa and the Middle East.

We must also recognize that subsistence societies and indigenous peoples that have been left alone, or resisted colonization, maintain a balance with their environment, as Henry Lickers pointed out in our last issue. If they overpopulate they are likely to starve.

These facts have not lessened the appeal of population as a cause of hunger. In 1952 John D. Rockefeller III established the Population Council, and by the end of the 1960s population control had



become pivotal to development strategies, including those of the World Bank. During the same period the Ford and Rockefeller Foundations undertook sponsorship of the Green Revolution, starting with the establishment of IRRI, the International Rice Research Institute. For six decades now the ideological program of science and technology laid down by the Rockefeller Foundation has dominated the development of industrial agriculture world-wide.

“In 1951 Rockefeller wrote in *Foreign Affairs* that the biggest problem . . . was the problem of ‘underdevelopment’. Unless the United States could solve the problem of underdevelopment in certain nations, and, specifically, could help them to increase their food production, they could not, said Rockefeller, become trading partners for the free world.”

“The identification of health and agriculture occurred in conjunction with a belief in the universal applicability of science and technology. It was firmly believed that the only effective solutions to problems would emerge in the form of new technology produced by research and that the application of new technology would head off the direct structural transformations advocated by the communists. If there was not enough existing knowledge available to deal with a problem, such knowledge could be paid for by the foundation and produced by the scientists. More and more the RF was coming to the conclusion that in public health and agriculture the knowledge relevant to solutions of a problem could be embodied in the technologies, for example, new forms of malaria control chemicals or new higher yielding food plants and changed modes of production in agriculture. There was an attempt to define problems to suit this concept of solutions.”

“...there was the perception that eventually new technologies could be applied to the solution of the problem of insufficient food production with little reference to the less tractable problem of food maldistribution or the thorny issue of land reform.”



“The interests of the RF and FF were ultimately formed by the goals of investment and market expansion, military and strategic primacy, political stability, and the free flow of goods and information between the capitalist centre and the periphery.”

– *Anderson, Robert S., Edwin Levy & Barrie Morrison, Rice Science and Development Politics: IRRI’s Strategies and Asian Diversity 1950-1980 Clarendon Press Oxford, 1991*

This approach continues, with increased emphasis on technology as the solution (and peasants as the problem), in the work of the Gates Foundation. The Gates initiated their

agricultural development program with \$150 million in 2006 and by this past October the total was \$1.4 billion. About a third of the foundation's agricultural development grants have been invested in science and technology, with almost 30% of the 2008 grants promoting and developing seed biotechnologies.

A new round of grants was announced in mid-October, among them a grant to the Alliance for a Green Revolution in Africa "to develop a strong policy support system in Africa" to improve "farmer productivity, market and trade policies . . . to stimulate expanded markets for staple crops, and land and property rights policies." Grants were also made to "help national governments develop appropriate regulatory systems for biotechnology" and to "create a center in Africa that provides training, education, and technical support to African regulators to develop regulatory systems for biotechnology." There was also a statement that "AGRA's Soil Health Initiative builds on the 2006 African Fertilizer Summit" (this meeting was the occasion when the fertilizers majors agreed that it was time to push synthetic fertilizers sales in Africa).

The latest institution to be taken into the Bill and Melinda Gates Foundation 'family' is the Consultative Group on International Agricultural Research (CGIAR). The foundation, which currently has observer status, signalled its intention to take part in reforming the CGIAR system and increase its funding to the group at a CGIAR business meeting in mid-December. The Foundation has already allocated US\$400 million to several CGIAR centres for the years 2009–13.

"The end result of the reform ought to be a CGIAR system that can once again attract the 'best and the brightest' scientists to devote their careers to the cause of improving developing country agriculture," said Prabhu Pingali, head of agricultural policy and statistics at the Gates Foundation.

– *scidev.net*, 10/12/09

What this means is that research will continue to be from the top down, from 'experts' to peasant farmers, and that the research agenda will be set, not by the world's farmers and peasants, but by the old ideology of the Rockefeller Foundation and the Green Revolution, i.e. more industrial agriculture boosted by genetic engineering of seeds. In addition, the Gates Foundation will be in a position to have a say in the disposition of the huge seed stock originally given to CGIAR by the world's small-holder farmers.

## A very different approach to agriculture and population

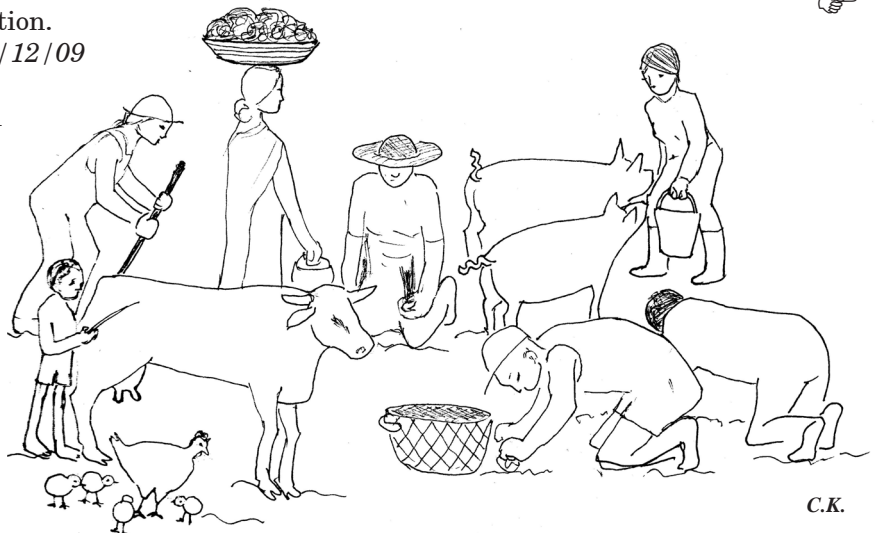
Fortunately there is now a very different, genuinely scientific approach to point to. The International Assessment of Agricultural (Knowledge) Science and Technology for Development (IAASTD) was initiated by the United Nations, the World Bank and the Global Environment Facility in 2005. Its final report, released in April, 2008, is the work of more than 400 scientists, civil society organizations and the private sector, including the biotech industry.

The assessment concluded that the practice of large-scale industrial monoculture agriculture is unsustainable and cannot provide food for the future. The biotech industry, in the form of Syngenta, withdrew before the final report was issued, saying biotechnology did not get proper recognition.

*IAASTD's key finding: "Business as usual is not an option."*

The IAASTD lays out a comprehensive set of social, environmental, and economic policy options to re-orient local and global food systems towards greater social equity and sustainability. In brief, these include

- Strengthening the small-scale farm sector;
- Rebalancing power in food systems through, for example, revitalising local and regional food systems and closer regulation of globalised food systems to ensure public good outcomes;
- Building local and national capacity in biodiverse, ecologically resilient farming to cope with increasing environmental stresses;



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- Mobilising public and private sector investments towards equitable and sustainable development (with concomitant strengthening of corporate accountability mechanisms); and
- Establishing supportive institutions (rules, norms, regulations, etc.) and new, transparent, democratically governed institutional arrangements to accomplish these goals.

Significantly, the IAASTD also highlighted the importance of developing and implementing cost accounting measures that include the full array of health, energy, and environmental costs – or in economic terms, the ‘externalities’. This ensures a more accurate reading of the true costs of food and agricultural industries.

*“For many years, agricultural science focused on delivering component technologies to increase farm-level productivity where the market and institutional arrangements put in place by the state were the primary drivers of the adoption of new technologies. The general model has been to continuously innovate, reduce farm gate prices and externalize costs. This model drove the phenomenal achievements of Agricultural Knowledge, Science and Technology in industrial countries after World War II and the spread of the Green Revolution beginning in the 1960s. But . . . business as usual is no longer an option.”*

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## Eliminating diversity – and competition

We’ve been publishing The Ram’s Horn for thirty years. When we started there were a raft of paper qualities and colours to choose from as low-cost stock items. Over the years we have observed, and experienced, the ceaseless elimination of paper companies and paper choices as the industry has consolidated. It’s now a matter of about 6 colours in one line of inexpensive papers, and a few more as you move up-scale. The paper this issue is printed on is one cut above the bottom. We figure its quality and attractiveness is worth the extra cost. Besides, with all the bad news we report, at least we can try to make handling the paper copy of the newsletter a pleasure.

### As in paper, so with seeds

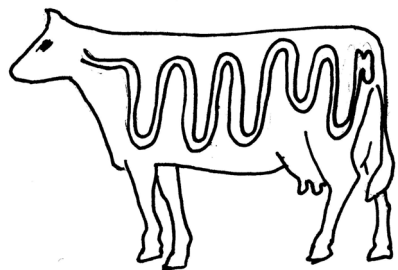
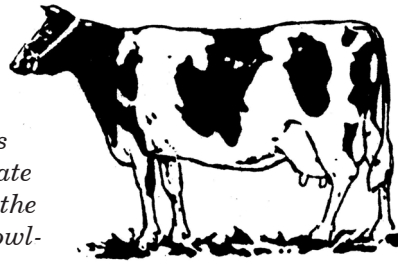
Dow AgroSciences has purchased Hyland Seeds from Thompsons Ltd. Thompsons is eastern Canada’s largest grain handler and its Hyland division has the largest privately-owned multi-crop breeding program

in Canada, specializing in hybrid corn, soybeans, edible beans and cereal grains for northern climates. Dow says it wants to expand its seed business ahead of introducing its GE SmartStax corn next year and is interested in Hyland’s cool-climate seeds.

### And dairy

In late 2008, Saputo bought the Nielson Dairy division of George Weston Ltd for \$465 million. The deal included Nielson’s milk products, dairy beverages, cream products and butter, yogurt and juices. “These guys continue to do an outstanding job in driving inefficiencies out of the business and . . . driving higher levels of profit out of these acquisitions,” said one industry analyst.

– WP, 12/11/09



FROM COW TO COMPONENT

Now Kraft Canada, Parmalat Canada and Saputo have jointly filed an Application in the Federal Court of Canada challenging regulatory changes to the Food and Drugs Act and the Canadian Agricultural Products Act that change the way cheeses sold in Canada must be made. The regulations will require cheese makers to strictly limit the use of natural constituents of milk, frequently referred to as modified milk, or milk ingredients, instead of whole milk. The dairy processors charge that the new regulations will hurt both cheese makers by reducing profits, and dairy farmers, by reducing cheese consumption due to higher prices. One could suggest that the dairy processors might be able to accept a lower profit rate as an alternative to raising cheese prices ....

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## Ecological Absurdity

Ontario already exports hay to the Middle East, but bans on using water to irrigate forage crops have increased the region’s demand for hay. Ontario Forage Council’s manager plans to join a fact-finding mission exploring the feasibility of shipping Canadian hay to the Middle East. The mission will travel to Saudi Arabia and the United Arab Emirates. The US market for Ontario hay is shrinking due to economic conditions.

– Better Farming, 9/12/09

# Climate Change

Climate change (global warming) and water are among the major issues we must address, the Harper government's shameful position notwithstanding. So is biodiversity loss. Genetically uniform intensively-raised livestock are highly vulnerable to disease and climate change. Seeds that are bred to be "distinct, uniform and stable" are equally vulnerable. "To protect those who have been bred weak, we are culling those who have been bred hardy – rendering the genetic traits of the hardy extinct." Could we not also apply this to humans? The continuing move to eliminate small diversified farms, subsistence agriculture and hunter-gatherer cultures amounts to the elimination of the people who have to be strong to survive, while coddling the weak in an environment of supermarkets and automobiles. This is not wise policy.

Among those bred weak are the parasites that thrive on the excesses of industrial agriculture. In the world of business these are called 'investors.' As GRAIN put it, "towards July 2008, as the financial crisis grew deeper, we noticed that alongside the 'food security land grabbers' there was a whole other group of investors trying to get hold of farmland in the South: hedge funds, private equity groups, investment banks and the like. They were not concerned about food security. They simply figured that there was money to be made in farming because the world population is growing, food prices are bound to stay high over time, and farmland can be had for cheap. With a little bit of technology and management skills thrown into these farm acquisitions, they get portfolio diversification, a hedge against inflation and guaranteed returns – both from the harvests and the land itself." – *GRAIN*, 16/11/09

According to our calculations, the expansion of the industrial food system is the leading cause of climate change. Through its reliance on fossil fuels, massive exports, market concentration, erosion of soils and expansion of plantations, it generates 44-57% of the total global green house gas (GHG) emissions. This industrial food system is also completely incapable of assuring people's food and livelihood needs as the world moves further into climate change. Already it has left a billion people without enough food to eat, and hundreds of millions more people will go hungry in the coming years if the food system is not reorganised. The most devastating consequence of this industrial food system, however, is that it is destroying other food systems that can turn climate change around and provide for the world's food needs.

– [www.grain.org/o/?id=97](http://www.grain.org/o/?id=97)

Only those who, in the economists' jargon, have the income to translate their biological needs into 'effective demand' get to eat – along with their pets.

In their new book: *Time to Eat the Dog: The real guide to sustainable living*, Robert and Brenda Vale of Wellington, New Zealand, compare the ecological footprints of a menagerie of popular pets with those of various other lifestyle choices. The Vales used a 4.6-litre Toyota Land Cruiser in their comparison. The Land Cruiser's eco-footprint is about 0.41 hectares – less than half that of a medium-sized dog.

John Barrett at the Stockholm Environment Institute in York, UK, calculated eco-pawprints based on his own data, and his figures tallied almost exactly. Doing similar calculations for a variety of pets and their foods, the Vales found that cats have an eco-footprint of about 0.15 hectares (slightly less than a Volkswagen Golf).



GLOBAL WARMING PROTEST: A MOB OF SNOWMEN

## Angry Mermaid Award

The winner of the 2009 Angry Mermaid Award at the UN climate talks in Copenhagen on December 15 was the biotech giant Monsanto with 37% of the total vote. Monsanto was nominated for lobbying for carbon credits for their RoundupReady crops. Oil giant Shell took second place (18%) in the Award for lobbying to sabotage effective action on climate change, followed by the American Petroleum Institute (14%).

Ten thousand people voted in the Angry Mermaid Award, named after the iconic Copenhagen mermaid who is angry about corporate lobbying on climate change.

Monsanto was nominated for promoting its genetically modified (GM) crops as a solution to climate change and pushing for its crops to be used as biofuels. The expansion of GM soy in Latin America is contributing to major deforestation and greenhouse gas emissions.



The Round Table on Responsible Soy, of which Monsanto is a member, is helping to promote the company's cause by allowing GM soy to be labelled as "responsible". Monsanto also wants GM soy to be funded under the Clean Development Mechanism which would allow polluting industries in the developed world to offset their emissions by buying credits from GM soy projects in Brazil, Argentina and Paraguay.

Monsanto CEO Hugh Grant has promised to double the company's 2007 gross profit in five years, with the key to meeting that goal being the company's seed

business. Farmers worldwide are expected to make their contribution to Monsanto's profits by paying much higher prices for seed.

Monsanto increased some corn seed prices last year by 25%, with an additional 7% hike planned for corn seeds in 2010. Monsanto brand soybean seeds climbed 28% last year and will be flat or up 6% in 2010, said a company spokeswoman.

### GM Seeds: The real costs

In the 25 years from 1975 to 2000, non-GM soybean seed prices rose a modest 63%. Since 2000, as GM soybeans came to dominate the market, the price rose by a massive 230%.

Farmers buying Monsanto's new Roundup Ready 2 soybean seed in 2010 will pay 42% more per bag than they paid in 2009.

Maize (corn) growers planting the new GM variety 'SmartStax', will pay more than twice as much as farmers planting conventional non-GM seeds. This is almost four times more than conventional farmers paid just ten years earlier.

From 1975 to 1996, the price of cotton seed only doubled, but in the GM cotton era, it has risen from \$73 to \$589.

In a recent speech Monsanto CEO Hugh Grant said the company's goal was to double gross profits in 2012, from 2007 levels. He said that increases in the price of new GM RR 2 soybeans and GM 'SmartStax' maize hybrids will create about one-third of the company's gross profit growth in 2012.

The huge increases in GM seed prices only make economic sense if farmers are able to make big savings by reducing pesticide use, but recent research by The Organic Center found that GM crops are actually pushing pesticide use up at a rapidly accelerating pace. Farmers applied 318 million more pounds in weight of pesticides over the last 13 years as a result of planting GM seeds. In 2008, overall GM crops required over 26% more pounds of pesticides per acre than non-GM varieties.

—*The Magnitude and Impacts of the Biotech and Organic Seed Price Premium*, 12/09, by Charles Benbrook, [www.organic-centre.org](http://www.organic-centre.org)

### A Questionable Legacy

Monsanto chief of technology Rob Fraley first met Norman Borlaug (described as the 'father of the green revolution') 20 years ago. "What we do builds on what he started," Fraley said of Borlaug, who died in September at the age of 95.

—*Reuters*, 10/11/09

Borlaug was also the founder of the International Service for the Acquisition of Agri-Biotech Applications (ISAAA), which has been directed for many years by Clive James. Figures on the production of biotech crops are almost always attributed to James, and his ISAAA, but what is virtually never stated is that ISAAA was founded to promote and track usage of biotech crops. How James gets his figures, and how accurate they are, is a subject of great dispute. Given the bias and selectivity of his figures, it would appear that James' primary source is Monsanto.

### Who's Who in Biotech Seed

**Monsanto:** posted record net sales of \$11.7 billion and net income of \$2.1 billion for fiscal 2009.

**Pioneer Hi-Bred:** subsidiary of DuPont; produces and markets hybrid seed in nearly 70 countries and is the closest rival to Monsanto for market share in US biotech corn seed market. Revenue totaled \$4 billion in 2008.

**Syngenta AG:** Switzerland-based company; operates in 90 countries and generated 2008 sales of \$11.6 billion.

**Dow AgroSciences:** subsidiary of Dow Chemical; global sales of \$4.5 billion.

**BASF:** based in Germany, increasingly focusing its health and nutrition division on plant biotechnology, working on a drought-tolerant corn seed. Agricultural division revenue totaled 3.4 billion euros in 2008.

**Bayer CropScience:** a unit of Bayer AG; operates in 120 countries with 2008 sales of 6.4 billion euros.

—*Reuters*, 10/11/09

## Fish in your garden

### *Growing food and growing power*

- Aquaculture is the symbiotic cultivation of plants and aquatic animals in a re-circulating system.
- Aquaponics is the method of growing crops and fish together in a re-circulating system.

Growing Power, in an economically-distressed neighbourhood in Milwaukee, Wisconsin, uses Tilapia and Yellow Perch to fertilize a variety of crops and herbs using aquaponics. The urban farm currently has three Tilapia systems and six Yellow Perch aquaponics systems in their greenhouses. Growing Power uses Tilapia and Yellow Perch because they are relatively easy to raise and because they can be sold to restaurants and market basket customers.

Growing Power was founded 16 years ago by Will Allen, the son of a sharecropper in South Carolina. In Europe, during a stint as a professional basketball player, Allen became intrigued by their “natural farming” and started growing vegetables and chickens on land provided by the team’s housing management. Moving back to the USA, he started farming land belonging to his wife’s family. In addition to vegetables in greenhouses, supported by compost and red wiggler worms, he also raised tilapia in three 55-gallon drums.

Allen points out that his efforts are not meant simply to keep people well fed. He sees Growing Power as a way to organize people whose voices are rarely heard and to fight racism. “I am a farmer first, and I love to grow food for people,” he says. “But it’s also about growing power.”

Over the years, Allen became interested in developing a system which integrated plants and fish.

The current experiment involves raising about 10,000 yellow perch fingerlings and plants together in a uniquely designed three-story recirculation system. This system consists of an 8,000-gallon tank on the bottom for the fish, a middle layer that contains a gravel filtration bed and watercress, and a top layer (about eight feet above the fish) for vegetable plants.

Using gravity as a transport, water is “drained” from the fish tank into a gravel bed above (watch the

video on their website to see how it works). Here, beneficial bacteria break down the toxic ammonia in fish waste to nitrite and then to nitrogen, a key nutrient for plant development. On the gravel bed, watercress is used as a secondary means of water filtration.

The filtered water is then pumped from the gravel bed to the growing beds, where a variety of crops from specialty salad greens to tomatoes are grown. The water is wicked up to the crops’ roots with the help of coir, a by-product of coconut shells and a sustainable replacement for peat moss.

Finally, the water flows from the growing beds back into the tank of fish. Growing Power uses this type of aquaponics system because it is easy to build and only needs a small pump and heat to get the system running.

A university collaborator points out that aquaculture traditionally takes place in rural settings requiring ponds, wells, and raceways. Urban aquaculture can cut transportation costs, create jobs, and take advantage of abandoned warehouses that are cheaper to convert to food production than to condos.

– *Growing Power project:*  
[www.growingpower.org/aquaponics.htm](http://www.growingpower.org/aquaponics.htm)



TILAPIA

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## Big Sky and small farms

Big Sky, Saskatchewan’s largest pork producer, has filed for ‘creditor protection’ – i.e., the privilege of not paying its bills, though the term would suggest otherwise. What this really means is lining up those to whom they owe money according to priority, with the smallest suppliers, such as the farmers who grow feed crops for the hogs at the bottom. If there are any crumbs left after the money lenders (‘investors’) are paid off, the farmers may receive a token amount.

It seems that Big Sky Farms has been losing \$350,000 per week over the last 22 months. Big Sky has been buying feed wheat, barley and peas at the rate of \$30 million per year. Now Big Sky is waiting on details of the promised federal assistance program for hog producers (see **RH #266**). The government of Saskatchewan has invested \$29.6 million in the company since it was established in 1995, but Big Sky is run independently in spite of the province’s 64% ownership.

– *WP, 19/11/09*



Florian Possberg, and his partners (unnamed) formed Big Sky in 1995. While Possberg says Big Sky owes him \$500,000, the company also owes \$14.7 million to unsecured creditors, including farmers, truckers, rural municipalities and other suppliers.

Possberg partially blames federal subsidy programs for the failures, saying that the programs favoured smaller producers. "In good times it's an efficient way to run a business," said Possberg.

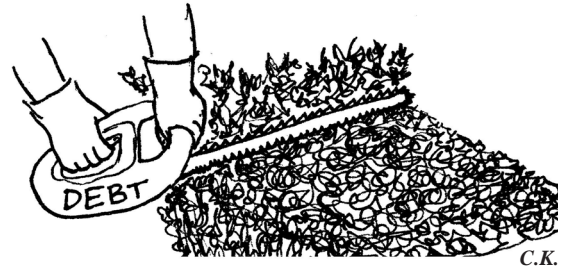
- WP, 26/11/09

It is therefore with no small amusement that we saw, two weeks after the article cited above, a Western Producer headline, "Mixed family hog farms may see rebirth". The article says that family farms are diversified and have a "commitment to survive in farming". "Unlike the specialized investor-based hog networks, family farms are hedged across a number of commodities and willing to hunker down for the long term."

The author of the article, Ed White, is unfortunately not yet free of the investor language and concept of 'hedging' that has nothing to do with farming and everything to do with speculation.

"Specialized investor-based hog networks" refers, of course, to Big Sky, Puratone and Stomp, that were never farms at all but industrial enterprises, run for the benefit of the investors that were in for a quick and high

return on their investment. This is precisely what will kill industrial ag – and none too soon.



FAMILY FARMS ARE HEDGED

## Tory spending makes priorities clear

According to a departmental report to Parliament, Agriculture and Agri-food Canada spent \$2.58 billion in the year ending March 31, 2009, compared to \$3.4 billion the year before. The number of employees fell by 320 in the same period. The CFIA budget dropped \$35 million to \$645 million, in spite of a claimed increase of 195 inspectors following the listeria outbreak emanating from Maple Leaf Foods.

Spending on environmental programs fell more than 25% to \$331.6 million with a cut of 95 staff positions. Spending increased for international market promotion and 'innovation and renewal', with the latter increasing 45% to \$677 million. - WP, 19/11/09

## THE RAM'S HORN

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