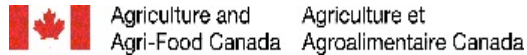




PEI ADAPT Council Agri-Newsletter



Vol. VIII; No. 6;

May 28, 2009

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Maritime Study Measures Nutrient Movement on and off Farm

Susannah Banks wants to take the subject of nutrients on the farm beyond the usual focus on soil and plant health.

The general manager of the New Brunswick Soil and Crop Improvement Association wants to see detailed measurements of the amount of nitrogen, phosphorus and potassium that enters Maritime farms and the amount that leaves them.

Banks is the driving force behind a two-year project beginning in April to track nutrient movement in the Maritimes.

The project is being funded by the New Brunswick Agricultural Council and the P.E.I. ADAPT Council through Agriculture and Agri-Food Canada's Advancing Canadian Agriculture and Agri-Food program.

A graduate student from the Nova Scotia Agricultural College is monitoring two dairy farms, measuring nutrient rates in everything from bedding and feed to the milk that is shipped off the farm.

"The further apart those incoming and outgoing numbers are, the worse the problem of nutrient loss

is," Banks said. "We have to determine exactly where the loss is occurring."

Farmers in New Brunswick and P.E.I. will participate in the study by collecting data for the researchers.

The approximate nutrient values for common items like straw have already been obtained and will be used by the farmers in their calculations.

While similar studies have been conducted in the United States and Ontario, Banks says they do not take into account the production and soil conditions in the Maritimes.

Software currently on the market to make these kinds of calculations will be evaluated to see if it can be adapted to Maritime conditions.

“Producers can’t really take any action to correct a problem unless they can measure the full extent of what is taking place, and we are hoping this work will help give them a way to determine the nutrient deficit on their farms.”

Banks said Derek Lynch of the Organic Research Centre at Nova Scotia Agricultural College has done similar work with organic dairy producers in Ontario, in conjunction with the University of Guelph.

The Global Food Crisis: The End of Plenty

By Joel K. Bourne Jr; National Geographic (June 2009)

It is the simplest, most natural of acts, akin to breathing and walking upright. We sit down at the dinner table, pick up a fork, and take a juicy bite, oblivious to the double helping of global ramifications on our plate. Our beef comes from Iowa, fed by Nebraska corn. Our grapes come from Chile, our bananas from Honduras, our olive oil from Sicily, our apple juice—not from Washington State but all the way from China. Modern society has relieved us of the burden of growing, harvesting, even preparing our daily bread, in exchange for the burden of simply paying for it. Only when prices rise do we take notice. And the consequences of our inattention are profound.

For complete story see: <http://ngm.nationalgeographic.com/2009/06/cheap-food/bourne-text>

Growing Right: Small-scale Farming is an Answer, but Not the Solution

Peter André; Alternatives, 35:1 (2009). Condensed. For full story see:

<http://www.alternativesjournal.ca/articles/growing-right>

While 100-mile dieters provide a ray of hope, small-scale farmers the world over continue to face intense pressures, and many are still forced out of farming each year. In response, we need to think carefully about our aspirations for the 21st century food system.

From a sustainability perspective, what are the advantages and disadvantages of farming and food distribution on a small scale? And what policy measures or distribution models need to be in place to ensure that any advantages of small-scale food production systems are retained in light of the pressures on farms to grow and adapt?

First, let's consider the pressures. In the global South, many countries are now experiencing what Canada went through in the 1950s and 1960s. The growing popularity of supermarkets among consumers, and thus the ability of these chains to dictate what farmers grow and get paid, is squeezing small-scale producers.

When compared to large-scale monocultures, these operations have higher levels of on-farm biodiversity, which provides wildlife habitat and contributes to the diversity of agricultural seeds and animal breeds. Managed well, these farms tend to replenish aquifers. They are also more likely to be among the farms that act as carbon sinks, instead of being net greenhouse gas emitters.

Small operations that produce a number of goods have more diverse sources of income, thereby providing farmers with a form of insurance in the face of changing climate patterns and fluctuating markets. Finally, although not universally the case, small-scale producers are more likely to have closer connections with their customers, at a farmers' market, for example. These relationships build trust and networks of mutual aid, which are key components of community resilience.

It is for these and other benefits that small-scale farms were recently recognized by an unlikely source: The World Bank. In *International Assessment of Agricultural Knowledge, Science and Technology for Development*, a World-Bank-sponsored report that was endorsed by countries worldwide, with the notable exceptions of Canada, the US and Australia, it identified the need to support small-scale operations. Given the World Bank's history of financing large-scale, export-oriented agriculture, let's hope that this report is a harbinger of a major turnaround in conventional development thinking.

As a corollary, we need to develop commercial opportunities that give preference to smallholders when this route represents the more sustainable option. With fair trade sales growing at over 50 per cent per year in Canada, a good example is provided by the Fairtrade Labelling Organizations International (FLO).

Second, we need to design distribution systems that allow farms to achieve some of the benefits of growth without sacrificing other sustainability gains. The UK's food-box schemes, which are scaled-up from the CSA model, offer a possibility. One of the UK's largest food-box operations, Riverford Organics, puts a semi-truck on the road every 45 minutes, delivering fruits and vegetables directly to 100,000 customers in regional hubs. Eighty per cent of the produce comes from small- and mid-sized farms, with the remainder comprised of imported fruit during the off-season.

Along these same lines, we need to reaffirm our commitment to policies that allow mid-sized farms to remain viable, despite the challenges they may pose for their smaller cousins. Consider Canada's provincial milk marketing pools. These structures are legitimately criticized as barriers to entry for small producers, because of the high cost of "quota" (the right to sell milk into the pool). However, these systems pay farmers in relation to their costs of production without relying on direct government subsidies. The result is reasonable farm sizes - from an ecological and social perspective - and regionalized production and distribution.

Delve deeper into the discussion of small- versus medium-scale agriculture with facts and statistics from the Worldwatch Institute, Transfair Canada, the Food and Agriculture Organization (FAO), as well as full references at www.alternativesjournal.ca/35-1/toc.

SPIN Farming and Soup Service Are Yielding Profits

Elaine Morin; Alternatives Magazine, 35:1 (2009); www.alternativesjournal.ca.

What happens when food production moves to the city and downsizes in the process? Wally Satzewich and Gail Vandersteen of Wally's Urban Market Garden, a Saskatoon farming operation, are showing that some 30 backyard plots totaling less than half a hectare can be as profitable as, and more ecologically sustainable than, their old eight-hectare agribusiness in rural Saskatchewan. The program they've developed, Small Plot Intensive or SPIN farming, aims to maximize crop yields of smaller gardens. "The key," Satzewich says, "is to produce high-quality niche crops." The enterprising duo grows garlic, spinach, salad greens and other produce, which they sell at city markets and to local restaurants. Reduced transportation costs and less food spoilage help boost profits, as does their low overhead since they have no tractor or paid work crews. Another advantage of co-opting backyard gardens is that many urban homeowners don't have time to till, and will often rent their backyards for little or no fee.

"One acre [less than half a hectare] is about the right size for one couple to farm," says Satzewich, who has no plans to expand. "You can always intensify production, if necessary."

With the majority of Canadians living in cities, urban agriculture makes sense. Shrinking the distance between food production and markets means fewer trucks on the road and thus fewer carbon emissions. At a time when most food travels vast distances to get to the table, local food production can drastically cut the need for processing, packaging, refrigeration and hauling. And local, just-produced food can be fresher too, an important benefit. Market gardens scattered throughout the inner-city, on abandoned lots for instance, can improve air quality and help offset urban heat buildup. Captured rain and wastewater, if deemed safe, can be used in place of treated municipal water, and organic solid waste can be composted to fertilize crops. And then there's the issue of food security. More local agriculture reduces dependence on uncertain global food and fuel supplies.

Small-scale farming has its challenges. Urban gardens compete with municipalities for freshwater supplies. Rain and wastewater can help, but must be free of toxins. Abandoned lots must also be cleared of contamination before food crops are grown. And uncertain tenure on abandoned lots and borrowed backyards makes long-term projects a challenge. Satzewich's and Vandersteen's success comes from competence, dedication and hard work, but what they produce is a drop in the bucket beside the capacity of massive agribusiness. Still, city gardens have a long precedent and small plots are plentiful. Toronto's Annex Organics, for instance, uses a warehouse roof for its garden.

A commercial market garden within Calgary would be a boon to Carmie Nearing's business. A professional chef and owner of Spoon Fed Soup Company, Nearing uses local organic ingredients as often as possible, but with growing demand for her soups, it's not always easy to find suppliers. In the last five years her company has burgeoned from a tiny home operation to a viable, thriving business. "At each step of the way, I've thought long and hard about how to expand," says Nearing. For instance, she's kept her original mandate to minimize the size of the area she services. She delivers her soup three times a week, up from once weekly, and only to inner-city Calgary addresses. And on one delivery day, soup will one day be shuttled to

downtown customers via cargo bicycle.

In the beginning, Nearing developed recipes in her inner-city home kitchen, peddling them to friends and neighbours. She then borrowed a catering company's kitchen, producing soups on weekends and delivering Mondays. Since then, she's moved to a brand new kitchen. As the scale of her operation has increased, Nearing has worked hard to uphold the same principles of sustainability. For instance, she still uses one-litre canning jars, and the \$1 deposit encourages a high rate of return. Though she's careful about expansion, Nearing expects to make her soups available at two local food markets.

Can local, small-scale food producers replace massive agribusinesses and factory-food manufacturers? For a generation habituated to fast-food joints and big-box supermarkets, and with little knowledge of gardening, it's hard to imagine. Yet the benefits of local food production are difficult to ignore. Interestingly, Satzewich and Vandersteen have been welcoming interns to their operation, some of them families with young children. Interns provide manual labour in exchange for learning the techniques of small-plot farming. Perhaps for the next generation, a major shift is on its way.

Elaine Morin is a Calgary-based freelance writer and recipient of the 2007 Brenda Strathern Writing Prize. She has been frequenting inner-city markets since she was four years old.

Start your own SPIN-farm! Check out www.spinfarming.com for do-it-yourself guidelines and examples of several SPIN cities and neighbourhoods. Visit www.cityfarmer.org and www.metrofarm.com to plug into urban agriculture communities from coast to coast. And if you live or work in Calgary, don't forget to visit www.spoonfedsoup.com to order a healthy and sustainable soup-lunch.

Good News from Iowa

By Verlyn Klinkenborg

The New York Times; February 10, 2009

<http://www.nytimes.com/2009/02/10/opinion/10tue4.html? r=2>

In 1952, there were 203,000 farms in Iowa, only 11,000 fewer than in 1926. By 2002, the number had dropped to about 90,000, with roughly the same acreage in production in a state with a population that had remained roughly the same. The national numbers followed the same track: fewer farms, bigger farms, less-diverse farms. To a lot of people, this looked like progress because the ideal of efficiency promulgated by the Department of Agriculture was bigger yields with fewer people.

This industrial notion of efficiency has always seemed terribly inefficient in other important ways: socially, culturally and environmentally. Too few people in a farming landscape means too little attention to the soil. It also means broken towns. The history of Iowa in the past 80 years has been the steady impoverishing of the rural landscape, a fact most easily grasped by the steadily dwindling number of farms.

So it comes as a pleasant surprise to find in the 2007 Census of Agriculture that the number of farms in Iowa has risen to 92,856, a level last seen in 1992. Some 4,000 new small farms have been created since 2002. These are very small farms, 9 acres or less, and they are producing a much wider array of crops than the rest of Iowa, which specializes in corn and soybeans. Most have very local markets, not Cargill and Archer Daniels Midland. And yet as new farms are being created, midsize farms go out of business. Consolidation at the highest level - big farms eating slightly smaller farms - continues.

These are interesting numbers - 4,000 Iowa farms under 9 acres and about 1,500 with 2,000 acres or more. Still more interesting is the age differential. The average age of the "principal operator" on a farm has crept upward to 56 years old. But those small farms are being run by young farmers.

In a very real sense, they are going back to an earlier model of farming in Iowa. The farms are more diverse, and so are the crops they grow. To me, this is where the new passion for local foods finds its real meaning, and the best news is that Iowa is not alone. Nationwide, there are some 300,000 new farms since 2002. And the farmers? More diverse than ever, including a higher number of women. This is a genuine source of hope for American agriculture.

Agriculture in Urban Planning: Generating Livelihoods and Food Security

Edited By Mark Redwood; A New Book by the IDRC and Eartscan.

This volume, by some of the world's leading experts on urban agriculture, examines concrete strategies to integrate city farming into the urban landscape. Drawing on original field work in cities across the rapidly urbanizing global south, the book examines the contribution of urban agriculture and city farming to livelihoods and food security. Case studies cover food production diversification for robust and secure food provision; the socio-economic and agronomic aspects of urban composting; urban agriculture as a viable livelihood strategy; strategies for integrating city farming into urban landscapes; and the complex social-ecological networks of urban agriculture. Other case studies look at public health aspects including the impact of pesticides, micro-biological risks, pollution and water contamination on food production and people. Ultimately the book calls on city farmers, politicians, environmentalists and regulatory bodies to work together to improve the long term sustainability of urban farming as a major, secure source of food and employment for urban populations.

Camarillo-area Greenhouses Produce 21st Century Crops

By Jerry Hirsch; Los Angeles Times; May 14, 2009; jerry.hirsch@latimes.com

On a coastal plain near Camarillo, the future of California farming is taking shape.

Rising out of verdant acres of strawberries and artichokes are two mammoth, high-tech greenhouses. Climate change is a serious threat to California's \$36-billion agricultural economy. The farming company behind this \$50-million complex sees it as insurance against perpetual drought, volatile fossil fuel prices and resilient pests.

The facility generates its own renewable power. It hoards rainwater. It hosts its own bumblebees for pollination. And it requires a fraction of the chemicals used in neighboring fields to coax plants to produce like champions. This fledgling movement to grow food crops in closed, sustainable environments could become as revolutionary to farming in the 21st century as California's development of massive farms was in the 20th, agriculture experts say.

"We are doing all of this not only because it will be good for our business but because it will be good for everyone else," said Casey Houweling, president of Houweling Nurseries, the Canadian farming company that is cultivating tomatoes at the facility, which will be fully operational in June. The son of a Dutch immigrant farmer, the 51-year-old Houweling has helped build his family's agricultural business into one of the largest greenhouse-based growers in North America. But the California facility is no ordinary hothouse.

On a recent afternoon, he was eager to show visitors clusters of plump, sweet tomatoes hanging overhead from vines that reach high into the rafters. This arrangement allows the farm's 450 permanent employees to climb ladders to pick the fruit instead of stooping. The plants, which are fed individually through tubing that looks like intravenous hospital equipment, produce 20 times more fruit per acre than in conventional field production.

Virtually nothing is wasted in this ecosystem. Workers have dug a four-acre pond to store rainwater and runoff. This water, along with condensation, is collected, filtered and recirculated back to each of the 20-acre greenhouses. That has cut water use to less than one-fifth of that required in conventional field cultivation. Fertilizer use has been reduced by half. There are no herbicides and almost no pesticides, and there is no dust.

Five-acres of photovoltaic solar cells supply much of the electricity to run pumps and climate controls. Thermal systems collect solar heat and warehouse refrigeration exhaust to warm the greenhouses on cool evenings. Together, the two systems generate 2.1 megawatts of electricity, enough to power 1,500 homes.

"We believe this is the first greenhouse in the world that is energy neutral," Houweling said.

Houweling envisions a day when greenhouses dot California's lush coastal plains, taking advantage of the abundant sunlight to grow thirsty crops such as lettuce and strawberries, using renewable energy to reduce their burden on the environment.

Until recently, that was a pipe dream. The cost of heating and cooling these structures was prohibitive for all but the highest-value specialty produce. The nation grows less than \$1 billion worth of greenhouse fruits and vegetables annually. But the rising expense of traditional farming is fast narrowing the cost gap. California farmers are coping with years of drought. They're also grappling with land degradation, an unstable migrant workforce and rising shipping costs.

"We are closer to parity than we have ever been," said Gene Giacomelli, a professor of agriculture and biosystems engineering at the University of Arizona in Tucson. Houweling's greenhouses are at the leading edge of the type of facilities farmers will increasingly rely on for production, Giacomelli said.