



THE RAM'S HORN

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Reclaim the Food System! *by Cathleen Kneen*

The theme for Food Secure Canada's National Assembly, held in Ottawa November 7-10th, was "Reclaiming Our Food System: A Call to Action". The implication was that the globalized food system is beyond the control of either producers or eaters; recognizing that it is also ecologically unsustainable and unjust, we need to get together to figure out how to take it back. This thinking echoes the principles behind the concept of "food sovereignty" developed by the global peasant movement La Via Campesina, that emphasize local control of both food production and markets, ecological sustainability, and respect for traditional knowledge and foodways. As the key organizer, I had hoped that we would find ways to articulate these principles in a Canadian context and to share stories of what people are doing in all corners of this country to reclaim their piece of the food system.

Of course, when you gather 300 people together with very different backgrounds from all over Canada and when you ensure that most of them are from the 'front lines' (farming, fishing, working in community food organizations in Canada and overseas, defending Indigenous territories and traditions), nothing turns out quite the way you planned. In the event, it became clear that reclaiming the food system requires a total transformation of the way we think about it.



INDIGENOUS PEOPLE ARE THE 'CANARY IN THE COAL MINE' OF CLIMATE CHANGE

In this regard, the keynote session on Friday night did indeed strike the key note. Olivier de Schutter, the UN Rapporteur on the Human Right to Food, addressing the topic The Food Crisis and Climate Change, pointed out that from his perspective of promoting human rights, climate change hits hardest on those who are already marginalized (and hungry). Clearly, business as usual is no longer an option; we cannot continue with a global food system which is dependent on shrinking supplies of fossil fuel, which

emits increasing amounts of 'greenhouse gases', and which fails to feed the world's population. Food sovereignty, he concluded, is the best strategy. In his response, René Segbenou from Mali, West Africa, commented that the first step in such a strategy is to move away from the place where we are now standing, in order to see from a different perspective. Colleen Ross, as a Canadian organic farmer, made this very concrete in terms of a local food production for the local community.

The human impact on the environment, including the effects of carbon emissions on the environment, hits Indigenous peoples hardest, as their traditional foods are contaminated or disappear altogether. In session after session at the Assembly, Indigenous leaders from BC, Yukon, Ontario, Nova Scotia, and Labrador repeated the same theme, describing powerfully the loss of their traditional foods, the caribou, the salmon, which have nourished their spirits and defined their communities. They drew tears and standing ovations from participants – and in the case of Henry Lickers from Akwasasne, laughter. In one of the most powerful presentations of the weekend, Henry addressed the plenary on Resilience as a storyteller, telling how as a teenager fresh off the Reserve he ran a lucrative trap-line (raccoons and skunks) in Toronto – and emphasizing the importance of respect for seeds and for women, the traditional seed-keepers. The call to action, Henry told us, is really a call to consciousness.

This approach was demonstrated from the first plenary session of the Assembly, where people working in programs to feed the hungry described what they are doing to respect and enhance the autonomy of the people who come to their programs and to treat them as citizens rather than clients – food sovereignty within the charitable sector. It was summed up by Nick Saul's description of a Community Food Centre as "burying

... continued next page

November 2008
260

the food bank within a web of participatory and non-stigmatizing food programs” to make the food bank a site for community engagement, health promotion, social and food justice advocacy. Basically, he said, they unlock the positive side of food, so even though they continue to provide food, it is no longer seen as a food bank, but as a place where people can engage – including engaging in advocacy for both decent incomes and housing and advocacy for a sustainable food system with a fair return to the farmer – which can be done by groups working together, it doesn’t all have to be only one agency. This was echoed by Jean-Paul Faniel, one of the many Québec participants (all the plenary sessions and 5 of the workshops had simultaneous translation) who emphasized the need to work in collaboration among organizations and across other borders as well.

Speaking in the third plenary session, on Living With Risk: Healthy and Safe Food, David Waltner-Toews said we have to think about food less as fuel for our bodies and more as the way in which we are intimate with our environment, so we have to ask our food, as we would ask a sexual partner, ‘who were you with before you came to me?’

My sense of the conference as I moved from session to session, and listened to the conversations in the hallways and over (local, organic) meals, was that people were indeed inspired to think differently and were excited and energised by the ideas and examples that were evident throughout the conference. To give just a few examples: to think of livestock as an integral part of the farm ecology; to think of land in terms of stewardship rather than ownership; to think with young people about the power of food. From the workshop on Agrofuels: “not to reduce energy consumption but to seek alternatives, we must work together and rethink the way we have become a consumer society”; from the workshop on Community Economic Development: “if you need grants to get started that’s not the way to make it happen – investment by the community is the most important step”.

Success is, of course, only 1% inspiration. The other 99% is plain hard work, and the Assembly gave plenty of evidence of that, not only in the stories of what is happening to reclaim, and transform, our food system but also in the 67 different policy and action proposals which were posted on the wall and the twelve Working Groups that were affirmed or established. For me the most exciting new initiative is the People’s Food Policy Project. This project will follow up on the Assembly, working to bring the concepts of food sovereignty into the Canadian context and find appropriate language to develop them here. The perspective of the project is that when we think in terms of food sovereignty we are able

to appropriate the authority – rather than to ask for the right – to do what needs to be done. Certainly part of that is to demand policy changes at every level of government; but another and critically important part is to change the political climate and context through citizen action.

As I write this, the media are obsessed with the global financial system, which is mimicking the meltdown of the polar ice, and the forces which are largely responsible for both crises are loudly trumpeting the solution as more of the same: more technology, more ‘free trade’. Meanwhile, however, the good news is that people across Canada – and around the world – are thoughtfully, respectfully, and stubbornly working to create a food system based on a very different vision.

– *More information at www.foodsecurecanada.org*

“Here’s a statistic that reveals something of the values of some western corporations and the societies in which they operate. Staff at the failed Lehman’s bank’s New York office were offered a \$2.5bn bonus by Barclays Capital which acquired the company’s American operation. Yet only \$2.2bn has been delivered to alleviate global poverty, says Jacques Diouf, director general Food and Agriculture Organisation.”

– *FoodNavigator, 20/10/08*

The Hunger Count

In the *Hunger Count 2008*, released in late November, Food Banks Canada reports that while the numbers of people using food banks has dropped slightly overall in Canada, this is accounted for by only two provinces, Alberta and Saskatchewan. In Saskatchewan, the reduction can be explained by the money paid at the end of 2007 to survivors of the notorious Residential Schools. The reparation payments, which amounted to about \$10,000 per person, are likely why fewer people in that region had recourse to food banks in the following months. In the rest of the country, however, the numbers have continued to rise. Food Banks Canada calls for strong anti-poverty measures from Federal and Provincial governments, and particularly support for housing for the poor and rural residents.

The Hunger Count also notes that aside from the hampers of food which are distributed by food banks, the numbers of meals served in organizations and agencies of all sorts has increased dramatically. One wonders whether this is because agencies do not want to replicate the work of the food banks or, more likely, that people are looking for a way to help feed their neighbours which feels more like community.

Corporate Moves

Saputo

Canada's largest cheese maker and third largest in the US, has bought the Neilson Dairy division of George Weston Ltd. for \$465 million. It has gained its dominant position through a series of take-overs and buy-outs. Saputo is already one of the three largest milk processors in Canada, with its Dairyland and Baxter brands. The purchase of Neilsons will give it a major presence in Ontario. The other two major processors are Parmalat and Agropur Cooperative. Saputo's major cheese labels in Canada are Saputo, Armstrong, Stella, Bari. Saputo is also a major player in the Argentine dairy industry.

Monsanto

is investing in sugar cane with a definitive agreement to acquire Aly Participacoes Ltda, for \$290 million. Aly operates the sugar cane breeding and technology companies CanaVialis SA and Alellyx SA, based in Brazil. Monsanto said the proposed acquisition from Brazil's Votorantim Novos Negocios Ltda. and its sister company, Votorantim Industrial S.A., would not add to earnings until the middle of the next decade.

Monsanto, the world's largest seed producer by revenue, aims to bring higher-yielding sugarcane seeds to market by 2016. "We view this as a significant opportunity over the longer term to supplement our ongoing commitment to corn as an ethanol feedstock, diversify our crop technology portfolio and provide innovations to such a vital crop as sugarcane," said Carl Casale of Monsanto.



MAMMOTH CHEESE AT THE CHICAGO WOR'D FAIR, 1893, FROM THE STORY OF ONTARIO CHEESE BY HEATHER MENZIES

—Dow Jones, 5/11/08

The government of Pakistan is considering Monsanto's offer to sell them its Bt cotton seed (Bollguard-II) in return for a seed subsidy of \$247 million annually, for the next ten years, according to a senior official in the Ministry of Food, Agriculture and Livestock. Cotton is cultivated on nearly 7.9 million acres.

—The News International, Pakistan, 23/10/08

Syngenta

The world's largest agrochemicals company Syngenta AG has bought SPS Argentina, a company specialised in development, production and marketing of soybean, corn and sunflower.

"The transaction will give Syngenta a significantly increased presence in the important soybean market in Argentina, complementing its existing strong positions in corn and sunflower," the company said.

—Reuters, 10/11/08

Syngenta has handed over its experimental farm in Paraná state, Brazil, to the state government, marking an end to violent conflict over the site. The government has promised to use the land for the production of native seeds for distribution to small holder farmers

and impoverished countries who have suffered devastation from hurricanes. The 127-hectare farm in Santa Tereza do Oeste was used by Syngenta to field test its genetically modified crops. Two men were killed after the landless workers movements MST and Via Campesina occupied the farm in protest on 21 October 2007. An illegal and violent eviction by 40 armed employees of NF Segurança, the private security company hired by Syngenta to protect the farm, led to the deaths of MST leader Valmir Motta de Oliveira (known as Keno) and security guard Fabio Ferreira.

—Amnesty International, 22/10/08

Big Beef

The US Department of Justice (DOJ) has filed a lawsuit to stop the country's third and fourth largest beef packers from merging. The DOJ said that JBS's acquisition of National Beef Packing would substantially restructure the beef packing industry, eliminating a competitively significant packer and placing more than 80 per cent of domestic fed cattle packing capacity in the hands of three firms: JBS, Tyson Foods and Cargill.

"The combination of JBS and National will likely lead to grocers, food service companies and ultimately American consumers paying higher prices for beef," said Thomas Barnett, Assistant Attorney General in charge of the Department's Antitrust Division. "It will also lessen the competition among packers in the purchase of cattle."

JBS, headquartered in Brazil, is in the process of acquiring Smithfield Beef Group from Smithfield Foods, a move that is not being challenged by the DOJ. In 2007, JBS purchased Colorado-based Swift Foods Company.



According to the DOJ, if not blocked, JBS's acquisition of National would make it the largest US beef packer, with an ability to slaughter more than 40,000 head of cattle per day (or more than one third of US fed cattle packing capacity) and annual sales of more than \$14bn. – *foodproductiondaily.com, 21/10/08*

For recent Cargill news, see *Cargill Profile at <www.ramshorn.ca>*

On the biotech front

Next time you hear the soothing words from the biotech pushers that they know what they are doing and everything is under control (theirs, of course) think "transposons." They are not a new discovery. Barbara McClintock took note of them in the late 1940s, but they did not fit into the dominant male ideology of reductionist biology at the time, and they don't fit the ideology of the biotech industry today. If what one is after control, transposons are simply facts that have to be ignored. So 58 years later we find the following in *New Scientist* magazine and are supposed to be surprised.

"Mobile DNA that can jump between plant and bacterial species once hopped between diverse mammalian species. These transposons, or "jumping genes", might even have caused mass mammal extinctions about 30 million years ago.

"Transposons are common in mammals, humans included, but are mostly thought of as parasitic DNA. Though they can relocate within an individual's genome they were not thought able to switch species. However, Cedric Feschotte at the University of Texas and his team say that millions of years ago, transposons called SPIN, dubbed "space invaders", jumped into several mammal species by piggybacking on a virus. By assimilating itself into its new hosts' sex chromosomes, SPIN got passed to future generations.

"The team found near-identical lengths of SPIN in seven of the 26 animal genomes that have been sequenced. These include species as varied as a bushbaby, a South American opossum, an African clawed frog and a tenrec, a hedgehog-like relative of elephants. SPIN's ability to jump into such diverse species is startling, say the team. "It's like a pandemic that can infect species that weren't genetically or geographically close. It's puzzling; scary almost," Feschotte says.

"The transposon bombarded the animals' genomes with so much DNA, he says, it may have played a part in ancient mammal extinctions usually attributed to climate change." – *New Scientist, 25/10/08*

A delightful and highly informative read can be had with Evelyn Fox Keller's biography of Barbara McClintock, *A Feeling for the Organism*, fortunately still in print and available at a reasonable price. Keller also provides a thorough critique of the 'science' that has produced genetic engineering. Near the end of the book she asks, "What enabled McClintock to see further and deeper into the mysteries of genetics than her colleagues? Her answer is simple. Over and over again, she tells us one must have the time to look, the patience to 'hear what the material has to say to you,' the openness 'to let it come to you.' Above all, one must have 'a feeling for the organism.'"

Quite a contrast to what is billed as 'sound science.' – *B.K.*



If it's GE, is it Ayurvedic?

Ayurveda sees a plant in its totality and not for one quality. However, scientists claim that GM herbs have enhanced medicinal properties and have genetically engineered Ayurvedic herbs such as Ashwagandha, Jivanti and Brahmi.

Scientists in Thiruvananthapuram, Kerala State, India, have created GM varieties of Brahmi and Kariyat, two herbs commonly used in Ayurveda, by introducing into their DNA clones of genes responsible for their beneficial properties. Doubling the benevolent genes leads to an increase in agents responsible for curative properties.

In another instance, scientists at the Kerala Agricultural University have created GM roots of Ashwagandha and Jivanti by introducing a gene from a bacteria that causes the roots to grow profusely. This enables it to produce more of the medicinally important compounds. "For the moment, these transgenic herbs are aimed at the allopathic pharma industry that uses plant extracts rather than using them as a whole, like in Ayurveda," clarifies M.G. Purushothama, who worked on Brahmi and Kariyat.

So, can Ayurveda use genetically engineered crops? Responds S.K. Sharma, advisor at the department of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy in Delhi, "Scientists may pursue R&D on

herbal plants but officially GM is not permitted in Ayurveda. Scientists believe in increasing a single positive attribute but Ayurveda insists on using the holistic character of a plant.” He adds, however, “But whether or not we can ever introduce GM into Ayurveda can only be decided on presentation of reliable data about the safety and efficacy of new transgenic crops.”

– *Outlook.com, India, 10/11/08*

Now take a look at The Nature Institute’s new project: natureinstitute.org/nontarget/index/php

“The Nature Institute has announced the fruits of a project designed to set the public debate about genetic engineering upon a more accessible scientific foundation. Distilling a voluminous technical literature, we have summarized on our website both the intended and unintended consequences of transgenic experiments. The emerging picture tells a dramatic story – one that, to date, has scarcely begun to inform the public conversation about genetic engineering.

“Nontarget effects have proven both extensive and wildly unpredictable. The evidence for their occurrence, while mostly buried in the technical literature, is not disputable or even particularly controversial. It’s simply not widely known. Once it is known, the frequently heard claim that genetic manipulation of organisms is a “precise science” without dramatic risks will either be voiced no more or will be recognized as dishonest.”

Nontarget Effects: Strong Stalks

How is it we never heard about this before – an interesting and, apparently, troublesome characteristic of BT maize?

BT hybrids were developed by Monsanto and others to combat the European corn borer, the cute little worm that used to emerge at the end of an ear of corn when husked for dinner. Now we hear that the genetic engineering that inserted the Bt toxin into the maize genome also strengthened the corn stalks, leading to more longer stalks in the field after harvest to harbour the little buggers over the winter.

To a certain degree, BT corn defeats its own purpose because stalks that aren’t destroyed in the fall harvest provide a winter home for a variety of insects, including the borer. So now choppers are being designed, and added to the corn harvesters, to chop the BT corn residue into pieces small enough that they will rot over the winter. One such unit, the Rota-Disc, requires

an additional three horsepower per row cutter – and that much more diesel fuel! Ah, progress!

– *WP, 30/10/08*

Argentina: Full of Earth

Small farmers in the northern Argentine province of Santiago del Estero are publishing their own newspaper in an attempt to raise awareness about the constant abuses they suffer at the hands of wealthy landowners, who are encroaching on their small plots of land. The 4,000 copies of the first edition of *El Ashpultu*, which means “full of earth” in the Quechua language, were distributed to local communities in the area in October. The paper provides news coverage on questions of local interest such as the struggle against water shortages, and reports violent evictions from land and arbitrary arrests by the police and private security guards working on behalf of agribusiness and landowners.



Santiago del Estero, which is in the heart of the semi-arid Chaco grasslands and subtropical forest region in northern Argentina, has a population of just 800,000 people, 34 percent of whom live in rural areas.

The Campesino (peasant) Movement of Santiago del Estero (MOCASE), which groups nearly 9,000 families who are defending their legal right to the land they have worked for at least 20 years, and for several generations in many cases, is producing the paper as part of a Ministry of Social Development community newspaper programme called “Contalo vos” (roughly, You Tell It).

The programme provides logistical and material support – but not funding – to help community organisations produce their own publications. Here many people lack electricity, so they have no TV or Internet, and don’t have any idea of the impact that what is happening to them can have in other places.

The main focus of the newspaper, which will come out every two months, is the suffering of local farming communities that have come under threat from the expansion of soybeans. According to official statistics, between 2002 and 2006, more than 500,000 hectares were deforested to make way for genetically modified soybeans, Argentina’s main export crop. The advance of monoculture, besides destroying the area’s natural



biodiversity, is also undermining the very survival of campesinos who have lived and farmed in the region for generations. By law in Argentina, people can claim ownership of a plot of land if they can prove that they have lived on and worked it for at least 20 years. According to the Centre for Legal and Social Studies, 73 percent of campesino families in Santiago del Estero have worked the land for more than two decades.

MOCASE activist Adolfo Farias said that “For years, but much more so in recent months, our resistance to an agricultural production model that consists of vast monoculture plantations of soybeans has met with repression by ‘para-police’ groups and arrests ordered with the complicity of the local political and judicial powers-that-be.” *– IPS, 10/11/08*

Markets and Labels (or not)

The Korea Food and Drug Administration says it has drawn up a bill requiring all food companies to specify whether their products contain genetically modified organisms (GMO). Soybean sauces and cooking oils would also be required to carry GMO labelings. So far, those products have been exempt from the requirement because it is difficult to check the amount of GMO used in the finished product. In response, food companies urged the authorities to postpone the strengthened rules, arguing that such markings would “mislead” consumers to believe that GMO food items are hazardous to their health. *– KBS Radio, South Korea, 10/11/08*



The Polish government has declared that Poland will remain free of GMOs but scientific institutions will be able to conduct research on genetically modified organisms. The cabinet has decided to allow specialized laboratories to continue work with GMOs, for instance testing new drugs or investigating genetic diseases, but the organisms must be kept separate from the natural environment and human beings. The Council of Ministers has also announced that it will support restrictions on GMOs in the European Union.

– Polskie Radio, 18/11/08



In September the South African Department of Trade and Industry handed down a ruling for mandatory labelling of genetically modified foods. The decision

came after a clause to this effect, which had been removed from the draft Consumer Protection Bill last year, was reinstated. Parliament’s Trade and Industry committee also withdrew a clause from the original Bill that rendered GMOs exempt from liability for damage caused by them. Both the Department of Agriculture and Department of Health have opposed mandatory labelling saying it would send out a confusing signal to consumers. However, spokesperson for the Safe Food Coalition, Andrew Taynton remains concerned that the Department of Agriculture would still be responsible for determining the thresholds and technical requirements of these new regulations.



A group of companies from Brazil launched the Brazilian Association of Producers of Non-Genetically Modified Grain (Abrange) in September. The idea is to increase crops, improve production and strengthen the image of Brazil as an exporter of non-GM grain.

“We have been observing that there is space to work with this kind of product and decided to establish the association,” stated the president at the organization, César Borges de Sousa, who is also the vice president at Caramuru Alimentos, one of the main players in agricultural commodities in the country.

According to him, with the creation of the Abrange, Brazil establishes itself as the main certified producer of non-GM grain and products. The last Brazilian soy crop, the most exported Brazilian grain, for example, totaled 60 million tons, 24 million of this in non-GM grain.

Headquartered in Goiás, Caramuru buys from over 4,000 producers of grain. The company’s production is 2 million tons of non-GM soy, which represents one third of the grain production in the whole of the state. Goiás is among the main Brazilian producers of non-GM soy, alongside Mato Grosso, Paraná, Tocantins and Bahia. The six companies that are establishing Abrange are: André Maggi Group, Brejeiro, Caramuru Alimentos, Imcopa and Vanguarda. Maggi Group is the largest soy producer in Brazil.

– Brazil Magazine, USA 12/9/08 (like many items we draw upon, this comes via GENET-news)



On the one hand

Italian researchers from School of advanced studies Sant'Anna, University of Pisa, University of Modena and Reggio Emilia and University of Tuscia have launched a brand new tomato. While ripening, its peel becomes dark purple and black, thanks to its high content of anthocyanins, the same pigments which are present in some healthy fruits as black grapes and blueberry. This new tomato has been called "Sun Black". Its pulp is still of red color and it tastes just like a traditional tomato. Sun Black is not a GM product and it is very healthy, thanks to the anti-oxidant properties of anthocyanins. Sun Black is now in its second growing year and it has been obtained by a cross between two parents-tomatoes, which were showing a few quantities of anthocyanins in their leaves.

—*Fresh Plaza, Netherlands 25/07/08*



GM IS DARK THROUGHOUT

. . . and on the other

A leading oncologist and former minister, Umberto Veronesi has provoked anger in Italy after praising the cancer-fighting potential of a genetically engineered purple tomato unveiled last week by British researchers that has been shown to extend the lives of mice susceptible to cancer. The researchers introduced anthocyanin-producing genes from snapdragon flowers, which are naturally high in the antioxidant, into the tomato. The resulting high concentration of anthocyanins turned the tomato skin and flesh a deep purple colour.

Environmental group VAS pointed to the fact that the antioxidant contained in the tomato occurs naturally in fruits such as blackberries and cranberries. "So one really has to wonder exactly who this tomato will benefit," asked VAS's biosecurity representative, Simona Capogna. "It will undoubtedly help those who hold the patent, those firms that sell it (at an inflated price) and those researchers who use it as a career move or who buy shares in biotech firms". —*ANSA, Italy 28/10/08*

My two-day field trip with Germany's BASF Plant Science

by *Jocelyn C. Zuckerman*
condensed from *Gourmet Magazine*

Day 1: Press Conference and Visit to Cropdesign, Ghent, Belgium

"About three quarters of the way through the press conference touting the \$1.5-billion collaboration on high-yield, drought-tolerant genetically modified crops initiated last year by Monsanto and BASF Plant Science, a Dutch woman on the far side of the room raised her hand and asked in a tremulous voice, "Forgive me if this is off-topic, but what about the taste?"

"The four guys up on the dais looked uniformly stumped. Finally, Steve Padgette, Monsanto's stylish young president of biotechnology (and co-inventor of its Roundup Ready seeds), spoke. "The taste of crops that go into human consumption directly is very, very important," he said. "But the number-two yellow corn that we're talking about here, that's not for human consumption." In fact, nothing had been said about human consumption since the second slide in Padgette's PowerPoint presentation — the one that talked about how, with the population expected to balloon to nine billion by 2050, it was going to take the biotechnological wonders of companies like his to feed the hungry masses. Not that Padgette pretended to be solely about saving the world: His very next slide depicted the global market for various biotech traits, forecasting its total 2025 value at a robust \$50 billion. And so it went throughout the next 48 hours, with the possible benefits in store for farmers a seeming afterthought to those guaranteed to accrue to shareholders. . . .

. . . "The press conference, which took place in a beautifully re-tooled early 19th-century farmhouse in Ghent, Belgium, provided us 30 or so journalists with an overview of the year-old BASF/Monsanto collaboration on stress-tolerant corn, soybeans, cotton, and canola. Afterwards, we trundled onto a bus and made our way across town to CropDesign, a ten-year-old company (acquired by BASF in 2006) that uses "phenotypic screening" — monitoring how properties like shape, size, color, etc., respond to environmental changes — to determine gene function in plants. Johan Cardoen, the company's CEO, told us that CropDesign's original goal had been to find a single gene to increase yield. "Today we are on the verge of realizing that business opportunity," he said, with no reference in sight to the farmers that the partnership's "climate-ready" crops were supposedly designed to rescue.



Day 2: Behind the Scenes at Berlin's Metanomics

The morning after we visited CropDesign, our group of journalists caught an early flight to Berlin, where we transferred directly to Metanomics, a "metabolic profiling" operation located in a technology park in a far western section of the city. Founded ten years ago by BASF Plant Science and staff members of the Max Planck Institute for Molecular Plant Physiology, the company studies gene functions by analyzing the changes that occur when an individual gene in a plant's genetic code is modified.

"... Richard Tretheway, who co-founded Metanomics and currently serves as its science director, told us the company carries out more than 100,000 experiments a year, and its digital library contains some 1.7 million metabolic profiles of plant genes. On average, he said with pride, it submits one major patent application every five days. (To date, Metanomics has filed more than 150,000 gene-function patents.)

"... While the Ghent and Berlin programs are operating 24/7, Monsanto is conducting its own gene-discovery initiative back in St. Louis. (The company has invested \$75 million in proprietary software to sort through plant germ plasm.) The "lead genes" recognized by all the programs are identified (along with their functions) in patent applications and then entered into the joint devel-

opment pipeline. Whatever emerges will benefit from Monsanto's not inconsiderable marketing might.

"But while the hopes are high... not everything is progressing exactly according to plan. Over the course of the two-day program, conversation returned repeatedly to the irony of this gigantic genetic-modification operation having its home in the heart of Europe. A presentation by Dirk Enze, one of the founders of CropDesign, took as its sole topic "Biotechnology and Europe: Challenges and Opportunities." Among the challenges, of course, is that most of the people there want nothing to do with the stuff.

"Of course, if you're to believe BASF, there's nothing at all to fear from genetic modification – or genetic "optimization," as it was repeatedly referred to there. A presentation by Graham Brookes, director of the England-based PG Economics Limited, showed hard evidence of the overwhelmingly positive economic and environmental impacts of the crops. Mind you, this is a man whose company gets a paycheck from such pro-GM trade associations as CropLife International and Green Biotech Europe, and who summed up his view of the Indian environmental activist Vandana Shiva with the couplet 'bloody idiot'."

– *Gourmet*, 31/10/08

<www.gourmet.com/foodpolitics/2008/10/basf-plant-science-part1?currentPage=1>



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