

AGROECOLOGY

Newsletter November Vol.4 no.11

Master's of science (umb)

WHAT IS AGROECOLOGY

The academic field that bridges agriculture, nature and society. Agroecology is the field that links theory and practice using social and natural sciences to describe, analyze and manage complex agroecosystems. The program focuses on integrating ecology, organic and conventional agriculture, socio-economics and culture with the ultimate goal of sustaining production, food security, community and environmental health.

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Food for thought and agroecology research Priorities

In this issue, one of our program students from 2008, Renee Ciulla, writes about her experiences while attending the Food for Thought Conference in October in the United States. She provides a descriptive summary of the many activities and topics covered by an extensive list of researchers, policy analysts, farmers and consumers concerned about food and improving food systems. The second article reviews previous agroecological thesis research at UMB and suggests possible future research areas that could be undertaken to strengthen the contributions of our agroecologists to make a real difference with their research.

Food for thought conference highlights

By Renee Ciulla

Delicious wafts of leek-butternut squash lasagna filled the dining hall of the College of the Atlantic as lines of eager conference goers hungrily gazed at the beautiful, freshly harvested salad greens, homemade breads and dessert bars made with local apples. As I happily chewed on this assortment of delicacies from local Maine farms, my mind was busy digesting the inspiring events that had already transpired at the first-ever Food for Thought conference hosted by the College of the Atlantic in Bar Harbor, Maine, USA, during October 2-4, 2009. With 400 organic farms in the state (an increase from only 15 in 1971) Maine is in a unique position to provide insight about feeding communities with a localized food system. We were gathered together to explore exciting possibilities such as this, while at the same time gaining inspiration from each other's energy and willpower.

The conference kicked off Friday evening with a stunning keynote address by Raj Patel, an extremely intelligent, energetic activist and author who is now working on his fourth book, *The Value of Nothing*. Raj spoke about where the real price of food is coming from, pulling in related factors such as rising oil prices, increasing meat consumption (especially high in the US), global climate change and the shift to growing more biofuel crops in place of food for direct consumption. Our current cheap food prices (what he referred to as "cheat" food) result in a misleading \$4 hamburger with the real cost of \$200 when environmental and social aspects are considered. His views on the World Bank and the WTO were made obvious as he explained the dead-end that most non-industrialized countries hit when they are unable to repay their loans in addition to not being able to compete with the cheap, subsidized American crops. What are the top three things these small farmers actually want? The answer, says Raj, is not fair trade but land reform and access to both water and markets. He concluded that as people

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Example of a cold frame for growing
vegetables in cold climates.

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globally conduct food riots, they are in fact fighting for political change, and this change should not be expected to arrive “steaming hot as a pizza delivery of change” but instead needs to come from within ourselves. Raj feels it’s time to end our whine-ocracy and focus more efforts on a localized food system--something that the world’s poorest people have already concluded as the only way to live sustainably.

Sunshine greeted us Saturday morning as groups of enthusiastic people again gathered for the morning plenary session. We heard first from Angelika Ploeger, a professor from the University of Kassel in Germany, where she is active in the Department of Organic Food Quality and Food Culture. Mrs. Ploeger is interested in the various aspects related to sustainable nutrition and shared statistics such as the incredible water needs for cane sugar (one more reason to grab a local apple instead of an Oreo) and beef. Eliot Coleman, a well-known organic farmer from Harborside, Maine spoke next about the endless possibilities of growing your own food year-round. His farm is a cornucopia of experiments geared around producing vegetables all year despite Maine’s endless winters. Eliot emphasized how you truly do not need perfect soil to start farming organically and turn it into a highly productive system such as his own, which yields 80,000 dollars per acre. When you hear someone with as much experience as Eliot firmly declare that, “A small farm is the single most subversive unit in our culture,” it is hard to argue. John Piotti, the Executive Director of the Farmland Trust and current House Majority Leader, emphasized the need to include multiple distribution systems for local food and that organic farming simply must be developed regionally given the multitude of environmental differences in every locale.

During the refreshment break, over Avena Botanicals tea, vegan date-apricot rolls and decadent maple-walnut scones, my mother and I had the difficult task of choosing only one of the four intriguing workshop topics. Choices included sustainable nutrition, current issues in Maine’s farms and fisheries, policy directions and sustainable grain production in Maine. My only solution was to try to hit two in the 90 minutes. In the Maine’s farm issues workshop, Carly DelSignore spoke about the difficulties she and her family faced when their contract with Hood Dairy mysteriously ended by a sudden letter in the mail that, despite their initial conclusion, was not a Valentine’s Day card. The silver lining turned out to be that they are now marketing their raw cow milk to several local stores including a Mobil petrol station and Hannafords supermarkets. They have also hired a ricotta cheese maker, which opened the door to selling their cheese to restaurants for lasagna-making.

Over in the Policy workshop, I heard a talk given by Professor Hardy Vogtmann, who traveled to Maine from the University of Kassel. He spoke about the history of European agricultural policies and the lessons that were learned when governments initially subsidized wheat, milk and meat, resulting in excessive amounts of these products. Instead, farmers are now paid according to how much land they own (pushed hard by the Farmers Union). Land available for farming in Europe is disappearing by 110 hectares/day, so all EU government officials have promised to reduce the amount of land that is available to be built upon. Hardy shared that corn is not subsidized in Europe and that when he visits farmers hesitant about any financial opportunities in aesthetically pleasing landscapes he reminds them that if they, “put cows on the land they can milk the tourists” as opposed to a landscape that is a “maize desert”. Hardy is a strong proponent for combining nature conservation with agricultural policy, expressing that agriculture shouldn’t just be measured by production, but also by values such as landscape and tourism. Jennifer Litteral from the Island Institute followed with some words about the conditions along the Maine coast for fisherman. With 5,000 miles of coastal land, I was surprised to learn that Maine has only 20 miles of working waterfront and 66% of this is privately owned. Access to permits is a problem, as well as limits to how much fish can be taken. Some solutions she presented include community permit banks and also

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Community Supported Fisheries, which works similarly to a CSA. Fishermen could sell directly to consumers off of their boats, ideally according to a preordered amount. Such a venture has recently started in New Hampshire with great success.

One of the day's highlights was the keynote speaker, Marion Nestle, a renowned expert in nutrition and current professor of Food Studies at New York University. As the presenter accurately predicted, she was a "force to be reckoned with." When Marion speaks, you listen. Her strength and wisdom resounded throughout the hall with her words about eating in respect to personal and social responsibility. Her main messages regarding the personal side included eating less, moving more, eating plenty of fruits & vegetables, limiting junk food and enjoyment! Some of the blames of society come from the fact that research has shown that larger portion sizes seem to deceptively make us eat more (only one trip to the grocery store reminds us what portion sizes have become). Certain subsidized crops can also be blamed for providing an abundance of cheap calories (for example 1 dollar buys 1,200 calories of chips but only 170 calories of fruit). She cited the example of an effective "red-green light" symbol in the United Kingdom that was used to alert customers about certain unhealthy products, which resulted in people greatly reducing how much they purchased these items. Alternately, in the USA we have a "healthy choice green check mark" whose criteria were established by the very companies that "check" their products (one of which includes the infamous bright box of Froot Loops). However, Marion shared some insight into the powerful difference it makes when a mayor of a city, for example, cares about these issues. In NYC all calories must be labeled, which has indirectly resulted in producers designing smaller portion sizes. As my mother and I drove back that night, we both decided that Marion Nestle's blog, www.foodpolitics.com should be one we regularly visit.

On Sunday, there were several fieldtrips offered for attendees such as composting, a wild foods walk, apple cider processing and visiting Eliot Coleman's farm in Harborside, Maine. Armed with one of his books, *The Four Season Gardener*, we drove down to visit the home and gardens of this celebrated, all-season farmer. Eliot warmly greeted all 15 of us in his welcoming, wood-stove-heated kitchen that was well-equipped for entertaining large

groups of friends and students. We chewed freshly harvested baby carrots as we intently listened to Eliot's farm adventure that began with clearing 40 acres of rocky forest without a chainsaw. Although the soil began at a pH of 4.3 he now proudly has 9-19%

An example of the traffic light design used in the UK to provide consumers with nutritional information that was described by Marion Nestle in her talk.



organic matter (typically 4% is considered good). With only amendments of plant remains, occasional seaweed and rock dust he creates an exquisite compost that assists his plants to grow stress-free. In fact, Eliot considers himself a "stress production analyst", insisting that any sign of pest is only because the plant is stressed (a healthy plant contains few amino acids and proteins properly put together in a way that insects cannot nourish themselves).

Getting down to the season extension (or "Giant Crisper Drawer" as he sees his farm), Eliot explained that when he placed his cold frames inside a greenhouse he was amazed to see that his Maine winter climate was suddenly transformed to a winter climate in Georgia! Due to this genius discovery, Eliot no longer considers driving to a local shop for greens in February and is instead feasting all winter on various hardy greens such as kale, mache, swiss chard, spinach and parsley. Furthermore, there is little to no weeding, watering or pests for three months of the winter; only harvesting. It's worth a visit to the Four Season Farm just to see the moveable greenhouses that he has designed, with wheels resembling industrial gates that roll along pipes flush with the ground. A complex and intentional planting cycle has been arranged to meet the requirements of the season, crop variety and timing of greenhouse movement. By simply taking advantage of what nature has offered, Eliot has created an Eden of thriving life, captivating beauty and nurturing sustenance.

This conference was an inspiration for me, not only from the workshops and plenary sessions but also for the chance to mingle with like-minded, influential and fascinating individuals in the food and farming world. There is already talk of arranging a 2nd annual Food for Thought conference next fall. My calendar is marked and I'm already thinking about the food and topics we'll digest together.



Food for Thought, Time for Action
SUSTAINABLE FOOD, FARMING AND FISHERIES
FOR THE 21ST CENTURY

October 2-4, 2009
College of the Atlantic, Bar Harbor, Maine

Agroecology research priorities

By Chuck Francis, Geir Lieblein, Tor Arvid Breland, Karen Adler

How do we make substantial progress through research in agroecology toward solving some of the most urgent challenges in farming and food systems? Over the past decade we have dedicated major time and energy to the development of experiential education programmes that will lead to competent and highly motivated agroecologists who are autonomous learners as well as good team players. Implicit in this focus is that participants in the autumn semester and MSc graduates will go forth to change the world through their research, teaching and other responsible actions. However, we run the real danger of promoting a collection of perhaps relevant but disconnected thesis projects that in another decade could be termed “an interesting and eclectic array of projects that represent agroecological trivial pursuit”. Is this not the same critique we launch toward our reductionist colleagues in narrow disciplines in the university? Can we do better by honing our focus toward priority issues that will make a difference?

When we group the completed thesis projects into functional clusters there appears to be a dominant number in sustainable farming systems, another group in food systems, and a small group on socioeconomic and political issues. As expected, some involve two or all three topics. One option for the future would be to focus on these three areas with projects that are transdisciplinary and holistic, which are unlikely to be addressed by other narrow departments in the university. We could seek moderate project funding in each of these clusters through which we could finance PhD students, travel and field expenses for MSc students, and convene regional workshops to move each agenda ahead.

Important to defining each cluster is choosing an overall thrust that will be recognized as addressing priority challenges in farming and food systems, that has potential for funding, and that will make a difference in the future. Potential focus areas include these three, with examples of possible thesis topics given for each:

- Developing and implementing biodiverse, integrated, crop/animal systems that depend on contemporary and local natural resources
 1. Spatially and temporally diverse cropping systems based on sunlight energy
 2. Crop/animal production systems that sponsor their own fertility and plant protection
 3. Stockless organic production systems with internal soil fertility and pest management
 4. Minimum and no-till methods of organic crop/animal production
 5. Recycling livestock and human wastes in local production systems
- Developing and implementing organic and local food systems that create nutritious and healthy diets that are accessible to all people
 1. Organic systems of small to moderate scale to supply local markets and consumers
 2. Local food systems for schools, hospitals, and public/private organizations
 3. Local food councils to promote production and consumption of nutritious foods
- Developing and implementing local, regional and national policies and economic incentives to foster sustainable agriculture and local food systems
 1. Implementation of national goals for achieving substantial production of organic food
 2. Adjustment of federal and regional subsidies to promote organic/local food production
 3. National policies that promote equitable access to nutritious foods

We invite comments on the concept of setting regional research priorities and on the three clusters of potential research activities. To make such a strategy work, we will need some degree of consensus on the priorities, an assessment of current expertise and institutional support, and an agreement to work together to find funding to move the program ahead. We envision this as a regional activity that will bring greater focus and relevance to agroecology programs in our participating universities. Thus, there could be complementarity among projects in Norway, Sweden, Denmark and Finland in order to make more concerted progress toward shared goals. It will also promote a strategy that allows us to tap into national as well as regional financial resources to support the work. In promoting the strategy, it will be advantageous to demonstrate the linkages of this research with the ongoing education program in agroecology. If you have any comments or questions, please send your ideas to the editors.