Written inputs from panelists
of the Main Track Session

3A: **Food Security**
Organic Agriculture can nourish the world: Eco-intensification and productivity development (Fish bowl)

Monday, 13 October 2014 (14:30-16:00)

Food Security: Organic Agriculture can nourish the world: Eco-intensification and productivity development

Background

FAO and Agriculture leaders recognize the contribution of Organic Agriculture to environmental and social issues, but they question that organic could produce enough affordable food for the growing demand of the population if it were a global agriculture strategy. Ecological and social intensification has been the concept of IFOAM and the Organic Movement to address these doubts. While the IAASTD report stated in 2008 that "business as usual is not an option anymore", industrial, strategies reminiscent of the so-called Green Revolution are still pushed in the concept for the UN Year of Family Farming (2014). The benefits of Organic agriculture over the present conventional paradigm, with regard to providing nourishment to all, are not yet universally accepted.

Session Objectives

While testing the organic paradigm with regard to food security, this session will discuss how fit Organic Agriculture is today to prove that it is more than an attractive but exclusive niche market, indeed that it is a better alternative to assure widespread coverage of basic needs. It shall further develop the concept of eco-intensification and identify the needed steps to address shortcomings in advocacy and implementation.

Leading Questions

- What are the benefits â€“ and shortcomings â€“ of Organic Agriculture with regard to food security?
- Can Organic Agriculture alone nourish the world? If yes, how?
- Eco-intensification in practice: How to mainstream productive Organic Agriculture?
- Where do we need major research efforts to advance eco-intensive Organic Agriculture?
- What are the required contributions of other stakeholders?
- Which advocacy strategies do we need?

Methodology: Fish Bowl with 4 panelists and 2 open chairs.

Moderator/Rapporteur: Mathew John/Thomas Cierpka

Speakers

- Irene Kadzere, FiBL, Switzerland
- Andre Leu, IFOAM WB, Australia
- Theresa Marquez, Organic Valley, USA
- Urs Niggli, FiBL, Switzerland
- Rita Schwentesius-Rindermann, University of Chapingo, Mexico

Theresa Marquez[1]

Biography:
After 17 years as Chief Marketing Executive, helping grow CROPP Cooperative from $5 million sales in 1994 to $860 million in 2012, Theresa Marquez has recently changed her role and is now serving as the Mission Executive for the United States' largest organic farmer cooperative and its largest farmer-owned organic brand, Organic Valley.

Description of the ideas about the session:
Focus for this session from CROPP Cooperative will be the presentation of a Fatty Acid Profile study. While this should perhaps be in the Science section (see study specifics following), the questions seemed more aligned with the outcome of the study. Top five things to know about the study:

- Most comprehensive study of its kind in the U.S. to date **comparing the fatty acid profile in organic milk versus conventional milk**: 18 months, 384 independent lab tests in 7 of 9 U.S. regions, 14 different dairy plants
- Organic Valley whole milk has 62% more omega-3s than conventional.
- Organic Valley whole milk has a near perfect ratio of omega-6:omega-3. (OV whole milk is very near the nutritionally-ideal ratio of 2.3:1) The average imbalance of the U.S. population today is between 10 and 20:1, and imbalance of omegas is suspected in America's endemic struggles with a host of inflammatory diseases.
- Feeding high levels of **pasture and forage**, naturally best for livestock, is the reason omega-3 levels are so high in OV milk. High omega-3 levels are indicative of good farming practices.
- Conjugated linoleic acids are **18% higher** in Organic Valley milk than in conventional milk.

Bottom line: Organic cows who have high pasture and high forage diets produce highly nutritious milk, making a dramatic link between nutrition, good farming and good ecology. In addition, a related Organic Valley and Stonyfield study called the "Greener Cow study" feeding flax shows that there may be a direct correlation between high omega-3 and low enteric methane gas emissions.

Leading Questions:
What are the benefits – and shortcomings – of Organic Agriculture with regard to food security?

The biggest shortcoming of organic in feeding the world is biotech's constant undermining of organic practices. Because of lack of funds and focus, we are unable to do the PR work that the biotech industry is doing with the help of Gates money to convince peasant farmers that the only way they can feed the world is through biotech.

[1] Mission Executive, CROPP Cooperative / Organic Valley. theresa.marquez@organicvalley.coop

In the U.S., the money thrown at advertising has bought off the media. We can go nowhere without hearing how biotech is the ONLY way to feed the world.

In a more practical sense, if we were asked to feed the world today, it may be that organic by default is already in a position to do that, but a big and growing handicap is SEEDS. And, in addition, the perennialization of agriculture (pasture-based) will also benefit the environment, while feeding the world. Organic standards are the only ag standards that require pasturing for ruminants.

Can Organic Agriculture alone nourish the world? If yes, how?

Peasant agriculture, which often has many organic components, IS feeding the world now. Organic agriculture may be the only way areas of food insecurity can be empowered to feed themselves because, after all, developed nations don't *want* to feed the world. These regions need to feed themselves. And we need to ask how we can help. So perhaps this is a misguided question. For sure, we need healthy, nutrition-intensive food like milk. A further finding of this study, that organic milk has better-balanced omega-6/3 content than fish, is a critical finding that can be used to aid areas that are food insecure.

Eco-intensification in practice: How to mainstream productive Organic Agriculture?

A provocative case such as the Omega Fatty Acid Profile study mentioned above is a way to offer mainstream agriculture some insights on how we marry nutrition, farming and ecology, which is the magical marriage for solving the world's food security issues. Like balance in omegas, balance in agriculture—where culture and the environment are taken into consideration—should be obvious, but at present is not recognized. The Fatty Acid profile study described above, and other research of its kind, can help build this bridge and increase the awareness of this critical link as foundation for food security. We cannot feed people while ruining their ecosystem.

Where do we need major research efforts to advance eco-intensive Organic Agriculture?

Since we at CROPP Cooperative come from a dairy perspective, the following comments relate to dairy and the Fatty Acid Study described above, coupled with the "Greener Cow" study, which correlates high omega-3s with high pasture/forage diets and lower methane release.

It is a most fascinating example of eco-intensive agriculture producing high nutritional value. But much more research is needed. We need more correlation studies. We need to see what forage and pasture performs the best for maximum health of the cow, the highest nutrition and the lowest methane gas release. We need to get farmers to get off total mixed corn and soy rations, and research will play a big role moving agriculture in that direction. We need more studies on children, moms, young women and their

organic intake of omegas, and we need to track their health. We need lots more studies showing cow health on pasture and organic feed.

What are the required contributions of other stakeholders?

- Farmers need to be open to trying new things and also agree to long-term research.
- Funders for sustainable systems need to be serious about *long-term* research projects, not just short-term, quick-result studies.
- The U.S. land grants need to refocus who they serve.
- All organic IFOAM members need to get their heads around this and make Nutritional Agro Ecology a critical understanding in their companies and organizations.
- Messages need to be harmonized and adopted by all regarding organic's contribution.
- More effective link is needed with conventional agriculture. We need more friends that we learn from and they learn from us. We need to convince select ag groups that they are stakeholders!
- We need to help health care professionals see that they are critical stakeholders.

Which advocacy strategies do we need?

- In U.S., incentivizing agro-ecology makes perfect sense given that most incentives go to the worst, most chemical-intensive agriculture in the world.
- Calling for a 10% decrease in agriculture's 30% contribution to GHGs is something we could advocate for.
- Need to advocate for balance in agriculture: more pasture, more omega-3s in our diet (US packaged food is 80% corn and soy (omega-6). We must show that outrageous imbalance in agriculture is directly correlated to poor health in the US population—80% of the U.S. population is projected to be overweight or obese by 2045, and well over 1/3 will be diabetic.
- Need to advocate for children's health. An end to endocrine disruption.

Urs Niggli

Food Security

Organic farming has a certain potential to improve the productivity of farms (especially under subsistence farming conditions) and to improve livelihoods. As a holistic concept, it is excellent as it is a learning field for good farming practice. It's main constraints are that without market access (both urban domestic and international ones) or payments for public goods (or carbon offsets)conversions rates are nil. These main triggers of organic farming (market access, environmental payments, carbon credits) have to be better analysed and used for the future development of organic farming. The potential of eco-functional intensification is huge. Many examples for that strategy can be given. They are all knowledge- and labour-intensive and often not yet competitive with silver-bullet solutions.