

TAKING IT TO THE NEXT LEVEL

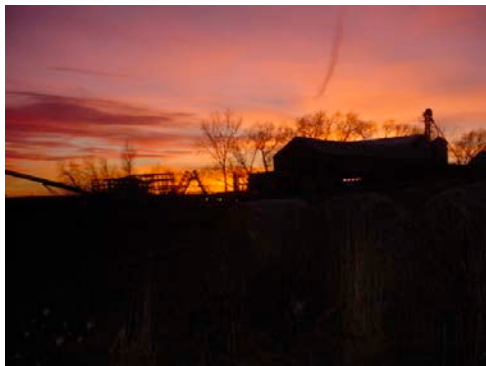
Mary-Howell Martens (with Klaas' help)

In YOUR opinion, what is the primary goal of organic agriculture today? Is it to reduce the use of pesticides, synthetic fertilizers, transgenic products, antibiotics, hormones etc on as many acres and animals as possible and encourage superior sustainable agronomic practices? Or is it to produce chemically pure food 'free' of undesirable contaminants? If these two goals come into conflict, which goal should take precedence?

As we in the organic community move past the “first level” questions of standards and differing certifier interpretations, we are being confronted by much more difficult “second level” questions that cut painfully close to the core of our definition of organic agriculture.

I've posed this and other questions to several people within the organic community over the past month because I see a real crisis emerging concerning the conflicting perception and reality about what organic food is or should be. This crisis is being precipitated by GMO contamination and the contradiction between what consumers expect and what organic farmers are able to deliver.

A recent news report from Great Britain announced that 10 out of 25 organic and health food products containing soybeans sampled by University of Glamorgan researchers in Wales tested positive at between 0.07% - slightly above 0.1% for traces of transgenic products. This report



was publicized in the prestigious scientific journal, Nature, under the title “Many ‘So-Called’ Organic Foods Contain Genetically Modified Soya” and contained phrases like “damaged credibility” to describe organic food. The implication, loud and clear, is that organic food is fraudulent and that organic farmers and certifiers are misleading the public.

At the same time, I was recently told by 3 different people that they had heard that “there are no longer any certified organic soybeans in the United States”. Their incorrect but deeply held assumption was that when organic soybeans test positive for traces of GMO's, then the crop automatically loses its organic certification. When told that such soybeans, if legitimately USDA NOP certified, are commonly being used in organic products as long as the processor doesn't object, these folks stared at me, obviously horrified and disillusioned.

PROCESS VS. PRODUCT

The USDA National Organic Program is quite clear that incidental GMO contamination is not a labeling violation or a cause for decertification as long as the farmer can demonstrate they did not willfully use products of transgenic technology. The National Organic Program Standards describe a “Process” based organic certification system. If a farmer does everything agronomically within the organic standards, then the product will be considered certified organic, even if there are traces of contamination.. Buyers may still reject the products, if their market is

stringent about purity, but that is at the discretion of the buyer and does not usually affect organic certification of the farmer or the product as long as the farmer did not knowingly bring the GMOs onto their farm..

Contrast this to a “Product” based approach that would determine eligibility for organic certification solely on whether food item passes certain chemical purity tests. Over the past few months, I have talked to a surprising number of consumers who firmly believe that organic food is indeed judged on a “product” basis, that it is pure of all contaminants and is routinely tested, and that this perceived purity is the main reason they pay the premium price to ‘protect’ their health and that of their family.

It has been well proved that humans have contaminated the entire planet with pesticides and industrial contaminants, even Antarctica. It would now be nearly impossible to reliably produce organic food that would test “FREE” of pesticides, and soon, it may be impossible to produce certain crops that are “FREE” from traces of GMO contamination.

Will organic consumers understand that a trace of GMO is far better than 100%? Many of the consumers I've talked to recently do not fully comprehend that idea. Some were offended that the organic food they paid so dearly for might be contaminated. They may "blame" Monsanto and make a little noise about lawsuits and making the polluter pay, but they may also stop buying the food if it is no longer perceived as sufficiently pure. Do any of us have a doubt who will pay the highest price for this loss of consumer confidence? It isn't likely to be Monsanto. It will instead be the poor organic farmers who do everything possible within their ability to meet the standards, but are just damn unlucky. There was much wisdom in NOP choosing a “Process” based organic certification system, it provides valuable protection for farmers, but if the consumers lose faith in the “Product”, that may not matter.

As we reach this rather difficult ‘second level’ of questions, we need to seriously consider what we believe organic agriculture should accomplish, if indeed we can't accomplish everything. Should we focus on environmental, social, and health benefits, or should we focus on food purity?



LOSS OF CONFIDENCE OR DAWNING OF REALITY?

There is increasing evidence that a large percent of the corn, soybean, cotton and canola non-GMO conventional seed would test positive for transgenes, if it was tested. A recent Organic Farming Research Foundation survey reported most respondents felt that seed was their primary risk point for GMO contamination on their farms, and our conversations with scientists and seed companies around

the country over the past few months indicate that this assumption is probably correct. Pollen drift gets more of the attention, but the seed supply and unclean equipment present much greater risks.

The Association of Seed Certifying Agencies sets a 1% threshold for non-GMO corn in its IP system used by state crop improvement associations. However, there is probably a fairly wide range of how different seed companies are testing and labeling their seed from non-GMO varieties, depending on how stringently they respect the non-GMO needs of their customers. Organic seed companies carefully test each seed lot of certain crops, using highly accurate PCR DNA tests, and they reject lots that exceed a maximum thresholds. There is no guarantee or documentation that conventional seed companies are being that careful.

We recently requested a test on a good non-GMO corn hybrid that is not available as organic seed. The result was 0.46%, perhaps not bad for a conventional seed lot, but still twice the threshold used by the leading organic corn seed company and a level that might trigger rejection in the human food grade market. Ken Roseboro, editor of the publication, "Non-GMO Source", states that rejection levels for GMO contamination in non-GMO crops at elevators in the Midwest vary, but that 0.1% is a common threshold. Several organic grain suppliers require this threshold, as well as the Soil Association in the UK. Roseboro thinks that someone growing seed with a 0.46% of contamination might have a hard time selling the crop as non-GMO, considering further contamination could happen from cross pollination and co-mingling during harvest, transport, and handling.

This should be of more concern because of the organic seed 'loophole' in the NOP. Under NOP standards, organic farmers are obligated to purchase organic seed unless they can't find the variety, quality and quantity they need. Most certifiers are enforcing this by requiring that farmers check with 3 likely sources for organic seed before buying conventional seed. As more information emerges about the GMO contamination of the seed supply, it is increasingly likely that more organic crops – grown completely within the NOP standards using the seed loophole - will produce grain that could test positive for GMO contamination.

But, what if organic farmers simply can't buy sufficiently "GMO-free" seed? This is a major concern for farmers growing corn, soybeans, cotton and canola. Does that mean that there should no longer be organic corn and soybeans produced? According to a USDA Economic Research Service report, there were 268,018 acres of organic corn and soybeans in 2001 in the US. No doubt considerably more acreage is planned for 2004. With those 2 crops accounting for such a large percentage of American organic acreage, if consumers lose confidence in organic crops due to unintentional contamination, will a portion of this acreage be returned to conventional? And then, what have we accomplished?

WHAT CAN WE DO?

Now for a few more difficult questions. Knowing the risk of GMO contamination, do you, as an organic farmer, have a detailed proactive GMO control plan in place, actively tracking and preventing as much contamination as possible at all likely risk points, especially from seed, pollen drift, accidental mixing in equipment and from GMO-derived manufactured agricultural products (inoculants, microbial products, animal vitamins, medications, etc)? Do you think that organic farmers would implement such a plan if their certifier didn't require it?

If it is shown that a large percentage of the non-GMO seed on the market carries traces of transgenic DNA, would you feel that it is your responsibility as an organic farmer to actively support and encourage organic and heirloom seed operations and switch to varieties available from them? Or will you continue to use the loophole in the NOP rules, allowing you to buy conventional and possibly contaminated non-GMO seed if your specific desired variety is not available as organic, knowing that by doing so, you may be supporting the very companies causing the contamination? Would you buy organic seed if it wasn't required?

In the OFRF survey mentioned earlier, only about half the respondents indicated that they have taken some measures to protect their organic farms against GMO contamination and only 17% said that some portion of their farm seed, inputs or products had been tested. Perhaps it is time to ask ourselves that unpleasant question – if indeed GMO contamination of organic products is occurring, how much avoidance are we responsible for? What measures should we be taking to prove that we are doing our 'due diligence' to minimize contamination?

Ken Roseboro tells a chilling story about a transitioning Ohio farmer who is sure he did everything right, carefully using tested seed, clean equipment, and sufficient isolation, but still had his non-GMO soybeans rejected at the elevator on the basis of a positive GMO test. Where did the contamination come from? Possibly the custom combine was not sufficiently cleaned, or maybe it was from volunteer soybeans, dropped by equipment the previous year. The farmer doesn't know how the crop got tainted, he was doing everything his certifier required, but he feels very unsure of how to prevent avoid similar contamination in the future.

At our feed mill, we're asked fairly regularly to 'participate' in the "asking three likely sources" game. Someone calls asking for a particular Pioneer corn hybrid which of course we don't have because Pioneer does not produce organic seed and no one else can legally produce Pioneer varieties. We've gotten a little cynical about conveniently being one of the three unsuccessful sources because that simply isn't the point. The point is that organic farmers should be seriously sourcing organic seed, not simply because it is a NOP certification requirement, but because organic seed provides the only real measure of protection against GMO seed contamination.

Along with hundreds of others, we listened with horror to Percy Schmeiser's tale of corporate greed, legal injustice, and farmer impotence at the recent Pennsylvania Association for Sustainable Agriculture (PASA) conference. Transgenes patented by corporations that hire unscrupulous investigators and lawyers are aggressively marching onto our farms, lurking in the non-GMO seed we buy and hovering in the air around us. The corporations don't care how the genes got there, they now have established legal precedence proving that farmers "know or ought to know" when those precious genes have snuck uninvited into our fields. And unless we contact the companies immediately to retrieve their genes which we can't see and destroy our crops in the process, then we can be held liable for theft.

Of course this is unfair! Of course this is a flagrant example of the legal system being subverted from all that is logical, honest and fair! But because this is reality, organic farmers simply **MUST** proactively document that they are doing everything within their control to avoid these interloping genes, regardless of whether corporations "should" be taking responsibility for the contamination and consequences.

FINDING ANSWERS

I was deeply impressed by the answers I received to the question at the beginning of this article, especially from long-time New York organic farmer, Rivka Davis. She says :“In my opinion, the primary goal of organic agriculture is (or should be) to get as close to sustainable agriculture as possible; bearing in mind that none of us knows what a really sustainable agriculture would look like, especially one that stands any chance of feeding six billion people. We know a lot of things it isn't -- practices that destroy the soil, the genetic base, the farmers, and/or damage the consumers certainly aren't sustainable; but there are many techniques whose long -term sustainability we don't know , such as genetic engineering, and there are many practices that are clearly not long-term sustainable that are permitted in current organic agriculture, such as using mined water to irrigate a crop that is then shipped across the country or the world using fossil fuels, with the aid of fossil fueled equipment and the labor of underpaid workers and, often, underpaid farmers.

In many ways, this whole system is long-term not sustainable in areas that are not under the farmers' control. Many of the people expecting ecological perfection from the farmers are very far from it in their own lives, as they drive their fossil-fueled vehicles to the market, demanding a convenient full range of out-of-season organic produce year round.

As far as "chemically pure food": the rain, as has been said, falleth on the just and on the unjust. And the rain has pesticides in it. "Chemically pure" is not a possible option. Should we then throw up our hands and say "there's no such thing as organic"? There's nothing useful about that reaction, except maybe to those who are trying to co-opt organic into just another marketing label. We need to keep trying to get as close as we can; but we need to work within current reality as our starting point. As a long term goal, we need to get the chemicals back out of the rain; but we can't do that either by pretending they're not there, or by adding to them.



So, yes indeed, those goals can be in conflict: an attempt to insist on total perfection right now can set the bar so high that people give up on organic altogether as impossible; and this is a setback, not a gain, in trying to clean up the land and the rain. But setting the bar too low is a danger also: if we say we can't attain perfection now, so we're going to set a few minimal standards and say that this will do without any attempt to get closer to where we need to be eventually, that won't clean up the system either.”

Harriet Behar, organic farmer and inspector from Wisconsin observed that “We could probably encourage rain forests in developing countries be slashed and burned to produce "pure" food (corn, soybeans for example) for export to developed countries if we wish to only eat "pure" food, and at the same time, tell all of the organic farmers in Iowa that they should give up on growing any corn or beans, since the risk of contamination either in the field or in processing is too great to guarantee absolute purity. Is this sustainable and correct?”

These are complex issues to ponder.

THE DEFINITION OF ORGANIC

This week, I had the privilege of joining a group at Cornell University researchers and few colleagues from the Rodale Institute to discuss another interesting series of questions – (1) Can organic agriculture produce sufficient food to feed the world with current and projected population growth? (2) Can organic agriculture be economically competitive with conventional agriculture when doing an all-inclusive economic analysis? (3) Do we *want* to feed the world with organic agriculture alone, or do we want to 'ecologize' conventional agriculture? (4) Would feeding the world with organic agriculture require more land being allocated to agriculture, and (5) Organic practices are often more environmentally benign, *but not always*. Should certain practices currently allowed under certified organic production be reconsidered to make it more so?

The group concurred that high input 'conventional' agriculture is reaching a dead and destructive



end and that we must adopt a better model that is more environmentally benign, with special emphasis on biodiversity and soil quality. But the new model must be highly productive in food quantity and quality, it must be economically rewarding for farmers, and it must be adaptable to widely different climatic, technological, and social conditions, especially on depleted and marginal tropical land in the Third World. We agreed that high input farming isn't doing an adequate job with these criteria, that intentional organic farming presents a valuable and promising model to work from, but can organic agriculture, as we know it today, address all the agricultural needs of the world that are so urgent? We weren't entirely sure.

As organic farmers, it is imperative that we actively communicate the broader definition and purpose of organic agriculture. Organic agriculture is NOT simply "conventional without the chemicals/GMO's" or "going back to the way farming was 100 years." Nor is it "organic by neglect", simply putting seeds in the ground and letting nature take its course. NO!

Organic farming is a deliberate system of superior agronomic practices that intentionally and carefully build a healthy soil and produce healthy plants that naturally resist insects and diseases. Organic farming is about purposefully increasing biodiversity of domesticated and wild species, it is about empowering and strengthening small and mid-size farms, it is about treating our soil, our workers, our natural resources and each other with respect. It is about good tasting food that doesn't travel halfway around the globe to bloat corporate coffers. Organic agriculture is truly farming like there IS a tomorrow, knowing that our children who we love will be the ones coping with the consequences of today's actions. Organic farming is about improving that tomorrow for them, today.

Do we want traces of GMO's in organic food? Of course we don't.

Should the biotech companies bear the burden and pay the costs for contamination? Of course they should!

But is it worth jeopardizing the long-term security of organic farmers on the basis of trace GMO contamination?

No! There simply is too much at stake to do that.