

Biotech

## Is organic GM the answer?

**When champions of genetically modified crops come face to face with the organic lobby, any common goals get drowned out, says Jon Entine**

Consider these unlikely matches: Woody Allen and Soon-Yi Previn; Marilyn Monroe and Arthur Miller; Felix Unger and Oscar Madison. Odd, all of them. But for dedicated greens, nothing creates cognitive dissonance like the marriage of love and policy between Raoul Adamchak and Pamela Ronald. He's an organic farmer; she's the *bête noir* of purists, a plant geneticist and Frankenfood advocate.

Two years ago in Boulder County, Colorado – home of the US's first carbon tax – locals fiercely debated whether to allow sugar beets that are genetically modified to use fewer synthetic chemicals to be grown on land owned by the county.

The local board of commissioners' staff supported it but the board got cold feet when a faction of angry residents argued that GM crops violated the local ethic of sustainable farming. So officials invited in Adamchak and Ronald, authors of *Organically Grown and Genetically Engineered: The Food of Future*.

A new breed of science-savvy farmers is challenging conventional wisdom. The first wave of GM technology produced crops that generated natural pesticides, reducing chemical usage. GM 2.0 can do what even organics cannot: resist disease and drought, and add nutrients – from fatty acid omega-3 in canola to the antioxidant lycopene in tomatoes. Biotechnology can even prime yeast genes to produce cellulosic ethanol, which reduces fossil fuel consumption.

"The focus should be on what's sustainable, not the tool used to get there," Ronald says. "People get bogged down on whether the seed is engineered. The important question is, 'Can you have a farm system that

reduces toxins, is economically viable and has no adverse social impacts?' GM crops are part of the solution."

The US Department of Agriculture addressed this controversy in a groundbreaking 2009 study, *The Unexplored Potential of Organic-Biotech Production*.

Report author and Princeton University scholar Cynthia Barmore says: "The divide between organics and biotechnology is ... maintained by ideology rather than science."

As Barmore notes, sustainable biotechnology reaches beyond food production to forestry and land management. To meet food demands, there is an insatiable need for arable land and virgin forestry. Engineered plant and tree varieties reverse that land-gulping trend, increasing yields by 300%. It has opened the use of previously non-arable tracts, including suboptimal land with high salinity.

### Deep-rooted opposition

How did the organised organics community react to Barmore's study? Friends of the Earth and the Organic Consumers Association accused the USDA of conspiracy, being "part of a well-funded campaign coordinated by Monsanto and their governmental, corporate, and non-profit partners to legitimise a dangerous and untested technology". So much for reasoned discussion.

In truth, the technology has undergone more than 30 years of extensive testing with no evidence of health or environmental danger. But Big Organics prevailed, and after a massive lobbying assault, USDA political appointees caved. In an unprecedented move, they announced the analysis was not official government policy – of course no study is – and expunged it from the database.



A question of priorities

*"The divide between organics and biotechnology is an artificial construction"*  
Cynthia Barmore, USAID



**COLUMNIST:**  
**JON ENTINE**

"It is beneficial to have public debate on these issues, but it is not helpful to discount substantive reasons of one position by attributing them to a corporate conspiracy," says Barmore, who is now a fellow with the US Agency for International Development (USAID).

Many organic activists are so affluent they don't see the broader sustainability argument, Barmore says, citing the case of vitamin-enhanced rice. "Greenpeace is against that. Why? People just really cannot imagine their child dying from any kind of vitamin deficiency."

Anti-GM activists have blocked these value-added crops in most cases, although there has been one notable case where their lobbying efforts failed, and organics reaped much of the benefits. In the early 1990s, the papaya, a \$65m industry in Hawaii, was heading towards extinction from the killer ringspot virus. The introduction of the first transgenic crop in the US – papaya seeds, developed by Dennis Gonsalves, now with the USDA – insulated the papaya from the virus, ironically saving organic farmers as well.

So, what happened in Boulder? The controversy was so intense, officials referred the initiative to a committee, which led to another study and commission. Local board member Ben Pearlman says: "This is one of those issues in which people's opinions are just locked in." ■

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