



MAX-PLANCK-GESELLSCHAFT



sustainability

Open access



Article

Mass Releases of Genetically Modified Insects in Area-Wide Pest Control Programs and Their Impact on Organic Farmers

R. Guy Reeves ^{1,*} and Martin Phillipson ²

¹ Max Planck Institute for Evolutionary Biology, 24306 Plön, Germany

² College of Law, University of Saskatchewan, S7N 5A6 Saskatoon, Canada;

Received: 22 October 2016; Accepted: 22 December 2016; Published: 1 January 2017

I used organic farmers as an example sensitive group

Personally I rarely buy organic food

I have other priorities and do not rely upon the organic food supply chain

Consequently, there is an increased tendency for me to dismiss, misunderstand or even misrepresent the values of this group



MAX-PLANCK-GESellschaft



As I understand it

Organic farming is much more than adherence to certification regimes



It encompasses principles of health, ecology, fairness and stewardship.

Relating to the release of GM insects you are probably wrong if you think :

Courts will order compensation or remedies where monetary harm is demonstrated*.

‘The [pure]economic loss doctrine has grown beyond its original freedom of contract based policy justifications. Farmers’ expectations of what they will receive for their crops are just that, expectations. Absent a physical injury, plaintiffs cannot recover for drops in market prices. Nor can they recover for any additional costs, such as testing procedures imposed by the marketplace ‘

StarLink Corn Products Liability Litigation, 212 F. Supp. 2d 828 (N.D. Ill. 2002).

That land ownership rights provide unlimited or even substantial protection to pursue a particular agricultural philosophy i.e. probably no enforceable opt-out right.

Where tested in court pollen and seed drift cases have been rejected, a significant reason being that reasonable separation measures have been put into place .

There may well be some jurisdiction / case specific arguments.

If organic farmers are compelled to contribute to the cost of mass release GM area-wide release programs will they have even less legal protection ??



Figure 1 Map of GMO-free regions Germany 2010.

you are probably right if you think :

That even trace contamination with genetic material unapproved by importing countries has considerable potential to disrupt international trade

e.g. Syngenta *Viptera* Litigation



EUROPEAN COMMISSION
HEALTH AND CONSUMERS DIRECTORATE-GENERAL

Safety of the Food Chain
Biotechnology

Brussels,
SANCO/E1/SB/nn sanco.ddg2.e.1(2014)2008972

Dear Dr Wallace,

Subject: Genetically modified fruit flies

Thank you for your letter of 29 April 2014 to Commissioner Borg expressing your concerns regarding imports of genetically modified insects in fruit. The Commissioner has asked that I, as head of the unit responsible for issues related to GMOs, respond to you on his behalf.

I am sure that you are aware that it is the responsibility of the Member States to ensure that they have the necessary control measures in place to ensure that imports they receive conform to EU Regulations. I have however taken the action of requesting further information from the relevant Brazilian authorities as how they intend to ensure that this unauthorised GM insect is not exported to the EU via Brazilian fruit.

Organic farmers	Cyclists
They choose to make themselves particularly vulnerable	They choose to make themselves particularly vulnerable
They are a minority and are not an important producer of food.	They are a minority and are not an important form of transportation
They benefit from developments or interventions which are outside their control.e.g. <small>Environmental activist hypocrisy? 'No' to GMO mosquito but 'yes' to irradiated screwworm fly Richard Levine Genetic Literacy Project December 11, 2016</small> chemical control of neighbouring farms, GM crop planting	They benefit from developments or interventions which are outside their control.e.g. reduced pollution of car emissions, integrated fossil fuel transport network
Acquired rights: government certification programs, property rights, coexistence efforts.	Acquired rights: Programs to encourage cycling, laws of the road, cycle paths and road planning.

Academic exercise

Personal

Driverless cars potentially offer easily perceivable value that other current technologies do not

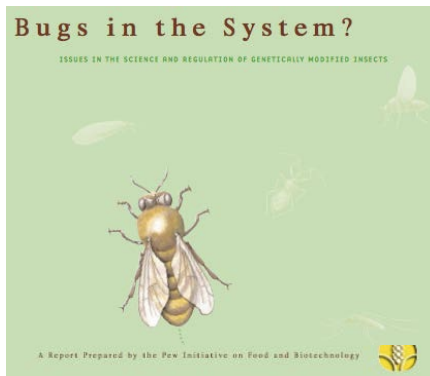


©pensanyc.com

Could the testing or implementation of driverless cars proceed if the rights of cyclists are not (even transiently) adequately addressed?

There is almost always a thoughtful awareness of the key issues

(though plans probably need to be application specific to be useful)



2004

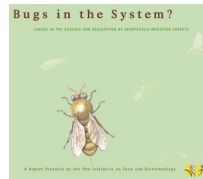


2003



2002

2004



2003



2002



Unless you understand incentives to walk away from an agreed consensus, their practical consequence may be difficult to discern



HOME NEWS ENTERTAINMENT SPORTS LIFESTYLE OPINION HAVE YOUR SAY ADVERTISE CC

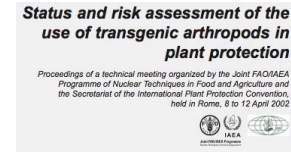
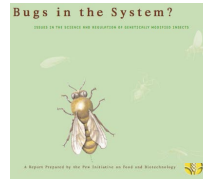
The Editor Speaks: More on Frankenstein mosquitoes, transparency and accommodating

February 9, 2012 by adminwordress2 [Leave a Comment](#)

“The impression from the above (and from subsequent statements from Oxitec personnel) is that every individual householder was fully conversant with the reasons for the placement and servicing of BG-Sintinel traps and 100% of the people contacted said “Yes.”

*I can inform you that this was not the case. I was one of the householders whose permission was sought to have a BG-Sintinel trap placed on my property and also on another. I said, “Yes,” to both and it was to two different teams of MRCU personnel during the same week. I was never told it was part of an experiment after the release of the GM mosquitoes by either team. And there lies the problem. Very little was said and it was all very laid back, “Would you mind if....” Of course I didn’t mind. **Even if I had been told everything about the project I would still have given my permission.***

There is the problem. The lack of transparency. Tell as little as possible and only provide any more information if asked.”



+
Understanding what maintains consensus

+

***minimal principle?:* Applicants should aim not to weaken institutions that they hope to utilise.**

Public + stakeholder consultation exercises

VIEWPOINT

EVERYTHING YOU ALREADY KNOW ABOUT EIA (BUT DON'T OFTEN ADMIT)

Robert B. Beattie
Massachusetts Institute of Technology

Environmental impact assessments (EIAs) are produced for use in the real world. They aren't laboratory experiments, they aren't intellectual exercises, and they aren't created simply to molder in the basement of some government office building. They are meant to provide useful environmental information and to inform decisions on private and public projects. We think we know what EIAs are supposed to be. But public views of EIAs are shaped, in part, by the ways that professionals use and discuss them. If we want to make EIAs more useful, we, as professionals, need to address issues that are part of the public discourse about EIAs but are not discussed enough among those who create them.

Knowing the history

Mexico - maize
Hawaii- taro
France- grapes

Germany, Belgium-beer?
Italy, Spain - grapes, olives?

How perceptible is the value of the technology to the public -compared to alternatives-

Most countries have very high acceptance of medical biotech

Reasonable starting point for area-wide techniques?

*Technologies such as **GMOs** should only be introduced—and then under controllable circumstances only—based on democratic, transparent assessment of the technology through processes that include decision-makers from every area of society and every group of people who will be impacted by the technology.*

Draft document for Public Consultation on the Position of IFOAM—**Organics International on Genetic Engineering and Genetically Modified Organisms** (2016)

Scope specifically includes GM Arthropods

Open diamondback moth trial originally approved in November 2014 for upstate New York

***Environmental considerations:** soil resources; water resources; air quality; climate change; plant communities; wildlife and biological diversity.*

***Human Population Considerations:** Farm worker health and health of general public*

“covers principal related issues to human health such as environmental justice, hypersensitivity, noise, potential psychological effects, socioeconomics, cultural resources, and visual resources.”

USDA-APHIS (2001) Fruit fly cooperative control program. Final environmental impact statement 2001. Available: http://www.aphis.usda.gov/plant_health/ea/downloads/fffeis.

U.S. Department of Agriculture, Animal and Plant Health Inspection Service. FONSI-Field Release of Genetically Engineered Diamondback Moth Strains, 13-297-102r; U.S. Department of Agriculture, Animal and Plant Health Inspection Service: Raleigh, NC, USA, 2014; p. 28.



My observation / predictions

Local government, agencies, crop control committees and regulators that are **concerned with maintaining their public legitimacy will continue to be cautious of GM insect releases.**

They will continue to be receptive to non-GM approaches with the same aims of population suppression or replacement (e.g. *Wolbachia*)

What the word “**reversibility**” means at the time will be key to those entities concerned with maintaining their public legitimacy.

wildtype / exotic backgrounds and drifting transgenes

The context of alternatives likely to be essential for meaningful discussion- more predictable or familiar technologies with opt-outs.

**Thanks to Martin Phillipson and many others,
some of whom are in the room.**