GMO-Free Regions Manual: Case Studies from Around the World

Author: Hartmut Meyer

Published in Germany by IFOAM.

Die Deutsche Bibliothek – CIP Cataloguing-in-Publication-Data
A catalogue record for this publication is available from Die Deutsche Bibliothek
ISBN 3-934055-63-X

A download of the complete publication is available via the IFOAM web shop for a fee of 5 Euros.
Price: CD Rom – 5 Euros

GMO-FREE REGIONS MANUAL:
CASE STUDIES FROM AROUND THE WORLD
TABLE OF CONTENTS

Foreword

Dear reader and user of this manual,

There is no doubt about the incompatibility of genetically modified organisms (GMOs) with organic agriculture.

In the Mar del Plata conference declaration (1998), the International Federation of Organic Agriculture Movements (IFOAM) articulated a public position regarding GMOs. Consequently, the prohibition of the use of GMOs has been expanded upon in many IFOAM documents, such as the IFOAM Basic Standards.

Recently, the foundational elements of organic agriculture were laid down in the Principles of Organic Agriculture, approved by the 2005 General Assembly in Adelaide, Australia. The principles show that on all levels - Health, Ecology, Fairness and Care - GMOs are incompatible with organic agriculture.

IFOAM is well aware of mostly local and regional but as well national and international activities underway in the anti-GMO movement to set up GMO-free regions. This manual builds on existing expertise by making such experiences publicly available. The manual also provides comprehensive reports from different legal settings, as well as samples of letters and links to useful websites.

It is our wish that this manual may inspire others to set up GMO-free regions as well so that, worldwide, our seeds and food will remain GMO-free. Since seeds[1] are a treasure we inherited from our ancestors to feed us and future generations, we must ensure we do all we can for their safeguarding. I trust that this manual will be of help for this task.

Gerald A. Herrmann, IFOAM President

1 See seed saving training manual available at http://www.ifoam.org/training

Acknowledgements

Most of the information you will find in the chapters of this manual is from GENET-news postings, the information service of the European NGO Network on Genetic Engineering (GENET) (archived at http://www.gene.ch) and other publicly accessible internet sources. The sources are mainly articles from news agencies and the media, press releases and reports from companies and NGOs. To ensure that this text remains easy to read, these numerous sources are not specified. Bibliographic data and internet addresses of important documents are only given in some cases.

We would like to thank several individuals and organizations for their support in providing information that is not available in the internet and translating legal texts.

Chile:	Maria Isabel Manzur of the Programa Chile Sustentable and the Fundacion Sociedades Sustentables
New Zealand:	Julia Bone of the GE-free Register; Zelka Grammer of GE-free Northland
Philippines:	Agnes B. Lintao of SEARICE; Neth Daño of the Third World Network
Poland:	Anja Janitzek, Germany; Office of Bündnis 90/Die Grünen (Green Party) in the German Parliament

Funding for this manual was generously provided by the Schweisfurth-Stiftung, Germany.

List of abbreviations

AbL	Working Group for Rural Agriculture (Arbeitsgemeinschaft bäuerliche Landwirtschaft, the German association for small and family farmers)
AGS	Advanced Genetics Sciences (a Californian biotech company)
ANPED	Northern Alliance for Sustainability (an international NGO based in the Netherlands)
ANZFA	Australia New Zealand Food Authority
BSA	German Federal Agency for Plant Varieties (Bundessortenamt)
Bt	Bacillus thuringiensis (characterizes GE plants that possess a transgene from this soil bacterium producing a toxin for certain insects)
BUND	Friends of the Earth Germany (Bund für Umwelt und Naturschutz Deutschland, BUND)
DNA	desoxyribonucleid acid (the macromolecul harbouring the genetic information)
EIA	Environmental Impact Assessment
ERMA	Environmental Risk Management Authority (of New Zealand)
ETH	Swiss Federal Institute of Technology Zurich (Eidgenössische Technische Hochschule Zürich)
FAO	Food and Agriculture Organisation (of the United Nations)
FOEN	Federal Office for the Environment (in Switzerland)
FSS	Fundacion Sociedades Sustentables (NGO in Chile)
GE	genetically engineered (analogous to genetically modified)
GMO	genetically modified organism
HSNO Act	Hazardous Substances and New Organisms Act (of New Zealand)
ICPPC	International Coalition to Protect the Polish Countryside (NGO in Poland)
LL	Liberty Link (a trademark of Bayer CropScience for its GE plants that withstand its herbicide Liberty containing glufosinate)
LMO	living modified organisms (legal term in the Cartagena Protocol on Biosafety, essentially the same meaning as GMO)
LTCCP	Long Term Council Community Plan (in New Zealand)

MP	Member of Parliament
NABU	Birdlife Germany (Naturschutzbund Deutschland)
NGO	nongovernmental organization (the two other distinct societal groups are the governmental and private sector organizations)
NIH	National Institutes for Health (of the United States)
NOOM Act	New Organisms and Other Matters Act (of New Zealand)
RCGM	Royal Commission on Genetic Modification (in New Zealand)
RR	Roundup Ready (a trademark of Monsanto for its GE plants that withstand its herbicide Roundup containing glyphosate)
SEARICE	South East Asia Regional Institute for Community Education (NGO in the Philippines)
SPS Agreement	Sanitary and Phytosanitary Agreement (of the WTO)
UNESCO	United Nations Educational, Scientific and Cultural Organization
USDA	United States Department for Agriculture
WTO	World Trade Organization

List of tables and graphics

List of documents

California

A) Text of the Mendocino County GMO-free ordinance
B1) Ballot statement in favor of Measure H
B2) Rebuttal to argument in favor of Measure H
B3) Arguments against ballot proposition Measure H
B4) Rebuttal to argument against Measure H
C) A pledge from California farmers to protect farmers, consumers and the environment from genetically engineered crops
D) Overview about GE crop field trials in the USA and in California
E) Map on the status of U.S. State seed and plant preemption laws
F) Map of Californian counties and the status of GMO-related ordinances

Chile

A) General conclusions of the seminar and workshop in Aysen: For a clean production - an initiative for the regions of Chile
B) Declaration of farmers in Region One

New Zealand

A) GE plant field trials - applications and approvals
B) Speech of the Prime Minister on the Royal Commission and a new GMO moratorium
C) Notification letter provided by the GE-free Register
D) Data sheet for the Maori GE-Free Register

Philippines

A) Resolution No. 2003-235 - Declaring the Province of Bohol to be GMO-free or free from genetically modified organisms
B) Provincial Ordinance No. 2003-010 „The Safeguard Against GMOs“
C) Senate initiatives on GMO-free zones and related issues
D) House Bill No. 2124 „GMO-Free Food and Agriculture Act of 2004“
E) GE crops approved in the Philippines since Dec 2002

EU Moratorium

A) Definition of GMO according to the Directive 2001/18/EC
of the European Parliament and of the Council
B) Article 174 of the Treaty of Amsterdam amending the Treaty on European Union,
the Treaties establishing the European Communities and related Acts -
C) Draft Minutes of the 2194th Council meeting (Environment)
held in Luxembourg on June 24-25, 1999 and the Corrigendum to Draft Minutes
D) Map providing an overview about GMO-free regions in Europe

Germany

A) GMO-free resolutions of the cities of Munich and Dortmund
B) Working definitions for genetechnology free regions,
initiatives for genetechnology free regions, and genetechnology free farms
C) Map with overview of the GE crop related decisions of German Protestant Churches
D) Map with overview of the GMO-free regions in Germany

Poland

A) „Charter 21“ - Countryside Manifesto for 21st Century Poland
B) Law of the 27th of April 2006 on the revision of the seed law
and the plant protection law
C) Law of the 22nd of August 2006 on animal feed

Austria

A) Text of the genetechnology referendum

Switzerland

A) Text of the first moratorium initiative rejected in 1998
B) Text of the second moratorium initiative accepted in 2005

INTRODUCTION

For over 30 years, the debate about the risks of genetically modified organisms (GMOs), calls for moratoria and bans on GMOs, the desire to establish GMO-free zones, and the creation of GMO regulation have not been new phenomena; they have been inseparably connected with the development and application of genetic technologies. Molecular biologists, concerned about the potential risks of their work, started the public debate on GMOs, which involves all sectors of modern society: government, industry, and civil society. The events and discussions during the decisive years from 1971 until 1977 shaped the regulatory approach to the new technology of the Unites States. Meanwhile, the international model of GMO regulation and the majority of corresponding national laws are built upon a different approach than developed in the United States. But since the United States is still the main developer and user of GMOs, it is also influencing the public discussion in all other countries that enter the field of genetic engineering and its legal regulation.

Precaution versus self regulation – the Asilomar Conference[2]

In the early 1970s, the first experiments to combine desoxyribonucleic acid (DNA) molecules in the laboratory and to reintroduce them into bacteria to give them properties which they do not possess naturally were performed in California, United States. At the same time, experienced U.S. cancer researchers became concerned about the careless attitudes in many laboratories which were working with pathogenic microorganisms and cells cultures. At a conference in 1971, scientists learned about the biochemist Paul Berg's experiments conducted at Stanford University, California using viruses that can cause cancer in some mammals (e.g. hamsters) to genetically manipulate human bacteria. Later, they alerted Berg about possible dangers of his work for humans. Berg could not convince his colleagues of the experiments' harmlessness and, in the end, decided to stop them. In a different institute, Stanley Cohen worked on similar experiments but used plasmids to transfer newly combined DNA into bacteria. These plasmids were non-pathogenic circular pieces of DNA extracted from bacteria. In 1973, Stanley Cohen and Herbert Boyer's research groups succeeded in multiplying frog genes ***ad libitum*** in bacteria using the new plasmid technology. When this result became public, the researchers were bombarded with requests from scientists to send them the plasmids for their own research. Berg and his colleagues wondered whether the uncontrolled spread of these new research tools was a good idea considering possible ecological and health consequences.

2 The information for this subchapter has been summarized from a pioneering German publication on the controversial start of the development of genetic engineering in the USA: Jost Herbig. 1978. Die Geningenieure [The Gene Ingenieurs]. 263 p.

At the Gordon Conference on Nucleic Acids in 1973, Boyer reported on these new developments and concerns. Conference participants drafted a resolution which was accepted with a narrow margin of 48:42. The resolution warned about the dangers of hybrid DNA molecules for laboratory staff and the general population and called upon the National Acadamies of Sciences and the National Institutes for Health (NIH) to develop safety guidelines. Supported by Berg, Maxine Singer and Dieter Soll published this call in the respected scientific journal "Science" in September 1973.[3] The resolution was effective; the NIH established a commission to draft guidelines on the work with new DNA hybrids. The commission was composed of the main pioneers of the new research field „molecular biology" and other eminent biologists, amongst them James Watson. Soon after, they decided that an international conference was necessary to support their task. In an unprecedented approach, they invited their colleagues through a dramatic appeal published in three leading science journals, in which they suggested stopping certain types of experiments and expressed concerned about the use of the human bacterium *Escherichia coli*.[4] This appeal and a parallel press conference initiated a broad discussion on the potential risks of genetic engineering, a discussion which still continues today. At the conference, the scientists had planned to talk about the conditions under which they could work safely, but the public started a debate whether this work should be undertaken at all. Later, Berg tried to downplay the significance of the appeal and Watson even declared that the warning was a big mistake because now molecular scientists were being compared with their colleagues working in nuclear sciences, although the risks of genetic engineering were only hypothetical.

In spring 1975, the announced conference was held in Asilomar, California. Conference reports described the picturesque scenery when millions of Monarch butterflies populated the place, not knowing of course that, 25 years later, this butterfly would become the symbol for the debate on the environmental risks of genetically engineered (GE) crops. The participants at Asilomar recognized that, in the future, more serious problems might arise from the industrial, medical and agricultural application of genetic engineering, but they restricted their actual debates on health risks. During the conference, it became clear that the scientists were divided on whether guidelines should be developed at all and, if yes, on which scientific criteria risk classifications of experiments should be based. The emerging idea to only use microorganisms bred in a way that they could not survive outside of the laboratory was seen as a solution. In the end, the opinion seemed to prevail that the scientific community could only benefit from a set of guidelines that anticipate potential hazards but allow work to continue. It was felt that reasonable self-made guidelines would not be as detrimental to scientific work and expected future business as governmental guidelines and public influence. Only two of the 140 participants voted against the suggested principles: Joshua Lederberg and James Watson, the latter a determined opponent to all regulations concerning genetic engineering.

3 M. Singer, D. Soll. 1973. Guidelines for DNA Hybrid Molecules. Science 181: 1114.

4 P. Berg et al.. 1974. Potential Biohazards of Recombinant DNA Molecules. PNAS 71: 2593-2594.

The U.S. model of GMO regulation

In 1975, Cohen reported in an article that his research enabled scientists to cross the barriers which separate biological species, suggesting to readers that their experiments had created and invented new species. Even today, the novelty of GMOs and their properties is used by researchers to claim patents on them. Soon after the article's release in 1975, U.S. politicians started drafting regulations on GMOs. This alerted the molecular biologists who began trying to explain that GMOs are not different from natural organisms. In 1977, such a draft law was stalled when Cohen convinced politicians that his new approach also could have been done in the natural environment. This successful lobbying work was the basis for a whole generation of molecular biologists' attitude. Expecting a revolution in biology and an immense impact on business, GMOs were declared as natural as all other bred organisms, and as such, did not require specific regulation.

In 1976, the NIH adopted GMO guidelines which set up a system based on biological and physical containments to reduce possible health risks. The NIH guidelines formed the basis for similar guidelines in European countries, until the EU started in the late 1980s to create specific GMO laws. The United States never drafted GMO regulation but used existing frameworks to set up a voluntary consultation system in order to deregulate new transgenes and their proteins.

GMO-free zones in the U.S. system

The U.S. system of deregulation results in a lack of governmental overview of GMOs once they have passed the pre-market procedure. State and local legislation may introduce GMO moratoria and bans on all or certain GMOs in their territory. Though there have been many attempts to achieve this throughout the United States, most have been unsuccessful until now. A specific legal means against GMO-free zones are so-called pre-emption laws promoted by the U.S. biotech industry and mainstream farmer organizations. For example, these state laws forbid communal legislation dealing with GMO bans or labeling.

The international model of GMO regulation

International legal definition of genetically modified organism

This definition is given by the UN Cartagena Protocol on Biosafety. The term "living modified organism" (LMO) was coined at the RioSummit in 1992 for political reasons. The current meaning of LMO is almost identical to the meaning of GMO in other regional and national laws.

"Living organism" means any biological entity capable of transferring or replicating genetic material, including sterile organisms, viruses and viroids.

"Living modified organism" means any living organism that possesses a novel combination of genetic material obtained through the use of modern biotechnology.

"Modern biotechnology" means the application of:

a. In vitro nucleic acid techniques, including recombinant deoxyribonucleic acid (DNA) and direct injection of nucleic acid into cells or organelles, or

b. Fusion of cells beyond the taxonomic family, that overcome natural physiological reproductive or recombination barriers and that are not techniques used in traditional breeding and selection.

Source: http://www.biodiv.org/biosafety/protocol.shtml

At the 1992 Earth Summit in Rio de Janeiro, many participants propagated the use of GMOs as a perfect means to overcome the negative environmental and health impacts of modern agriculture and intensification of production and called for massive international support for the development of such new organisms. Moreover, they argued that GMOs are especially suited to support poor countries in their development. Some negotiators, however, were aware of the broad critical debate on the application of GMOs that had been unfolding in the United States and in Europe. They introduced a paragraph into the text of the Convention on Biological Diversity that allowed the members of this convention to start negotiating on an international standards setting regime for GMO risk assessment and governmental decision making procedures. The creation of the Cartagena Protocol on Biosafety – as it was called upon its adoption – faced strong resistance by industrialized countries and its biotech industries. Both the United States and most EU countries argued that international frameworks were not necessary and that they would be detrimental for the development of GMOs, especially for poor countries. Many developing countries, led by the African Group, insisted that an international framework – legally binding and specifically dealing with GMOs – is necessary to protect them from GMO risks and undue influences on their national legislative procedures. Only in 1998 and 1999, when some EU countries moved away from a policy fully supportive toward GMOs to a more balanced position (see the chapters „EU Moratorium on GMO Approvals" and „1997: GMO-free referendum in Austria"), they were able to agree with developing countries to accelerate biosafety negotiations. The treaty was adopted in January 2000.