

His Holiness
Pope Francis
Apostolic Palace
00120 Vatican City

April 30, 2014

Your Holiness:

With the utmost respect, we address Your Holiness regarding a topic of grave concern and global scope—genetically modified (GM) crops and their impact on peoples and on nature, land, water, seeds, and economies, especially those of the Global South.

The signatories of this letter are scientists and experts who have researched the issue for decades, devoting a considerable part of our professional lives to it. We are therefore knowledgeable on the topic in its various aspects—biologists, agronomists, geneticists, physicists, and professionals in other fields. Some of us helped raise the first worldwide public debate on these crops and their implications. With our scientific knowledge, we also endeavor to support a number of peasant movements in our countries and around the world, such as La Vía Campesina.

The issue of genetically modified crops is not only a scientific and technical debate; it also has significant economic and political implications. However, many scientists who defend GM crops conceal most of their problems and scientific uncertainties. There is seldom discussion of how large agribusiness corporations are using GM crops to move toward expanding their already-significant control over world food production.

Official statistics from the countries where most GM crops are planted demonstrate that, on average, they produce less per hectare, use more agrochemicals, and have resulted in a significant increase in unemployment in the countryside, resulting in an exodus from rural areas.

Genetically modified crops are a fundamental tool for large transnational corporations, whose explicit aim is profit and not social interest, to make decisions about a country's food supplies. The use of GM crops greatly affects food sovereignty and hinders the development of diversified agricultural systems capable of benefiting most of the population, especially the poorest; they also have negative effects on public health and the environment.

The imminent threat of commercial release of GM crops in their centers of origin, such as corn in Mesoamerica and rice in Asia, is particularly worrisome. These

releases will be irreversible and will have complex impacts. The pressure to break, in the following months, the UN moratorium on “Terminator” GM technology to make suicide seeds is also a major concern.

GM-free forms of agriculture based on peasants and small-scale farmers, diversity, and socially and environmentally responsible science are essential to address hunger and climate change, but they are at risk due to GM contamination and the advancement of corporate monopolies.

Because of this, and with the greatest respect, we believe that it would be of momentous importance and great value to all if Your Holiness were to express yourself critically on GM crops and in support of peasant farming. This support would go a long way toward saving peoples and the planet from the threat posed by the control of life wielded by companies that monopolize seeds, which are the key to the entire food web.

We are attaching a document that sums up some of the main points of the reality of genetically modified crops. A large amount of corroborating documents and scientific evidence are also available, and many more researchers and experts have contributed data along the same lines. We are at your disposal to provide any further information you may require.

Thank you for your attention.
Kind regards,

Ana María Primavesi
Andrés E. Carrasco
Elena Álvarez-Buylla
Pat Mooney
Paulo Kageyama
Rubens Nodari
Vandana Shiva
Vanderley Pignati

Email: sgeral@mst.org.br

Attachments:

Brief CVs of the signatories

Document “*Why Genetically Modified Crops Pose a Threat to Peasants, Food Sovereignty, Health, and Biodiversity on the Planet*”

Brief CVs of the Signatories

Ana María Primavesi. Born in Austria, Dr. Primavesi has a degree in agronomical engineering from the Rural University of Vienna and a Ph.D. in vegetable and animal nutrition and soil productivity from the University of Vienna. She has lectured at the Federal University at Santa Maria, Rio Grande do Sul, Brazil, and is the author of 12 technical books on soil. Her book *Ecological Management of the Soil* is considered a world reference in agricultural sciences and tropical soil management. She has published 94 original scientific works, in addition to hundreds of other articles and documents, participated in numerous congresses, seminars, and conferences, and offered technical assistance throughout Latin America and the Caribbean, Asia, Africa, and Spain. The recipient of honorary doctorates from several Brazilian universities, she has also received a number of international prizes, such as the *One World Award*.

Andrés E. Carrasco. Dr. Carrasco is a Medical Doctor at the University of Buenos Aires (UBA), Argentina, a Senior Researcher at the Laboratory of Molecular Embryology of the Cell Biology and Neuroscience Institute of the UBA Medical School. Among other distinctions, he received the Guggenheim Fellowship in 2005. He was associate professor at the Center for Cell Biology of the University of Basel, Germany; Senior Research Fellow at the University of Indiana, United States; and Senior Research Fellow of the Center for Biochemistry and Molecular Biology of the University of Göttingen, Germany, among other international research positions in universities in the United States and Europe. He was president of the Argentinean Society of Developmental Biology; president of the National Scientific and Technical Research Council (CONICET, Argentina) (2000-2001); former Undersecretary of Science and Technology of the Argentinean Ministry of Defense (2007-2009). Dr. Carrasco is a world reference for his research work and scientific publications on the effects of glyphosate in amphibians.

Elena Álvarez-Buylla Rocés. Dr. Rocés holds a degree in Biology from the National University of Mexico (UNAM), and a PhD in molecular genetics from the University of California, Berkeley. She currently runs the Laboratory of Molecular Genetics of Plant Development and Evolution of the UNAM Institute of Ecology. A member of Mexico's National Researcher System, she has obtained numerous awards and recognitions for her academic achievement and research. A former Miller Visiting Professor at the University of California, Berkeley, she has participated in many international congresses and seminars and has over 150 scientific research products to her name. Among these are 88 articles in indexed journals in addition to books and science outreach articles. She is a former member of the Advisory Council of Mexico's Commission on Biosecurity (Cibiogem), and founder and member of the board of Mexico's Union of Scientists Committed to Society (UCCS). Álvarez-Buylla is a world authority on the effects of genetically modified corn in Mexico, its center of origin.

Pat Mooney is a Canadian researcher, founder and Executive Director of the ETC Group (Action Group on Erosion, Technology and Concentration), an international

civil society organization based in Canada, with offices in the United States, Mexico, Philippines, and Nigeria. Mooney has worked for almost half a century with civil society and international social movements, first in the topics of aid and development and then focusing his efforts on food, agriculture, and trade. In 1985, he received the Right Livelihood Award, also known as the *Alternative Nobel Prize*, granted by the Swedish Parliament. He later received the Pearson Peace Prize from the Canadian Government. The author and coauthor of several books and countless other publications on policies regarding biotechnology, biodiversity, and new technologies, he has been invited several times to make presentations at the General Assembly of the United Nations and other UN bodies, and is widely known as an authority on topics of global governance, corporate concentration, intellectual property, and the impacts of new technologies.

Paulo Yoshio Kageyama. An agricultural engineer and lecturer at the University of São Paulo (USP), Brazil, with a PhD in genetics and plant improvement from USP. Dr. Kageyama is a full professor at the Superior School of Agriculture Luiz de Queiroz (ESALQ/USP) of the University of São Paulo. He studies the genetics and biodiversity of tropical ecosystems and application of agrobiodiversity in rural settlements. He is an international authority on forest biodiversity and has done important research and has broad experience in the areas of genetics and conservation, with an emphasis on the genetics of tree species, restoration of degraded areas, variability and genetic structure, and gene flow. He is a former director of the National Program on Biodiversity of Brazil's Ministry of the Environment and a former member of Brazil's Commission for Biosecurity (CTNBio).

Rubens Onofre Nodari. An agricultural engineer with a master's in plant science from the Federal University at Rio Grande do Sul, Brazil, and a doctorate from the University of California, Davis. Dr. Nodari is full professor at the Federal University at Santa Catarina (UFSC), with a broad experience in the area of genetics, with emphasis in plant genetics, working mainly in research in the topics of diversity and genetic conservation, plant improvement, and biosecurity of GMOs. He is coordinator of the research group on biosecurity and biodiversity of the Federal University at Santa Catarina, Brazil. He is coordinator of graduate studies in Plant Genetic Resources, and manages disciplines related to the characterization of diversity, genetic conservation, and population genetics. Since the 1990s, he has worked in the area of biosecurity of genetically modified organisms. In the context of the collaboration between UFSC and Norway's Genok Biosecurity Center, he has developed and directed research studies on direct and indirect biological risks resulting from the introduction of genetically modified organisms in the environment. He is former manager of genetic resources at the Ministry of the Environment of Brazil (2003-2008) and former member of Brazil's Biosecurity Commission (CTNBio).

Vandana Shiva. Born in India, Dr. Shiva is a researcher and activist with a bachelor's degree in Philosophy of Science from the University of Guelph, Ontario, Canada, with a thesis entitled "Changes in the Concept of Periodicity of Light," and a doctorate from the University of Western Ontario, with the dissertation "Hidden

Variables and Locality in Quantum Theory.” She later devoted herself to interdisciplinary research on science, technology, and environmental policies. In 1993 she received the Right Livelihood Award, also known as the *Alternative Nobel Prize*. She also received the Global 500 Award of the United Nations Environment Programme (UNEP) and the United Nations Earth Day international award. She is founder and coordinator of the Research Foundation for Science, Technology and Ecology, based in India, which since 1982 has organized a large number of informational and outreach activities with peasants on biodiversity, seeds, ecological agriculture, and genetically modified organisms, among other topics, as well as the Nadvanya program for the promotion of conservation and recovery of agrobiodiversity and peasant seeds. Dr. Shiva is the author of numerous publications and books. She has presented her work at a large number of conferences to audiences including scholars, peasants, and government representatives, including many forums of the United Nations. She has been described as one of the most influential people in the world by *Time Magazine* and *AsianWeek*.

Wanderlei Pignati. A physician specializing in labor medicine, Dr. Pignati has a Ph.D. in public health from the Oswaldo Cruz Foundation (FIOCRUZ) and lectures in the field of environmental health. He is a professor at the Medical School of the Federal University at Mato Grosso (UFMT) and the Master’s program in Collective Health at the Institute of Collective Health (UFMT/ISC) and the National Public Health School (FIOCRUZ/ENSP). He is a researcher on the impacts of agribusiness and agritoxins on health and the environment and a member of the Brazilian Association of Collective Health (ABRASCO). His research work on the impacts of agritoxins on human beings, animals, and ecosystems, especially in Mato Grosso, Brazil—one of the areas in that country with the most intensive agro-industrial activity and use of genetically modified crops—is widely known.

Why Genetically Modified Crops Pose a Threat to Peasants, Food Sovereignty, Health, and Biodiversity on the Planet

Introduction

*Almost twenty years of genetically modified crops... What have we gained?
Have they helped reduce hunger around the world?
They have aggravated the problems for the basis of survival on the planet
Do we need genetically modified crops?*

1. An inexact and uncertain technology

2. Genetically modified crops: an instrument of corporate control over agriculture

3. The reality: they produce less

4. They use much more, increasingly dangerous agritoxins

5. They pose serious risks to agrobiodiversity and the environment

*Contamination of native and criolla seeds
Contamination of water and soil*

6. Health risks

*Effects of GM crops on health with the Bt toxin
Impacts of agritoxin-resistant GM crops on health
Malformations and cancer from glyphosate in genetically modified crops
Censorship and persecution of those who demonstrate worrisome impacts of genetically modified crops on human health*

7. Are there advantages to genetically modified crops?

*The myth of golden rice
Are public GM crops better?*

8. Are there winners and losers with genetically modified crops?