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*** Harms

----Production not the issue - enough food to provide 4.3 pounds every person everyday

Altieri & Rosset 99

(Professor of Entomology @ UC Berkeley & Executive director of the Food First/Institute for Food and Development Policy [Miguel A. Altieri & Peter Rosset, "Ten reasons why biotechnology will not ensure food security, protect the environment and reduce poverty in the developing world," Food First, October 1999, pg. <http://www.foodfirst.org/progs/global/biotech/altieri-11-99.html>]

1. There is no relationship between the prevalence of hunger in a given country and its population. For every densely populated and hungry nation like Bangladesh or Haiti, there is a sparsely populated and hungry nation like Brazil and Indonesia. The world today produces more food per inhabitant than ever before. Enough is available to provide 4.3 pounds every person everyday: 2.5 pounds of grain, beans and nuts, about a pound of meat, milk and eggs and another of fruits and vegetables. The real causes of hunger are poverty, inequality and lack of access. Too many people are too poor to buy the food that is available (but often poorly distributed) or lack the land and resources to grow it themselves (Lappe, Collins and Rosset 1998).

----Food production is increasing. The primary issue is distribution

Hickey & Mittal 03

(Program Coordinator @ Pesticide Action Network North America & Co-director of the Institute for Food and Development Policy [Ellen Hickey and Anuradha Mittal, Voices from the South: The Third World Debunks Corporate Myths on Genetically Engineered Crops, A joint project of Food First/Institute for Food and Development Policy and Pesticide Action Network North America, May 2003]

Extensive research on hunger by Food First reveals that the first assumption is not based in fact. The world today produces more food per inhabitant than ever before. In fact, over the past 35 years, per capita food production has outstripped population growth by 15%. The real causes of hunger are poverty, inequality and lack of access. Too many people are too poor to buy the food that is available (but often poorly distributed) or lack the land and resources to grow it themselves. Pg. 5

*** Solvency

----GM Crops lower yields

Sexton & Hildyard 99

[Sarah Sexton & Nicholas Hildyard, "Ten Reasons Why GE Foods Will Not Feed the World," Extracted from "Food? Health? Hope? Genetic Engineering and World Hunger", a 28-page briefing prepared by The Corner House., pg. <http://www.organicconsumers.org/ge/tenreasons.cfm>]edlee

8. Lower Yields

The genetically-engineered crops now being cultivated do not have significantly increased yields. In some cases, yields are lower than those for conventional varieties of the same crop.

In the first large-scale field trials in Puerto Rico u 1992 of Roundup Ready plants, Monsanto scientists found statistically significant reduced yields, averaging some 11.5 per cent, in three of seven trials.

Many of the first growers of Roundup Ready cotton in the Mississippi Delta of the US complained in 1997 of low yields and poor quality, noting that bolls dropped prematurely and were deformed. Over 50 growers filed complaints with the newly-formed US Seed Arbitration Council; Monsanto has since paid out substantial compensation.

----No difference in crop yields

Altieri & Rosset 99

(Professor of Entomology @ UC Berkeley & Executive director of the Food First/Institute for Food and Development Policy [Miguel A. Altieri & Peter Rosset, "Ten reasons why biotechnology will not ensure food security, protect the environment and reduce poverty in the developing world," Food First, October 1999, pg. <http://www.foodfirst.org/progs/global/biotech/altieri-11-99.html>]edlee

4. Recent experimental trials have shown that genetically engineered seeds do not increase the yield of crops. A recent study by the USDA Economic Research Service shows that in 1998 yields were not significantly different in engineered versus non-engineered crops in 12 of 18 crop/region combinations. In the six crop/region combinations where Bt crops or HRCs fared better, they exhibited increased yields between 5-30%. Glyphosate tolerant cotton showed no significant yield increase in either region where it was surveyed. This was confirmed in another study examining more than 8,000 field trials, where it was found that Roundup Ready soybean seeds produced fewer bushels of soybeans than similar conventionally bred varieties (USDA 1999).

----Africa rejects GM food. Rejection of food aid proves

Hickey & Mittal 03

(Program Coordinator @ Pesticide Action Network North America & Co-director of the Institute for Food and Development Policy [Ellen Hickey and Anuradha Mittal, Voices from the South: The Third World Debunks Corporate Myths on Genetically Engineered Crops, A joint project of Food First/Institute for Food and Development Policy and Pesticide Action Network North America, May 2003]edlee

For proponents of genetically modified food, these are dark times. Led by Zambia, and recently followed by India, more and more countries in the Global South are spurning genetically modified (GM) food aid, and questioning the wisdom of a corporate-controlled food system. Zambia is the mouse that roared. A country facing widespread famine, Zambia refused genetically contaminated food aid from the U.S., after a review by its scientists of studies on GM foods showed insufficient evidence to demonstrate its safety. Pg. 1

----Africa is united in their opposition to GM foods

Hickey & Mittal 03

(Program Coordinator @ Pesticide Action Network North America & Co-director of the Institute for Food and Development Policy [Ellen Hickey and Anuradha Mittal, [Voices from the South: The Third World Debunks Corporate Myths on Genetically Engineered Crops](#), A joint project of Food First/Institute for Food and Development Policy and Pesticide Action Network North America, May 2003]edlee

Africa has, however, been largely united against U.S.- pushed GM, opting instead for self-sufficiency. In 1998, all African delegates (except South Africa) to the UN Food and Agriculture Organization (FAO) negotiations on the International Undertaking for Plant Genetic Resources released a statement, “Let Nature’s Harvest Continue” (see page 5).

During the past few weeks European citizens have been exposed to an aggressive publicity campaign in major European newspapers trying to convince the reader that the world needs genetic engineering to feed the hungry. Organized and financed by Monsanto, one of the world’s biggest chemical companies, and titled, “Let the Harvest Begin,” this campaign gives a totally distorted and misleading picture of the potential of genetic engineering to feed developing countries. We, the undersigned delegates of African countries participating in the 5th Extraordinary Session of the Commission on Genetic Resources, strongly object that the image of the poor and hungry from our countries is being used by giant multinational corporations to push a technology that is neither safe, environmentally friendly, nor economically beneficial to us. ... We think it will destroy the diversity, the local knowledge and the sustainable agricultural systems that our farmers have developed for millennia and that it will thus undermine our capacity to feed ourselves. We invite European citizens to stand in solidarity with Africa in resisting these gene technologies so that our diverse and natural harvests can continue and grow.
Pg. 4

----Over 20 African consumer organizations is leading opposition

Hickey & Mittal 03

(Program Coordinator @ Pesticide Action Network North America & Co-director of the Institute for Food and Development Policy [Ellen Hickey and Anuradha Mittal, [Voices from the South: The Third World Debunks Corporate Myths on Genetically Engineered Crops](#), A joint project of Food First/Institute for Food and Development Policy and Pesticide Action Network North America, May 2003]edlee

Over 20 African consumer leaders from more than 20 organizations gathered in Lusaka, Zambia, found enough “reasonable suspicion” to reject genetically modified organisms, known as GMOs, as an answer to food security in the region.

After several days of plenary sessions, workshops and debates on issues dealing with trade, international governance, environment, health and economic issues, bioethics and legitimate factors, and intellectual property rights, delegates at the conference came out with the decision that “GM technology is not a solution for food security in Africa, including the small Island states.” Pg. 60

----The majority of African countries reject the use of biotech

Ogodo 06

[Ochieng' Ogodo, "US Biotech Companies Urge Africa to Catch Up," Islam Online, June 13, 2006, pg. <http://www.africabiotech.com/news2/article.php?uid=149>]jedlee

But in Africa, only South Africa has started benefiting from biotech farming and has increased its combined area of GM maize, soybean and cotton to 0.4 million hectares.

At present, most African countries cannot advance GM crop research because national policies or regulatory systems are not prepared to deal with safety requirements for approving its general use. This is even worsened by the fact that most decision-makers lack science-based biosafety information crucial to improving the clarity of these regulatory policies and procedures. Only South Africa and Nigeria have a specific policy for biotechnology development and application.

----Public opposition will doom agricultural biotech

Nicholson 03

(Registered patent attorney working for the USDA Agricultural Research Service

[David R. Nicholson, Former Associate Solicitor at the United States Patent and Trademark Office, "Agricultural Biotechnology and Genetically-Modified Foods: Will the Developing World Bite?," *Virginia Journal of Law and Technology*, Summer, 2003, 8 Va. J.L. & Tech. 7]jedlee

Non-Governmental Organizations (NGOs) are spearheading the opposition to agricultural biotechnology. Their campaign is full of histrionics and scare tactics the effect of which should not be underestimated since political decisions are often driven by emotional concerns. Hence, it simply does not matter how technically promising genetically engineered crops are -- if the public is afraid of them and unwilling to accept GM foods, then the technology will go nowhere. There will be no market for the crops, which means no funding for additional research.

----Massive opposition to biotech

Nicholson 03

(Registered patent attorney working for the USDA Agricultural Research Service [David R. Nicholson, Former Associate Solicitor at the United States Patent and Trademark Office, "Agricultural Biotechnology and Genetically-Modified Foods: Will the Developing World Bite?," *Virginia Journal of Law and Technology*, Summer, 2003, 8 Va. J.L. & Tech. 7]jedlee

Whether or not biotechnology will be allowed to address many of the problems facing the developing world is still an open question. Many in the developed world condemn biotechnology and genetically modified organisms because of the perceived problems that they may cause to health, the environment, and social institutions. 176 Most agricultural scientists, however, understand the value of biotechnology and do not view it as a threat. 177 This includes many African scientists who are convinced that biotechnology can stave off starvation. 178 Still, significant opposition to the technology exists. One aspect of this opposition in the developing world stems from the perception that biotechnology will not only alter agriculture but that it will also alter the overall economy, perhaps adversely. Moreover, whenever there has been new technology introduced into agriculture, there has been resistance, although the opposition to modern biotechnology is unprecedented. 179 Perhaps this issue can be better understood if it is placed in historical context.

----Production is not the issue. AFF can't solve for the root cause

Drago 06

[Tito Drago, "Hunger Due to Injustice, Not Lack of Food," Inter Press Service, October 16 2006, pg. http://www.organicconsumers.org/articles/article_3162.cfm]edlee

Millions of people die of hunger-related causes every year. However, that is not because of actual shortages of food, but is a result of social injustice and political, social and economic exclusion, argue non-governmental organisations that launched a campaign in Spain on World Food Day Monday. Oct. 16 was established as World Food Day in 1979 by the United Nations Food and Agriculture Organisation (FAO), commemorating the agency's Oct. 16, 1945 founding date. Monday also marked the first day of Anti-Poverty Week, which will include events in Spain and around the world to raise awareness of the issue. FAO's slogan for World Food Day this year is "Invest in Agriculture for Food Security". But NGOs argue that the problem is not a lack of food production, but of the injustice surrounding access to and use of foods. Theo Oberhuber, head of the Spanish environmental NGO Ecologists in Action (EEA), told IPS that enough food is produced in the world to cover the needs of everyone, so that no one would have to go hungry. But, he added, there are two problems that stand in the way of this. The first is that a large part of all food, whether agricultural products or food obtained from oceans or rivers, goes towards feeding livestock "whose meat and by-products are consumed mainly in the countries of the industrialised North." The second, he said, is social injustice. In many countries, the majority of the population cannot afford food, "not even food of lesser quality."

----GM can't solve hunger. Distribution – Not production – is the problem

Schwind & Poole-Kavana 05

(Program Director at the Institute for Food and Development Policy & Associate at Food First. [Kirsten Schwind (Masters degree in Natural Resources Management from the University of Michigan) and Hollace Poole-Kavana (Studied biology at Cornell), "We Need GMO Food Like a Hole in Our Kidneys," CommonDreams.org, Published on Tuesday, June 21, 2005, pg. <http://www.organicconsumers.org/ge/kidneys062805.cfm>]edlee

What of the famed argument that GM crops are worth it because they will resolve world hunger? GM crops fundamentally cannot end hunger because hunger isn't caused by a lack of food. The world currently produces enough food for everyone on earth to consume over 2,800 calories a day – that's enough to make most people a bit pudgy. The problem is that food doesn't go to the hungriest people because they don't have the resources to buy it or grow it. Pennsylvania is full of productive farms, yet one in ten residents of the City of Brotherly Love know hunger all too well. Hunger is caused by a lack of access to basic human rights, including good education, health care, housing, and living wages – in the United States and throughout the world. Hunger is also caused by racism and inequality. These topics aren't on the agenda of this year's BIO conference.

*** Honeybees Turn

----GM crops are toxic to honeybees

Cummins 2007

(Professor of Genetics @ University of Western Ontario [Prof. Joe Cummins, "Requiem for the Honeybee: Neonicotinoid insecticides used in seed dressing may be responsible for the collapse of honeybee colonies," [Organic Consumers Association](http://www.organicconsumers.org/articles/article_4972.cfm), 24 April 2007, pg. http://www.organicconsumers.org/articles/article_4972.cfm]

There has been a great deal of concern over the decline of the honeybee across the US, Europe and Australia [1] (The Mystery of Disappearing Honeybees, this series). The United States National Research Council (USNRC) Committee of the Status of Pollinators in North America report [2] focused on the impact of parasites, fungi, bacteria and viruses, but did not pay much attention on the impact of pesticides and genetically modified (GM) crops, which may have lethal or sub-lethal effects on the bee's behaviour or resistance to infection. There have been strong responses to the report. Any suggestion that GM crops and pesticides may be causing the decline of honeybees is met with heated denial from the proponents. Certainly, honeybees are declining both in areas where GM crops are widely grown, and in other areas where GM crops are released in small test plots. Is there a common thread that links both areas? Yes there is, the universal use of systemic pesticide seed dressing in GM crops and conventional crops; in particular, the widespread application of a relatively new class of systemic insecticides - the neonicotinoids - that are highly toxic to insects including bees at very low concentrations. Systemic pesticide seed dressings protect the newly sprouted seed at a vulnerable time in the plant's development. Seed dressings include systemic insecticides and fungicides, which often act synergistically in controlling early seedling pests. The neonicotinoid insecticides include imidacloprid, thiamethoxam, clothianidin, and several others. Imidacloprid is used extensively in seed dressing for field and horticultural crops, and particularly for maize, sunflower and rapeseed (canola). Imidacloprid was detected in soils, plant tissues and pollen using HPLC coupled to a mass spectrometer. The levels of the insecticide found in pollen suggested probable delirious effects on honeybees [3]. For several years since 2000, French and Italian beekeepers have been noticing that imidacloprid is lethal to bees, and the insecticide is suspected to be causing the decline of hive populations by affecting the bee's orientation and ability to return to the hive.

----GM crops are a death camp for honeybees

Cummins 2007

(Professor of Genetics @ University of Western Ontario [Prof. Joe Cummins, "Requiem for the Honeybee: Neonicotinoid insecticides used in seed dressing may be responsible for the collapse of honeybee colonies," [Organic Consumers Association](http://www.organicconsumers.org/articles/article_4972.cfm), 24 April 2007, pg. http://www.organicconsumers.org/articles/article_4972.cfm]

Bayer corporation scientists reported that neither honeybees exposed to imidacloprid in sunflower seeds dressed with the insecticide [9] nor maize seeds dressed with the insecticide or released from the seeds during planting [10] were detrimental to honeybees. The Bayer studies did not deal with sub-lethal behaviour of intoxicated bees. An independent study found that imidacloprid was released to the environment from treated maize seeds during seed planting [11]. Bayer eco-toxicologists directed harsh criticisms at reports showing lethal or sub-lethal toxic effects of imidacloprid seed dressing and concluded that imidacloprid does not pose any significant risk to honeybees in the field [12], without, however, disproving the findings. It is simply yet another case of the anti-precaution principle being applied [13] (Use and Abuse of the Precautionary Principle, ISIS News 6). Turning to GM crops such as maize, canola, cotton and soybean it is clear that all of these GM crops, with or without Bt genes, use seeds most of which are coated with neonicotinoid pesticides highly toxic to honey bees. For example, Herculex maize with Bt genes to control rootworm, like Yieldgard corn borer resistant maize, is planted with seeds dressed with a neonicotinoid insecticide and a fungicide. Furthermore, the GM planting requires setting aside plots of non-GM maize making up 20 percent of the planted area as a "refuge" to discourage the evolution of resistant insects. But the "refuge" is sprayed with neonicotinoid pesticide to protect its yield [14], and is more like a death camp for insects. Monsanto's US Patent 6,660,690 provides for coating GM seeds with chemical pesticides [15].

----Bees are key and GM food is destroying them

Hutaff 07

[Matt Hutaff, "Give Bees a Chance," The Simon, May 1, 2007, pg. http://www.thesimon.com/magazine/articles/canon_fodder/01375_give_bees_chance.html]edlee

Consider: bees are essential for pollinating over 90 varieties of vegetables and fruits, including apples, avocados, blueberries, and cherries; pollination increases the yield and quality of crops by approximately \$15 billion annually; and California's almond industry alone contributes \$2 billion to the local economy, and depends on 1.4 million bees, which are brought in from all over the United States. **Bees stimulate the food supply as well as the economy.** So what's the cause of colony collapse? Suspicions are pointed in several different directions, including cell phone transmissions and agricultural pesticides, some of which are known to be poisonous to bees. But if these two factors are responsible, why are the deaths not a global phenomenon? The bee collapse began in isolated pockets before progressing rapidly around the nation. If cell phones are to blame, shouldn't the effect have been simultaneous, and witnessed years ago? And if pesticides are strictly to blame, shouldn't beekeepers near major farm systems be able to track those pollutants and narrow the field of possible suspects? Perhaps they have – and the culprit is bigger than we imagine. Several scientists have come forward with the startling claim that genetically modified food – you know, that blessing from above that would solve famine and put food in the belly of every undernourished, Third World child – is destroying bees. How could something so wondrous as pest-resistant corn kill millions upon millions of bees? Simple – by producing so much natural pesticide that bees are either driven mad or away. Most genetically-modified seeds have a transplanted segment of DNA that creates a well-known bacterium, bacillus thuringiensis (Bt), in its cells.

----GM Food may unwittingly become a destroyer of the world

Hutaff 07

[Matt Hutaff, "Give Bees a Chance," The Simon, May 1, 2007, pg. http://www.thesimon.com/magazine/articles/canon_fodder/01375_give_bees_chance.html]edlee

There is no way to keep genetically modified genes from escaping into the wild," says Mike Rivero. "Wild varieties of corn in Mexico have been found to contain artificial genes carried by the wind and bees. Indeed it is probable that the gene that makes the plant cells manufacture a pesticide has already escaped, which means this problem will only spread. "This is far more dangerous than a toxic spill, which confines itself to the original spill and the downwind/downstream plumes. A mistake in a gene, once allowed into the wild, can spread across the entire planet." Genetically-modified food is produced by companies such as Monsanto (how many of its scientists do you think drive a hybrid?). Despite a number of tests, the food created by these gene-spliced crops are considered a failure. It consistently makes animals ill, increases liver toxicity, and damages kidneys. What's the incentive to grow this food? What's the incentive to eat it? In our dash to trademark the very building blocks of our food supply, companies experimenting with "upgrading" crops may have irreparably damaged one of nature's most important contributors. Instead of approaching famine from a balanced perspective, corporations have patented the right to subsist. If Einstein's lesser-known theory is right, they have unwittingly become Shiva, the destroyer of worlds.

*** Superweed turn

----GM crops risk “superweeds” and reduced genetic variety.

Sexton & Hildyard 99

[Sarah Sexton & Nicholas Hildyard, “Ten Reasons Why GE Foods Will Not Feed the World,” Extracted from “Food? Health? Hope? Genetic Engineering and World Hunger”, a 28-page briefing prepared by The Corner House., pg. <http://www.organicconsumers.org/ge/tenreasons.cfm>]edlee

7. Unsustainable Agriculture

Genetic engineering in agriculture is likely to have adverse environmental impacts which are in turn likely to undermine the ecological basis of food production. Genetically-engineered crops will stimulate the evolution of "superweeds" and "superbugs" which will necessitate higher doses of chemicals and make food supplies more vulnerable to pest damage. The outcrossing of engineered traits to other plants also poses a major threat to food production. In addition, the adoption of genetically-engineered crops is likely to reduce genetic diversity, resulting in fewer and fewer types of food crops; the narrowing of the genetic base of food adds to the likelihood of pest and disease epidemics. Many of these problems stem from the fact that genetically-engineered crops will be grown in industrial monocultures. Other forms of agriculture offer far safer, proven and ecologically-benign means of protecting crops against pest damage.

---- Superweeds force farmers to use highly toxic weedkillers that devastate human health and wildlife

INDEPENDENT ON SUNDAY 2003

[“UK Told GM Crops Will Lead to “Environmental Catastrophe””, 06/29/03, pg. <http://news.independent.co.uk/uk/environment/story.jsp?story=419968>]edlee

GM threatens a **superweed catastrophe** English Nature says the new crops could lead to farmers using toxins that would devastate the countryside By Severin Carrell 29 June 2003 Genetically modified farming will lead to a new generation of herbicide-resistant crops which could devastate the countryside, says English Nature.

The Government's chief conservation agency says the inevitably far stronger weedkillers that would be needed would devastate hedgerows and verges and produce "superweeds" unless strict controls are imposed. English Nature has warned ministers to prepare for the "worst case" scenario if they press ahead with proposals to grow GM crops. If the worst case becomes reality, the agency fears that farmers could turn to **highly toxic and old-fashioned weedkillers such as Paraquat and 2,4-D** because they will be faced with GM "superweeds" that can resist most modern weedkillers. These superweeds will emerge because it is "inevitable" that weedkiller-tolerant genes will escape from GM crops such as sugar beet, maize and oilseed rape into normal plants, English Nature states. The dangerous genes will be carried by the pollen of GM crops, spread by the wind, by insects and by farmers moving between fields. Dr Brian Johnson, a co-author of the English Nature report, said: "If you hit them with most of the conventional herbicides they just smile at you. They certainly don't die." And - unless the use of GM weedkillers is very strictly policed - insects and birds that live off weeds, wild flowers and grasses will be killed off because farmers will be using herbicides at the wrong time of year. This would wreck the Government's multi-million- pound programmes to save endangered birds, wildlife and insects. "It may well make some of these policies unworkable," Dr Johnson said. The "worst case" scenario could be avoided, however, if ministers conducted even more trials, and drafted detailed and binding rules on how and where farmers grow GM crops. The current field trials, due to finish this summer, have been too limited in scope, the agency believes. English Nature's warnings - in a detailed report to the official GM science review headed by Professor David King, Tony Blair's chief scientific adviser - have been supported by Lord May, the president of the Royal Society. Writing in The Independent on Sunday today, Lord May says that without proper tests and controls, GM crops could lead to a further intensification of agriculture and harm wildlife. This would lead to "an even more silent spring" - a reference to Rachel Carson's famous 1962 book exposing the link between songbird deaths and pesticides. Dr Johnson, a member of Professor King's panel, said one GM superweed now appears to be resistant to four types of herbicide. Experts fear that future superweeds could end up with herbicide, fungicide and insecticide resistance, unless GM crops are heavily restricted. Drafting strict rules on GM crops was "very, very important", Dr Johnson said.