
We Don't Need Genetically Engineered Bananas

by Vandana Shiva

The latest insanity from the genetic engineers is to push GMO bananas on India for reducing iron deficiency in Indian women.

Nature has given us a cornucopia of biodiversity, rich in nutrients. Malnutrition and nutrient deficiency result from destroying biodiversity, and with it rich sources of nutrition. The Green Revolution has spread monocultures of chemical rice and wheat, driving out biodiversity from our farms and diets.

And what survived as spontaneous crops like the amaranth greens and chenopodium (bathua) which are rich in iron were sprayed with poisons and herbicides. Instead of being seen as iron rich and vitamin rich gifts, they were treated as “weeds.” A Monsanto representative once said that genetically engineered crops resistant to their proprietary herbi-

Our indigenous biodiversity offers rich sources of iron. Amaranth has 11.0 milligrams per 100 grams of food, buckwheat has 15.5, neem has 25.3, bajra has 8.0, rice bran 35.0, rice flakes 20.0, bengal gram roasted 9.5, bengal gram leaves 23.8, cowpea 8.6, horse gram 6.77; amaranth greens have up to 38.5, karonda 39.1, lotus stem 60.6, coconut meal 69.4, niger seeds 56.7, cloves 11.7, cumin seeds 11.7, mace 12.3, mango powder (amchur) 45.2, pippali 62.1, poppy seeds 15.9, tamarind pulp 17.0, turmeric 67.8, raisins 7.7...

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cide Roundup killed the weeds that “steal the sunshine.” And their Roundup ads in India tell women, “Liberate yourself, use Roundup.” This is not a recipe for liberation, but being trapped in malnutrition.

As the “Monoculture of the Mind” took over, biodiversity disappeared from our farms and our food. The destruction of biodiverse cultivation and diets has given us the malnutrition crisis, with 75% women now suffering from iron deficiency.

The knowledge of growing this diversity and transforming it to food is women’s knowledge. That is why in Navdanya we have created the network for food sovereignty in women’s hands—Mahila Anna Swaraj.

The solution to malnutrition lies in growing nutrition, and growing nutrition means growing biodiversity, it means recognizing the knowledge of biodiversity and nutrition among millions of Indian women who have received it over generations as “Grandmothers’ Knowledge.” For removing iron deficiency, iron rich plants should be grown everywhere—on farms, in kitchen gardens, in community

gardens, in school gardens, on roof tops, in balconies. Iron deficiency was not created by Nature. And we can get rid of it by becoming co-creators and co-producers with Nature.

But there is a “creation myth” that is blind to nature’s creativity and biodiversity, and to the cre-

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ativity, intelligence and knowledge of women. According to this “creation myth” of capitalist patriarchy, rich and powerful men are the “creators.” They can own life through patents and intellectual property. They can tinker with nature’s complex evolution over millennia, and claim their trivial yet destructive acts of gene manipulation “create” life, “create” food, “create” nutrition. In the case of GM bananas it is one rich man, Bill Gates, financing one Australian scientist, Dale, who knows one crop, the banana, to impose inefficient and hazardous GM bananas on millions of people in India and Uganda who have grown hundreds of banana varieties over thousands of years in addition to thousands of other crops.

The project is a waste of money, and a waste of time. It will take 10 years and millions of dollars to complete the research. But meantime, governments, research agencies, scientists will become blind to biodiversity-based, low cost, safe, time-tested, democratic alternatives in the hands of women.

Bananas only have 0.44 mg of iron per 100 grams of edible portion. All the effort to increase iron content of bananas will fall short of the iron content of our indigenous biodiversity.

Not only is the GM banana not the best choice for providing iron in our diet, it will further threaten biodiversity of bananas and iron rich crops, and introduce new ecological risks.

First, the GM banana, if adopted, will be grown as large monocultures, like GM Bt cotton, and the banana plantations in the banana republics of Central America. Since government and Aid agencies will push this false solution, as has happened with every “miracle” in agriculture, our biodiversity of iron rich foods will disappear.

The idea of “nutrient farming” of a few nutrients in monocultures of a few crops has already started to be pushed at the policy level. The finance Minister announced a project for “nutria-farms” in his 2013 budget speech.

Humans need a biodiversity of nutrients including a full range of micronutrients and trace elements. These come from healthy soils and biodiversity.

Second, our native banana varieties will be displaced, and contaminated. These in-

clude Nedunendran, Zanzibar, Chengalikodan, Manjeri Nendran II;

Table varieties: Monsmarie, Robusta, Grand Naine, Dwarf Cavendish, Chenkadali, Poovan, Palayankodan, Njalipoovan, Amritsagar, GrosMichel, Karpooravalli, Poomkalli, Koopillakannan, Chinali, Dudhsagar, Poovan, Red banana;

Culinary varieties: Monthan, Batheea Kanchikela Nendrapadathy, Njalipoovan, Palayankodan, Robusta.

There is a perverse urge among the biotechnology brigade to declare war against biodiversity in its centre of origin. An attempt was made to introduce Bt Brinjal into India which is the centre of diversity for Brinjal. GM corn is being introduced in Mexico, the centre of diversity of corn. The GM banana is being introduced to the two countries where banana is a significant crop and has large diversity. One is India; the other is Uganda, the only country where banana is a staple.

Fourth, as recognized by Harvest Plus, the corporate alliance pushing biofortification, there could be insurmountable problems with the biofortification of nutrients in foods as they “may deliver toxic

amounts of nutrients to an individual and also cause its associated side effects [and] the potential that the fortified products will still not be a solution to nutrient deficiencies amongst low income populations who may not be able to afford the new product

and children who may not be able to consume adequate amounts.” *

Fifth, Australian scientists are using a virus that infects the banana as a promoter. This could spread through horizontal gene transfer. All genetic engineering uses genes from bacteria and viruses. Independent studies have shown that there are health risks associated with GM foods.

There is no need for introducing a hazardous technology in a low-iron food like bananas (which bring us many other health benefits) when we have so many affordable, accessible, safe and diverse options for meeting our nutritional needs for iron.

We have to grow nutrition by growing biodiversity, not industrially “fortify” nutritionally empty food at high cost, or put one or two nutrients into genetically engineered crops.

We don’t need these irresponsible experiments that create new threats to biodiversity and our health, imposed by powerful men in distant places,

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who are totally ignorant of the biodiversity in our fields and thalis, and who never bear the consequences of their destructive power. We need to put food security in women's hands so that the last woman and the last child can share in nature's gifts of biodiversity.

Trained as a physicist, Vandana Shiva is an Indian environmental and anti-globalization activist and the author of more than 20 books.

Note

* Phelps, Bob, Food Biofortification: no answer to ill-health, starvation or malnutrition, <http://www.freshfruit-portal.com/opinion-biofortification-is-an-obstacle-to-food-justice>

