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GM foods will be vital in feeding the future world [1]

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Prince Charles and eco-warriors rail against them, but genetically modified crops are becoming the superheroes of agriculture, and they have special powers. Some are being developed to be pest-resistant, potentially saving the 50 percent of crops destroyed each year by pests. This means less pesticides, less run-off and less river pollution; this limits soil erosion, pertinent in developing countries where over-farming poses a greater problem. GM crops have avoided 200,000 tonnes of insecticide and the multiple sprays of fungicide that potatoes need. One promising development is of crops that will host nitrogen-fixing bacteria instead of needing vast quantities of nitrate fertilizers.

Drought-resistant crops including maize (corn) have been developed, important in developing countries with unreliable rainfall. Ones that can grow on marginal land enable more food to be grown without cutting back rainforest. Others resist elements in acidic soil, and some have been developed to mop up toxic chemicals and return polluted land to fertility.

GM increases yields using fewer resources (and chemicals) and with less pollution. And yield gains have been larger in developing countries. For example in Mexico a herbicide tolerant soybean has given a 9% yield increase; in Romania a similar one has averaged yield increases of 31%. In the Philippines an insect resistant corn has averaged yield increases of 24%; in Hawaii a virus resistant papaya has increased yields by an average of 40% and in India an insect resistant cotton has led to yield increases of more than 50%. This confounds critics who allege that GM has yet to produce benefits; they are happening now.

GM crops are being developed to combat dietary deficiencies, notably the 'golden rice' that adds the vitamin A lacking in ordinary rice. Since 670,000 children die from vitamin A deficiency each year, the potential is huge. Although critics castigate GM crops as 'frankenfoods' that are unsafe to eat, there is no evidence to support this. They have been around for 13 years, with 80% of US foods containing them, and without ill effects. Undercooked food is riskier than GM food because it poses a real hazard.

Scientists estimate that world food production will need to be doubled by 2050, which cannot be done with

conventional farming methods because there is insufficient land. However, if GM crops can increase yield on existing land and save much of the 50% lost to pests, the problem will be solved, and solved using less pesticides and fertilizers. Ironically, GM offers the chemical-free farming lauded by environmentalists. But GM is high tech and scientific, and they want us all to revert to simpler ways?

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