

Biotech has bamboozled us all

Studies suggest that traditional farming methods are still the best

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Thursday August 24, 2000

The Guardian

The advice could scarcely have come from a more surprising source. "If anyone tells you that GM is going to feed the world," Steve Smith, a director of the world's biggest biotechnology company, Novartis, insisted, "tell them that it is not... To feed the world takes political and financial will - it's not about production and distribution."

Mr Smith was voicing a truth which most of his colleagues in biotechnology companies have gone to great lengths to deny. On a planet wallowing in surfeit, people starve because they have neither the land on which to grow food for themselves nor the money with which to buy it. There is no question that, as the population increases, the world will have to grow more, but if this task is left to the rich and powerful - big farmers and big business - then, irrespective of how much is grown, people will become progressively hungrier. Only a redistribution of land and wealth can save the world from mass starvation.

But in one respect Mr Smith is wrong. It is, in part, about production. A series of remarkable experiments has shown that the growing techniques which his company and many others have sought to impose upon the world are, in contradiction to everything we have been brought up to believe, actually less productive than some of the methods developed by traditional farmers over the past 10,000 years.

Last week, Nature magazine reported the results of one of the biggest agricultural experiments ever conducted. A team of Chinese scientists had tested the key principle of modern rice-growing (planting a single, hi-tech variety across hundreds of hectares) against a much older technique (planting several breeds in one field). They found, to the astonishment of the farmers who had been drilled for years in the benefits of

"monoculture", that reverting to the old method resulted in spectacular increases in yield. Rice blast - a devastating fungus which normally requires repeated applications of poison to control - decreased by 94%. The farmers planting a mixture of strains were able to stop applying their poisons altogether, while producing 18% more rice per acre than they were growing before.

Another paper, published in Nature two years ago, showed that yields of organic maize are identical to yields of maize grown with fertilisers and pesticides, while soil quality in the organic fields dramatically improves. In trials in Hertfordshire, wheat grown with manure has produced higher yields for the past 150 years than wheat grown with artificial nutrients.

Professor Jules Pretty of Essex University has shown how farmers in India, Kenya, Brazil, Guatemala and Honduras have doubled or tripled their yields by switching to organic or semi-organic techniques. A study in the US reveals that small farms growing a wide range of plants can produce 10 times as much money per acre as big farms growing single crops. Cuba, forced into organic farming by the economic blockade, has now adopted this as policy, having discovered that it improves both the productivity and the quality of its crops.

Hi-tech farming, by contrast, is sowing ever graver problems. This year, food production in Punjab and Haryana, the Indian states long celebrated as the great success stories of modern, intensive cultivation, has all but collapsed. The new crops the farmers there have been encouraged to grow demand far more water and nutrients than the old ones, with the result that, in many places, both the ground water and the soil have been exhausted.

We have, in other words, been deceived. Traditional farming has been stamped out all over the world not because it is less productive than monoculture, but because it is, in some respects, more productive. Organic cultivation has been characterised as an enemy of progress for the simple reason that it cannot be monopolised: it can be adopted by any farmer anywhere, without the help of multinational companies. Though it is more productive to grow several species or several varieties of crops in one field, the biotech

companies must reduce diversity in order to make money, leaving farmers with no choice but to purchase their most profitable seeds. This is why they have spent the last 10 years buying up seed breeding institutes and lobbying governments to do what ours has done: banning the sale of any seed which has not been officially - and expensively - registered and approved.

All this requires an unrelenting propaganda war against the tried and tested techniques of traditional farming, as the big companies and their scientists dismiss them as unproductive, unsophisticated and unsafe. The truth, so effectively suppressed that it is now almost impossible to believe, is that organic farming is the key to feeding the world.

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