



Avoiding Genetically Engineered Foods

Organic foods and the issue of genetically modifying our food

*I*t's happening so fast that most of us can't take it in. Familiar foods as diverse as bread, tomato puree, ham, cheese, soup and biscuits may have been altered in an invisible way using a radical new technology. Genetically engineered foods look and taste just like the foods we've always eaten, but have been scientifically modified for 'improvement'.

Simply put, genetically engineered foods are different to conventional ones because scientists have taken genetic material (DNA) from one species and transferred it into another. This enables the transfer of a desired characteristic between unrelated species, or between plants and animals. For example, an 'antifreeze' gene which appears naturally in Arctic fish has been introduced into tomatoes and strawberries, thus making them freeze-resistant; and pigs have been genetically engineered with a human gene introduced to make them grow more effectively.

Opponents of genetic engineering warn that a gene inserted into a new species or organism won't necessarily behave in the same way as it does in its natural one. Possible effects could include the creation of new toxins such as bacteria that unexpectedly kill beneficial soil fungi or are poisonous to plants, or diseases; weakness, and allergens on the GMO. One striking example of this was a soya bean that had been genetically engineered to have a higher protein content. The company developing it had to abandon it because it caused severe allergic reactions; scientists had inserted genes from a Brazil nut to raise the protein level and inadvertently transferred the allergen.

Genetic pollution is a major concern too. Danish scientists have shown that a foreign gene inserted into oilseed rape was able to spread rapidly to neighboring weeds. This underlines how new genes introduced in to plants, bacteria or animals for one purpose can trigger undesirable chain reactions in unrelated organisms, And there is always the risk of bacteria escaping through human error. If genes can jump from oilseed rape to weeds, what about from plants to humans? Many genetically engineered foods under development are given an anti-biotic resistant marker gene. Might this resistance be passed on to humans eating them, rendering that antibiotic useless for human medicine?

“The risks are even less acceptable when one takes into account the fact that, once released into the environment, genetic mistakes or pollution cannot be recalled, cleaned up or allowed to decay in the environment. They will be passed on to all future generations indefinitely” says molecular biologist Dr. Michael Antoniou. He goes on to say “Genetic engineering circumvents natural species barriers. As a result, combinations of genes are produced that could never occur naturally. It bears no resemblance to traditional breeding methods.”