

GM plant dilemmas

Turbocharged rice

Around a billion people live on less than a dollar a day and spend half their income on food. Each day about 25,000 people die from hunger-related causes.

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Rice is the staple food for millions of these poorest people and a GM project is looking at ways of increasing the yield of rice by around 50%.

The project involves taking genes from maize and putting them into rice. The rice would then photosynthesise in a similarly efficient way to maize.

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Rice uses a C_3 photosynthetic pathway, which is in some ways is much less efficient than the C_4 pathway used in plants such as maize.

Rice already has all the components required for C_4 photosynthesis, but they are arranged differently. By rearranging the photosynthetic structures within the leaves using genetic modification, it is theoretically possible to switch rice over to C_4 photosynthesis.

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The project will take a long time, is very expensive and a lot of research is needed. It is being funded by Bill and Melinda Gates and the UK government.

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Some people think that the UK government would be better spending money on projects which would benefit people in the UK.

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