

'Supercharged' GMO rice could increase yields 50 percent with improved photosynthesis

Researchers from Oxford University have taken an important step in a long-term project aimed at improving photosynthesis in rice.

In their study, the team introduced a single maize gene to the plant to make it more efficient at photosynthesis.

Rice normally uses a photosynthetic pathway called C3, which in hot and dry environments is much less efficient than the C4 pathway using by other plants.

But if rice could be 'switched' to use C4 photosynthesis, it could increase productivity by 50 percent.

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Despite only being used by three per cent of plant species, the C4 pathway accounts for around a quarter of productivity on Earth.

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In this study, the researchers were able to complete the first of three steps to convert rice to C4 photosynthesis.

To do this, the team introduced a single maize gene called GOLDEN2-LIKE to the rice plant.

This increased the volume of chloroplasts (structures where photosynthesis takes place) and mitochondria (structures that provide energy) in the sheath cells surrounding leaf veins.

[Editor's note: Read the [full study](#)]

The GLP aggregated and excerpted this article to reflect the diversity of news, opinion and analysis. Read full, original post: [The rice that could reduce world hunger: Scientists take a major step towards creating a 'supercharged' grain that is 50% more productive](#)