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LONDON - The pursuit to rein in hunger with the development of a "cutting-edge" rice of the future that would require lesser water and provide better yield has received a \$14million boost for rolling into its second phase.

Led by the International Rice Research Institute (IRRI), the Bill Melinda Gates Foundation (BMGF) and the UK government have together put \$14 million behind C4 rice project over the next three years, Manila based IRRI said Monday in a statement.

Explaining the project, IRRI said the project seeks to create "C4 rice" with a built-in fuel injector to better convert sunlight into grain, potentially resulting in up to 50% higher production all while using less water and nutrients.

"This is exactly the sort of innovative scientific research that the Prime Minister was calling for at the Hunger Summit at Downing Street earlier this year," said the UK Parliamentary Under-Secretary of State for International Development Lynne Featherstone.

"Rice is the staple food for millions across the developing world, so finding a way to double the amount each plant produces would help to feed many more of the very poorest. This new funding will enable the IRRI to begin producing prototypes of this 'super rice' for testing. This could prove a critical breakthrough in feeding an ever-growing number of hungry mouths."

C4 rice research, currently in its early phases, hopes to develop a new type of rice with improved photosynthesis capacity, known as C4. There are classes of plants known as "C3" and "C4" referring to how they convert light energy into sugar or photosynthesize.

Rice has a C3 photosynthetic pathway. C3 photosynthesis is inefficient at converting inputs to grain, as opposed to the C4 pathway, in which resources are processed more efficiently and converted into higher grain production.

"Other plants, such as maize, already have C4 photosynthesis," says IRRI's Dr. Paul Quick, coordinator of the C4 rice project that brings together 17 research institutes worldwide.

"We want to incorporate this natural energy booster into rice, which usually just has C3 photosynthesis, so that it can achieve much higher yields," he added. "It's important to incorporate C4 in rice because rice grows in places where other crops such as maize do not grow and because rice is the staple food of more than half the world, including many people who live in poverty."

The researchers have already identified crucial genes needed to assemble C4 photosynthesis in rice, defined the basic elements required for functional C4 photosynthesis, and successfully introduced 10 out of the 13 genes needed for C4 rice.

In this second phase of the project, the team aims to produce C4 rice prototypes for testing. "We're thrilled to be working with the world's elite in photosynthesis research to uncover genetic secrets and understand biochemical processes to bring rice to a new yield frontier," said Dr. Quick.

The C4 rice project was first funded by BMGF and IRRI in 2009. The UK government has joined the second phase of the project and provided additional funding. Other donors are the European Union's "3 to 4" project (the project Plant Photosynthetic Efficiency: from C3 to C4 system) and the CGIAR Canada Linkage Fund through a collaboration between IRRI, and the University of Toronto.

Members of the C4 rice research consortium are Partner Institute for Computational Biology (China), University of Cambridge(UK), Oxford University (UK), Heinrich Heine University of Dsseldorf (Germany), Commonwealth Scientific and Industrial Research Organisation (Australia), Washington State University (USA), University of Toronto (Canada), University of Sheffield (UK), Academia Sinica Taiwan (Taiwan), Donald Danforth Plant Science Center (USA), University of Minnesota - Minneapolis Campus (USA), Australian National University (Australia), James Cook University (Australia), University of Nottingham (UK), Cornell University (USA), and Kyung Hee University (South Korea).

If successfully developed, C4 rice has the potential to produce 50% more grain with less water and nutrients, which would contribute greatly to future global food security.

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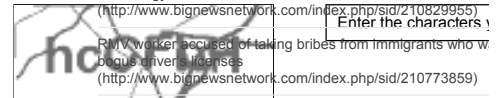
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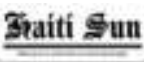
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