

C4 RICE USING THE SUN TO END HUNGER

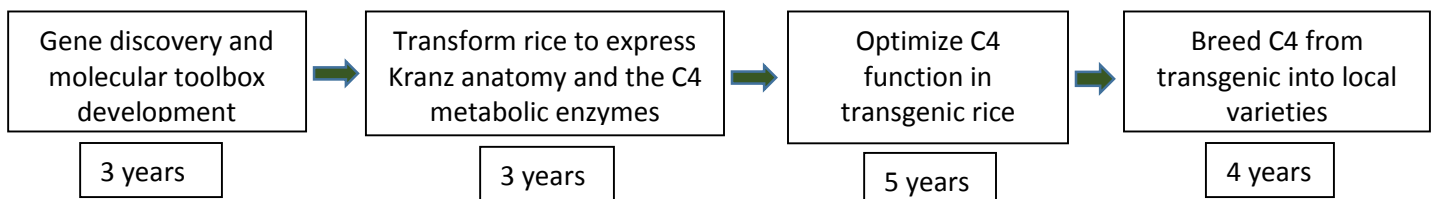


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Rationale:

It is estimated that 2 billion people is in danger of going hungry by 2050. At present, in Asia every hectare devoted to rice produces just enough food for 27 people. By the year 2050, that same hectare will need to support at least 43 people. Problems with climate change in rice production is also a great concern. Given these conditions, our food sources will have to work that much harder in order to feed everyone. Hence, there is a need to optimize rice production in order to meet the ever-increasing demand for food. One such innovative way is by converting the photosynthetic system in rice to the more efficient, supercharged C4 system used by maize.

Road Map



Expected Result

1. Increase rice yield by 50%
2. Double water-use efficiency
3. Increase nitrogen-use efficiency by 30%
4. Use less fertilizer to achieve those improvements.
5. Cost-benefit ratio of C4 rice is likely to be of the same order as the “dwarf-cultivars” produced in the first Green Revolution



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