

Potential health benefits of Golden Rice: a Philippine case study

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Abstract

Golden Rice has been genetically modified to produce beta-carotene in the endosperm of grain. It could improve the vitamin A status of deficient food consumers, especially women and children in developing countries. This paper analyses potential impacts in a Philippine context. Since the technology is still at the stage of R&D, benefits are simulated with a scenario approach. Health effects are quantified using the methodology of disability-adjusted life years (DALYs). Golden Rice will not completely eliminate the problems of vitamin A deficiency, such as blindness or increased mortality. Therefore, it should be seen as a complement rather than a substitute for alternative micronutrient interventions. Yet the technology could bring about significant benefits. Depending on the underlying assumptions, annual health improvements are worth between US\$ 16 and 88 million, and rates of return on R&D investments range between 66% and 133%. Due to the uncertainty related to key parameters, these results should be treated as preliminary.

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