

## Genetically engineered rice to be cultivated in the Philippines

Testbiotech warns of consequences for biodiversity and regional varieties

4 August 2021/ According to the International Rice Research Institute, IRRI, so-called Golden Rice has been approved for cultivation in the Philippines. This approval has been harshly criticized by the Philippine organization, MASIPAG, which many rice farmers are members of. They voiced their concerns that the project is not about help for local communities, but will instead promote dependency on the biotech industry.

Testbiotech has, in addition, pointed out substantial risks: the genetically engineered (GE) plants will be able to spread their genes uncontrollably to wild and weedy rice. From there they can spread back into the fields and contaminate GMO-free rice varieties. Similar problems have occurred in the past with GE rice in the US and China, even though the GE rice was only grown in field trials and not cultivated on larger scale.

Contamination from GM rice is a particular problem in the Philippines, as it is one of the most important centers of origin and diversity for rice. This means that the cultivation of GM rice could seriously endanger biodiversity and regional varieties.

Studies have shown that unexpected effects can facilitate the rapid spread of GE plants: offspring of transgenic rice that are resistant to glyphosate produce a higher number of seeds when crossed with wild rice; and the seeds also remain viable for a longer period of time in the soil. Both effects can significantly accelerate the spread of transgenes. There have so far been no investigations into whether similar effects can be expected from 'Golden Rice'.

The rice is genetically engineered to produce provitamin A, i.e. so-called carotenoids, in the grains. It is therefore intended to be a fortified food with a high carotenoid content. It is often said that beta-carotene in the grains can help combat vitamin A deficiency (VAD), especially in developing countries. However, even though researchers have worked on developing this GE rice for more than 20 years, there is still a lack of crucial data on nutritional quality and food safety.

The existing data show low levels of carotenoids, and further high losses have to be expected due to storage and cooking. Therefore, it is doubtful whether consumption of the kernels can effectively improve vitamin A uptake. A recent publication has confirmed major differences in the concentration of carotenoids, as these are impacted by varietal backgrounds. So far no data from feeding trials with the GE rice have been published.

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**Further information:** [The release from IRRI](#) [2]

[The release from MASIPAG](#) [3]

[Testbiotech analysis of data filed for import approval](#) [4]

[Recent publication on caroten content in 'Golden Rice'](#) [5]

[Unexpected effects in transgenic rice](#) [6]

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