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Philippines approves BT eggplant for commercial cultivation

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The Philippines has become the second country in the world to allow farmers allow commercial cultivation of BT eggplant varieties that are genetically modified to resist the devastating insect known as eggplant fruit and shoot borer (EFSB). Bangladesh had approved BT eggplant earlier in 2013 as the first country to do so.

Bt eggplant, or talong, was the first biotechnology vegetable crop developed in the Philippines after 15 years of testing and safety trials. In the early 2000s, public sector scientists found that introducing a gene from the soil bacterium *Bacillus thuringiensis* (Bt) into talong successfully repelled the EFSB, offering protection from this devastating insect pest without chemical insecticides. Researchers at UPLB obtained access to the gene and used conventional breeding techniques to develop seven new Bt eggplant varieties and hybrids adapted to Philippine conditions.

The natural protein produced by the Bt gene only affects the targeted insect. Bt crops are widely grown around the world, and extensive research has shown they are safe for human consumption and the environment. Farmers have been growing Bt corn in the Philippines since 2003. Bt is also used globally for insect control in organic agriculture.

Studies conducted in the Philippines have repeatedly confirmed BT eggplant to be safe and effective at repelling EFSB. Research has shown Bt eggplant cultivation will incur lower production costs for farmers and ultimately provide three-fold higher net farm incomes due to the combined effect of reduced insecticide use and the increased marketable fruit yields.

In 2021 the Philippines government approved Bt eggplant for direct use as food, feed and for processing. This final approval provides the biosafety permit for commercial cultivation. Earlier in Oct 2022, the Department of Agriculture â?? Bureau of Plant Industry granted a biosafety permit to the University of the Philippines Los BaÃ±os (UPLB) for the commercial cultivation of Bt eggplant. Eggplant is a popular and profitable crop grown by hundreds of thousands of farmers in the Philippines.

Maricelis Acevedo, research professor of global development at Cornell and director for the USAID-supported Feed the Future Insect-Resistant Eggplant Partnership (IREP) said â??This decision is more than a decade in the making, and it paves the way for farmers to increase their income and crop productivity while reducing the use of highly toxic insecticides. This is

what biotechnology and innovation can do for smallholder farmers and consumers.â?

Currently, South Asia farmers growing traditional eggplant varieties must spray insecticide multiple times per week to combat the EFSB. Farmers spray insecticides up to 80 to 100 times per season, often without the aid of protective equipment, posing serious health threats to farmers, their families and the environment. Even with regular applications of insecticide, the fruit and shoot borer can still cause up to 80% crop loss, making insecticides an expensive and inefficient option for farmers. In addition, exposure to pesticides causes health concerns for farmers and contributes to environmental problems.