‘Thirsty plants’ to land conservation: How biotechnology helps address developing world’s agricultural challenges

[Editor’s note: Sarah Evanega holds a doctorate in plant biology from Cornell University, where she is the director of the Alliance for Science and senior associate director for International Programs at the College of Agriculture and Life Sciences.]

Agriculture plays a critical role in food security, political stability, and world peace and yet it leaves a big environmental footprint.

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Fortunately, scientific innovations—including agricultural biotechnology—are helping us meet these challenges.

The Land Conservation Problem

To feed a growing population without encroaching further onto wild lands, scientists are looking to produce more food on less land. Researchers are exploring such ingenious approaches as increasing the rates by which plants perform photosynthesis: the process of using light, water, and CO2 to produce biomass and food. Ultimately, this may help plants sequester CO2 more efficiently, which could boost yields without increasing cultivated acreage. … These applications of genetic engineering are innovative models for helping us to produce more with less.

The Pesticide Problem

Researchers in Bangladesh helped reduce insecticide use by smallholder farmers when they developed a variety of insect-resistant eggplant — or brinjal, as it is known in South Asia — in 2014. Brinjal that incorporates resistance conferred by bacillus thuringiensis (Bt) required the will of forward-thinking political leaders, such as Bangladesh Agriculture Minister Matia Chowdhury, to get approved and on the market. Now, farmers who used to spray their brinjal as frequently as twice a day have reduced their pesticide use by as much as 80 percent.

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion, and analysis. Read full, original post: Scientific innovations solving agricultural problems

For more background on the Genetic Literacy Project, read GLP on Wikipedia