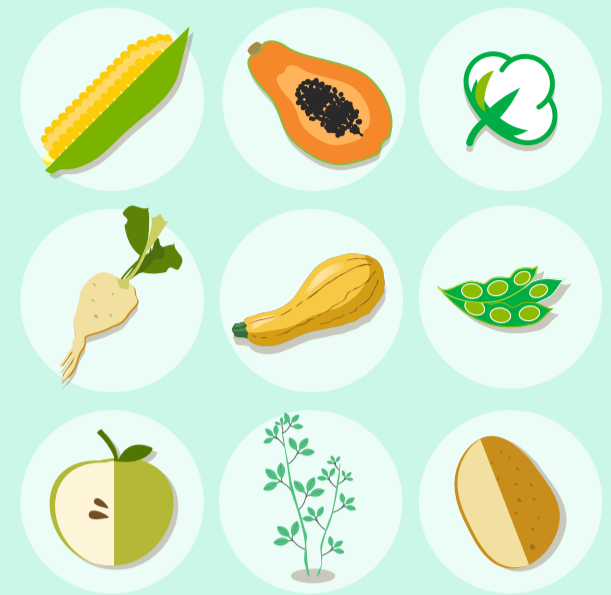


# HOW DO GMOs HELP PRESERVE H<sub>2</sub>O?

According to the Environmental Protection Agency, drought and water scarcity has been rising steadily since the 1970s and the agency is predicting a significant increase in areas of high drought risk worldwide by the end of the century.<sup>1</sup> To combat this, GMOs are helping agriculture by protecting crops yields during drought and our waterways.



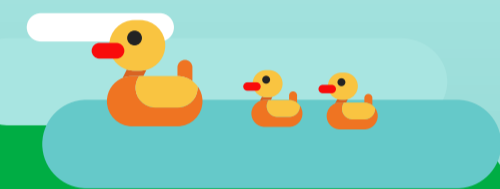
## GMOS CAN REDUCE IMPACTS OF DROUGHT ON CROPS

Studies have shown drought tolerant GM corn reduced transpiration by 17.5% under stress conditions, which allows for better moisture retention to endure drought conditions without additional irrigation.<sup>2</sup>



## ...AND CLEANER WATERWAYS

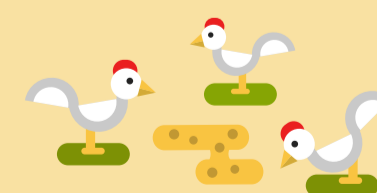
6,400 = Bodies of water affected by soil erosion that can benefit from adopting no-till agriculture with help from herbicide tolerant crops and similar technologies.<sup>3</sup> That's an average of 128 lakes, streams and rivers per state in the US!



Future nitrogen use efficient (NUE) GM crops also will help reduce runoff into waterways while potentially increasing yield by 15% more per acre.<sup>4,5</sup> Applied to rice production, that's an estimated increase of **118 MILLION METRIC TONS OF RICE**—19 times heavier than the pyramid of Giza!



The public-private partnership Water Efficient Maize for Africa is developing GM drought tolerant and insect resistant maize for smallholder farmers in Sub-Saharan Africa.<sup>6</sup>



Have a question about GMOs? Visit <http://GMOAnswers.com>

<sup>1</sup> (2016). More Droughts. Retrieved from <https://www3.epa.gov/climatechange/kids/impacts/signs/droughts.html>

<sup>2</sup> Nemali, K.S.; Bonin, C.; et al (2015). Physiological responses related to increased grain yield under drought in the first biotechnology-derived drought-tolerant maize. *Plant Cell Environ*, 38: 1866-1880. doi:10.1111/pce.12446

<sup>3</sup> (2016). Summaries of EPA Water Pollution Reporting Categories Used in the ATTAINS Data System. Retrieved from [https://www.epa.gov/sites/production/files/2016-02/documents/160112parent\\_plain\\_english\\_descriptions\\_finalattainsnames.pdf](https://www.epa.gov/sites/production/files/2016-02/documents/160112parent_plain_english_descriptions_finalattainsnames.pdf)

<sup>4</sup> Grooms, Lynn (2012) Seed companies developing hybrids that use nitrogen more efficiently. Retrieved from <http://farministrynews.com/biotech-traits/seed-companies-developing-hybrids-use-nitrogen-more-efficiently>

<sup>5</sup> Pocket K No. 46: Nitrogen Use Efficient Biotech Crops. Retrieved from <http://www.isaaa.org/resources/publications/pocketk/46/default.asp>

<sup>6</sup> African Agricultural Technology Foundation (AATF-Africa). Retrieved from <http://wema.aatf-africa.org/about-wema-project>