

Improving the cacao genome and phytome

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Cacao pod. Credit: Mars Wrigley

According to the International Cocoa Organization (ICCO), global cocoa bean production in 2017-2018 [was 4.6 million metric tons](#). The global chocolate brands couldn't exist without cocoa. But today the plant is under threat due to climate change and devastating fungal infections. That's why Mars, Inc., a maker of chocolate for more than 100 years and one of the world's largest buyers of cocoa, is collaborating with others to develop healthier and more productive cacao plants and ensure there will

be cocoa for chocolate tomorrow

In 2010, a draft first genome of *Theobroma cacao*—the tree that produces [cacao beans](#)—was released by a Mars, Inc.-led consortium through the Cacao Genome Database project. The [genome sequence](#) was assembled by the plant team at the HudsonAlpha Institute for Biotechnology.

An updated [reference genome](#) for *T. cacao* has now been completed and released by HudsonAlpha scientists who, with the help of funding from Mars Wrigley. The annotated genome has been updated to a high quality modern standard and includes RNA-seq data. The improved *T. cacao* Matina 1-6 genome is now available for comparative purposes on the latest version of the JGI plant portal Phytozome at [phytozome-next.JGI.doe.gov](#). One of the goals in updating the genome annotation was developing a high quality node for cacao used for systemic orthology to enable use for both cacao functional biology and breeding.

More information: [hudsonalpha.org/hudsonalpha-sc...ao-reference-genome/](#)

Provided by DOE/Joint Genome Institute

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