

Mendel Biotechnology's transcription factors genes and food security in developing countries. (A06-le155304-Oral)

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Abstract:

High value plant traits such as yield and tolerance to biotic and abiotic stress are polygenic traits. Plant transcription factor genes regulate polygenic traits, and therefore are excellent targets for genetically improving plants. Mendel Biotechnology, Inc. has identified and full-length cloned essentially all transcription factor genes in the *Arabidopsis thaliana* genome and functionally characterized most in transgenic over-expressing and knockout mutant plants. Hundreds of transcription factor gene functions have been discovered, including increased yield, multi-pathogen disease resistance, increased protein and oil production, freezing and drought tolerance, and enhanced fertilizer utilization. Mendel believes these discoveries can increase sustainable food supplies, reduce environmental impacts, and improve the quality of life in developing countries, and is working with the Rockefeller Foundation, the Institute of International Agriculture, and other NGOs to make this technology accessible. Mendel is also providing training for local scientists to ensure the necessary skills needed to properly use this technology are also available.

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