# PYL9

**The provided context "PYL9" is insufficient to create a one-sentence summary of a technology.**

Drought is the most significant environmental stress on world agricultural production which severely limits plant growth and development. Several factors relating to drought resistance have been investigated and many have already been incorporated into the engineering of drought resistant plants. But most of these previously modified plants are resistant to drought only in narrow environmental conditions.

Researchers at Purdue University have implanted plant RNA with a gene overexpressing a certain phytohormone resulting in increased resistance to drought through a myriad of botanical factors. The gene causes the plant to have rapid stomatal (leaf pore) closure, a reduced rate of water loss due to evaporation, alleviated cell membrane damage ,and improved photosynthesis, which results in an improved reaction to drought conditions. This technology is applicable to regions with a questionable water supply.

**Advantages**:

-Rapid stomatal (leaf pore) closure

-Reduced rate of water loss due to evaporation

-Alleviated cell membrane damage

-Improved photosynthesis

-Improved reaction to drought conditions

Potential Applications:

-Agriculture products

-Farming products

**TRL:** 5

**Technology ID**
2015-ZHU-67210

**Category**
Agriculture, Nutrition, & AgTech/Crop Genetics & Breeding
Biotechnology & Life Sciences/Synthetic Biology & Genetic Engineering

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**Intellectual Property:**

Provisional-Patent, 2015-11-18, United States | PCT-Patent, 2016-11-17, WO | NATL-Patent, 2018-05-03, United States

**Keywords:** Please provide more information about the PYL9 technology so I can generate relevant keywords., Agriculture, Drought Resistant, Farming, Green Technology, Plant Genetics