

# Cellulose Synthase Inhibitor and Plant Genotypes for Herbicide Development and Non-GMO Resistant Crops

**Novel broad-spectrum herbicide and corresponding resistant crop systems allow for better weed control in both GMO and non-GMO plants while reducing environmental and human health risks associated with current practices.**

Weeds cause tremendous damage in yield and productivity of crop plants. In Corn and Soybean, weed losses account for \$27 billion and \$16 billion annually in value, respectively. Genetically engineered crop plants (Genetically engineered organism, GMO) have been developed to allow for better control of weeds using herbicides in the standing crop. Excess use of these herbicides has raised concerns due to their potential impact on human health and environment. Further, weeds have developed resistance to several of conventional herbicides in recent years. Hence there is need to develop new herbicides that are effective and controlling weeds and also safe for humans and environments.

Researchers at Purdue have identified a compound that could be used as a broad spectrum herbicide. This novel herbicide that could be used even in non-GMO crop plants. The herbicide selectively kills weeds that are susceptible to it while not affecting crop plants that carry the resistance to the herbicide. The combination of the novel herbicide and the corresponding resistant crop plants will result in the better control of weeds, while reducing the impact of humans and environment.

## **Advantages:**

- Resistant to the herbicide
- No need for GMO crops

## **Potential Applications:**

- GMO crops
- Plant herbicides

## **Technology ID**

2018-ZHAN-68083

## **Category**

Agriculture, Nutrition, &  
AgTech/Precision Agriculture &  
Smart Farming  
Agriculture, Nutrition, &  
AgTech/Crop Genetics &  
Breeding  
Chemicals & Advanced  
Materials/Specialty &  
Performance Chemicals

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TRL: 3

**Intellectual Property:**

Provisional-Patent, 2017-11-20, United States | PCT-Patent, 2018-11-20, WO  
| NATL-Patent, 2020-05-20, United States | CON-Patent, 2025-05-09, United  
States | CON-Patent, 2025-05-28, United States

**Keywords:** Broad spectrum herbicide, novel herbicide, weed control,  
herbicide resistance, non-GMO crops, genetically engineered crops, crop  
protection, weed losses, plant herbicides, weed management, Chemistry and  
Chemical Analysis, Inhibitors, Plants