



Drug-Like Compounds That Enhance Plant Immunity And Growth

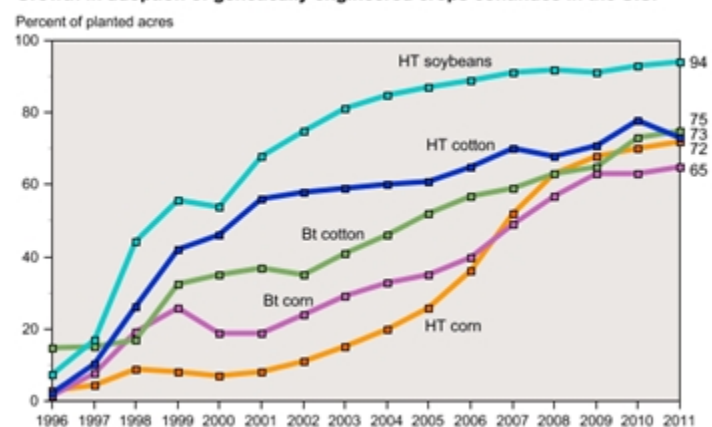
Tech ID: 25289 / UC Case 2013-126-0

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	9,023,759	05/05/2015	2013-126

IMAGES

Growth in adoption of genetically engineered crops continues in the U.S.



Wikimedia Commons / https://commons.wikimedia.org/wiki/File:Adoption_of_Genetically_Engineered_Crops_in_the_US.png

BRIEF DESCRIPTION

Background:

Due to the rapidly increasing demand of food production, agricultural biotechnology companies are aiming to improve crop productivity. Biotechnology tools that develop novel plant traits are projected to have a \$1.3B global market with annual growth of 49.9% by 2019.

Brief Description:

UCR Researchers have developed a drug-like compound, HTC, that is structurally distinct from other agrochemicals and will rapidly induce an immune response in plants to ward off pathogens. Only a small dose of this novel compound is needed for optimal protection as well as growth enhancement. By genetically engineering the plant to have a stronger inherent immune system, toxic chemicals like pesticides are no longer needed to protect the plant. Its implementation can render decreased usage of agrochemicals that are harmful to humans and the environment.

ADVANTAGES

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OTHER INFORMATION

KEYWORDS

crop protection, eco-friendly
 agrochemicals, global food, pathogen
 resistance, pesticides, plant defense
 signaling network, plant growth, plant
 immune response, plant immunity,
 plant pathogens, synthetic elicitors,
 transgenic plants

CATEGORIZED AS

- ▶ Agriculture & Animal Science
 - ▶ Chemicals
 - ▶ Plant Traits
 - ▶ Plant Varieties
- ▶ Environment
 - ▶ Other

RELATED CASES

2013-126-0

- ▶ Enhances root & aerial growth at low doses of the compound
- ▶ Less dependence on pesticide, herbicide & insecticides → Eco-friendly
- ▶ Better management practice in controlling pests & weeds – slow expansion of pesticide-resistant organisms
- ▶ Less effort-intensive farming & increase yields

APPLICATIONS

- ▶ Development of multi-functional agrochemicals
- ▶ Environmental-friendly crop protection products

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