

8-2016-4342 | Development of 2,4-D Resistant Non-Transgenic Solanaceae Plants  
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### Background

2,4-D is a herbicide widely used for eradicating broad leaf weeds with a worldwide market value of over \$1 billion per year. Despite its success, this herbicide is not used in fields planted with dicots, such as soy, cotton, potatoes and canola. Dicot plants are extremely sensitive to 2,4-D and easily suffer from severe yield drag when exposed to drift and therefore 2,4-D is not used in fields planted with dicots.

To date, a transgenic approach can be used for imparting 2,4-D resistance in plants (both monocots and dicots), however, the path to deregulation with this transgenic approach is costly, time consuming and plant resistance to 2,4-D is negatively influenced by environmental conditions. This resistance to 2,4-D is reduced because the bacterial enzyme used for breaking down 2,4-D has a reduced efficiency in high temperatures.

### Our Innovation

The researchers are developing a way for solanaceae plants of interest to resist 2,4-D herbicide. The novel method is considered a non-transgenic approach and can be used either alone or in conjunction with other known approaches which will enhance the resistance even further.

### Technology

The unique proprietary approach utilizes CRISPR/CAS to prevent 2,4-D herbicide uptake into the solanaceae plant.

### Opportunity

Our approach offers the industry a technology that is non-transgenic which may not need to go through the deregulation process. Furthermore, dicots modified by this approach will be able to benefit from the use of 2,4-D in the field.

The researchers is seeking funding for further research with an option to license the research results.

### Patent Status

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