



## IMPACT ON PREVENTING THE INTRODUCTION OF A NEW BACTERIAL PATHOGEN

### ISSUE:

- *Ralstonia solanacearum* is a Federal Select Agent and is not established in the US.
- In spring of 2020, the Michigan State University Plant & Pest Diagnostics identified *Ralstonia solanacearum* in a geranium sample that originated outside of the US.
- The pathogen was further identified as race 3 biovar 2 and resulted in significant regulatory action.
- This pathogen can cause disease in geraniums as well as tomato and potato crops.
- Michigan's bedding plant sales and potato industries are valued at almost \$550 million and \$2.53 billion, respectively.



Young geraniums with disease symptoms. Photo by MSU Plant & Pest Diagnostics

### APPROACH:

- NPDN training programs focused on detection methods and regulatory communication protocols prepare diagnosticians for pathogen detection.
- Because of this training, susceptible hosts with wilt symptoms can be quickly screened for *R. solanacearum*
- The MSU PPD and Michigan's Department of Agriculture worked closely together to quickly communicate results and develop action plans when needed.
- Samples of concern were submitted to the USDA APHIS confirmatory diagnostic lab.

### RESULTS:

- Work done at MSU Plant & Pest Diagnostic (PPD) lab protects agriculture and horticulture industries by providing early detection, which facilitates rapid remediation steps.
- This work maintained Michigan's greenhouse industry, a valuable component of Michigan's economy.
- Through early detection, the establishment of this pathogen was prevented, thereby protecting potato and tomato production from this potentially devastating pathogen.



## IMPACTS:



Michigan State University's Plant & Pest Diagnostics program is one of 72 labs across the country in the National Plant Diagnostic Network (NPDN) that is prepared to screen plants for pests and pathogens and take actions which can prevent unintended pest introductions and subsequent losses.

**Healthy geraniums for sale in a Michigan Greenhouse Photo by Robert Killips, Lansing State Journal**

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*MDARD pest response specialists often seek advice from MSU experts on pest and disease response situations. They help to inform many of our pest detection efforts and are crucial to the success of those efforts. Michigan has been a pioneer in this type of collaboration," said Robin Rosenbaum, former Plant Health Section Manager and State Plant Regulatory Official at MDARD.*

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*"The detection of Ralstonia in 2020 was a fantastic example of how MSU's early detection impacted the spread of a major plant disease" Robin Rosenbaum, former Plant Health Section Manager and State Plant Regulatory Official at MDARD.*

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