2020 Response Plan

Matt Royer
Associate Deputy Administrator,
Plant Protection and Quarantine

April 29, 2020
Why is this pathogen of concern?

*Ralstonia solanacearum* race 3 biovar 2 (Rsr3b2) is one of the most destructive plant pathogenic bacteria worldwide. It infects certain solanaceous vegetables and ornamental crops, causing brown rot of potato, bacterial wilt of tomato and eggplant, and southern wilt of geranium.
Quarantine Pest

- United States
- Canada
- European Union
Select Agent

US regulations – list of “select agents and toxins”

Agricultural Bioterrorism Protection Act of 2002
Federal Select Agent Program > Regulations & Policies > Select Agents Regulations

- 7 C.F.R. Part 331: Agriculture
- 9 C.F.R. Part 121: Animals and Animal Products
- 42 C.F.R. Part 73: Public Health

https://www.selectagents.gov/regulations.html
(b) PPQ select agents and toxins:

- *Coniothyrium glycines*, (formerly *Phoma glycinicola*, *Pyrenochaëta glycines*);
- *Peronosclerospora philippinensis* (*Peronosclerospora sacchari*);
- **Ralstonia solanacearum**;
- *Rathayibacter toxicus*;
- *Sclerophthora rayssiae*;
- *Synchytrium endobioticum*;
- *Xanthomonas oryzae*.

ANPR comment period ends May 18: [Agricultural Bioterrorism Protection Act of 2002; Biennial Review and Republication of the Select Agent and Toxin List](#) (only *P. philippinensis* is proposed to be removed)
Eradicated 2003/04 – Imported Geraniums

Source: WI Dep. Ag., Trade & Consumer Protection
## 2003/04 Eradication

<table>
<thead>
<tr>
<th>Year</th>
<th>States Impacted</th>
<th>States Positive</th>
<th>Facilities Released</th>
<th>Control Actions</th>
<th>Plants Destroyed</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>48</td>
<td>27</td>
<td>921</td>
<td>143</td>
<td>2.0M</td>
</tr>
<tr>
<td></td>
<td>2/14/03-5/21/03</td>
<td></td>
<td>97 days max</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kenya</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2004</td>
<td>41</td>
<td>1 (NY)</td>
<td>469</td>
<td>453</td>
<td>2.1M</td>
</tr>
<tr>
<td></td>
<td>12/31/03-3/17/04</td>
<td></td>
<td>77 days max</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Guatemala</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2003/04 outbreaks caused USDA-APHIS to change its process for approving offshore geranium production
Interim Rule – 2004

• Added a **CERTIFICATION PROGRAM**
• Codified elements of the **MINIMUM SANITATION PROTOCOLS**
• Registration and certification of production sites (NPPO and APHIS)
  – Site visits, testing, recordkeeping
2020 Confirmation and Response Plan
Stakeholder Announcement

April 21, 2020 – USDA-APHIS has confirmed the detection of *Ralstonia solanacearum* race 3 biovar 2 (RSr3b2) in a single variety of geranium plants located in a Michigan greenhouse.

This particular type of Ralstonia can cause a wilt disease in several important agricultural crops such as potatoes, tomatoes, peppers and eggplant.

This is the first confirmed case of RSr3b2 in a U.S. greenhouse since 2004.
Stakeholder Announcement (continued)

APHIS has taken immediate action to contain and eradicate the disease from the Michigan facility.

We confirmed that the infected plants came from a greenhouse in Guatemala.

The importer immediately stopped shipments of geranium plants to the United States upon confirmation of the detection and has voluntarily agreed to destroy all shipments that were pending export or in route to the United States.

They also provided a list of 288 greenhouses in 39 States that received geranium cuttings from the Guatemala facility.
Federal and State agriculture officials are currently visiting the 288 greenhouse locations.

They will inspect, isolate and destroy all Fantasia ‘Pink Flare’ geranium plants and co-mingled and exposed host and non-host plants.

They will also isolate, sample, and destroy other geranium varieties and comingled and exposed host and non-host plants, if the other geraniums test positive for RSR3b2.

After the plants are destroyed, the greenhouses will be cleaned according to our sanitation protocol to clear the facility of the pathogen.
Regulatory Steps

➡️ CONTACT FACILITY

➡️ EMERGENCY ACTION NOTIFICATION (EAN)

(paraphrased for brevity)

- *Hold* all plants of Fantasia ‘Pink Flare’ for destruction.

- *Hold* all geraniums and other RsR3b2 hosts received between 10/2019-4/2020 from the producer.

- *Hold* any other plant material … that may have been exposed directly, in shipping, or since being received, by shared irrigation systems, placement on growing surfaces, and/or nursery cultural practices.
Regulatory Steps (continued)

- *Destroy* all plants and potentially infested material, potting soil, and plant containers either by incineration, steam sterilization, or an approved landfill.

- *Disinfect* all areas housing infected material, irrigation systems, irrigation ponds, outdoor soil or holding areas, and contaminated equipment.
Regulatory Steps (continued)

→ SAMPLE AND HOLD OTHER HOSTS WITH WILT

- If negative, plants are free to move.
- If positive, plants may not be sold. Further destruction and disinfection measures may be necessary.
APHIS-Validated Diagnostics

Serological – species level

PCR – race and biovar
Regulatory Steps (continued)

RELEASE THE FACILITY

If destruction, disinfection completed according to EAN and inspector’s instructions
What can U.S. geranium growers do to help minimize the risk?
Do not use unsafe watering practices when growing geraniums, either in propagation or production. *Ralstonia*—and many other pathogens—spread very easily in irrigation water.

Drip irrigation is generally safer than sub-irrigation, provided the water source is safe.
Keep crops from different shipments and different suppliers separated, during both propagation and finishing.

If hanging baskets contain plants infected with RsR3b2, then plants underneath will need to be destroyed.
If producing stock plants or trimming plants, **disinfect the tools between each plant** (e.g. quaternary ammonium).

Knives or other trimming tools are one of the most efficient ways of spreading bacterial diseases.
Scout crops often for signs of disease; immediately determine cause.
There are other reasons why plants look diseased. It may not be caused by RsR3b2.

Work with extension specialists, trade associations, and regulators to ensure maximum knowledge and use of most current practices to produce healthy plants.
If you believe you have *Ralstonia solanacearum*, contact APHIS
You will be directed to contact the APHIS State Plant Health Director for your state.

State Plant Health Directors

Last Modified: Jun 28, 2019

Use drop down menu to retrieve contact information for State Plant Health Directors.

Select State:

--- Select ---
Questions?

Rubens Peale with a Geranium
Rembrandt Peale, 1801
National Gallery of Art
Washington, DC