

Geranium Southern Bacterial Wilt (Potato Brown Rot)

March, 2018

Ralstonia solanacearum race 3 (biovar2A) is a bacterial pathogen that causes several important plant diseases including southern bacterial wilt of geranium, brown rot of potato and bacterial wilt of tomato, pepper, eggplants and several other solanaceous plants. It is on the NAPPO list of A1 quarantine pests, as well as Canada's list of quarantine pests. There are five races of *R. solanacearum* varying in their host range and geographical distribution. Race 1 has a wide host range and is endemic to the Southern United States. Banana is the main host for Race 2 and is found in the Caribbean, Brazil, and Philippines. Race 3 is found worldwide except in Canada and the United States. Race 4 affects ginger in much of Asia, and Race 5 affects mulberries in China.



Early symptoms of wilting on geranium infected with *Ralstonia solanacearum*. Photos credit: Wisconsin Department of Agriculture.

In 2003, *R. solanacearum* race 3 (biovar2) was confirmed in geraniums in commercial greenhouses in Illinois, Indiana, Michigan, and Wisconsin by the United States Department of Agriculture (USDA). In the spring of 2003, infected geraniums were found in a total of four Canadian greenhouses and all associated plant materials were destroyed, confirmed by the Canadian Food Inspection Agency (CFIA). In June, 2003 the CFIA implemented an interim policy to prevent the introduction of *R. solanacearum*, Race 3 (biovar2) into Canada: [Policy directive D-03-09: Import Requirements for Pelargonium spp. and Solanum spp. Propagative Material to Prevent the Entry of Ralstonia solanacearum, Race 3 \(Biovar 2A\) into Canada](#). The CFIA also established an action plan with eradication protocols, which will be used if the disease is detected. Previous outbreaks in Europe and the United States were controlled through good sanitation measures.

For Further Information

- [Bacterial Wilt of Geraniums - Ralstonia solanacearum - Canadian Food Inspection Agency](#)
- [Ralstonia information and pest alert - USDA APHIS Plant Protection and Quarantine](#)
- [Outbreak of Ralstonia solanacearum race 3 biovar 2 on greenhouse geranium cuttings in the United States - NAPPO Phytosanitary Alert](#)

The following links describe symptoms of Race 1. Race 3 is similar but has a different host range and can cause more damage at lower temperatures, so the information should be used only as a guideline.

- [Diseases of Geranium - Connecticut Agricultural Experiment Station](#) (includes a description of *Ralstonia solanacearum* race 1 (Southern Bacterial Wilt) symptoms on geranium and a comparison of key features of Bacterial Blight and Southern Bacterial Wilt)