

Evaluating Host Resistance to *Macrophomina* Crown Rot (*Macrophomina phaseolina*) in Strawberry

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Description

In the Fall of 2016 a replicated field trial was established to evaluate 90 strawberry cultivars and elite selections for resistance to crown rot caused by *Macrophomina phaseolina*. Strawberry germplasm was selected from six breeding programs: University California Davis (UC), University of Florida (UF), Driscoll's (DR), Plant Sciences (PSI / BG), Planasa (PL) and Lassen Canyon (LC). The trial consisted of 20-plant plots replicated four times, with a fifth non-inoculated replicate. On 17 Oct 2016, bare-root strawberry transplants were set in field 35B on the Cal Poly San Luis Obispo campus. Two weeks later each plant in the inoculated replicates received 5 grams of cornmeal-sand-*Macrophomina* inoculum placed around the crown and root zone. The first wilt symptoms of *Macrophomina* crown rot were observed in mid March 2017; presence of the pathogen *in planta* was confirmed by Petri dish assays. Disease assessments were conducted every four weeks, then every two weeks after the first symptoms appeared. Plants were considered dead when all foliage was necrotic.

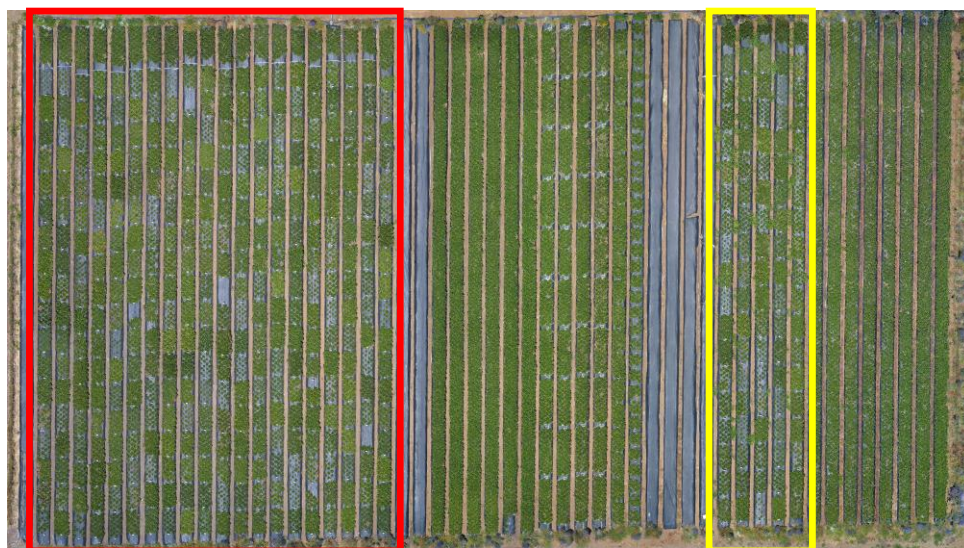
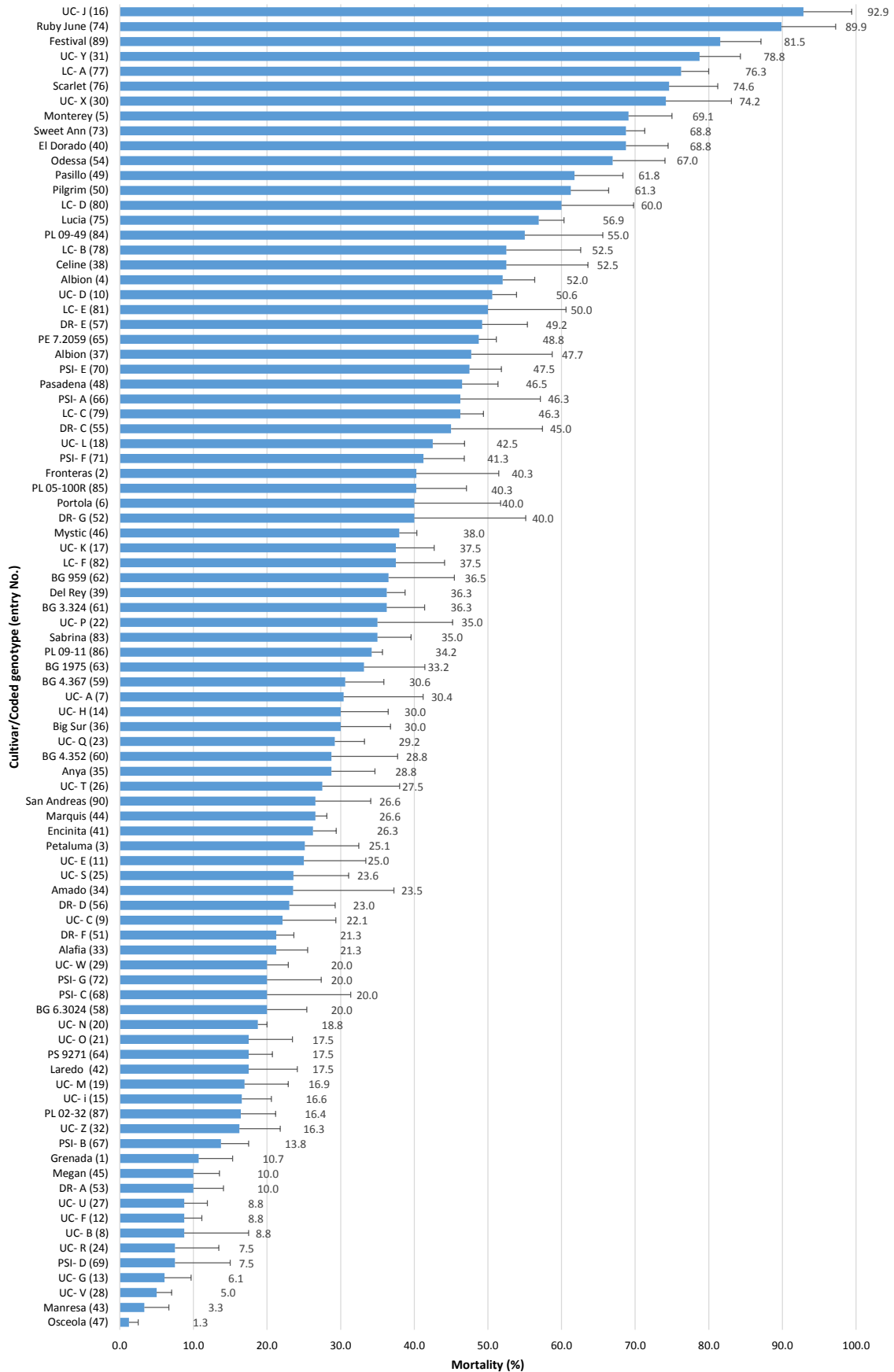


Figure 1. Overview of *Macrophomina* host resistance trial located in field 35B on Cal Poly San Luis Obispo Campus. Beds outlined in red were inoculated; beds outlined in yellow region were not inoculated (control).



Figure 2. A. Inoculating a transplant with *M. phaseolina* inoculum. B. First wilt symptoms of crown rot. C. A cross section of a necrotic crown showing brown discoloration of the tissue due to *M. phaseolina*.

Average Percent Mortality due to Macrophomina Crown Rot as of July 24, 2017



Average Percent Mortality due to Macrophomina Crown Rot by Breeding Program as of July 24, 2017

