

### Abstract:

Differences in the incidence and the amount of anthracnose fruit rot (AFR) among strawberry genotypes in the field indicate that there may be genetic differences in susceptibility to AFR. Fruit of seven strawberry genotypes (Gen) were inoculated with five concentrations of *Colletotrichum acutatum* conidia (Inoc). The experimental design was a split plot with Inoc (0,  $1 \times 10^3$ ,  $1 \times 10^4$ ,  $1 \times 10^5$ , and  $1 \times 10^6$  conidia•ml<sup>-1</sup>) as the whole plot. The Gen were the subplot and were arranged in a RCBD with three replicates. The experiment was conducted three times within a growth chamber. Green to fully ripe fruit were inoculated. Data on lesion length and width, incubation period (IP), and fruit age were collected. For most genotypes, the biggest increase and largest range in percent lesions was observed at  $1 \times 10^5$  conidia•ml<sup>-1</sup>. Fruit age at inoculation affected the probability of lesion formation among the seven Gen: probability of lesion formation generally is low at young fruit age, increases at median age, and then rapidly decreases at older ages. This response curve was different among Gen. IP was not different among Gen or the Gen x Inoc interaction. Rate of AFR lesion diameter increase was different among Inoc, Gen, and the Inoc x Gen interaction. The susceptible 'Camarosa' and 'Chandler' had the largest rates of lesion diameter increase, 'Sweet Charlie' and NCR 95-08 had much lower rates, and 'Pelican' had the lowest rate. These results indicate that strawberry fruit of some genotypes are resistant to AFR and that fruit age and rate-limiting resistance are two components of resistance.