

## Genetic resistance and temporal progress of onion white rot in Brazil

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White rot (WR), caused by *Stromatinia cepivora*, is a devastating disease of onion. As there are no reported sources of genetic resistance among onion genotypes, the objective of this study was to assess the temporal progress of WR on cultivars and lineages under field conditions. Two experiments were performed from May to October 2016 and 2017 in the COOPADAP research station, naturally infested with *S. cepivora*, at Rio Paranaíba, MG. Thirty cultivars from genetically distinct groups were evaluated in a randomized complete block design with five repetitions. Sclerotia numbers were assessed in each experimental unit. The monomolecular and the Gompertz models were the most appropriate to describe the temporal progress curves of onion WR in 2016 and 2017, respectively. Differences of susceptibility and disease rate among the genotypes to WR were detected in 2016. The area under the disease progress curve (AUDPC) was higher on BRS Alfa São Francisco (2409). The lowest AUDPC value was observed on Sirius F1 (775). The number of bulbs well-suited to market (BWM) per plot was higher on Sirius F1 (55). Highest BWB weights were obtained on Perfecta (8.5 kg/plot) and Sirius (8.4 kg/plot). Although the incidence and disease rate of WR were higher in 2017, it was possible to detect differences among the cultivars. The highest and lowest AUDPC values were estimated on CNPH 6300 (6010) and Vale Ouro IPA 11 (3901), respectively. Cultivar differences were not detected on the number of BWM. However, the highest BWB weights were found on Sirius F1 (1.4 kg/plot) and Irati S2 (1.4 kg/plot). Soil temperatures lower than 15°C during onion bulbification were more frequent in 2017 than in 2016, which is conducive to infection. No correlation was detected of the number of sclerotia and WR incidence on the onion cultivars. The average number of viable sclerotia was 8 and 9 per 100 cm<sup>3</sup> of soil in 2016 and 2017, respectively. Although differences in the susceptibility of onion genotypes to WR were detected, materials with high level of resistance to be used in breeding programs to *S. cepivora* were not identified.

Financial support: FAPDF (Grant n°193.000.995/2015) and CNPq (Grant n° 305.792/2013-0).