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AGGRESSIVENESS OF *Sclerotinia sclerotiorum* ISOLATES IN COTTON PLANTS. J.R. PESTANA¹; A.P.O. NOGUEIRA²; T.P. MORAIS^{1,3}; H.S. RAMOS¹; F.C. JULIATTI¹. ¹Institute of Agricultural Sciences, Federal University of Uberlândia (UFU), 38408-100, Uberlândia, Brazil; ²Institute of Genetics and Biochemistry, UFU, Uberlândia, Brazil; ³PNPD/CAPEs. E-mail: jeferson_pestana@yahoo.com.br

The White mold has become a worrisome disease in cotton crops cultivated in the Brazilian Cerrado. *Sclerotinia sclerotiorum* is a widely distributed fungus occurring in temperate, tropical, and subtropical regions of the world, mainly in cotton, bean, soybean, and sunflower crops. The disease has been reported in cotton plants cultivated in the states of Bahia and Goiás in irrigated areas, after successive leguminous crops. The aim of this study was to evaluate the aggressiveness of isolates of *S. sclerotiorum*, obtained from soybean and cotton crops, in cotton genotypes. The experiment was carried out in the Laboratory of Mycology and Plant Protection at Uberlândia-MG, Brazil. Cotton plants were cultivated in 0.5 L plastic containers, filled with commercial substrate, under greenhouse conditions. Thirty-three genotypes were evaluated in a completely randomized block design with three replicates. Each experimental plot consisted of three plants. Two *inocula* were used, one from naturally infected soybean plants and the other from naturally infected cotton plants. Genotypes' artificial inoculation was done when cotton plants reached the V2 phenological stage, following the straw test methodology. Mock plants were inoculated with PDA medium. Later, all inoculated plants were kept for one week in a growth chamber with temperature of 22±3°C and photoperiod of 12 hours. The length of the lesion was measured with a scale and the disease severity determined by the ratio of the length of the lesion by the total length of the stem. Averages were submitted to the ANOVA and grouped by the Scott-Knott test ($p < 0.05$). The average sizes of the lesions were of 4.6 and 1.3 cm for cotton and soybean isolates, respectively. Difference in aggressiveness between isolates was identified, in which the one from cotton led to higher disease severity. The results suggest a possible physiological specialization of *S. sclerotiorum* in different hosts.

Keywords: *Gossypium hirsutum*; Pathogen aggressiveness; Physiological specialization; White mold.