

عنوان مقاله:

Field screening of safflower genotypes for resistance to charcoal rot disease

محل انتشار:

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خلاصه مقاله:

Nineteen safflower genotypes (*Carthamus tinctorius* L.) that originated from different geographical regions were screening for their response to infection with *Macrophomina phaseolina*, the charcoal rot pathogen at the research farm of Gorgan University of Agricultural Sciences and Natural Resources, Gorgan, Iran, in 2005. The plants were evaluated for length and width of necrotic lesion at the entry point of inoculum at flowering (LNF and WNF, respectively) and maturity stages (LNM and WNM, respectively), and penetration depth of necrosis in the stem (PDN). Some morphological characteristics including plant height, number of days to maturity, diameter of lower stem (DLS), diameter of vascular bundle (DVS) and relative water content of lower stems (SRWC) were also measured. Analysis of disease symptoms by clustering method revealed that there were four moderately resistance, ten susceptible and five moderately susceptible genotypes. However, no completely resistant genotype was found. DLS had a positive and significant correlation with all disease related traits including LNF, WNF, LNM, WNM and PDN. Therefore, this trait may be used as an index for indirect selection of resistant genotypes in safflower. The moderately resistant genotypes IUT-K115, GUA-Val6, CW-74 and AC-Stirling can be used in breeding programs to improve resistant safflower genotypes.

کلمات کلیدی:

Charcoal rot, *Macrophomina phaseolina*, Resistance, safflower

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