

EVALUATION OF BARLEY CULTIVARS TO TAKE-ALL DISEASE OF WHEAT (*Gaeumannomyces graminis* VAR. *tritici*)*

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Abstract

The susceptibility of Barley (*Hordeum vulgare* L.) cultivars were evaluated against an Iranian isolate of *Gaeumannomyces graminis* var. *tritici* (Ggt) the causal agent of take-all disease of wheat in a growth chamber using a sterile test tube technique. Seeds of naked, 2, 4 and 6-row barley cultivars were sown in test tubes of sterilized sand preinoculated with Ggt and placed in a naturally lighted growth room at $16\pm 2^{\circ}\text{C}$ with a photoperiod of 16 hours light and eight hour darkness. After 4 weeks percentage of root infection, disease index, plant height and weight were assessed. The results indicated that 6-row barley cultivar had the lowest susceptibility rating whereas other barley types were severely or moderately infected. 2 and 4-row barley was moderately infected and no significant differences were found between them. The order rank of susceptibility assessed by other variables such as reduction in plant height and weight compared to control was as follows: naked barley > 2-row barley > 4 - row barley > 6- row barley. The moderate susceptibility of some barley cultivars such as Karoon (6-row) to take-all fungus compared with wheat is noteworthy and could provide an alternative crop to wheat where the risk of take-all is high.

Keywords: Take-all, Naked barley, 2-row barley, 4-row barley, 6 -row barley, Resistance.

See persian text for figures and tables (Pages ۱۱۱-۱۲۰).

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