

## عنوان مقاله:

Evaluations of partial resistance of native sesame germplasms to Fusarium wilt disease

## محل انتشار:

Journal of Crop Protection, دوره 10, شماره 1 (سال: 1400)

تعداد صفحات اصل مقاله: 12

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## خلاصه مقاله:

Sesamum indicum L. is an important oil seed in Iran which is cultivated as summer crop in alternation with cereals and cucurbits, playing an important role in sustainable agriculture. Sesame wilt disease caused by *Fusarium oxysporum* f. sp. sesami is one of the limiting factors in its cultivation. Application of genetic improvement of disease resistance is one of the effective strategies to solve the disease problems in sesame. In this project, the partial resistance of 24 genotypes including, some commercial cultivars and promising lines were tested against Fusarium wilt disease. The experiments were conducted in three different conditions (greenhouse, micro plot and field). In greenhouse and micro plot experiments, artificial inoculation was used while in field experiment, no artificial inoculum was used. For evaluating results, the infection percentage (wilted plants) was recorded on a scale of 1-6 scoring system. The results showed that in artificial inoculation conditions, none of sesame genotypes were immune. Infection mean percentages of sesame genotypes were calculated to be 58.34, 28.6 and 15.96, in greenhouse, micro-plot and field, respectively. Total results of the three experiments showed that 29.1% of the sesame genotypes (JL1, JL14, JL15, JL11, JL13, JL18 and Darab1) fell in resistant (R) category and 37.5% of the genotypes (JL2, Varamin37, Local, Yekta, JL29, JL16, JL6, JL14-1 and Darab2) fell in moderately resistant (MR) group. The resistant and moderately resistant genotypes can be used for breeding programs and development of resistant varieties, however further efforts are needed to identify highly resistant genotypes from among more native germplasms via screening program.

## کلمات کلیدی:

genotype, oil seed, promising line, resistance, root rot

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