

HOST RANGES VARIABILITIES, MULTIPLICATION AND SEED-BORNE ABILITY OF SOME POPULATIONS OF STEM AND BULB NEMATODE, *Ditylenchus dipsaci* IN IRAN *

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Abstract

Plant samples infected with *Ditylenchus dipsaci* were collected from alfalfa and garlic fields in different regions of Iran. The nematodes were cultured on monoxenic carrot discs to obtain sufficient inocula. The host ranges of three garlic populations were tested on garlic, onion, fababean, common bean, sugar beet, pea and soybean. Alfalfa, *Melilotus* sp., common bean, clover, onion, garlic and sainfoin (*Onobrychis viciaefolia* Scop.) were tested with four alfalfa populations of *D. dipsaci*. The plants were inoculated with 200 *D. dipsaci* in 10µl of 1% CMC (Carboxymethyl cellulose) suspension, maintained in growth chamber at 20°C ± 2 for 16-hour light and 8-hours dark period, and high humidity was sustained for one week. The plants were harvested after eight weeks (some after four weeks) and the above ground parts were examined. The results indicated that onion and garlic were suitable hosts, pea and sugar beet and common bean (in two populations) poor hosts but Soybean was not a host for garlic populations. The alfalfa populations multiplied on common bean, alfalfa and mostly *Melilotus* sp. thus were suitable hosts while clover was a weak host and sainfoin and garlic were non host for alfalfa populations. We demonstrated the existence of at least two races of *D. dipsaci* in Iran, and proved that garlic race is a seed-borne pathogen on onion and the mature individuals and fourth stage juveniles were observed inside inflorescence and seeds of the tested onion plants. In the present study it was revealed that *D. dipsaci* is widespread in garlic and alfalfa growing regions and could be involved in crop losses.

Keywords: Alfalfa, Garlic, Host range, *Ditylenchus dipsaci*, Onion, Seed-borne.

See persian text for figures and tables (Pages ۱۷۹-۱۸۴).

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