

### *Short Report*

## FIRST REPORT OF THE STEM AND BULB NEMATODE, *Ditylenchus dipsaci*, ON STRAWBERRY IN NORTHERN IRAN\*

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### **Abstract**

The stem and bulb nematode, *Ditylenchus dipsaci* (Kühn, 1875) Filipjev, 1936 is one the most destructive plant-parasitic nematode which is widely distributed in temperate regions of the world. It is a serious pest on a wide range of crops including lucerne, red clover, sugar beet, maize, onion, garlic, strawberry and many other agricultural and horticultural plants, especially flower bulbs such as narcissus, hyacinth and tulip. *Ditylenchus dipsaci* has been reported from alfalfa, garlic and onion from Iran. Occurrence of *D. dipsaci* on strawberry, which was first reported in 1913 from Britain, has not already been observed in Iran. During a survey of the strawberry fields in Bahnamir and Babol cities of Mazandaran province, symptoms of disease including dwarf, leaf shrinkage and deformities, reduced petiole length and surface of lamina, reduced fruit size and reduced fruit setting in severe infections were observed. The nematodes in the soil and aerial parts of the infected strawberry plants were extracted by tray method, fixed and transferred to the anhydrous glycerin. After preparing permanent slides, the nematode was studied by light microscopy. On the basis of morphological and the following morphometric characters, the population extracted from infected strawberry, identified as *Ditylenchus dipsaci*:

Females (n = 10): L =  $1169 \pm 122$  (1011-1411)  $\mu\text{m}$ , a =  $44.1 \pm 2.9$  (40.7-51.0), b =  $6.3 \pm 0.8$  (5.0-7.2), c =  $14.9 \pm 1.6$  (13.2-18.6), c' =  $5.1 \pm 0.4$  (4.6-5.7), stylet =  $11.1 \pm 0.7$  (10.2-11.8)  $\mu\text{m}$ , V =  $78.9 \pm 2$  (74.5-81.3).

Males (n = 5): L =  $1183 \pm 175$  (947-1430)  $\mu\text{m}$ , a =  $50.2 \pm 4$  (46.2-50.8), b =  $6.4 \pm 0.8$  (5.8-7.6), c =  $14.8 \pm 1.2$  (13.5-16.2), c' =  $4.8 \pm 0.5$  (4.2-5.5), stylet =  $11.4 \pm 0.2$  (11.1-11.6)  $\mu\text{m}$ , spicules =  $26 \pm 1$  (24.8-27)  $\mu\text{m}$ , gubernaculum =  $7.7 \pm 0.3$  (7.3-8.0)  $\mu\text{m}$ .

Initial investigation indicated that approximately 90% and 40% of 20 and 10 strawberry fields in Bahnamir and Babol cities, respectively, showed the symptoms of disease. The occurrence of disease in different fields was estimated between 20-70%, with respect to the age of cultivation. The average number of nematodes in infected shoots obtained from five plant samples per each field was 147 nematodes per gram of plant tissue.