Appl. Ent. Phytopath Vol. 68, 1 & 2, Feb. 2001

## Distribution and infestation rate of *Heterodera schachtii* in Sugar beet filds of Esfahan province

## A. AKHIANY, M. DAMADZADEH and A. R. AHMADI

Agricultural Research center of Esfahan

## ABSTRACT

Sugar beet cyst nematode *Heterodera schachtii* was first reported in 1987 from Esfahan province by the authors. From 1992-1997 in a state survey 655 soil and root samples from sugar beet fields was taken and the presence of *H. schachtii* was examined. The result showed that the highest infestion with 53% of the samples was from Ghohab and the lowest infestion with 4% of the samples collected from Golpayegan area. In the entixe province 26.5% of the sampled fields were observed infested with an average population of 64.3 eggs and larvae/g. of soil. The highest population was 187 and the lowest 13 eggs and larvae/g. of soil. These figures are far more than economic treshhold of about 2-4 eggs/g. of soil that is measured in different areas. This results revealed that sugar beet cyst nematode is one of the main problem in development of suger beet and it's psoductivity in esfahan province.

Key words: Sugar beet cyst nematode, Heterodera schachtii, Esfahan.

## References

ADHIYANI, A.; DAMADZADEH, M. and AHMADI, A. R. 1993 a. Investigations on infestation, distribution and population of *Heterodera schachtii* in Esfahan

sugar beet fields. Proceeding of the 11th Plant Protec. Cong. Iran, P. 124.

- AKHIYANI, A.; DAMADZADEH, M. and AHMADI, A. R. 1993 b. Identification of plant parasitic nematodes in sugar beet fields in Esfahan. Proceeding of 11th. Pl. Protec. Cong. Iran, P. 123.
- ESFAHAN STATISTICAL YEARBOOK OF AGRICULTURE. 1996. Esfahan Agricultural organization. 111pp.
- FENWICK, D. W. 1940. Methods for recovery and counting of cysts of *Heterodera* schacthii from soil. J. Helminth., 18: 155-177.
- HEIJBROCK, W. 1971. General methods. Pages 111-112 In: Crop loss assessement, FAO manual on the evaluation and prevention of losses by pests, diseases and weeds. L. Chiarappa. C.A.B. england. 136pp.
- KALALY, G. H. and FARIVAR-MAHIN, H. 1979. Some studies on sugar beet nematode (*H. schachtii*) in Khorassan. Iran. J. Entomol. Phytopathol. Appliq. 47: 1-18.
- MEHDIKHANI, E. and KHEIRI, A. 1995. Some plant parasitic nematode fauna of sugar beet fields in Mashhad region. Iran. J. Plant Path. 31: 24-26.
- NOORI, P., TALAGHIAN, P. and TEYMOORI, F. 1980. Survey on sugar beet fields harmful nematodes in the west of Iran. J. Entomol. Phytophathol. Appliq., 48 (1 & 2): 39-41.
- PARVIZY, R. 1989. Distribution of sugar beet nematode in west Azarbaijan. Proceeding of the 9th Plant Protec. Cong. Iran, P. 175.
- ROBB. J. G., KERR, E. D. and ELLIS, D. E., 1992. Factors affecting the economic threshold for *heterodera schachtii* control in sugar beet. J. sugar beet Res., 29: 1 & 2, 31-43.
- SCHAEFER, R. and ESMAILPOUR, M. H., 1970. Sugar beet nematode (*H. schachtii*) in Iran. J. Entomol. Phytopathol. Appliq., 29: 7-10.

SHARAFEH, M. and TEYMOORI, F. 1980. Survey on infested areas to sugar beet

nematode and other cyst forming nematodes in Fars, Iran. J. Plant Path. 48: 75-81.

- SOUTHEY, J. F. 1986. Laboratory methods for work with plant and soil nematode. Ministry of Agric. Fisheries and Food. London, 202 pp.
- STEELE, A. E., 1986. Nematode parasites of sugarbeet. PP: 33-36 In: Compendium of beet diseases and insects. APS Press. Whitney E.O. and Duffus (eds).
- TALACHIAN, P., AKHIYANI, A., GRAYELI, Z., SHAMOHAMADI M. and TEYMOORI, F. 1976. Survey on cyst forming nematodes in Iran in 1975 and their importance. Iran. J. Plant Path. 12: 73-79.
- Address of the Authors: Dr. M. Damadzadeh and A. R. Ahmadi, Plant Pests and
  Diseases Research Department of Isfahan Agricultural Research Center. P.
  O. Box 81785-199, Esfahan. Iran.