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HETERODERA ZEAЕ IN THE RHIZOSPHERE OF DECLINING ALMOND TREES

by
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In September 1984, almond trees (*Prunus amygdalus* Botsch) growing at Quetta, Baluchistan, showed stunted growth. On examination of the soil around the roots, 25-30 lemon shaped cysts/100g of soil were detected. The cyst cones prepared by the method suggested by Golden (1978) and observed by stereoscopic microscopy had a zig zag pattern, prominent dark brown bullae in the ambifenestrate vulval region. The second stage juveniles, mounted in 3% formalin, were cylindrical, elongate, tapering posteriorly measuring $L=0.35-0.44$ mm; $a=19.0-23.0$; $b=4.0-5.0$; $c=8.0-13.5$; stylet = $18-24$ μ m. The cysts were identified as *Heterodera zeaе* Koshy, Swarup *et* Sethi, 1971 (Koshy *et al.*, 1971).

Heterodera zeaе was first discovered on maize, wheat, citrus, pea and garlic from Peshawar and Mardan (Maqbool, 1980) with several additional hosts from Pakistan (Maqbool and Hashmi, 1984). Almond (*P. amygdalus*) has not previously been reported as a host of *H. zeaе*.

LITERATURE CITED

- GOLDEN A. M., 1978. Printed notes on methodology. Nematology Lab. PPI, USDA, Beltsville, U.S.A., pp. 2.
KOSHY P. K., SWARUP G. and SETHI C. L., 1971. *Heterodera zeaе* n. sp. (Nematoda: Heteroderidae), a cyst forming nematode on *Zea mays*. *Nematologica*, 16: 511-516.
MAQBOOL M. A., 1980. Occurrence of root-knot and cyst nematodes in Pakistan. *Nematol. medit.*, 9: 211-212.
MAQBOOL M. A. and HASHMI S., 1984. New host records of cyst nematodes *Heterodera zeaе* and *H. mothi* from Pakistan. *Pak. J. Nematol.*, 2: 99-100.

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