

# Report of *Meloidogyne inornata* in common bean in São Paulo State, Brazil

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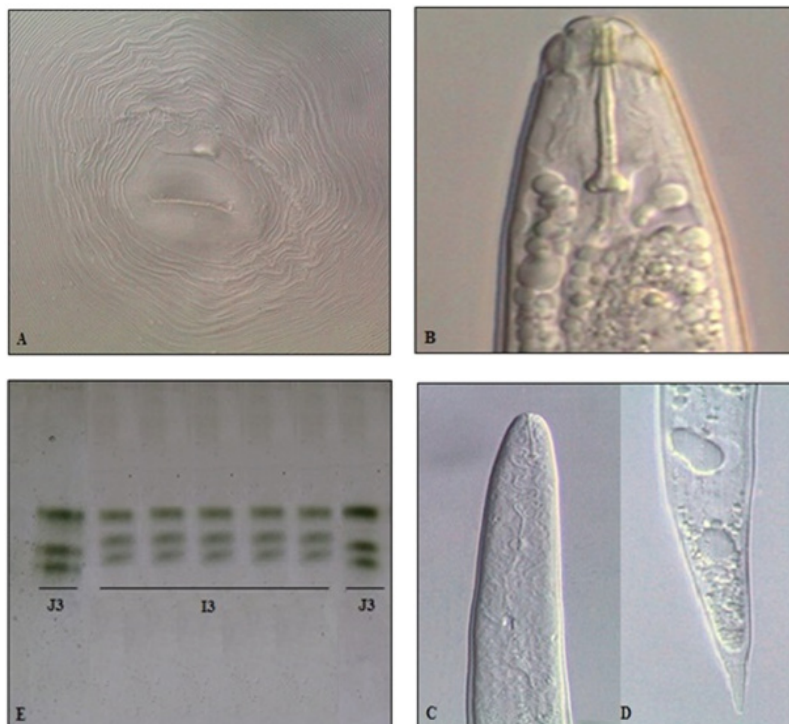
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*Meloidogyne inornata* Lordello, 1956, was described from specimens of soybeans in São Paulo State, Brazil. For a long time, there have been no reports of this species. In 2008, it was again found in yacon (*Polymia sonchifolia*), São Paulo State, when the species was revalidated and redescribed. In 2012, it was reported in common bean (*Phaseolus vulgaris* L.) in Araucária and Santana do Itararé, Paraná State. In December 2013, roots of bean 'BRS Notável' from Lageado Experimental Farm in Botucatu (SP) were received for analysis at the Laboratory of Nematology (FCA/UNESP – Botucatu). They exhibited typical galls but no symptoms in the shoots. The roots were dissected to withdraw the females used in the perineal pattern and esterase isoenzyme phenotype studies. The identification was complemented by analyzes of morphological and morphometric parameters of females, males and second-stage juveniles under an optical microscope. It was identified as *Meloidogyne inornata* (Figure 1). The perineal patterns of *M. inornata* females showed a large dorsal arch, composed of smooth to wavy striae, similar to those of *M. incognita*. The excretory pore was located at 46 µm from the anterior region, according to the description of *M. inornata* (25-

53 µm); there was a long stylet, measuring 15-17 µm in length, with a slightly curved dorsal cone and well developed bulbs. The distance between the opening of the dorsal esophageal gland and the base of basal nodes of the stylet (DGO) is between 3 and 4 µm, consistent with the description of this species (3.5 to 4.5 µm). Analysis of the enzyme profiles revealed the esterase phenotype (= I3) specific for *M. inornata*, which is the main characteristic used to differentiate *M. inornata* from other *Meloidogyne* species. Males have high and rounded anterior region, continuous with the body contouring; the labial disk is centrally concave, round and large, above the middle lips. The head region is not marked by incomplete undulations and the stylet is robust, measuring from 20 to 23 µm in length, with straight cone, pear-shaped cylindrical axis with small projections, according to the literature (20-25 µm). The stylet of the second-stage juveniles (J2) is between 10.0 and 13.0 µm in length, DGO between 2.5 and 3.0 µm and tail between 45 and 52 µm in length, consistent with the description of *M. inornata*. The history of this area reports that it had been cultivated with yacon, which indicates that this infestation may have occurred through contaminated propagules (rhizophores).



**Figure 1.** Morphological, morphometric and phenotypic parameters of *Meloidogyne inornata*. A= perineal configuration; B= anterior region of a male; C= anterior region of a second-stage juvenile (J2); D= tail area of a second-stage juvenile (J2) and E= esterase isoenzyme phenotypes: I3 of *M. inornata* and J3 of *M. javanica*, used as standard).