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Short notes

A NEW RACE OF *MELOIDOGYNE CHITWOODI* GOLDEN, O'BANNON, SANTO & FINLEY, 1980?

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Species identification of *Meloidogyne* can be reliably carried out on the basis of the isozyme band patterns of esterase (Est) and malate dehydrogenase (Mdh) in combination with morphological characterization. To obtain these band patterns on a routine scale a fast and accurate method is described by Esbenshade and Triantaphyllou (1985, 1990) using just one single *Meloidogyne* female. This method uses prefactured mini polyacrylamide gels (4.3 × 5 cm slabs, gradient 10-15 %) on the Phastsystem (Pharmacia LKB), a completely standardized and computerized electrophorese system.

For screening for resistance and for diagnostic purposes seventeen populations of *Meloidogyne hapla* and *M. chitwoodi* were simultaneously identified with this system at the Plant Protection Service (PD) and the DLO-Centre of Plant Breeding and Reproduction Research (CPRO-DLO). It became evident that five populations of *M. chitwoodi* from locations in the southeastern part of the Netherlands deviated from the originally described pattern for the Mdh band, while the Est band pattern was absent (Fig. 1). This null allele has been observed in a few occasions within the *Meloidogyne* species (Dalmasso & Bergé, 1983; Esbenshade & Triantaphyllou, 1987). The different band patterns for Est and Mdh were consistent and reproducible and occurred in many of the investigated populations of *M. chitwoodi*. Preliminary morphological studies on these populations indicated that several characteristics can be used for identification of this " new race ".

Within *M. chitwoodi* two races are distinguished on the bases of differential host ranges (Santo & Pinkerton, 1985). Field and greenhouse trials showed that maize could be described as a non-host for these deviating populations, whereas maize is a good host for *M. chitwoodi*, type race (Golden *et al.*, 1980). Futher host range experiments, morphological studies and biochemical analyses of other isozymes will help to designate the status of these populations in relation to the earlier described races.

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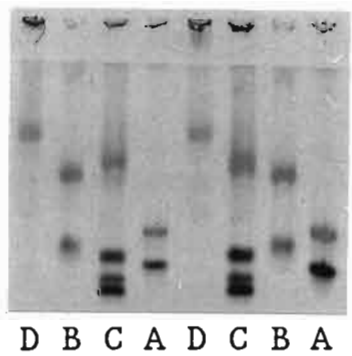

Fig. 1. *Gradient 8-25 % mini gel showing the original esterase and malate dehydrogenase phenotype of a single* Meloidogyne *female of* Meloidogyne hapla *(A),* M. chitwoodi *(B) and* M. javanica *(C), and the new deviating band pattern of* M. chitwoodi *(D.).*