

Session B

Reproduction potential and Host range of *Meloidogyne enterolobii* and *Meloidogyne incognita*

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Meloidogyne enterolobii, is one of the economically important root-knot species as its ability to develop and reproduce on host plants carrying resistance to other major root-knot nematodes. Recent reports around the world on wide range of plants species including major crops depicts its wide spread. Due to polyphagous nature of *M. enterolobii* and limited control measures, it is important to understand host range to reduce further spread and develop control measures.

Meloidogyne incognita and other tropical RKN species are controlled using resistant cultivars carrying Mi gene, but recent reports have shown that virulent isolates of *M. incognita* are capable to overcome resistance. To determine the host range of 8 *M. enterolobii* populations and 2 virulent isolates of *M. incognita*, a study was conducted within the framework of ANR (FR)/DFG (DE) project AEGONE (431627824).

20 crops species previously classified as non-, minor- or major-hosts to *M. enterolobii* were challenged under greenhouse conditions with 8 *M. enterolobii* populations (collected from different geographic areas and hosts) and 2 virulent isolates of *M. incognita* reared as single egg mass lines. Based on the determined reproduction factor (RF), crops were categorized as good-host (RF is ≥ 1), poor-host (RF between 0 and 1) or non-host (RF=0). Among 20 plant species, 10 showed RF values ≥ 1 for all 8 *M. enterolobii* populations and 12 showed RF values ≥ 1 for both virulent isolates of *M. incognita*. Although several reports suggested roses as minor-host to *M. enterolobii*, no reproduction was observed in all *M. enterolobii* populations and as well in *M. incognita* isolates tested. Contrary to recent reports, phacelia and fodder radish were good hosts for 5 and 7 populations of *M. enterolobii*, respectively.

Based on the results it was demonstrated that several populations of *M. enterolobii* and virulent isolates of *M. incognita* are capable of reproducing on crops previously reported as non-hosts. Therefore, further studies are underway to investigate the potential to adapt to initially poor hosts, the related costs of fitness and to determine variations on the genome level with differences in host compatibilities.