

## Scientific name

*Meloidogyne graminicola* (Golden & Birchfield)

## What it does

Infective second stage juvenile of *M. graminicola* penetrates through the root tips and takes about a minimum of 41 hours. Females develop within the root and eggs are laid in the cortex. Galls are formed in 72 hours. The juveniles or immatures remain in the maternal gall or migrate intercellularly through the aerenchymatous tissues of the cortex to new feeding sites within the same root.

## Why and where it occurs

*M. graminicola* is a damaging parasite on upland, lowland and deepwater rice. It is well adapted to flooded conditions and can survive in waterlogged soil as eggs in eggmasses or as juveniles for long periods. Numbers of *M. graminicola* decline rapidly after 4 months but some egg masses can remain viable for at least 14 months in waterlogged soil. *M. graminicola* can also survive in soil flooded to a depth of 1 m for at least 5 months. It cannot invade rice in flooded conditions but quickly invades when infested soils are drained. It can survive in roots of infected plants. It prefers soil moisture of 32%. It develops best in moisture of 20% to 30% and soil dryness at rice tillering and panicle initiation. Its population increases with the growth of susceptible rice plants.

The presence of relatively broad host range and many of the alternative vegetable crops that are grown during dry season are favorable for this nematode.

## How to identify

Check for the presence of the nematodes.

Check the plant for the following symptoms:

- Characteristic hooked-like galls on roots
- Newly emerged leaves appear distorted and crinkled along the margins
- Stunting
- Chlorosis
- Heavily infected plants flower and mature early

Other nematodes can cause similar damage. To confirm root knot nematode, examine roots of host plant for hooked-like galling, these can be stained to determine the presence and populations of *M. graminicola* (the juveniles of *M. graminicola* can be extracted from the roots of the host plants).

## How to manage

Where possible,

- Use nematicidal compounds: volatile (fumigants) and nonvolatile nematicides applied as soil drenches
- Treat seeds with carbofuran
- Use resistant varieties. Contact your local agriculture office for an up-to-date list of available varieties.
- Apply cartap hydrochloride 4% WG @ 18.75kg/ha.

To prevent root invasion, practice:

- Continuous flooding
- Raising the rice seedlings in flooded soils
- Crop rotation

## Learn More

Visit Rice Based Cropping Systems Knowledge Bank [www.rkbodisha.in](http://www.rkbodisha.in)



Galls are formed on roots infected by root knot nematode