

Management of root knot nematodes in tobacco

Recognize the problem

The root knot nematode disease also known as eelworms or “mandolo” reduces yield and quality of tobacco.

Background

Root knot nematodes are found and stay for long periods in the soil. Distribution of nematodes in the soil is irregular or patchy. Nematodes affect tobacco in the nursery and field causing roots to be swollen or have knots, and even rot. Other symptoms include yellowing, wilting, and stunting of plants. Root knots are caused by nematodes. Nematodes cause disease in tobacco plants through injuring roots resulting in reduced intake of water and minerals from soil. Nematodes are spread by dirty irrigation water, through contaminated implements during ploughing, and planting tobacco in infested soil.

Management

The best approach to manage root knot nematodes is through Integrated Pest Management (IPM) in the nursery and field as described below:

- Follow a 4 year rotation, for example Tobacco-Maize-Groundnuts-Tobacco and include fallow in the rotation
- Grow the following resistant / tolerant varieties: Burley BRK4 /Flue cured AFH1, AFH2, AFH3 and AFH4
- Uproot and burn all tobacco leftover seedlings and stalks soon after completing harvesting
- In the **Nursery**: broadcast Dazomet pesticide such as Basamid at 1.5kg for each bed of 30m². Mix the chemical with soil by cultivating the bed using a new hoe across and along the bed 14 days before sowing. Cover with a black plastic paper. Alternatively you can use Metham sodium such as Herbifume should be drenched on the seedbed at the rate of 3 litres in 30 litres of water for a bed of 30 m². Drench the chemical 14 days before sowing. Cover with a black plastic paper for 14 days, after which you remove the black paper and cultivate the soil to allow air in.

Tobacco roots with root knots caused by nematode infection. (Photo by tobacco-disease.info)



Part of a healthy tobacco farm in Malawi. (Photo by Noah Anthony Phiri, CABI)



When using a pesticide, always wear protective clothing and follow the instructions on the product label, such as dosage, timing of application, and pre-harvest interval.

Scientific name(s) > *Meloidogyne* sp.

The recommendations in this factsheet are relevant to: Malawi



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