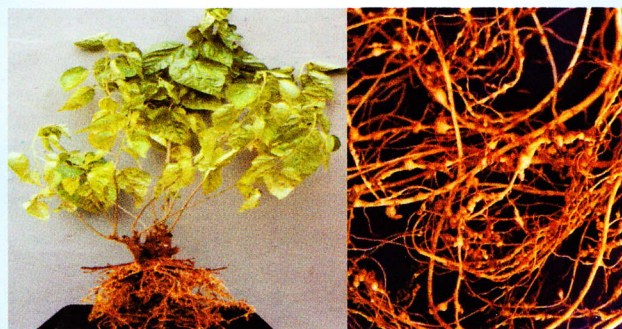


Root knot caused by nematode, *Meloidogyne incognita* (Kofoid & White) Chitwood is a serious problem in the mulberry plantations, which reduces 20% leaf yield. It affects leaf quality, especially protein, which is essential for the synthesis of silk. The disease is widespread throughout the year and more prevalent in sandy soils under irrigated gardens. Since the disease damages the root system, the plant predisposes to various other soil borne pathogens also. Severely affected mulberry plants show stunted growth with marginal chlorosis and necrosis of leaves. Knots/galls formed on the roots are spherical with varying size. Young galls are very small and yellowish white, while old ones are big and blackish brown in colour. Due to nematode infection, the vascular tissues and cortex of roots are disorganized, hampering the translocation of water and minerals from soil to aerial parts.



In the past, various methods such as application of neem oil cake, Furadan and Bionema (*Verticillium chlamydosporium*) along with neem oil cake, etc., have been recommended for control of the root knot. Application of neem oil cake alone did not give desired level of control. Use of chemicals is expensive and repeated application destroys beneficial microbes in soils. Therefore, Nemahari - a plant based eco-friendly technology with 75% plant components and 25% chemicals, was developed for the management of root knot of mulberry. At laboratory level, the technology reduced the disease severity by 82% and prevented leaf yield loss by 22%. At farmers field, the disease was reduced by 82-84% and leaf yield loss was prevented to the tune of 22-24%. Adoption of this technology results in the cost benefit ratio of 1:2.2.



Nemahari

Mixing with FYM

## Method of application

**Moderate infection (<50 galls/plant):**

Two applications/year

**Severe infection (>50 galls/plant):** Three applications/year

**Dosage/application:** 40 kg/ha

**Preparation:** Mix 40 kg Nemahari with 400 kg FYM/compost



## Application of Nemahari

*First application:* Make trenches of 15 cm deep near the root zone. Apply Nemahari mixture and cover with soil, followed by irrigation.

*Second Application:* 70-80 days after first application.

*Third application:* 140-150 days after second application.



## Precautions

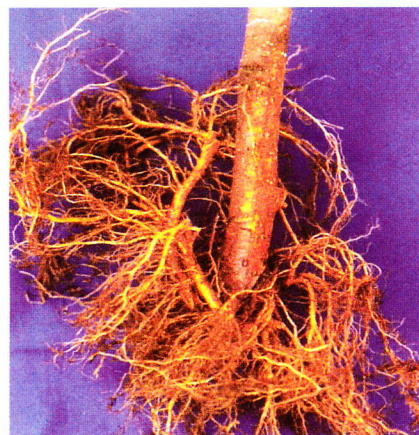
- Irrigate the treated mulberry plants immediately.
- Maintain optimum organic content in soil by applying compost to rise the organic carbon level  $>0.5\%$  in soils.
- Keep soil moisture level above 40% throughout the crop period.

## Advantages

- Nemahari is a target specific, eco-friendly plant based formulation.
- Does not affect the beneficial microflora in the soil.
- Absorbed by the roots easily and inhibits nematode population and its multiplication in the soil and mulberry roots.
- The shelf life of the formulation is two years.
- Method of application is easy and saves 50% manpower



Before application



After application

Text:

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# NEMAHARI

**A PLANT BASED PRODUCT FOR  
MANAGEMENT OF ROOT KNOT  
DISEASE IN MULBERRY**



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