Tea Bull. 9(1), 20-22, 1989

PREVENTION OF DISSEMINATION OF NEMATODES PATHOGENIC TO TEA INTO HITHERTO UNINFESTED TEA AREAS

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The movement of nematodes by itself is very slow. Although, during any particular year several generations of nematodes may be produced (provided there are suitable tea cultivars and the climate is favourable), a large proportion of the new generations would remain near the plant rhizosphere, unless physically disseminated by man, animals, soil and water. As such every effort should be taken to prevent the spread of nematodes into hitherto uninfested areas by such means.

NURSERIES

Since nurseries serve as the source of distribution of plants to different areas, they could also be the main focal point of spread of infestation. Therefore, it is essential to see that all nursery plants are free of infestation with plant parasitic nematodes.

Fortunately tea is parasitised by only root feeding nematodes. Furthermore, since tea is mostly propagated by vegetative means, as long as the cuttings are planted in nematode free soil, infestation can be prevented.

In addition to ensuring that the cuttings are planted in nematode free soil, it is also essential to see that further contamination with nematodes does not occur in the nursery. The following are some of the important precautionary methods that should be adopted to prevent contamination of nursery plants:

1. Agricultural implements used in infested tea fields should not be taken to the nursery site. All implements should be washed thoroughly before handling fumigated soil.

2. Soil brought from elsewhere which could probably be contaminated should not be heaped near the nursery prior to fumigation.

3. A deep drain should be dug around the nursery in order to prevent rain water from infested fields flowing into the nursery.

4. Irrigation of nursery plants should be carried out with uninfested water.

5. Nematode susceptible crops should not be grown within the nursery area.

6. Infested nursery plants should be burnt. If allowed to remain in the nursery, they would serve as a ready source of inoculum to contaminate adjoining uninfested beds.

7. Avoid splashing of water from bed to bed, since such splashes from an infested bed could cause contamination of hitherto uncontaminated beds.

8. Following the handling of infested soil, all workmen should wash their hands and feet prior to moving within the perimeter of the nursery.

FIELD

In addition to taking care to prevent the nursery plants getting contaminated, it is also essential to see that there is minimal spread of nematodes in the field.

As stated above, the main source of spread is planting of infested nursery plants and use of contaminated tools.

Apart from the spread of infestation through the use of contaminated nursery plants, another source which aids in rapid spread of infestation in the field is through the movement of soil and water. Therefore, it is essential to take appropriate soil conservation measures to prevent the movement of soil from infested fields into uninfested areas. One operation which results in movement of soil is at the time of uprooting of old tea prior to replanting. Uprooting and clearing operations should always commence from the uppermost sections of slopes to prevent soil movement from upper to lower regions; infestations amongst new plantings at bottom of sloping terrains have often been traced to movement of infested soil and water from the old infested sections above.

It is also essential to ensure that nematode-susceptible alternate hosts are not grown near the nursery or within tea fields.

In areas where tea is intercropped with plant species that are susceptible to those species of nematodes that readily attack tea, care should be taken to use only those that are proven to be resistant to those species of nematodes.