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To
The Editor,

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Sir,

I request that the following message may kindly be published in your esteemed daily:

INTEGRATED MANAGEMENT OF ROOT WILT DISEASE OF COCONUT

Pollachi and surrounding areas are traditionally known for coconut plantations and the nuts and tender coconuts were regularly sent to different parts of Tamil Nadu and even outside of Tamil Nadu. Of late, a deadly disease, the root wilt of coconut is causing concern to the coconut growers of Pollachi tracts. The disease has wide spread occurrence especially in the adjoining areas of Kerala state.

In general, flaccidity, yellowing and marginal necrosis are the predominant symptoms. Affected leaflets were curved and bent downwards along the entire length and formed a structure resembling the ribs of mammals. Reduction in the number of leaves and successive leaves become smaller, shorter and narrower resulting in the stunting of palms and reduction in the size of nuts. Rotting of roots is considered to be one of the major symptoms and the flowering is delayed when the palms are severely affected. The spadixes are small, weak and do not open normally and drying of spathe and necrosis of spikelets occur from tip downwards. Shedding of immature nuts and poor quality of nuts/copra from the affected trees reduced the yield potential. The disease is caused by *Cadidatus* Phytoplasma and it is transmitted by phloem feeding lace wing bug (*Stephanitis typical*) and plant hopper (*Proutista moesta*). Unopened pale-yellow leaflets of spindle leaves are more susceptible to leaf rot disease and causes reduction in photosynthetic area, disfiguration of the palms and reduction in yield apart from attracting a number of insects that feed, multiply and cause further damage. Usually, the disease is serious in poorly maintained coconut gardens.

The routine integrated disease management strategies are as follows

- Eradication of the disease in mildly affected gardens by cutting and removal of severally affected palms.
- In the heavily disease affected gardens, remove all the severely affected uneconomic adult palms.
- Mulching the basin with coconut leaves.
- Apply farm yard manure @ 50 kg.

- Soil application of neem cake @ 5kg/palm.
- Soil application of *Bacillus subtilis* @ 100g/palm and *Trichoderma asperillum* @ 100g/palm at three months interval.
- Soil application of phosphobacteria @ 100g+ Azospirillum @ 100g + VAM @ 50g/palm/year (two times per year at six months intervals).
- Apply balanced dose of chemical fertilizers (Urea – 1.3 kg; superphosphate – 2.0 kg; Muriate of Potash – 3.5 kg/palm/year).
- Soil application of copper sulphate @ 200g and magnesium sulphate @ 100g/ palm (copper sulphate 100g and magnesium sulphate 500g applied alternatively at three month intervals twice in a year).
- Grow green manure crops viz., cowpea, sunhemp (*Crotalaria juncea*), *Mimosa invisa*, *Calopogonium mucanoides*, *Pueraria phaseoloides* etc. in coconut basins and incorporate them in the soil before flowering.
- Grow suitable inter and mixed crops (banana, pepper, cocoa, elephant foot yam, turmeric etc.).
- Root feeding with TNAU coconut tonic @ 200ml/palm at 6 months interval.
- Fipronil 0.3G mixed with fine sand @ 1:1 ratio and apply around the base of the spindle leaf for managing the insect vectors.

The associated leaf rot disease can be managed by

- Removing and destroying the severely rotten leaves
- Pouring hexaconazole 5 EC (2 ml in 300 ml of water) around the spindle leaf and spray with mancozeb @ 0.3%

In addition, the following microbial consortia can be used for the effective management of coconut root wilt disease.

- Soil application of microbial consortia @ 2 liters/ palm at three months' interval can be done in the plantations having mild infection. Mother culture will be supplied from the University @ 5 liters /acre (**Rs 2500/acre**). Five litres will be up scaled by the farmers to 150 litres. Farmers can purchase the mother culture once in three months from TNAU.

The cost of microbial consortia

S. No.	Components	Cost/acre	
		New Plantations (Once in a Year)	Moderate to severely infected plantations (Once in three months for first year and later once in a year)
1.	Microbial mother culture of Consortia @ 5 liters/ acre	Rs. 2500/-	Rs. 10,000/-

*The mother culture is available at Tamil Nadu Agricultural University and the needy farmers can purchase the mother culture.

The frontline demonstrations were laid out at Pollachi with the above integrated disease management strategies along with microbial consortia. The preliminary observations revealed the reduction of disease in the treated palms. All the coconut farmers having the root wilt disease symptoms are advised to follow the above integrated disease management strategies in order to eradicate the disease.

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Public Relations Officer