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NON-CHEMICAL METHOD OF MANAGEMENT OF BETELVINE ANTHRACNOSE

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ABSTRACT

Anthracnose of betelvine can very well be contained by application of 150 kg/N/ha/y in three split doses starting from 15th day of lifting of vine either through neem cake or poultry litter. Maximum yields of betel leaves were recorded in beds amended with neem cake. Extra addition of neem leaves or calotropis leaves at 2 t/ha/y did not help very much in reducing the disease.

KEY WORDS : Anthracnose, *Colletotrichum capsici*, Disease management

Anthracnose, caused by *Collectotrichum capsici* is a serious disease in *Karpoori* variety of betelvine causing upto 60 per cent loss in *sakkai* leaves. The disease *theechal* (burnt up appearance) in older leaves (20 d old) for which effective chemical control (Rabindran *et al.*, 1988), the residue levels and the waiting period have been worked out (Rajukkannu *et al.*, 1988). However, a non-chemical method of anthracnose management in betelvine would prove to be very safe. Organic amendments were reported to be more effective in checking root diseases of betelvine (Sivakumar *et al.*, 1986). Information on the usefulness of organic amendments in the management of foliar diseases of betelvine is not available. Hence, the present study was undertaken to find out the efficacy of certain organic amendments in checking anthracnose.

MATERIALS AND METHODS

Field trials were laid out in Pothanur (Salem) with thirteen treatments replicated thrice in randomized block design. Fifty hills were maintained (50 x 2 vines) per treatment. Neem cake, poultry litter and urea were applied at 150 kg/N/ha/y. Neem and calotropis leaves were applied at 2 t/ha/y. Neem cake-urea combination was applied as 75 kg N through urea and another 75 kg N through neem cake. All the amendments were applied in three split doses; first dose at 15 days after lifting of vine, second and their doses at 45 days interval after first application. Observations on leaf yield, per cent disease index and per cent incidance of disease were recorded and the disease was expressed as Coefficient of Disease Index (CODEX) (Datar and Mayee, 1981). The yield of leaves was recorded in bundles of 100 leaves.

RESULTS AND DISCUSSION

The results reveal that all the amendments were significantly superior over control in containing anthracnose and increasing the leaf yield (Table). However, maximum reduction of disease was recorded in beds amended with neem cake + calotropis leaves (62%) followed by poultry litter (60%), neem cake (52%) and poultry litter + calotropis leaves (49%). Maximum yield of leaves was recorded in neem cake (82.1 bundles) and neem cake + neem leaves (81.5 bundles) amended beds. Application of neem cake, neem cake-urea or calotropis leaves is reported to be very effective in containing parasitic nematodes

Table. Effect of Certain organic amendments of yield and anthracnose of betelvine.

Amendments	Anthracnose (CODEX)	Yield of leaves (bundles)
Neem cake	5.6	82.1
Poultry litter	4.5	75.3
Urea	7.4	73.6
Neem cake + Calotropis leaves	4.3	76.1
Neem cake + Neem leaves	6.6	81.5
Poultry litter + calotropis leaves	5.8	74.5
Poultry litter + Neem leaves	7.7	76.9
Urea + calotropis leaves	6.3	73.1
Urea + Neem leaves	6.9	74.8
Neem cake-urea + calotropis leaves	6.1	75.0
Neem cake-urea + Neem leaves	6.9	76.9
Control	11.3	63.9
CD	3.6	1.8

and wilt of betelvine (Marimuthu, 1985). Interestingly, in the present study, it is evident that the neem cake or neem cake + calotropis leaves could also reduce the anthracnose of betelvine to an extent of 52 to 62 per cent which is very well comparable to chemical control of anthracnose as reported by Rabindran *et al.* (1988). Further application of groundnut cake (GNC) and agathi-leaves to betel garden is commonly practiced in Pothanur and GNC when applied in excess favours wilt development (Marimuthu, 1985). Selection of best organic amendment, judicious and proper method of application may prove to be a safer and successful method in containing root and foliar diseases of betelvine.

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