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Study of effect of Soil amendments for the resistance against virus infection.

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Abstract

The rooted plants are well supported by clay particles. During growth, the roots are also found to be mechanically injured so that the absorption rate of minerals and water solvent is retarded greatly. This retardation affects the physiology and metabolism of cultivated plants and over all they become more sensitive for virus infection due to decreased immunity power. Different concentrations of neem cake by weight were added and mixed in soil before sowing the seeds which resulted in good response in reference with resistance generated.

Keywords: Vectors, whiteflies, *Bemisia tabaci*, *Aphis gossypii*, Soil amendments

1. Introduction

Aphids and whitefly become predominant during their respective weather. The plants complete their respective weather. The plants complete their life cycle in different biotic and abiotic conditions. Since the healthy plant growth is directly proportional to amended soil as it is conducive for maintaining the soil environment and during experimentation, it also has been found to be free from soil pathogens. In North India emphasis has not been given so much, resulted in less work regarding soil amendments.

Method/ Procedure

Dried neem leaf powder and powdered neem cake were mixed in the soil used for potting (Neem cake 5 gm and 10 gm while neem leaf 10 gm and 20 gm respectively). 15 plants were taken for each treatment. Each of the pot container size was such that soil weight in average was found to be 5 kg. In different experiments separately the effect of Neem leaf powder and Neem cake in meshed state were used in different potted plants. The experimented plant selected was that of Bhindi/Okra (*Abelmoschus esculentus*) which were grown in potting medium. In some of the experimental steps, the amended soil by Neem leaf or Neem cake was also combined by neem oil spray treatment for better growth and protection of plants.

Observation table

Experimented plant (potted)	Neem leaf Powder	Neem cake meshed	Plant growth by weight	Neem oil spray	Resistance % interms of symptoms appeared by virus.
Bhindi	5 gm	5 gm	800 gm	5%	85%
Total no of potted plants 15	10 gm	10 gm	600 gm	10%	40%
	5 gm	10 gm	700 gm	5%	70%
	10 gm	5 gm	300 gm	10%	45%
	5 gm	---	750 gm	5%	75%
	---	5 gm	650 gm	5%	63%

Discussion

By looking at table, it is found that neem leaf powder when used for soil amendment than neem cake meshed. when both equally by weight of 5 gm. combined and amended in soil, the results in terms of plant growth found which were more vigorous with increased metabolic vital activities, with high

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resistance and immunity which was found to be 85% But when above 5 gm of neem cake was used during amendment, the resistance percentage found was lesser. When alone 5 gm of Neem cake was used for soil amendment then the results were bitter in terms of resistance and immunity in plants overall.

Conclusion

It will be better if during crop cultivation pre-amended soil is used and for amendment plant natural products like neem leaf, neem cake, kernel and neem bark should be advised to farmers.

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