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ORGONEMA

Compositions for Nematode Control in Crops

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(57) Abstract :

COMPOSITIONS FOR NEMATODE CONTROL IN CROPS Exemplary embodiments of the present disclosure are directed towards compositions for nematode control in crops comprising *Azadirachta indica* (neem cake) and one or more of the biopesticides-*Paecilomyces lilacinus*, *Trichoderma harzianum*, and *Pseudomonas fluorescens*. In preferred embodiments, the ratio of the neem cake and the biopesticides are in the ratio of about 1000:6. The composition can be applied to seeds, foliage, root, the soil environment or the potting mixture. The results indicate the control of nematodes (especially root knot nematodes) in infected soils and reduction in pathogenic fungi. It significantly increased yield parameters and improved soil health.

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CROP WISE LOSSES BY NEMATODES

Average Annual Crop losses due to nematodes

Quantitative losses

- Field crops : 6%
- Fruit and nut crops : 12%
- Vegetables : 11%
- Ornamental crops : 10%
- **Polyhouse Cultivation** : **60-90%**

Annual Monetary losses

- ▶ India : 21,068.73 million

(Nematode Distribution Atlas, 2018)

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- ▶ In India on an average, a national loss of Rs. 21,068.73 million has been estimated due to plant parasitic nematodes. In a recent survey conducted on nematode problems in horticultural crops severe nematode infestations were noticed. The incidence under field conditions ranged from 40 to 60 per cent and in protected conditions it was 70 to 90 per cent. It's mainly due to lack of knowledge and management by growers. Most of them took care of pests and diseases, but did not take up any measure for a nematode problem, which remained unnoticed due to nonspecific symptoms or gall formations on roots below the surface soil. During the survey, investigation and diagnosis confirmed the presence of *Meloidogyne incognita*, *M. javanica*; *Heterodera avenae*, *Rotylenchulus reniformis* *Tylenchulus semipenetrans* *Pratylenchus* spp. The farmers were convinced about the role of nematode damages caused based on symptoms on roots and foliage. There is no nematode management practice known to growers. In order to develop a safe management strategy for nematodes in vegetables, the product **Orgonema** is developed and it has been tested under research micro plots and open field conditions in the farmers field and is found to significantly control nematodes in field, poly houses and fruit orchards.

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Comprises of *Azadirachta Indica* and one or more biopetecides

Benefits

Effectively Controls :

- **Nematodes and triggers nematodes resistance mechanism**
- **Lesion nematodes, Cyst nematodes, plant parasitic nematodes, Root Knot nematodes etc.**
- **Reduces pathogenic fungi used in cash crops, Vegetable crops and horticulture crops**

Stimulates microbial activity in soil

Improves nitrate reductase activity and chlorophyll contents

Increases yield parameters in plants and soil health.

It acts as Bio-organic pH- moderant.

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Applications

Soil Applications: 5Kg of orgonema mix with one ton of FYM/Vermi compost and keep this mixture to 7-10 days before applying to the field .

Plant : Apply 50-100gms of orgonema with organic fertilizer around rhizosphere of the plants or with all other types of Fertilizers wherever recommended.

Poly House/Green House : Use 2Kg in an area of 10X10 sq mt. for effective control of Root knot nematodes as basal application.

Nursery: Use One kg in nursery bed preparation 2X5 mt along with fertilizer doses for best results

Seed Treatment: 2gm per 10gm seeds for better germination and crop production

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