

Article Id
AL04265

NEEMASTRA: NATURE'S WARRIOR AGAINST PESTS

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NEEMASTRA offers a potential alternative to synthetic pesticides, with its perceived environmental safety and potential for sustainable pest control. However, it is essential to consider its effectiveness, environmental impact and resistance management. Incorporating neemastra into an integrated pest management approach can help maximize its benefits while minimizing any potential drawbacks.

What is Neemastra?

NEEMASTRA is an organic pesticide used as a major component of Zero Budget Natural Farming. It is environmentally safe, cost effective and non-chemical pest management option in modern day agricultural system.

Materials Used for Preparation of Neemastra

Neem leaves (*Azadirachta indica*; family- meliaceae): Importance

- Having amazing pesticidal property, they also act as fungicide as well as have anti-bacterial property and have been showing deleterious effect on insect.
- The leaf extract contains large portion of Azadirachtin steroid which shows anti attractant property moreover neem also acts as a fertilizer. Due to high medicinal and pesticidal property, this organic pesticide is highly effective in controlling wide range of pests, but mostly effective against sucker pests, rice weevil, caterpillar etc.
- Due to organic property, it also helps in improving the soil fertility and help in maintaining the C:N ratio and apart from these all it improves physical, chemical and biological property of soil.

- It is one of the major parts of ZBNF because all the material used in this is easily available without any cost or minimal paying. It is very rare to avoid the use of neem in organic farming due to its high importance in every aspect.

Table 1. Ingredients used in NEEMASTRA preparation

Ingredients	Quantity
Neem leaves	5 kilogram
Cow dung	2 kilogram
Cow urine	5 litres
Water	100 litres

PREPARATION

- 5 kg neem leaves crushed and mixed with water
- 5 litres urine and 2 kg cow dung added to it
- Ferment the prepared solution for 24 hours
- After 24 hour the mixture is filtered and diluted to 100 litres
- Use this bio-pesticide as foliar spray for 1 acre.



Plate 1. Materials used for NEEMSTRA preparation

Benefits of Neemastra

- Eco- Friendly
- Residue Free
- Non- toxic to non-target organisms
- Safe for farm workers
- Adaptable to various crop
- Sustainable Agriculture

Limitations of Neemastra

- As it is an organic insecticide, residual effect is less powerful as compared to chemical pesticides.
- Some pests may linger even after application of the treatment.
- It may take longer to show desired result.
- It should be applied more frequently which makes its use more labour intensive and more time consuming.
- It is more specific only for sucking pests and mealy bugs.
- After some time, pests may become resistant to Neemastra. So, it's best to use this biopesticide along with other cultural practices in IPM approach.
- Accurate pest identification and knowledge of pest life cycle is crucial while using organic insecticides.
- Shorter shelf life as compared to synthetic insecticides.
- One needs training to make it at home and use it effectively.

Conclusive Remarks

Neemastra is considered as broad-spectrum bio-pesticide. It disrupts the life cycle of pests by affecting their feeding, growth, and reproduction. While it may not provide instant or complete control, it can contribute to pest management strategies when used properly.

Neemastra is often considered a more environmentally friendly option compared to synthetic pesticides. It is biodegradable and generally has lower toxicity to non-target organisms, such as mammals, birds, and beneficial insects. However, it is still important to follow recommended doses and practices to minimize any potential negative effects.

Like any other pesticide, prolonged and indiscriminate use of neemastra can lead to the development of resistance in target pests. To mitigate resistance, it is important to incorporate integrated pest management (IPM) practices, including rotation with other pesticides, cultural controls, and monitoring pest populations.

Neemastra is often considered as part of an integrated pest management strategy rather than a standalone solution. It can be used alongside other pest control methods, such as

biological control, cultural practices, and resistant crop varieties, to optimize pest management outcomes.

References

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Plates 2. Engaging in preparation of NEEMA STRA