

## Neemastra: Green Solution Controlling Pest

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### Abstract

Neemastra is a part of Indigenous Technical Knowledge (ITK)-which is usually followed for sustainable agricultural practices. ITK includes the application of ideas of local people in agriculture and related sectors. ITK's aid development efforts facilitate the participation of local people and are a source of developing appropriate technologies. This article gives you elaborate information related to neemastra. Neemastra is an organic pesticide usually obtained from neem leaves. Organic name in the sense gives us an idea that it is obtained from nature i.e., leaves of the neem tree.

### Introduction

Organic pesticide comes from nature and is used after processing (minimally). The natural sources for these organic pesticides come from plants or tree parts (such as leaves, bark, seeds, fruits etc.), animal products (cow dung, cow urine etc.), fruit juices, and other natural products. Neemastra is one such organic pesticide which obtained mostly from neem leaves, cow dung and cow urine.

Neem-*Azadirachta indica* originated in Southeast Asia. It is an evergreen broadleaved, the fruits are small olive-sized and the seeds contain 10-30% oil. Almost all the parts of the neem tree have pesticidal properties (leaves, oil, and bark). Neem shows insecticidal, fungicidal and bacterial properties. Mostly, India grows neem trees for medicinal purposes. Azadirachtin is systematically absorbed by roots which affect the piercing and sucking pests (when sucked). Azadirachtin is biodegradable has no impact on natural predators and also shows low toxicity towards mammals. The major ingredient (active) in the oil is Azadirachtin, which is sold as NEEM SEED EXTRACT or NEEM OIL. Neem extracts function as an antifeedant, repellent, growth inhibitor, Sterilant, direct toxin, egg-laying deterrent and directly poison aphids, termites and caterpillars.

The use of the neem tree and its derivatives in organic farming techniques show various benefits. This amazing tree has been recognized as a renewable resource for locally produced, biodegradable, safe and efficient fertilizers and agrochemicals. In Indian communities, neem and its

derivatives were utilized to nourish and protect the crops before the availability of synthetic pesticides, insecticides, and fertilizers. It is prepared from fruits and seeds of the neem tree. 30ml of neem oil is diluted in 1 litre of water and sprayed on the crops in preference to hand sprayers. (The solution of neem oil water must be used immediately before the oil droplets float). Neem oil is the least toxic to humans and also shows very low toxicity to beneficial organisms, therefore, it is very promising for controlling many pests.

### Materials and Method

Neemastra is also called the advanced version of the neem oil mix. The basic material for neemastra is neem leaves which have an amazing pesticidal property, which helps in controlling a wide range of pests. Hence, if anyone wants to start organic farming shouldn't avoid the importance of neem. Generally, fresh neem leaves, cow dung, and cow urine are required to prepare neemastra. Initially, 5kg of neem leaves are taken and crushed into a paste using some amount of water. Then the neem paste is transferred into a bucket or drum, 2kg cow dung and 5 litres of cow urine are added and stirred till all the ingredients mix well. The mixture is left undisturbed for 24 hours in the bucket to facilitate fermentation. Finally, after fermentation, the fermented mixture is diluted with 100 litres of water. After dilution, one can use it for crop plants (it can be used for 1 acre of farmland).



Fig 1- Neem leaves



Fig 2- Neem paste



Fig 3- Cow dung



Fig 4- Cow urine



Fig 4- Neemastra extract



Fig 5- Final product- Neemastra



**Fig 7- Application of neemastra using foliar spray**

### Things To Know About Neemastra

Neemastra majorly controls sucking pests, rice weevils and caterpillars. It improves soil fertility and is environmentally friendly. This organic pesticide offers a safe and sustainable approach to pest management and shows low or no toxicity to humans, animals and beneficial insects (when used correctly). It is cost-effective i.e.; the economic status of the farmer doesn't affect it as neem trees are available freely. This green solution is pest-specific (minimising the harm to beneficial insects and pollinators). The limitation of neemastra is that it is not as long-lasting as chemical pesticides and needs to be reapplied more frequently. After preparing the neemastra it can be stored for 6 months. Neemastra can be used either as an organic pesticide once every month in the form of a foliar spray, or whenever the plant or crop gets infested with pests (spray the solution in the early mornings or evenings).

### Conclusion

Neemastra promises the farmers a safe, sustainable and acts as an alternative to conventional pesticides that protect the crops, environment, and human (consumer) health. It controls pests efficiently in addition it also maintains the ecosystem balance. Neemastra is one of the popular choices among the farmers performing organic farming practices, because of its simple preparation, utility and affordability. To experience the rewards of this natural pest control method in your farming, try Neemastra.

## Reference

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