

“Astras” for Plant Protection in Organic Farming

Projjwal Saha and Saikat Dey

PG Student, Department of Agronomy, School of Biological Sciences, IRDM Faculty Centre, RKMVERI, Narendrapur Campus, Kolkata, West Bengal

SUMMARY

Plant protection in organic farming is a significant approach and it is not a simple matter in terms of sustainable agriculture. Ideal knowledge is required about the crops grown, field condition and their expected insect-pest and disease. Organic farming promotes the uses of plant-based chemicals and several beneficial microorganisms those are free from synthetic compounds. Many research and findings have been established to prevent and control insect-pest and disease through organically without breaking the rules of the agro-ecosystems. Several control measures have been taken to diminish the abiotic stressors and consequently improve the crop produce. Using different astras like agniastra, brahmastra, and neemastra has been playing an enormous role in protecting the crop from pest load.

INTRODUCTION

In this time of health conscious, many people are looking for organic food in their daily life. But most of the farmers are using chemical pesticides as they unaware of organic and natural pesticides. Many farmers are unaware of primitive organic pesticides of India. Organic pesticides for plants are those made up of natural ingredients. That does not mean they are free from chemicals, just that the chemicals are derived from botanical and mineral sources and these chemicals are less injurious for human health and environment. Organic pesticides are less toxic, quickly degradable, and more targeted to the specific pest. Now a days, it is widely used due to increased environmental awareness and the pollution potential and health hazards from many chemical pesticides, as well as increasing global demand for organically grown food are driving the use of organic pesticides.

Types of organic pesticides

Agniasthra

In recent years, many farmers practices organic farming so they use organic pesticides in their field. Agniasthra is a natural or organic insecticide used in order to control various notorious insect pests in the agriculture field. Agniasthra is also known as Agni-missile as it works as a missile on crop pests.

Uses and Benefits:

Agniasthra never causes harm to crop plants and beneficial insects. It only attacks the insect pests that are harmful to the crop plants.



Fig 1: Agniasthra



Fig 2: Brahmastra



Fig 3: Neemastra

Materials required for Agniasthra:

- Earthen pot-50 litre capacity
- Cow urine – 10 litres

- Neem leaves pulp- 5 kg
- Green chilli-500 gm
- Tobacco leaves

Preparation process:

- Take an earthen pot and add 10 litre cow urine into it.
- Then add 1 kg of tobacco leaves by crushing them in the urine.
- Crush 500 gm of green chilli and 500 gm of local garlic and add it into the cow urine.
- Further add 5 kg neem leaves pulp and boil this prepared solution well 5 times continuously.
- Let this solution ferment for about 24 hours and filter this using a muslin cloth.
- Agniasthra is then ready to use.

How to spray Agniasthra:

- Spray the Agniasthra @ 10% (10 ml in 1000 ml water) to control various insect pests like leaf roller, stem borer, fruit borer, pod borer.
- Agniasthra can be sprayed on crops such as vegetables, fruits, cotton and paddy and all other crops.
- Always spray Agniasthra during evening hours between 4 PM to 6 PM.

Brahmastra

Brahmastra is a natural pesticide against large and small insects such as borer, pod borer and fruit borer. This Brahmastra liquid natural pesticide mixture can be made by farmers easily at home. Brahmastra organic pesticide is also known as Brahma Missile.

Uses and Benefits:

- Brahmastra effectively works against various types of insect pests especially sucking pests like thrips, aphids, jassids etc.
- Brahmastra can be applied on types of crop plants like vegetable crops, fruit crops, flower crops as well as cereals and pulse crop.

Materials required for Brahmastra:

- Earthen pot- 1(50 litre)
- Cow urine- 10 litre
- Neem leaves- 3 kg
- Any of the following leaves – 2kg (Papaya leaves/Pomegranate leaves/Guava leaves/Lantana Camella leaves/Datura leaves)

Preparation procedure:

- Take a mud pot and add 10 litre local cow urine in it.
- Then crush 3 kg neem leaves and add this neem pulp in this water then add 2 kg pulps of papaya leaves/pomegranate leaves/guava leaves/lanatana camella leaves/dhatura leaves pulp in to it. (Use lantana camella and dhatura leaves only if available for brahmastra preparation).
- Boil this solution for 5 times and strain using muslin cloth.
- Let this solution ferment for 24 hrs and brahmastra is ready for use.

How to spray Brahmstra:

- Spray brahmastra on crop plants to control all the sucking pests, pod borer, fruit borer etc.
- Spray Brahmastra @2 lit in 100 litre water or 2% spray in the fields.

Neemastra

Neemasthra is an excellent natural organic pesticide for crop plants. This natural insecticide plays an important and prominent role in natural farming as well as organic farming. Neemasthra is also known as neem missile for plants.

Use and benefits:

- Neemasthra effectively controls various insects such as caterpillars, jassids, aphids, thrips, hoppers.
- There is also evidence that neemasthra also controls some plant diseases like spots and rots to an extent.

Material required for Neemasthra:

- Clean water – 100 litres
- Cow dung- 5 kg
- Cow urine- 5 litre
- Neem leaves- 5 kg
- Plastic drum- 50 litre

Preparation process:

- Take 100 litre water and 5 litre local cow urine in it.
- Then add 5 kg local cow dung to it.
- Crush 5 kg of neem leaves and add this neem pulp in this water and mix thoroughly.
- Let this solution ferment for 24 hours and stir this solution twice in a day by any wooden stick or glass rod.
- After 5 to 7 days, filter the prepared solution using a muslin cloth.
- Neemasthra is then ready to use.

How to spray Neemasthra:

- Spray this prepared neemasthra@ 100% on the plants in order to control sucking pests and mealy bugs.
- Spray neemasthra by mixing 10ml-20ml per litre of water.

Merits

- Friendly environment than chemical pesticides.
- More targeted toward desired pests.
- Effective in small quantity, thereby offering lower exposure.
- Used in rotation with chemical pesticides when used in integrated pest management (IPM).
- Triggering microbial population in soil thereby maintaining the soil health.
- Helps to obtain genuine quality products.

CONCLUSION

Today, organic agriculture is implemented in lots of country and it increases day by day. Organic agriculture is done without any chemical, it is certificated and from production to consumption all steps are controlled. Balance of nature is damaged because of conventional agriculture which is done using fertilizer and pests densely. So, organic agriculture is suggested in order to provide balanced nature and use less chemical that damage nature. In this production way, against insects that damage economy lots of methods are used. In this article, insect control methods like Agniasthra, Brahmastra and Neemastra are tried to be presented.

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