

How to make & use ORGANIC PESTICIDES



Implemented by



In cooperation with



Kasasi Agriculture Training Centre (KATC) is an in-country partner of the Knowledge Hub for Organic Agriculture and Agroecology in Southern Africa (KHSa). KHSa is part of the Knowledge Centre for Organic Agriculture and Agroecology in Africa (KCOA), a collaborative country-led partnership funded by the German Federal Ministry of Economic Cooperation and Development (BMZ) and implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and non-governmental organisations across Africa. The KCOA aims to scale up the adoption of agroecological and organic farming practices through five knowledge hubs in Africa. The other hubs are implemented by GIZ with in-country partners in North, West, East and Central Africa. KHSa partners with KATC and PELLUM Zambia in Zambia, the Namibian Organic Association and Namibia Nature Foundation in Namibia, Soils, Food and Healthy Communities and the Kusamala Institute of Agriculture and Ecology in Malawi and the South African Organic Sector Organisation and Participatory Guarantee Systems South Africa in South Africa. Implementation is supported by the South African-based Sustainability Institute.

What are organic pesticides?

Organic pesticides are pesticides made using products from nature including certain kinds of plants, parts of plants or plant extracts to fight certain pests and diseases. The first step in preventing pests and diseases is to build healthy soils or control them using living organisms, helpful insects, cultural practices or destroying diseased plants. As a last resort, organic pesticides can be used. This is because organic pesticides are less harmful than chemical pesticides but they can also kill some important insects and other animals that are good for plants and for the soil.

Why use organic pesticides?

- ▶ Organic pesticides are easy to make and do not require a lot of labour.
- ▶ Organic pesticides do not cost much money to make.
- ▶ Organic pesticides can be made using locally available materials.

Good pest and disease management practices

- ▶ **Identify the problem early:** Check the leaves and roots of your plants daily.
- ▶ **Identify the pest or disease that is attacking your plant:** This will help you choose the right solution. Some good ways to do this are:
 - Using insect traps: Use bright-colored buckets half-filled with soapy water and a light to attract insects in the night.

>>

- Look around and on the plant: You can often find the insect in the soil or on the plant, e.g., red spider mites or aphids on the underside of leaves, tracks on the leaf showing a leaf miner, etc.
 - Check the roots: Cutworms cut the stem near the roots and hide. Stem maggots eat the stem under the surface making it break.
 - Look at your plant: Look for signs of disease on your plant like withering, leaf colour that is not right, white or grey stuff on the leaves, and bumps on the stem.
- **Know your insects' friends:** It is important to know which ones are helpful insects that eat pests such as ladybirds, wasps, and earwigs and which ones are harmful insects/pests like fall army worms, aphids, maize borers.

What you need

- 1 bucket (20 litres) of Neem leaves or Tephrosia leaves or snake beans
- 1 piece of cloth that can hold solid material but also let water through easily
- 2 buckets (20 litres)
- 1 knapsack sprayer or watering can
- A pestle and mortar

Safety measures

- Wash your hands thoroughly after making or using.
- Avoid contact with your eyes.
- Cover and put out of reach with children.
- Wear protective gear like gloves and protective glasses.

NEEM (*Azadirachta indica*)

Effective against pests like the fall armyworm and stalk borers. Neem can be used both to prevent pest and fight infestations.



POUND AND SOAK LEAVES



1

Pound 1 bucket (20 litres) of fresh loosely packed healthy Neem leaves into a powder. Mix the pounded leaves with 1 bucket (20 litres) of water and allow to sit for 12 hours.

STRAIN THROUGH A CLOTH



2

Place a piece of cloth over the opening to the knapsack sprayer or watering can and pour the Neem mixture onto the cloth. The cloth will catch the leaves and ensure that only the liquid goes to the sprayer or watering can.

APPLY NEEM PESTICIDE



3

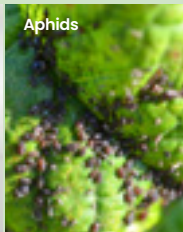
Pour the neem pesticide into a knapsack sprayer or watering can. Spray the plant with the sprayer or water at the base of the plant using a watering can.

TEPHROSIA (*Tephrosia vogelii*)

Effective against aphids, cutworms, and termites.



Cutworm



Aphids

Credit: Neil Phillips, CC BY 2.0 via Wikimedia Commons

POUND AND SOAK LEAVES



1

Pound 1 bucket (20 litres) of fresh loosely packed healthy tephrosia leaves into a powder. Mix the pounded leaves with 20 litres of water and allow to sit for 12 hours.

STRAIN THROUGH A CLOTH



2

Place a piece of cloth over the opening to the knapsack sprayer or watering can and pour the tephrosia mixture onto the cloth. The cloth will catch the leaves and ensure that only the liquid goes to the sprayer or watering can.

APPLY TEPHROSIA PESTICIDE

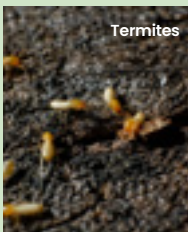


3

Dilute 1 part tephrosia pesticide to 4 parts water, e.g., 1 bucket of tephrosia pesticide to 4 buckets of water. Spray the plant with a knapsack sprayer or water at the base of the plant using a watering can. It is best to apply early in the morning or late afternoon. To prevent pests apply to crops once a week, even when there are no pests.

SNAKE BEAN (*Swartzia madagascariensis*)

Effective against termites, jassids and aphids.



Termites



Jassids

POUND AND SOAK BEANS



1

Pound 50 grams of dry snake beans (approximately two hands full). Mix with 1 litre of water and allow to sit for 24 hours.

STRAIN THROUGH A CLOTH



2

Place a piece of cloth over the opening of the knapsack sprayer or watering can and pour the snake bean mixture onto the cloth. The cloth will catch the bean pieces and ensure that only the liquid goes to the sprayer or watering can.

APPLY SNAKE BEAN PESTICIDE



3

Pour around plant or spray on leaves. It is best to apply the snake bean pesticide early in the morning or late afternoon.

© Kasisi Agricultural Training Centre, 2023

This knowledge product can be copied, reproduced, adapted, translated, used to make derivatives and disseminated for not-for-profit and/or educational purposes only. It cannot be used for commercial purposes in any way, shape or form. To access and understand the document's copyright policy as at 19 May 2023, use the QR code:

