

Neem extracts against whiteflies in beans

Recognize the problem

Whiteflies are tiny white winged insects of about 2mm. They usually sit on the underside of leaves. They fly off when you shake the beans. Young whiteflies are also white and sit underneath leaves, but do not move much. Young and adult flies feed plant sap which causes yellow spots on bean leaves, and weakens the plants. They release a sugary liquid which covers the leaves when there are many flies. A grey-dark mould then grows on top.

Background

Whiteflies are mainly found in warm weather. Bean plants usually tolerate a few whiteflies per leaf but if there are many, then often chemicals are sprayed which are toxic to you and the environment. Insects do not like some wild plants, like the neem tree. Neem trees can be used to prepare homemade or even commercial insecticides. Leaves can be used but the anti-insect ingredient is most concentrated in the seeds. Neem is an insecticide, insect repellent and anti-feedant. It is used against a wide range of pests such as mites, cutworms, jassids, grasshoppers and also whiteflies.

Neem is a fast growing tree which is wide spread in Zambia. It grows well on poor soils and shallow or stony ground, and requires little rainfall. Neem seeds or neem products can also be bought in agro-input dealer shops. The tree bears fruit when about 4-5years old.

Management

- Collect ripe golden neem fruits from the tree.
- The level of anti-insect substances is higher in ripe fruits compared to young fruit
- Remove the flesh around the seeds and dry the seeds in the sun to avoid rotting
- Use about ½ a handful of dry neem seed (25 to 50g). Shell and finely grate or grind.
- Wrap powder into a piece of cloth and place it in 1 litre (about 4 cups) of water to soak overnight.
- For a 16 litre knapsack sprayer you would need 6 to 8 handfuls of ground neem seed (800g) to soak in 16 litres of water.
- Add 1 tablespoon (10mls) of liquid soap or chopped bar soap into 1 litre of spray solution, or about ½ a cup (120 to 150 mls) into 16 litres of spray solution.
- The soap spreads the sprayed solutions over plants and insects.
- Spray early morning or late evening when the flies are inactive.
- Avoid using neem too often as they can destroy useful predators and can be phytotoxic to the crop

Young tiny whiteflies can be easily killed with neem; about 2 mm.
(Photo by C. Hetzel, UPENN)



Ripened neem fruit that fall off the tree to prepare neem seed extracts. (Photo by Dinesh Valke, CC BY NC ND)



Scientific name(s) > *Bemisia tabaci*

The recommendations in this factsheet are relevant to: Zambia



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Edited by Plantwise.