

## PLANT EXTRACTS IN ORGANIC FARMING

Various parts of plants and their extracts are known to be either toxic or repellant to the pests of agriculture and are widely used in rural settings. Some of these extracts have been investigated in the laboratory and found to be effective against termites. Plant extracts from neem and chilly have been used to control termites both in the field and in storage.

### AFRICAN PLANTS KNOWN TO HAVE INSECTICIDAL PROPERTIES

1. Neem (*Azadirachta indica*): against many insect pests and as neem cake against nematodes
2. Pyrethrum (*Chrysanthemum cinerarifolium*): against most insects and mites
3. Fish bean (*Tephrosia vogelii*): against caterpillars, mites
4. Chili (*Capsicum frutescens*): against many insect pests
5. Tobacco (*Nicotiana* spp.): against all insects and mites (very toxic for humans)
6. Mexican and African marigold (*Tagetes* spp.): repellent effects against insect pests, effects against nematodes
7. Garlic (*Allium sativum*): anti-feedant for insect pests
8. Wild basil (*Ocimum suave*): repellent effect on insects

### HOW TO PREPARE 20 LITRES OF FPE

#### INGREDIENTS:

- 1 litre of molasses
- 1 litre of Effective Micro organisms(EM 1)
- 4kg of a mixture of all plants mentioned above such as African marigold, pyrethrum, neem, comfrey, tithonia, pepper, sodom's apple, black jack, garlic, tomato leaves, etc

#### PREPARATION PROCEDURE

Mix the molasses with Effective Micro organisms(EM 1) and 5 litres of water

Chop up the plant extracts into small pieces

Add the plant pieces into the jerrycan and fill jerrycan with water to the brim and seal to keep it airtight for 7 to 14 days.

After 7 or even 14 days, the extract is ready for use. Filter the solutions using a piece of cloth to remove all the tiny pieces of the plant extracts

Dilute the solution by adding 1 litre of FPE to 100 litres of water( 1:100). If the fpe is properly filtered you can use a normal knapsack sprayer to spray your crops

### GENERAL RECOMMENDATIONS FOR PREPARING AND USING GARLIC EXTRACTS:

1. Select plant parts of garlic which are free from diseases.
2. Store garlic bulbs in a cool, dry shady place.
3. Use clean utensils and make sure they are cleaned again directly after use
4. Do not have a direct contact with the crude extract while in the process of the preparation and during the application.
5. Make sure that you place the plant extract out of reach of children and house pets while leaving it overnight.
6. The taste of garlic will remain on sprayed plants for some time after spraying so it may be best to avoid spraying near harvest time, or to harvest all the mature and ripe fruits before plant extract application.
7. Try out different strengths of the garlic extract to determine effective dosages for specific pests.
8. Always test the plant extract formulation on a few infested plants first before going into large scale spraying. When adding soap as an emulsifier, use a potash-based one like laundry soap (e.g. gun soap).
9. Wear protective clothing while applying the extract.
10. Wash your hands after handling the plant extract.

#### CONTACTS OF BIO-PESTICIDE SUPPLIES IN KENYA

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