


 **Search**

 Limit to:  Publications:  TOF

[Publications](#) [About us](#) [TOF](#)
[Home](#) [Help](#) [Contact](#)
[Back](#)

 You are here: [Home](#) > [Plant Health](#) > [Natural pest control](#) > [Copper fungicides in Kenya](#)
 
**Crops/ fruits/ vegetables**
**Pests/ diseases/ weeds**
**Medicinal plants**
**Fruit and vegetable processing**
**[Natural pest control](#)**

- [Biopesticides in Kenya](#)
- [Bio-fumigation](#)
- [Bio-pesticide: Bt \(Bacillus thuringiensis\)](#)
- **[Copper fungicides in Kenya](#)**

- [Flour preparation](#)
- [Hot-water treatment](#)
- [Natural enemies](#)
- [Plant extract: Garlic](#)
- [Plant extract: Neem](#)
- [Plant extract: Pyrethrum](#)
- [Plants with crop protection properties](#)
- [Soap spray](#)
- [Solarisation](#)
- [Sulphur pesticides in Kenya](#)
- [Traps and Bagging](#)

**Cultural practices**


## Copper fungicides in Kenya

[more Images](#)

[Some Pesticides Permitted in Organic Gardening](#)  
[General information on copper](#)  
[Standard procedures for the preparation and application of homemade copper products](#)

[Contacts](#)  
[Information Source Links](#)

## Some Pesticides Permitted in Organic Gardening

If we think organic gardening means vegetables free of any chemical pesticides, we don't have the story quite right.

Organic gardeners can use certain pesticides – chemicals that are derived from botanical and mineral-bearing sources. These chemicals may be highly toxic, but they break down more rapidly than common chemicals, such as the Sevins, Malathions and 2,4,Ds.

The use of botanical and mineral-bearing pesticides, even though some are toxic, also can be incorporated into an Integrated Pest Management (IPM) approach to growing crops. IPM relies on a variety of pest control means rather than on one product or method. The pesticides discussed below are appropriate to include in IPM programmes.

Just as the more common chemicals are given toxicity ratings – CAUTION, WARNING or DANGER – so are chemicals from botanical and mineral-bearing sources. "CAUTION" means low toxicity; "WARNING" means moderately toxic and "DANGER" means highly toxic. The toxicity rating for each pesticide is provided in the paragraphs below.

[back to Index](#)

## General information on copper

There are many copper compounds used as fungicides. Recommended is **Bordeaux mix** which is a combination of **copper sulphate and hydrated lime (calcium hydroxide)**. Other compounds include Copper oxychloride and Copper hydroxide. The latter two are now commonly used and are commercially available.

Copper fungicides were formerly accepted in organic farming provided that the number of applications was strictly followed and a proper soil amendment is observed to prevent copper accumulation in the soil, and can still be accepted with permission from the certifying authority.

In wet weather fungicide sprays should be applied as soon as the disease is observed or as soon as local experience suggests that weather conditions are favourable for disease development.

Crop scouting should be used as a guide in making a decision on whether to apply a fungicide. And when applying fungicides, safety procedures in application must be complied with, particularly, in use of protective clothing. Observe right dosage and prescribed pre-harvest intervals. Ask your local agricultural extensionist on locally registered fungicides.

Bordeaux mixture is primarily a fungicide that controls bacterial leaf spots, blights, anthracnoses, downy mildews and cankers. It also repels many insects. The compound is labelled for use on many vegetables, tree fruits and nut crops.

Bordeaux mixture, as with sulphur and lime sulphur, can be phytotoxic to plants. If applied in cool, wet weather, it may burn leaves or cause russetting of fruit.

### Bordeaux mix spray

#### Materials needed to make a gallon mixture

- 3 ½ tbsp of copper sulphate
- 10 tbsp of hydrated lime
- 1 gallon of water (4 litres of water)
- Wooden stick
- Plastic bucket

#### How to prepare?

1. Add copper sulphate and hydrated lime in water. Make sure to use plastic container
2. Stir well using a wooden sick or ladle
3. Protect self from direct contact with the solution

#### How to use?

1. Spray plants thoroughly preferably early in the morning, in a dry and sunny day. In this way, the plants have the time to dry and the solution can not penetrate into the leaves' tissues
2. Constantly shake the sprayer while in the process of application to prevent the solution from clogging

**Pest controlled**

1. Flea beetles on tomatoes and potatoes
2. Anthracnose
3. Bacterial blight
4. Bacterial wilt
5. Black spot
6. Downy mildew
7. Early blight of potato and tomato
8. Late blight on solanaceous crops
9. Powdery mildew
10. Rust

**Copper fungicides in the Kenya market**

Copper products below listed are registered in Kenya by the Pest Control Products Board [www.pcpb.or.ke](http://www.pcpb.or.ke). These products are readily available in most agro-vet shops in the country. It is advisable for organic farmers to consult their respective certification agencies prior to use. According to the Soil Association (UK) [www.soilassociation.org](http://www.soilassociation.org) copper is "restricted" and can be only used where the need is recognized by the Soil Association Ltd (UK). Other organic certifying agents have differing rules.

**Table 1: Copper fungicides commercially available in Kenya**

Trade names of products	Active substances of products	Target pest/disease	Agent/distributor
AG Copp 75 WP	Cuprous oxide (equiv. to 75% metallic copper)	Leaf rust and coffee berry disease in coffee	Twiga Chemical Industries Ltd
Champ Flo SL	Copper hydroxide (equiv. to 24.4% metallic copper)	Botrytis and black spot in roses; early and late blight on tomato; rust, anthracnose, and angular leaf spot on French beans	Anset International Ltd
Champion 50 WP	Copper hydroxide (equiv. to 50% metallic copper)	Botrytis and black spot in roses; early and late blight on tomato; rust, anthracnose, and angular leaf spot on French beans; leaf rust and coffee berry disease on coffee	Anset International Ltd
Chem Copp 50% WP	Cuprous oxide (equiv. to 50% metallic copper)	Coffee berry disease and leaf rust on coffee	Twiga Chemical Industries Ltd
Cobox 50 WP	Copper oxychloride (equiv. to 50% metallic copper)	Coffee berry disease and leaf rust on coffee; blights and leaf spots on vegetables	Kijani Agencies Ltd
Copper Nordox	Cuprous oxide (equiv. to 50% metallic copper)	Coffee berry disease and leaf rust on coffee; blights and leaf spots on vegetables	Farmchem (K) Ltd
Copsap 50 WP	Copper oxychloride (equiv. to 50% metallic copper)	Coffee berry disease and leaf rust on coffee; blights and leaf spots on vegetables	Saroc Ltd
Cupravit 50 WP	Copper oxychloride (equiv. to 50% metallic copper)	Coffee berry disease and leaf rust on coffee; blights and leaf spots on vegetables	Kijani Agencies Ltd
Cuprocaffaro Micro 37.5 WG	Copper oxychloride (equiv. to 37.5% metallic copper)	Early and late blight on potato and tomato; rust, anthracnose, bacterial blight and angular leaf spot on French beans; leaf rust on coffee	Farmchem (K) Ltd
Cuptocaffaro WP	Copper oxychloride (equiv. to 50% metallic copper)	Early and late blight on potato and tomato; rust, anthracnose, bacterial blight and angular leaf spot on French beans; leaf rust and coffee berry disease on coffee	Farmchem (K) Ltd
Demildex 50 WP	Copper oxychloride (equiv. to 50% metallic copper)	Leaf rust and coffee berry disease on coffee	Biomedica Laboratories Ltd
Funguran OH 50 WP	Copper hydroxide (equiv. to 50% metallic copper)	Leaf rust and coffee berry disease on coffee	Amiran (K) Ltd
Isacop	Copper oxychloride (equiv. to 50% metallic copper)	Early and late blight on potato and tomato; rust, anthracnose, bacterial blight and angular leaf spot on French beans; leaf rust and coffee berry disease on coffee	Twiga Chemical Industries Ltd
Kocide DF	Copper hydroxide (equiv. to 50% metallic copper)	Leaf rust and coffee berry disease on coffee	Twiga Chemical Industries Ltd
Kopacide 50 WP	Copper oxychloride (equiv. to 50% metallic copper)	Leaf rust and coffee berry disease on coffee	Saroc Ltd and City Farming Ltd
Liquicop SL	Copper ammonium acetate (equiv. to 80g/l metallic copper)	Anthracnose and bacterial blight on beans	Hygrotech East Africa Ltd
Nordox Super 75 WP	Cuprous oxide (equiv. to 75% metallic copper)	Leaf rust and coffee berry disease on coffee	Farmchem (K) Ltd
Nordox 75 WG	Copper oxide (equiv. to 750g/kg metallic copper)	Early and late blight on tomato; rust on French beans; coffee berry disease on coffee	Farmchem (K) Ltd
Orionkopa WP	Copper oxychloride (equiv. to 50% metallic copper)	Leaf rust and coffee berry disease on coffee	Orion (EA) Ltd
Sulcop 50 DF	Copper oxychloride (equiv. to 50% metallic copper)	Fungal and bacterial diseases on flowers and vegetables	Osho Chemical Industries Ltd

[back to Index](#)

**Standard procedures for the preparation and application of homemade copper products**

1. Monitor plants regularly and spray only when necessary.
2. Read and follow the label instructions carefully, particularly, dosage, pre-harvest intervals and safety measures. Ask for assistance from your local extension agriculture office, if unsure.

3. Spray in the early morning or late afternoon.
4. Wear protective clothing when handling pesticides and during application. Wash your hands after handling of pesticides and application. Do not eat, drink or smoke when handling and during application of synthetic pesticides including copper.
5. Do not have a direct contact with the crude extract while in the process of the preparation and during the application.
6. Make sure that you place the product out of reach of children and house pets while leaving it overnight.
7. Harvest all the mature and ripe fruits before product application.
8. Always test the product formulation on a few infected plants first before going into large scale spraying. When adding soap as an emulsifier, use a potash-based one. Gun soap (Kenya) is recommended.

[back to Index](#)

## Contacts

### Agents / Distributors of Copper Fungicides in Kenya

AMIRAN (K) LTD  
Tel.: +254 (20) 6907000  
Mobile: +254 719 095000  
Email: [amiran@amirankenya.com](mailto:amiran@amirankenya.com) / [pr@amirankenya.com](mailto:pr@amirankenya.com)  
Website: [www.amirankenya.com](http://www.amirankenya.com)

ANSET INTERNATIONAL LTD  
Tel.: +254 (20) 2726868  
Email: [tensa@ansetintl.com](mailto:tensa@ansetintl.com)

BIOMEDICA LABORATORIES LTD  
Tel.: +254 (20) 6535868  
Website: [www.bcbio.com](http://www.bcbio.com) / [www.bio-medica.co.ke](http://www.bio-medica.co.ke)

CITY FARMING LTD  
Tel.: +254 (20) 551462/3  
Email: [cityfarm@swiftkenya.com](mailto:cityfarm@swiftkenya.com)

FARMCHEM (K) LTD  
Tel.: +254 (20) 2409661  
Mobile: +254 722 520837 / +254 733 520837  
Email: [farmchem@farmchemafrica.com](mailto:farmchem@farmchemafrica.com)  
Website: [www.farmchemafrica.com](http://www.farmchemafrica.com)

HYGROTECH (K) LTD  
Tel.: +254 154 73286  
Email: (Contact) : [edward@hygrotech.co.ke](mailto:edward@hygrotech.co.ke)

KIJANI AGENCIES LTD  
P.O. Box 13980-00800  
Nairobi

ORION (EA) LTD  
Tel.: +254 (20) 2062361/2075895/2075896  
Email: [orion@orioneastafrica.co.ke](mailto:orion@orioneastafrica.co.ke)

OSHO CHEMICAL INDUSTRIES LTD  
Tel.: +254 (20) 3756222  
Mobile: +254 726880480 / +254 733880480  
Email: [oshochem@oshochem.com](mailto:oshochem@oshochem.com)  
Website: [www.oshochem.com](http://www.oshochem.com)

SAROC LTD  
Tel.: +254 (20)558831/554370

TWIGA CHEMICAL INDUSTRIES LTD  
Tel.: +254 (20) 3942000/39423000  
Email: [info@twiga\\_chemicals.com](mailto:info@twiga_chemicals.com)  
Website: [www.twigachemicals.com](http://www.twigachemicals.com)

[back to Index](#)

## Information Source Links

- OISAT: Online Information Service for Non-Chemical Pest Management in the Tropics. [www.oisat.org](http://www.oisat.org)

[back to Index](#)