

# Series 8, Episode 12

Kioko and Peter's Farm, Embu, KENYA

*This leaflet contains information on: dairy nutrition, mangoes, maize seeds, tomato pests and diseases*



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For more information, SMS "DAIRY" to 30606

## Dairy Nutrition

### Build a good cow shed

Have a raised roof. This will give good air flow. It also protects cows from sun and rain. A sloping cement floor is easy to clean.

The food should be covered so that it does not get rained on. Wet food can get aflatoxins. These are very bad for your cow.



### Is your cow healthy?

In a healthy cow, you should not be able to count more than 3 ribs.

*In this cow, you can count 5.*



On a healthy cow, the skin is black.

*In this cow, the skin is brown.*



This cow is not healthy. It is not getting enough minerals and nutrients. A cow needs a balanced diet of fibre (energy), protein, vitamins and minerals. Better the health of your cow with **KupaKula**. It contains protein.

### KupaKula Advanced

Feed to your cow when she is in calf. The calf will be big and healthy. Your cow will make more milk after giving birth.



Feed your pregnant cow 200g **KupaKula Advanced** per day. Mix it into feed.

### KupaKula Gold

Feed to your lactating cow. It improves condition. It also increases milk production. **KupaKula Gold** is fortified with yeast metabolites to help the cow with digestion. This means that more energy can go into making milk.



For cows giving 5 to 10 litres of milk a day, feed 200g **KupaKula Gold** per day. Mix it into feed. For every extra 5 litres of milk that your cow gives, increase the amount of **KupaKula Gold** by 200g each day until milk production stops increasing.

For more information, SMS "MANGOES" to 30606

## Mangoes

Many farmers grow the 'Tommy Atkins' variety of mangoes. This means that the market is flooded and they do not fetch a good price.

Try growing the 'Kent' variety. Kent fetch better prices. It tastes sweet, has juicy flesh and has less fibre.



## Mango Weevils



Damage from mango weevils

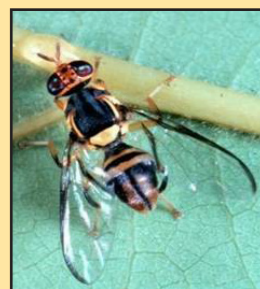
Mango Weevils lay eggs on young fruits. The eggs hatch and the larvae move into the mango seed. When the fruit is ripe, adult weevils come out of the seed. They spoil the flesh and leave holes in the fruit.

You cannot sell fruits that have damage from Mango Weevils.

Keep the area around the base of your mango trees clean and tidy. Do not leave fruits on the ground. They may have weevils inside or could attract weevils and other pests.

## Fruit Flies

Fruit flies will damage you mango fruits. You cannot sell damaged fruits. Use a Fruit Fly Trap.



A **Fruit Fly Trap** contains **pheromones**. Pheromones are like a scent. The pheromones in the trap are similar to what a female fruit fly gives off when she wants to mate. The male fruit flies think that it is a female wanting to mate. He flies into the container and is killed by an insecticide.

### Setting up the trap

1. Cut open the packet. This releases the pheromones and activates the insecticide.

2. Hang the trap on a tree. The wind will spread the pheromone.

3. Hang 1 trap for every 15 trees. Hang all year round. Fruit flies like other trees like orange and avocado.

4. To keep the trap working well, replace the pheromone every 6 to 8 weeks.



## Harvesting Mangoes

Harvest mangoes with stick fruit pickers. This stops the mangoes getting damaged or falling to the ground. You will get a better price at the market. There are 2 common mango pickers. One is made from nylon and the other from wire.

### Nylon net fruit picker



This picker has a wedge to help you cut the stalk.



The mango then falls into the net. The net can hold many fruits.

### Wire net fruit picker



The wire net helps you to cut the stalk.



The mango then rolls back and is held by the wire. This type of net can only hold 3-4 mangoes.

## Post Harvest

Once harvested, your mangoes must stay in good condition all the way to market.



Pack in plastic crates to keep them in good condition.

## Processing Mangoes

Dry mangoes to make them last longer and reduce losses. Sell them at a higher price when the market improves.

If you do not dry mangoes well, they will turn black and you will not get a good price.



Dry mangoes using a **Village Industrial Power (VIP)** combined heat and power unit. The **VIP** drier dries mangoes in only 4 ½ to 6 hours. It also makes electricity.



The **VIP Drier** runs on plant waste like nut shells, saw dust and mango waste.



The engine makes electricity.



The exhaust from the machine is changed to hot air. This dries your mangoes.

The **VIP Drier** is easy to run. It is affordable. Offset the cost of the **VIP Drier** after only 1 year. Buy as a farmers group and share the costs and benefits.

The **VIP Drier** can also be used to dry other products like maize and coffee. Use the power to light your house. It will generate up to 10 kilowatts (kW) of electricity.

## Maize Seeds

### Duma 43

An early-maturing variety that copes well with drought. It grows well at low-medium altitudes.



- Matures in 90 days.
- Tolerant to drought and heat stress.
- Resistant to Maize Streak Virus (MSV) and other diseases
- Yields 30 bags per acre.

Best for: Eastern Province, Central Province, Nyanza, Upper Coast and Lower Western Province.

### Sungura 301

Grows well in the lowlands and in dry areas. It is faster maturing than **Duma 43**.



- Matures in 75 days (or even 72).
- Tolerant to drought and heat stress.
- Resistant to some diseases.
- Yields 28 bags per acre.

Best for: Makueni, Tharaka and Lower Nyanza.

## Check that your seeds are genuine

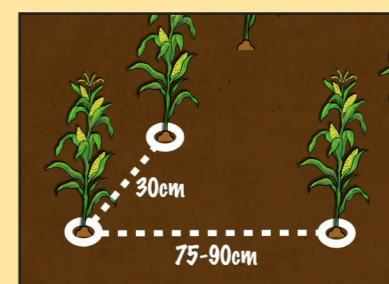
Each seed packet comes with a **KEPHIS** sticker.

1. Scratch the sticker to reveal a code.
2. Text the code to the number on the sticker.

3. You will receive an SMS, e.g. **Sungura 301** from **SeedCo**. If the seeds are fake, the message will say code invalid.



## Plant your seeds



Plant maize seeds 30 cm apart in rows 75-90 cm apart.

Plant only 1 seed per hole.

# Tomato Pests and Diseases

Pests and diseases can spoil your tomato crop. You cannot sell damaged tomatoes. Do a crop check twice a day and look for signs of pests and diseases. Take action as soon as you see signs of a pest or disease.

## Tomato Pests

### Red Spider Mites



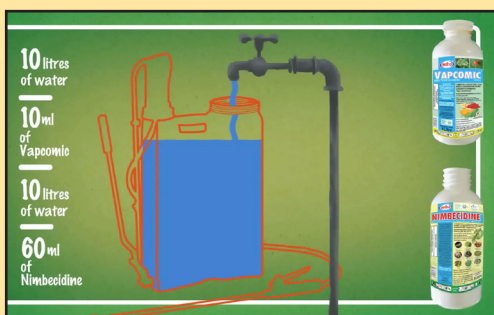
You can see the tiny red spider mites on the underside of the leaves. They feed on the leaves of your tomato plants.

### Thrips



Thrips suck the sap from your tomato plants. You will get less fruits. The skin of the fruits look rough.

## Kill pests with *Vapcomic* and *Nimbecidine*



**Vapcomic** kills mites and thrips. **Nimbecidine** stops the pests from becoming resistant. It also kills other pests like white Fly.

1. Put 60ml of **Nimbecidine** into a knapsack sprayer. Add 10 litres of water. Mix well.
2. Add 10ml of **Vapcomic** mixed with 10 litres of water.
3. Spray your tomato crop in the morning or evening when it is cool.
4. Wait 7 days between spraying and harvesting your tomatoes.

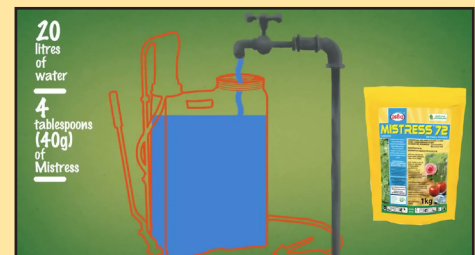
## Tomato diseases



Early Blight and Late Blight are fungal diseases. They cause your tomato leaves to turn black and dry. This means that the plant cannot make as much food for itself. The crop dries early. The fruits may be yellow.

## To treat Early and Late Blight

Mix 40g of **Mistress** into 20 litres of water. Spray your tomato plants every 10-14 days.



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