

# Series 4, Episode 6

Kioko and Peter's Farm, EMBU

*This leaflet contains information on: Conservation and Evergreen Agriculture, pest and disease control on Sukuma and Tomatoes, Local Chickens, Vaccinating Chickens, terracing and water harvesting*



## Water harvesting

The weather is unreliable and water is difficult to get. Boreholes can dry up so it is important to use water carefully.

**Drip irrigation** can save water and save you money and time. Drip needs good pressure and a good farm layout as it is not easy to move a drip system after it is installed.

A good way to harvest the water in your farm is to use **terraces**. At the end of each terrace there should be a trench to catch any water coming from the terrace. The trench will hold the water and release it to the next terrace.

Maintain your terraces by digging out the trenches every year and putting the soil back on top of the terrace.

You can plant **trees** at the edge of every terrace to hold the soil together and stop the soil running off with the water.

When the soil is taken by the water away from the farm, it is taking away the ability to grow crops.

*For more information SMS 'WATER HARVESTING' to 30606*



*If you neglect your terraces you will lose water and soil*



*Maintain your terraces to capture all the water and stop the soil running off*

Growing local chickens

Local chickens are a good business as they do not need a lot of food, and are strong.

All chickens need a safe house to sleep in with **feeders, drinkers, nests and perches** and a good wall to stop predators. If you do not have enough feeders and drinkers, the stronger birds will control the food and water and the others will die.

Keep your chicken house clean by **disinfecting every month** and using **wood shavings** on the floor to soak up feces. Wood shavings will also stop **fleas and lice**.



Feed your local chickens a mixture of commercial feed, like Layer’s Mash if you want them for eggs, and local feed like maize or sorghum.

Vaccinating local chickens

To make sure your chickens survive, you must vaccinate them against **Newcastle Disease, Gumboro, Fowl Typhoid and Fowl Pox**.

There is a new Newcastle Disease vaccine, which does not need to be kept cold which makes it easier for farmers to use. Ask for the thermostable vaccine from KARI at the vet.

To give the Newcastle Disease vaccine you can either

- 1) Remove the chickens’ water for a few hours so they get thirsty. Then mix the vaccine with water and give to the birds to drink. They should drink all of the water within 2 hours
- 2) Mix the vaccine with a little clean water and give to the chicks by putting a drop on each nostril or eye.



To vaccinate by eye drop, place one drop on each eye and or nose



To vaccinate through drinking water, mix with water

Vaccine	Time
Newcastle	14 days, 3 months
Gumboro	21 days, 32 days
Fowl Typhoid	2 months
Fowl Pox	10 weeks

Follow the schedule to vaccinate your chickens.

For more information SMS ‘CHICKEN VACCINE’ to 30606

Evergreen and Conservation Agriculture

Changing weather and over using soil has made our yields go down over the last 40 years. It is important to increase our yields on our land instead of trying to increase the area of land we farm.  
A good way to do this is to include trees in your farm.

The technology

To adopt conservation agriculture you need to do three things:

- i) **Stop or reduce** ploughing and harrowing
- ii) Cover your soil all year by using **mulch** or **cover crops** – sunlight removes the **organic matter** your soil, so it is important to protect your soil when it has no crops in it.
- iii) Plant crops together and **rotate** crops

Trees can help you because:

- i) The roots will break up the soil, and act like a plough
- ii) Their leaves will drop and act like **mulch** and their shade will protect the soil
- iii) They will break up the crops and stop **pests and diseases** travelling through your farm.

You can plant lines of trees between your blocks. You can use **fruit trees** or **leguminous trees** or **fodder trees** which will improve the **soil**, give you and your animals **food** and protect the farm. They will also give you **firewood**.

You can let trees grow naturally in your farm, or you can buy seedlings. You can also make a **tree nursery** and plant different types of trees for different uses.

To stop the trees competing with your crops for nutrition and water, you must **prune and coppice** your trees. This means you must **cut back** the tree to its main branches every year before the rains. This will keep the tree small but its roots will still hold the soil together, and it will still give you shade.

Plant a good mixture of crops to give you food, firewood, animal food and to protect your soil.

For more information SMS ‘EVERGREEN’ to 30606



Other types of fodder tree like Mullberry are good for animal feed and can be planted around the farm. Four kilos of fresh Mullberry is equal to one kilo of dry feed



Planting trees on the top of your terraces will hold the soil together and make it easier to maintain the terrace



Lines of trees across the farm will stop pests and diseases moving across your farm and will hold your soil together

## Controlling aphids on Sukuma



**Aphids** are small sucking pests. They can stop your crop developing by taking out all the fluid from the plant. Look for many small white or green insects.

Control Aphids by spraying **Actara** on your crop. Leave 4 days between spraying with Actara and harvesting the crop.



**White Fly** is a small, white flying insect. It is a sucking pest and will stop your crop developing.

Spray with **Actara** to control White Fly. Leave 4 days between spraying and harvesting.

You can buy small packs of Actara from the agrodealers, which are enough for one knapsack.



**ALWAYS READ THE LABEL AND FOLLOW THE INSTRUCTIONS WHEN USING CHEMICALS.**

**For more information SMS 'PEST AND DISEASE' to 30606**



**Powdery mildew** is a whitish, fungal disease which covers the leaves of the plant and can make the plant look like it has been scorched. To control Powdery Mildew, you can spray **Score** or **Ortiva** or **Ridomil**. Use Score only when the crop is young. When your crop is harvesting, use Ridomil or Ortiva and leave 7 days between spraying and harvesting.



**Diamond Back Moth** leaves holes in your leaves. If leaves have holes, they cannot make the energy to give you a good crop.

Spray **Match** for DBM when the crop is young. When the crop is older, spray **Karate** and leave for 4 days between spraying and harvesting.

*Produced by Mediae*



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