

New Thatch Roof for Kitchen

Christine has a thatch- roof on her kitchen. The thatch had holes in it and was thin so rain water was leaking into the kitchen. The Shamba Shape Up team brought in the help of an expert 'thatcher' to fit a new roof!



Roof Water Harvesting

The Shamba Shape Up team fitted gutters around Christine's roof and they ran the water to a water tank so that rain water could be collected and used for cooking and for use on the shamba.



Kisasa Jiko

Practical Action came to replace Christine's jiko which made the kitchen smoky with a new energy efficient jiko. The Kisasa Jiko uses a third less firewood and makes much less smoke so is better for your health.



Solar Light

Christine uses candles and kerosene as she has no electricity. D.light Design gave her a solar lamp which she can charge outside in the day time and use in the house at night. The lamp can also charge mobile phones! It is much better for people's eyes and breathing and less likely to cause a fire.



Shamba Shape Up Series 1: Episode 11

Christine Alelo's Farm - Mukumu, Kakamega

This leaflet contains information on cow health, cow sheds, intercropping maize and beans, tea plantations, roof water harvesting, solar light and energy efficient jikos.

Cow health

A vet from **Cooper-K Brands Ltd** checked the health of Christine's cows.

Worms

Christine's cows needed to be de-wormed. Rough hair on a cow is a sign of worms. It is important to work out the weight of the cow so you know how much treatment to give them. This can be done using a **weighing band**. Make sure you use a good de-worming treatment such as **Nilzan**. **Cooper-K Brands** can give you more information. Treat every 3 months for adult cattle and every month for calves up to six months of age.



Rough hair is a sign of worms

Ticks

Cows should be sprayed often to control ticks as they carry diseases. **Triatix** from Cooper K-Brands is a good spray treatment. Mix 10ml of Triatix with 5 litres of water. The cow should be sprayed all over the body to reach all parts where ticks hide, particularly in the ears and under the tail. Always wear protective clothing when using chemicals –see next page!



Tick spray treatment

Lumpy skin disease

One of Christine's cow had lumps on its skin which the vet said could be lumpy skin disease. This could only be checked in a laboratory. Vaccines should be given to prevent this viral infection.



Suspected lumpy skin disease (LSD)

Body condition

All of Christine's cows needed better feed to improve their body condition.

For more information, contact Cooper-K Brands Ltd or SMS the words 'ANIMAL HEALTH' to 5606.

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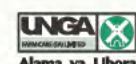
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Cattle Shed

Christine had no cattle shed for her cows. The Shamba Shape Up team helped make one. A good cattle shed has lots of ventilation; a concreted walking area; a roof over the sleeping area; secure sides; a calf pen; a milking area and water and feeding troughs.

Many of the materials to make the cattle shed were found on Christine's shamba to make it cheaper to build – a tree was cut down to provide timber and two more trees were planted to replace the tree that was cut down.

Treating the timber

The timber for making the cattle shed was treated with a chemical to stop dudus eating it. It is very important to wear protective clothing when using any chemicals. Boots; Overcoat; Gloves; Face mask; Goggles. Gladiator insecticide from **Lachlan** is a good treatment for timber.



Intercropping Maize and Beans

When you have a small plot of land and want to plant maize and beans, it is best to plant the crops together – this is called intercropping.

Land preparation

Prepare the land and make the soil smooth.

Spacing

Use string attached to sticks to make straight rows. Maize rows should be 90cms apart. In between the maize rows, make two rows, 30cms apart for the beans. Make holes 30cms apart in both the maize and bean rows.

Fertiliser and manure

The **IFDC** expert recommended using a high Phosphorous fertiliser like **DAP** during planting. You will need 20 – 40kg/acre which is 1 bottle top per hole. Manure will provide Phosphorous and Potassium in the soil. Put one handful in each hole, about 8-10 tons/acre.

Make sure you cover the hole with a little soil before adding the seeds as fertiliser can scorch them. Put one seed in each maize hole and two seeds in the bean holes. Cover with soil and then water.

Advantages of intercropping

- Beans fix nitrogen from the air increasing fertility
- Maize yields will increase when planted with beans
- There is better soil water use
- There is a better use of fertiliser

Seeds

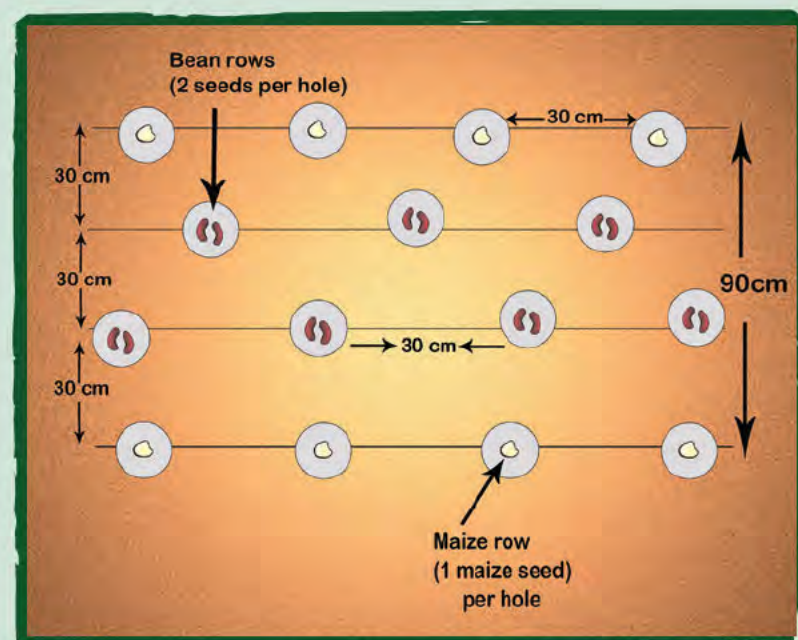
It is important to use good certified seed. The **IFDC** expert suggested the following:

Maize: WH 505 from Western Seed Company

Beans: Rose Coco Beans.



Using string to make rows straight



Spacing of rows

Tea plantation

Christine has 1/2 acre of tea. Her tea bushes looked poor and production was low. An expert from the Tea Research Foundation of Kenya said this was due to:

- Poor pruning
- Poor weeding
- Poor and irregular harvesting (plucking) of leaves
- There were many dead tea bushes
- No fertiliser application.

Plucking

The Kenya Tea Development Agency (KTDA) suggest you pick 2 leaves and a bud. The finer the plucking, the better the quality of the tea. Plucking 3 leaves and a bud gets higher yield but the quality is lower.

Plucking should be done every 7-10 days.

Christine didn't pluck often which meant a lot of leaves over-grew and went to waste.



Plucking

Pruning

Tea bushes should be pruned to keep them at a certain height and let them grow sideways. This makes plucking easier and more young leaves grow. Pruning is done using a special knife or saw. Pruning should be done every 3-4 years.

Gapping

Gapping is the planting of new seedlings in spaces where plants have died. Tea bushes can die due to the following:

- Bad weather
- Damage during weeding or pruning
- Mole attacks

Gapping should be done immediately after pruning, or for young tea bushes, after planting.

Fertiliser

Because a lot of nitrogen is removed with the leaves, top dress with a Nitrogen fertiliser. The best fertiliser contains Nitrogen, Phosphorous, Potassium and Sulphur (N:P:K:S) in the ratio 25:5:5:5. You will need 5 bags of fertiliser per acre (100 – 120gm per mature bush). Christine requires 2.5 bags every year for her plot.



Example of tea field with well managed plucking table



Spaces should be filled with new tea bushes