

Series 6, Episode 12

Abraham's Farm, Elgeyo Marakwet, KENYA

This leaflet contains information on: planting seeds, planting tomato seedlings, better soil, making money from chickens, reducing aflatoxins in cows, storing potatoes

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Planting seeds

One of the principles of Conservation Agriculture is to only disturb the soil where you will plant your seeds. By not disturbing your soil it stays healthy for long.

Jab Planters and **Direct Seeders** are tools that will save you a lot of time during planting as you practise Conservation Agriculture.

The 3 principles of Conservation Agriculture:

1. Disturb the soil as little as you can
2. Keep soil covered
3. Rotate crops

Use a Jab Planter for small areas

A **Jab Planter** digs the hole, adds fertiliser and plants the seed. All the farmer has to do is get the spacing right.

One side of the Jab Planter has seeds. The other side has fertiliser. The seeds come out 1 at a time (1 per hole). The seed does not touch the fertiliser.

TO USE: Push the Jab Planter into the soil where you want to plant your seed. Squeeze the handles together to let the seed and fertiliser out. Move on to the next place.

Save money by using a Jab Planter. You only need 1 person to plant your field.



Use a Direct Seeder for big fields



A Direct Seeder is pulled by oxen.

A **Direct Seeder** does the same job as a Jab Planter. It digs holes, adds fertiliser, and plants seeds.

It is quicker than a Jab Planter and can plant more seeds. You can plant 1 acre in 40 minutes.

The seeding disc gets the spacing right, the wheel controls the planting depth & covers the seed with soil.

1 Direct Seeder costs 100,000/-. Buy with a group of 25 people and share it. You will only pay 4,000/- each.

Planting Tomato Seedlings

Why buy seedlings and not seeds?

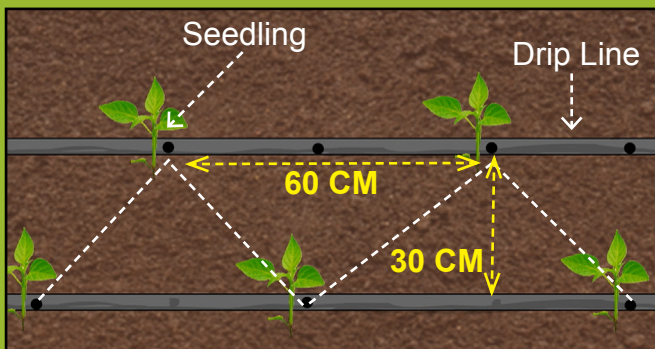
- If you buy 1 month old seedlings you have saved a month's work.
- When you plant seeds only 70-80% survive to seedlings. If you buy 100 seedlings you will have 100 seedlings.
- The seedlings are the same size so you get even growth.

Buy seedlings from a good seedling raiser like **Plant Raisers**. They are grown for greenhouses, have good root growth and do not have pests or diseases.



There are 100 seedlings in a box.

Planting the seedlings



Plant seedlings 60 cm apart along driplines 30 cm apart. Plant in a zig zag.

Plant seedlings next to the driplines so they can get water easily. It also stops water being wasted. Make sure the holes in the driplines face up.

Stand the plants as upright as you can.

Keep the soil moist

Water the seedlings twice a day. Water in the early morning. Water again in the early afternoon. You do not want the soil to be wet at night. Add more water if it is hot.

If the soil sticks to your hand when picked up it is too wet. Wet soil brings diseases. Stems will rot and the plant will fall over. This is called damping off and the plant can die.

Make your soil better

Good soil gives a good crop. Do a **soil test** to find out which fertilisers to add, and how much, to make your soil better. Using the right fertilisers can double your harvest!

If your soil is too **acidic** (low pH), potatoes, beans, grains and vegetables will not grow well. Add lime every season until your soil pH is 6.

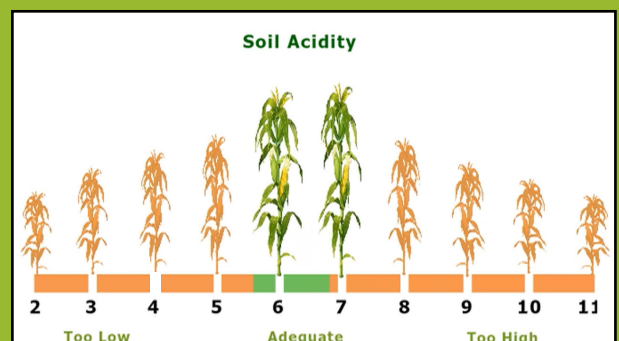
Dig **lime** into the soil 2 weeks before planting. This will make your pH higher so your crops will grow better.

Add lime **every season** until your **soil pH is 6**.

Add **compost** at planting. Add more compost as the crop grows. Your soil will hold more water. Do not add at the same time as lime as it will take longer to raise the soil pH.

Get A Water Tank

A water tank can store water for your dripline. For a 240m² greenhouse (about 600 plants), you need a 500 litre water tank; the plants will use 500 litres per day.



Most crops will grow well at pH 6.

If tomatoes are planted in a greenhouse and taken good care of, you can get 12-15 kg of fruit per plant over 9 months of harvesting. This is 25-30 kg per square metre.

Make money from Chickens

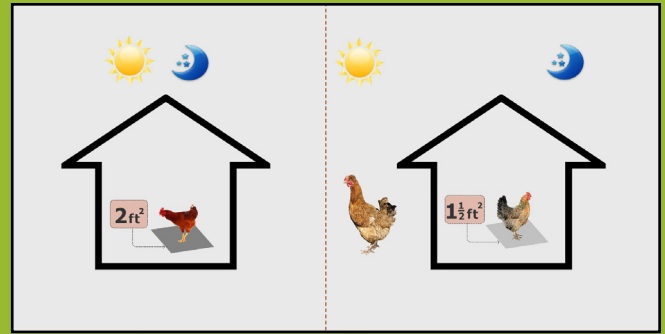
Keeping chickens for meat or eggs can be a good business. If you look after your chickens well, you can make a lot of money.

Build a good-sized chicken house

Chickens need 2 square feet per bird if they are in the house all of the time.

Kienyeji chickens, which are outside in the day but sleep inside at night, need 1.5 square foot per bird.

If your chicken house is too small, the birds will get stressed. They will not gain weight or lay many eggs. They may die.



Make a good profit from Layers

Make sure they lay inside the chicken house. Give layers a dark, clean place to lay. You will collect more eggs as none will get lost outside.

Feed chickens well for early laying and good quality eggs. They should start to lay at 16-18 weeks .

0-8 weeks
Fugo Chick and Duckling Mash
2 kg per bird. For fast growth, strong bones and stops the birds getting sick.

8-16 weeks
Fugo Fast-Growers Mash
7 kg per bird. For fast growth and early laying.

From Point of Lay:
Layer Compleat Meal
52kg per bird per year. For healthy layers and good eggs.

Make a good profit from Broilers

Do not feed broilers too much food. They will not eat it all and you will lose money.

If you do not feed your broilers enough food, they will take longer to reach market weight.

0-3 weeks
Fugo Fast-Gro Starter Mash
850 g per bird

0-6 weeks
Fugo Fast-Gro Finisher Mash
2.8 kg per bird

Broilers should be ready for slaughter at 6 weeks. They should weigh about 1.5kg.

Change feed slowly. Mix the feeds for 2 days while changing.

Stop Aflatoxins in Cows

Aflatoxins are poisons in your cow's fresh or dry food. They make your cow very sick. You will not get a lot of milk. The cow can die. Aflatoxins can also be passed on to your family through milk.

Stop aflatoxin poisoning in all livestock with **T5X** from **Coopers**.

T5X binds toxins, like aflatoxin, to stop your cow getting sick. It also tells the liver to break down the toxins.

T5X will take aflatoxins out of the cow's milk so your family will not get sick.

Buy feed from suppliers who test for aflatoxins.



Mix 50g (½ cup) of T5X with animal feed each day to protect your cow.

Aflatoxins like moist conditions. Make sure your food store is very dry.

Storing Potatoes

The market price of potatoes changes over the year. Do not sell when the market is bad. Store your potatoes well and wait for the market to get better. You will get more money for the same potatoes.

Form a group with your neighbours to sell to large potato buyers. It is easier to sell 1000 bags than 100 bags. You will get a bigger profit.

Store potatoes in a Charcoal Store

Build a big charcoal store with your neighbours. Store your potato crop for up to 3-4 months.



The open walls are made of mesh wire packed with charcoal.



The charcoal is always kept wet by water from a tank. Water evaporates from the charcoal which takes heat from inside the store. The store is therefore kept very cold.



Inside the store is cold and dark – perfect for potatoes! Make sure the bags do not touch the walls.

Benefits of charcoal stores

- No electricity needed, just water.
- Can be used to store many different fruits and vegetables.
- They stop fruits and vegetables from drying out.
- Easy to build.
- If many farmers join together to build the store, it is not expensive.
- Cheap to maintain.

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