



## Coffee

If undelivered please return to the Mediae Company, P.O. Box 215- 00502, Karen, Kenya.

### Growing coffee as a business

Before you start a business, find out if your soil is good for coffee, and which variety will grow best. Then you can look for a market and do a budget. This will tell you whether your business might work.

There are two main coffee varieties, namely Arabica and Robusta. Arabica beans are mild and have less caffeine, while Robusta is more aromatic. The Robusta tree appears bushier, the leaves are larger and the berries form in clusters.

### Ecological requirements

Some areas and soils are better for growing coffee than others.

	Arabica	Robusta
<b>Altitude</b>	1300-2300m above sea level.	800-1500m above sea level
<b>Terrain</b>	Flat or gently sloping	Flat or gently sloping
<b>Temperature</b>	15 - 24 Celsius	18 - 27 Celsius
<b>Rainfall</b>	1200-1500 mm per year and which is well distributed	1200-1500 mm per year and which is well distributed
<b>Soil</b>	Deep well drained fertile and slightly acidic loamy soils with a PH of 4.5 to 5.	Deep well drained fertile loamy soils, rich in organic matter and potassium.

## Can you afford to start a coffee business? Do you need a loan?

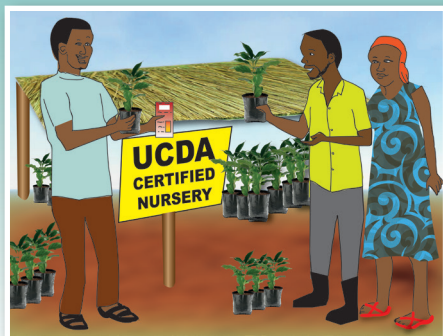
If you do not have enough money to cover the start-up expenses of your business, you may need to borrow money. Talk to banks and SACCOs. Some loans you can pay back using your mobile phone. Remember that loans are not free. You will have to pay back your loan with **interest**.

### Site and seed selection

Robusta is popular in Uganda and its growing is highly encouraged. You can plant about 500 Robusta coffee trees per acre.

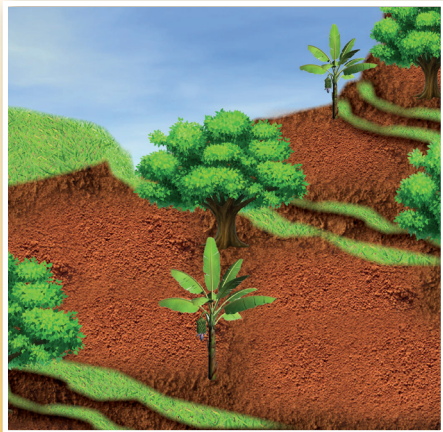
Obtain all planting materials from a **Uganda Coffee Development Authority (UCDA)** certified nursery.

A seedling normally sells from UShs 300-500.

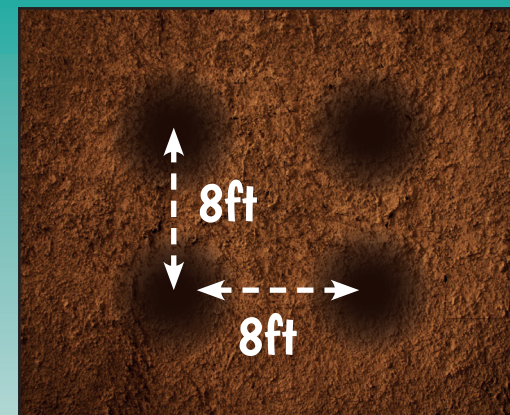
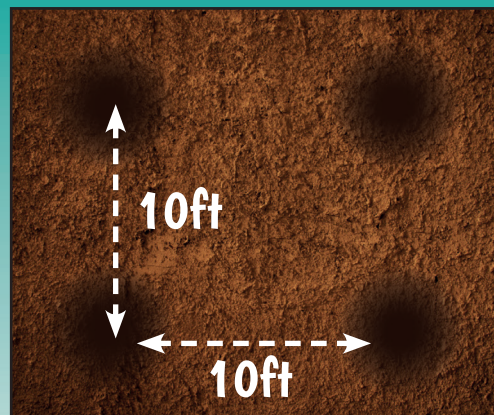


### Prepare your land

1. Prepare the land during the dry season.
2. Remove excess trees and stumps. Leave some mature trees for shade.
3. Remove weeds by digging, using your hands or by applying herbicides.
4. Build contour terraces, bands, grass strips and cut-off drains to prevent soil erosion.

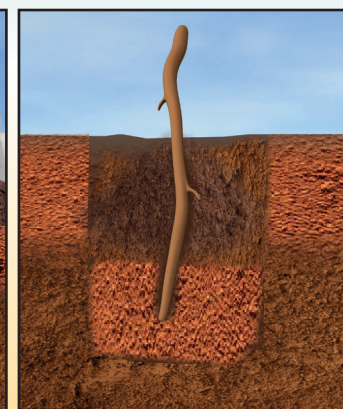
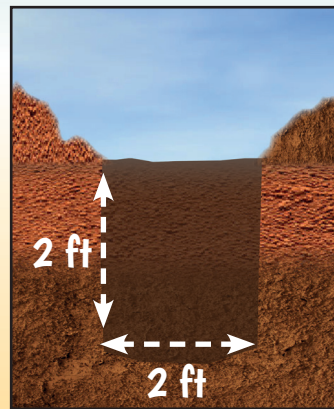


### Plant spacing



- Plant Robusta coffee in lines at a spacing of 10 feet x 10 feet (450 trees per acre).
- Plant Arabica coffee in lines at a spacing of 8 feet x 8 feet (680 trees per acre).

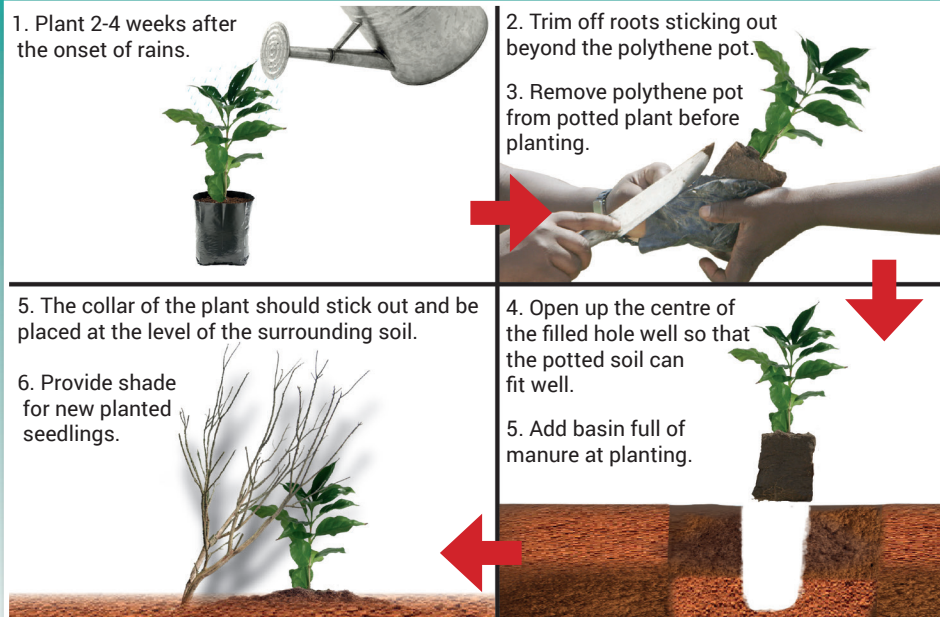
### Hole preparation



1. Dig round holes that are 2 feet wide and 2 feet deep.
2. Heap the fertile topsoil separate from the subsoil.
3. Refill the holes with topsoil mixed with a basin of well-rotted manure and a handful (100g) of DAP or TSP fertilizer.
4. Heap the soil above the ground level. This will allow for sinking when the soil settles.
5. Use pegs to mark the positions of where the coffee seedlings will be planted.

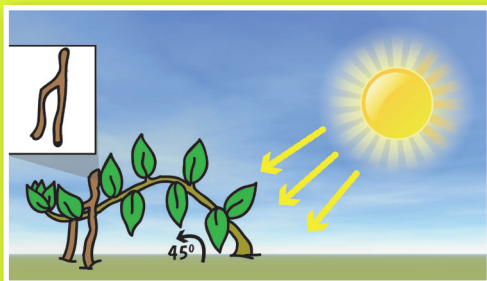


## Planting coffee



## Managing your coffee garden

### Bending



When the coffee plant is 6 months old, bend it by 45 degrees. Also bend it along rows. This will help suckers to grow.

Allow only 2-4 healthy looking suckers of the trained plant to grow.

### Weeding

Weeds take water and nutrients from your crop. They also hide pests and diseases.

Remove weeds by digging and slashing or by mulching.

Ring weed below the canopy to avoid damage to the plant (during slashing or spraying).

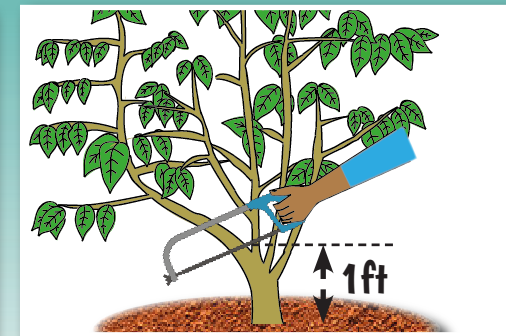
You can also use herbicides. Always follow instructions and wear protective gear. Avoid spraying on the coffee leaves as this can kill the plant.

**Prune** unwanted stems and suckers. Also prune dead, weak and unproductive branches. This will encourage new growth.

**Apply about 3 - 5kg of organic manure** around each coffee plant to improve plant growth and yield. Do this once a year at the beginning of the rains. **Apply fertilizer** within the rooting zone (under the tree canopy).



**Mulch** coffee gardens with maize straw or any other dead plant. This will conserve moisture, control weeds and soil erosion, and also add nutrients to the soil. Do not place mulch next to the stem. Put 1ft away around the stem.



When coffee trees get too old, they no longer yield many berries and need to be cut back. **Stump** coffee after 7-9 years to renew the stem cycle and improve productivity.

## Pests and Diseases



**Root Mealybugs** sap from the roots. This reduces the flow of water and nutrients to the trees. It also causes yellowing and dropping of leaves, and death of entire trees.

To control, uproot and burn affected or dead trees. Trees showing early signs of attack should be treated with **Dursban** mixed into soil around the tree or with **Actara**.

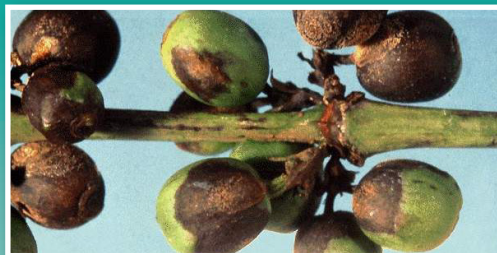


**Coffee Berry Borer (CBB)** is a small beetle that bores into coffee berries. It damages beans and reduces the yield and quality of the beans.

To control, prune the coffee and shade trees to open up the canopy. This will promote natural control by birds. If more than 2-3% of cherries are infected, spray with **Super Sumithion**.



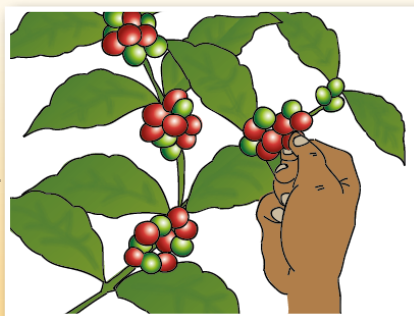
**Coffee wilt disease** is caused by a fungus. It only affects Robusta trees and there is no cure. To control, uproot and burn infected coffee trees as soon as symptoms are seen. Disinfect farm tools that have been used in an infected garden with fire flames or Jik solution. Plant resistant varieties.



**Coffee berry disease** is caused by a fungus and only affects Arabica coffee. It attacks flowers and fruits at all stages of growth, but especially the green stage. To control, plant tolerant varieties and practise good field hygiene. Prune coffee and shade trees to reduce humidity levels.

## Harvesting

- Do not remove all cherries off the branch.
- Only harvest fully ripe (brick red) cherries because green/unripe cherries will form black beans. Overripe cherries give defects such as discoloured coffee beans, fermented and off flavours to the coffee cup. Ripe cherries give better quality coffee and therefore more money.
- Keep harvested coffee cherries in containers such as baskets.
- Sorting should be done on a canvas or gunny bag sheets to avoid contact of cherries with soil.
- After sorting, cherries should be taken to the factory as soon as possible. It is best to take it on the same day to get high quality coffee.

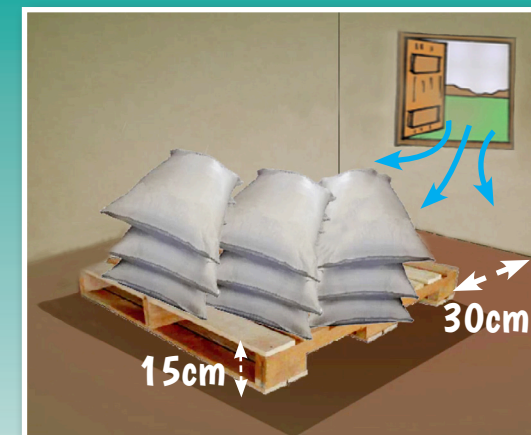


## Processing

- Transport ripe berries to the factory to be weighed and taken through a pulp machine. This removes the outer covering pulp.
- The berries are fermented before curing by drying in the sun for one week. After curing, machines peel off two layers of inner husks before the berries are winnowed and graded.
- The beans are then sorted out according to size and quality.

## Storage

- Only store dry coffee in bags. Place the coffee bags on pallets raised to at least 15 cm to avoid getting wet.
- Keep stacked bags at least 30 cm away from the walls and ceiling.
- Do not store coffee in the same store with agro-chemicals, other farm produce and oil products. Do not use fertilizer or fish bags for storage.
- Storage rooms should be well ventilated and leak proof.



## How will you market your coffee?

- If you have a good quantity of coffee that is of good quality, you can get better prices at the market.
- Small-scale coffee dealers and brokers offer low prices.
- Farmers should form groups and bulk their coffee together. Bulk coffee fetches a higher price.
- Separate different qualities of coffee before bulking.
- To get the market price of coffee, type **Robusta** or **Arabica** and send text message to **7197**.

## Why keep records?

Keeping good crop-growing records will help you run your business better. Keep records on field history, problems faced, major activities like planting, spraying, diseases, harvesting, etc.

Date	Details	Action
21/05/18	Spotted root mealybugs	Uprooted affected trees
23/05/18	Heavy rain today	
25/05/18	Saw some weeds	Removed and burnt weeds.

## For more information on Coffee

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