

# Solar Light

**Kerosene** ✗



- Expensive – you have to keep buying kerosene
- Fumes are bad for eyes and lungs
- Light is not that bright
- Risk of fire

**Solar** ✓



- Cheaper - solar is free
- Safe
- Brighter than kerosene
- More time to study or cook
- No more bills!

## d.light design solar products



- d.light S1**
- Up to 4hours light
  - Bright & focused light
  - For working or studying



- d.light S10**
- Up to 8hours light
  - 360° space lighting
  - For working, studying, cooking



- d.light S250**
- Up to 12hours light
  - Solar light & mobile charger
  - 10 times more light than kerosene

[www.dlightdesign.com](http://www.dlightdesign.com)

If you want to find your nearest stockist, SMS your name and address with the word 'DLIGHT' to 5606

Produced by Mediae



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# Shamba Shape Up Series 1: Episode 1

George Njuguna Kararu's Farm - Ndeiya, Limuru



This leaflet contains information on: Soil testing; Fertiliser; Grain storage; Livestock feed and solar power

## Soil Testing

### Why test?

- Shows you how much fertiliser to use
- Shows you which fertiliser is right for your farm
- Saves you money using the right amount of fertiliser
- Fertiliser can improve yields
- Fertiliser use reduces pests and diseases
- Strong crops, better prices!

### How?

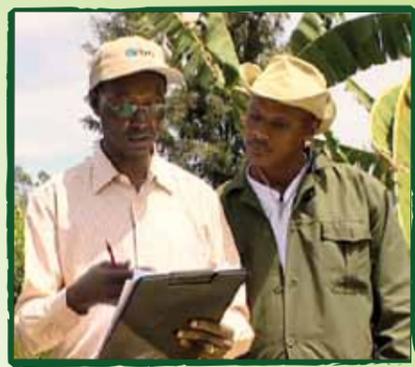
- Take a sample to a soil testing laboratory
- Public laboratories cost about 1,000kshs per test
- Private laboratories cost about 2,000kshs per test

### When?

- Test soil every 5 years

**Public:**  
KARI National Agricultural Research Laboratories (NARL), Waiyaki Way, Nairobi. 020 444029/32

**Private:**  
Crop Nutrition Laboratory Services Cooper Center, Kaptagat Rd, Waiyaki Way, Nairobi. 020 3561192



## Example of a soil test report

Parameter	Unit	Result	Good/Low	Recommendation
pH		5.84	Low	Add Agricultural lime to make acid soil neutral
Phosphorus	*ppm	4	Low	Use DAP to provide phosphorus
Nitrogen	*ppm	0.20	Low	Use Farmyard Manure and DAP to increase Nitrogen
Calcium	*ppm	5.31	Low	Calcium will be provided by the Agricultural lime added
Potassium	*ppm	55	Good	
Magnesium	*ppm	130	Good	
Copper	*ppm	6.82	Good	
Sodium	*ppm	63	Good	
Iron	*ppm	175	Good	

### Recommended rates

Product	Amount (kg/ha)
Agricultural Lime	1,700
Manure/ Compost	20,000
DAP	100

\*ppm - parts per million

# Using fertiliser when planting

- ### Seeds
- With more droughts and changing weather patterns, new seeds have been developed which mature quicker
  - Certain seeds are better at resisting disease
  - Kenya Plant Health Inspectorate Service (KEPHIS) can tell you good seed types for your farm. SMS: Maize#Division to 5354 (10Kshs)
  - Kenya Seed Company can also give you seed advice SMS\*Division to 3000

- ### Fertiliser & Manure
- Manure is very important for soil but fertiliser is also needed
  - For 1 acre in highlands & medium altitude areas - 4 tons (48 wheelbarrows) of manure is suggested
  - For 1 acre in marginal areas - 3.2 tons (38 wheelbarrows) of manure is suggested
  - Put 1bag (50kg) DAP per acre
  - Fertiliser gives soil the nutrients it needs
  - Match fertiliser type to your soil condition

- ### Land Preparation
- Early land preparation helps keep the soil moist
  - Dig and remove weeds
  - Plant seeds at the onset of rains
  - In areas where rainfall is short, dry plant 1-2 weeks before rain



# Planting Process



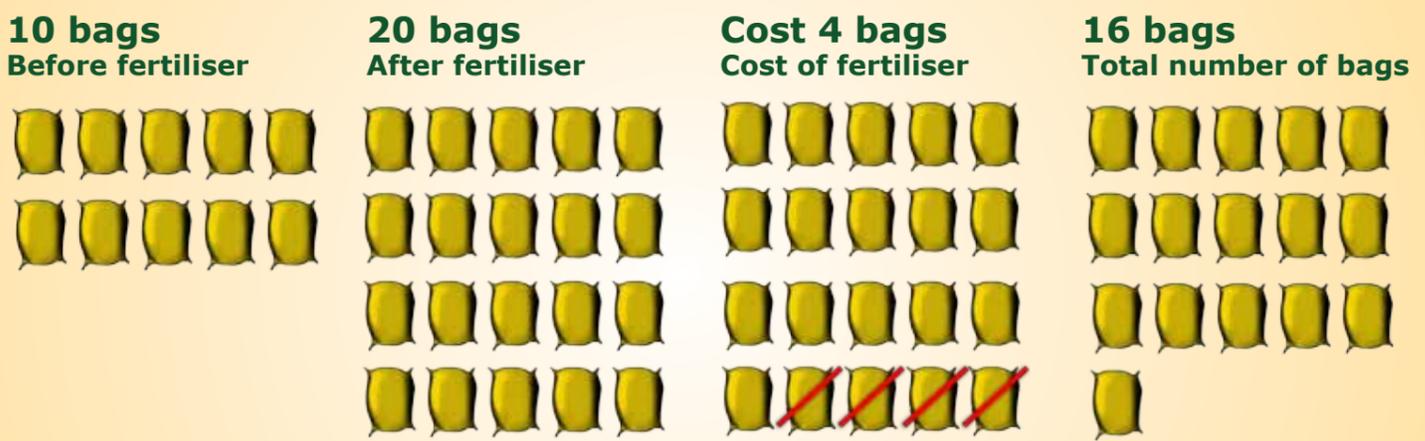
- For maize, rows should be 90cm apart
- If you are inter cropping with beans, make two rows in between the maize rows (30cm apart)

- For maize, make holes 30cm apart
- For beans, make holes 10cm apart

- Add 1 bottle top of fertiliser to the hole
- Add handful of manure & mix
- Add a little soil\*
- Add the seed
- Cover with soil

\*Seed should not come into contact with fertiliser or it will burn.

# Example of yield improvement using fertiliser



**Advantage:** Using the right seeds and the right fertiliser can increase your yield by 50%.

# Grain Storage



## Shelling

- Harvest maize when the weather is dry
- Use a sheller
- Beating with sticks damages grain
- Dry grain for 5 days - this will stop diseases damaging the grain

## Dusting

- Clean grain to remove dirt
- Spread grain on mat
- Mix with insecticide
- Actellic Gold/ Actellic Super are good insecticides
- Use 50grams per 90kg
- Put into sealed bags

## Storage

- Clean the store
- Sprinkle insecticide in the store
- Place sealed bags on a raised platform to stop mould
- Re dust after 6 months

**Advantages:** Good storage and dusting means grain keeps for longer. You will have food for the family at all times. If you would like more information, SMS your name and address with the word 'SYNGENTA' to 5606

# Livestock Feed

The high cost of dairy meal often means livestock is not fed properly. Two options for good supplementary livestock feed are given below:

## 1. Fodder Shrubs

- Fodder shrubs are plants which have lots of protein and minerals in their leaves
- They fix nitrogen from the air which makes the soil more fertile which is good for other crops
- Leaves can be used as livestock feed
- Calliandra is a good variety of a fodder shrub
- It can be grown as a hedge around your shamba so it doesn't take up crop space
- It is fast growing and ready for harvesting after a few months
- 3kg of fresh leaves and stems could replace 1kg of dairy meal to give the same milk yield
- Calliandra leaves can make up to 25% of the diet for your livestock



## 2. Urea treated dry maize stalks



- Cut dry maize stover into small pieces
- Spread 10kg of stover on canvas
- Mix 400 grams of urea with 10 litres of water
- Pour and mix with the stover
- Place stover in sealed bags
- Make sure no air is left in the bag so that it ferments properly
- Tightly tie
- Leave for 7 days to ferment
- Feed to cows
- Make sure you supplement with other livestock feed

**Advantages:** Treated stover has more nutrients. Feeding this to cows will increase the milk yield. The profit from the increased milk exceeds the cost of the storage bag and urea.

If you would like more information, SMS your name and address with the word 'COOPERS' to 5606