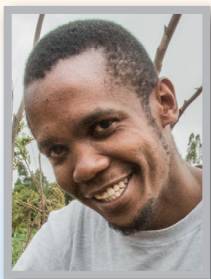


Sukuma wiki (Kale)



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

So you would like to grow Sukuma wiki?



Issah

Issah decided to grow sukuma wiki, also known as Kale. Sukuma wiki has a good market in Kenya. It does not store well so only harvest what you can sell that day. You can harvest Sukuma wiki over a long period of time.

Before you start a business, find out if your soil is good for sukuma wiki, 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.

Do a Soil Test

Some areas and soils are better for growing sukuma wiki than others. Sukuma wiki does well in temperatures of 17-22 Celsius and rainfall of 350-500mm. Soils with high organic matter and a pH of 5.5 - 7.0 are ideal.

Ask **CropNuts** to come and do a soil test. They will take samples of your soil from your shamba to test. They will send you a report which will say:

- How healthy your soil is
- Which fertilizers to add to make your soil better
- Which crops will grow well in your soil.



Green = nutrient levels are good
Red = nutrient levels are bad

Follow the advice on your soil test results. You will save money on fertilizers and pesticides. You will get a bigger and better crop which will give you more profit.

How do you find a market?

Find out the average price of sukuma wiki. You also need to find a buyer for your sukuma wiki. It is better to sell all of your sukuma wiki to 1 buyer.



PRODUCT

Is there a demand for sukuma wiki?

What are others producing?

What does the market expect?



PRICE

What price will you sell at?

Do some varieties make more money?

Can you make a profit?



PLACE

Where will you sell?

Visit local shops, schools, hotels and markets.

Talk to your neighbours.



PROMOTE

How will you advertize?

OLX?

Social media?

Posters and flyers?

How will you water your crop?

Sukuma wiki needs water to grow well. You cannot rely on the rains as sometimes they do not come or may not be enough.

The DLTP Farmers decided to put in a **drip irrigation system** from **SunCulture**.



Drip irrigation systems:

- Use less water as the water from the pipe goes directly to the plant roots.
- Water is not wasted on weeds.
- Plants do not get wet and have less fungal diseases.
- Once the drip lines are laid, you just have to turn on the tap when you want to water.

The DLTP farmers also decided to buy a **Futurepump** solar pump together. The pump works by using energy from the sun. You can even charge your phone.

You can pay off the cost of the **Futurepump** after 3 seasons. After this, your pumping will be free!



How do you do a budget?

A budget is a plan of the income and costs of your business. It is for a specific period of time or a production cycle or season.

1. Find out your costs. Think of all of the things you need to grow sukuma wiki. Think about seeds, fertilizers and water. Find out how much they cost.

2. Work out how long it will take for you to make a profit. If your business has high capital investments, it may take several seasons to make profit.

3. Work out your PROFIT:

income – costs = total profit

e.g. It costs 60,000/= to grow 1 acre of sukuma wiki. Each acre gives 8,000 kg of sukuma wiki. Each kg is sold at 32/= . This is a total income of 256,000/=. Therefore: **expected income of 256,000/= – production costs of 60,000/= = a profit of 196,000/=**

| Item | Budget |
|-------------|----------|
| Soil Test | 2,500/= |
| Fertiliser | 50,000/= |
| Seeds | 25,000/= |
| Tools | 5,000/= |
| Labour | 50,000/= |
| Other costs | XXXXX/= |

What is a rolling budget?

This is a budget that is updated on a regular basis. It covers the costs for each week or month. It allows you to change your budget as you go along. e.g.

| Date | Details | Budget | Money out |
|---------------------------------|--|-----------------|-----------------|
| Week 2: 1-7 Feb 2017 | Herbicide | 4,500/= | 4,400/= |
| | Labour | 6,000/= | 6,500/= |
| | Miscellaneous (this is any costs you did not expect) | 5,000/= | 2,800/= |
| | TOTAL | 15,500/= | 13,700/= |
| Week 3: 8-15 Feb 2017 | Labour | 2,500/= | 2,500/= |
| | Miscellaneous | 6,000/= | 5,500/= |

Sometimes prices change. You can change your budget as you go. If your total budget is **the same** or **more than** your total money out, you are on the right track.

Can you afford to start a sukuma wiki 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.

Buying Seeds

Buy **Thousand-headed Kale** from **Royal Seed**.

This variety:

- Gives strong plants with many side branches
- Has lots of leaves to harvest over time
- Matures 60 days from planting
- Has a yield potential of up to 8 tonnes per acre
- Tolerates hot climates.

Always buy **certified seeds**. 95-100% of the seeds will grow, so you will use less seed.

Certified seeds also:

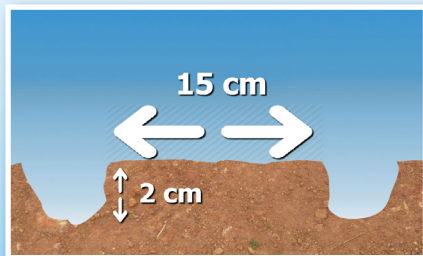
1. Give high yield of good quality.
2. Are resistant to some diseases
3. Grow uniformly



Buy **Thousand-headed Kale** seeds from agrovets. Buy in pack sizes of 10g, 25g, 50g, 100g, 250g and 500g. You will need 300g per ha.

Set up your Nursery

1. Clear all weeds and grass. Dig the soil well.
2. Make beds 1m wide raised 15-20cm high. Mix 2-5kg of well-rotten manure for each 1m length & mix with soil.
3. Make shallow furrows in the soil 15cm apart and 2cm deep.
4. Mix seeds with soil, then spread thinly along the furrows.
5. Water with care. Cover the seeds lightly with soil. Mulch with dry grass.
6. After 7 days, take off the mulch and make a raised shade 1 metre high.



Prepare your land

As soon as your seeds are planted in your nursery, plough your land. Break up lumps of soil. Mix in well-rotted manure. Smooth the soil surface.

Your soil test will tell you which fertilizers to add to your soil and how much. Usually you will be told to add an NPK fertilizer at planting. This contains Nitrogen, Phosphorous and Potassium, and sometimes other nutrients too.

Mavuno Fertilizers makes fertilizers specific to your crop. Buy **Mavuno fertilizers** from agrovets.

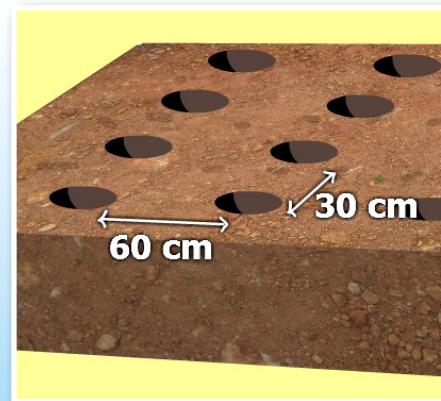


Transplant your seedlings

Transplant seedlings after 3-4 weeks.

Remove the shade a day before transplanting. This is so that the seedlings can get used to the strong sunshine. This is called hardening.

Transplant early in the morning (6-10 am) or late in the afternoon (4-6pm).



1. Dig planting holes 30cm apart in rows 60cm apart.
2. Mix 1 bottle top of **Mavuno Green Leafy Vegetable fertilizer** and a handful of manure with the soil in each hole.
4. Topdress with 1 teaspoon **CAN** per plant 3 weeks after transplanting.
5. Topdress again with 2 bottle tops of **CAN** per plant 3 weeks after the last topdress.

Weeds

Weeds take water and nutrients from your crop. They also hide pests and diseases. Take out weeds when you see them.

You can also use herbicides. Always follow instructions and wear protective gear when using herbicides.

Pests and Diseases



Cutworms

These are black caterpillars that cut stems at the ground level. The plants fall over. To control, spray after transplanting with 20ml **Umeme** in 20L of water.



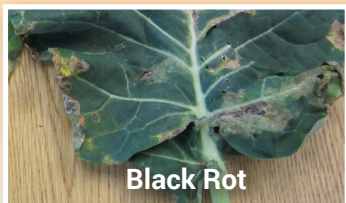
Aphids

These are tiny insects that cause the sukuma wiki leaves to fold.



Control Aphids with **Cyclone**. Mix 30ml **Cyclone** in 20L of water in a knapsack. Spray the plants.

Fungal and bacterial diseases



Black Rot



Ring spot



Leafspot



Bacterial soft rot

Common diseases include **Black rot & Bacterial Soft Rot** caused by bacteria, **Ring Spots** caused by fungi and various leaf spot diseases caused by fungi & bacteria.



Control these fungal and bacterial diseases with **Sulcop 50DF**. Mix 50g **Sulcop** in 20L of water in a knapsack. Spray the leaves. It works better when it is used to prevent disease.



Powdery Mildew

This disease starts on young leaves as raised blister-like areas. Infected leaves become covered with white powder growth usually on upper surface

Mix 30g **Mistress** in 20L of water in a knapsack. Spray the leaves.



Harvest

Pick the lower leaves often. Take care not to damage the stems.

Why keep records?

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

| Date | Details | Action |
|----------|---|------------------------------|
| 21/02/17 | Leaves are folding. Small dark-coloured insects – aphids? | Applied Cyclone |
| 23/02/17 | Heavy rain today | Delay irrigation for 3 days. |
| 25/02/17 | Saw some weeds | Removed and burnt weeds. |

Rotate Crops

To reduce pests and diseases and to keep your soil healthy, rotate your crops. This is where you plant a crop from a different family. After sukuma wiki, do not plant cabbages or spinach.

You will have healthier soil and a better crop. Beans and peas are very good for your soil as they add Nitrogen.



What next?

Look back at your budget.

Have you made money from your first crop of sukuma wiki? What mistakes did you make? What have you learnt?



For more information on Sukuma wiki

To get a soil test, call **Daktari Wa Udongo** on +254 790 499190 or send an email to **CropNuts** on support@croppnuts.com to find out the closest field agent in your area.

Contact **Osho Chemicals** on 0711 045000 or email marketing@oshochem.com or SMS 20560.

To buy sukuma wiki seeds, contact **Royal Seed** on 0734 257635 or email customerservice@khs.co.ke

For drip, mist or solar-powered irrigation systems call **SunCulture** 0700 327002

Contact **Mavuno Fertilizer** on 0702 891 893 or email info@mavunofertilizers.com

Contact **Futurepump** on 0796 514409 or email DLTP@futurepump.com

Use our budgeting tool, **Budget Mkononi** on our website www.dontlosetheplot.tv and learn the costs of growing sukuma wiki and how much profit you can make.



Sign up to our mobile service iShamba for expert advice on growing sukuma wiki. Simply SMS the word 'VIJANA' to 21606.

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