



Passion Fruit Farming in Kenya.

An Introduction

Background Information

Passion fruit is a perennial crop, which means it needs to be planted only once and it keeps growing. It produces fruits within a year of planting and is grown in many parts of the country.

Passion fruit is rich in vitamins and minerals, and is eaten fresh or used for making juices, desserts among others.





Characteristics of the Passion Fruit Vine

- It grows fast and has shallow roots.
- It bears fruits within one year of planting.
- Fairly easy to grow and can be sold as fresh fruits or value added products like juice.
- It uses tendrils or vines to climb lengths of up to 20 feet (6 m).
- It has a productive lifespan of 3-5 years.
- The ideal temperature for production is between 20-30 °C.

Economic Importance

- Passion fruit growing has good profits and gives returns in the 1st year of planting but the profits will be seen in the 2nd and 3rd year.
- Purple variety is mainly good for export to Europe and the Middle East.
- Yellow variety is grown and sold locally as fresh fruit or for making juice at homes and restaurants.

Production Challenges

- Lack of disease-free planting material.
- Pest and disease attacks.
- Prolonged drought at critical times like during flowering.

Major Passion Fruit Varieties Cultivated in Kenya



Purple passion (giving purple fruits)

Purple Passion Fruit

- Does well in highlands, on altitudes between 1,200 – 2,000 m (temps of 18-25 °C).
- Has clear green stems, tendrils and leaves.
- Bears smaller fruit; round or oval in shape, 3-5 cm in diameter and are deep purple when ripe.
- Within the hard skin, it has many small black seeds, each enclosed in a yellowish juicy pulp.
- It can be attacked by a number of diseases such as collar rot, wilt, brown leaf spot, and nematode attacks.



Yellow passion (giving yellow fruits)

Sweet Yellow Passion Fruit

- Birds feeding on flowers and fruits.
- Changing market prices.
- Grows well in warmer lowlands, on altitudes of between 0-900 m (temps of 25-30 °C).
- Grows faster than purple passion fruit.
- Has a bright yellow skin & slightly larger fruits than the purple type.
- Has more acidic pulp than the purple.
- Has dark brown seeds.
- Is resistant to most pests and diseases.



Passion Fruit Propagation Methods

Passion fruit is grown from seeds and /or seedlings.

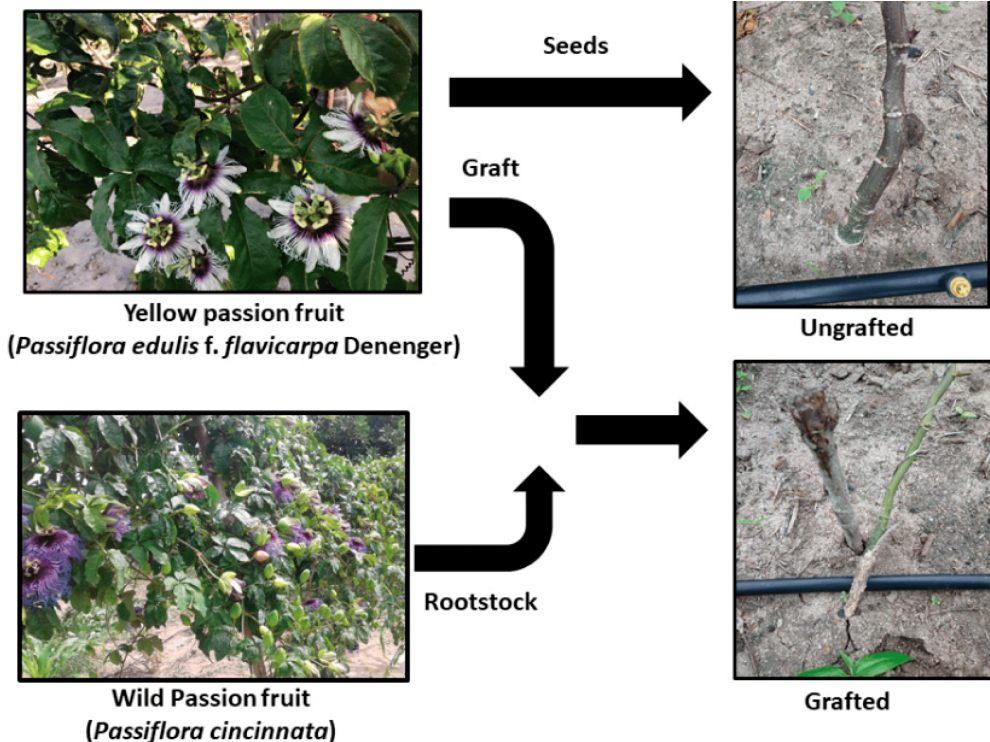
Seedlings can be grafted as recommended for purple passion fruit or not grafted as in the case of yellow passion fruit. Propagation from seeds is done by nursery operators who raise seedlings.

Propagation from seed



Passion fruit seeds

- Seeds are planted directly into the field (direct seeding) or raised as seedlings in a nursery
- There are no certified commercial passion fruit seed traders in Kenya.
- Nursery operators need to observe high standards in getting quality seed from existing orchards.



Propagation from seedlings

Straight (non-grafted) seedlings

This can be done with both purple and yellow passion fruit. Seedlings are raised from seed in a nursery and transplanted to the vineyard without any grafting.

Grafted seedlings

Grafting is an important means of propagating purple passion fruit.

Purple passion fruit scions (growing buds) are grafted onto yellow passion fruit rootstocks which are resistant to nematode damage and Fusarium wilt root diseases.



Passion fruit seedling



Why graft?

- Makes them stronger and fairly resistant to Fusarium Wilt.
- Start to give fruits earlier than non-grafted passion fruit vines.
- Yield more fruit per harvest.
- Present a long harvest period of 4-5 years under good agronomic practices.
- Gives tasty, sweet, and juicy fruit.



Yellow passion fruit seedlings

The yellow passion fruit seedling leaves are larger, have less veins are smoother and spear shaped.



Purple passion fruit seedling

Purple passion fruit seedlings have a darker green color, have thick veins and have rougher edges.



The SWOT Analysis

This looks at the Strengths, Weaknesses, Opportunities and Threats of the Passion fruit Value Chain in Kenya.

This table will give you examples of what strengths might look like and weaknesses.

Strengths	Weaknesses
Quick returns (1st harvest after 6-9 months from planting).	High cost of inputs and expensive irrigation system.
When stored well, it can stay healthy for long after harvest.	Frequent pest and disease attacks during production.
New varieties like the yellow passion fruit are more drought-tolerant.	During transportation, fruits are exposed to damage leading to losses.
Unique product: taste and flavor.	Farmers often harvest unripe fruit and traders pay less for them.
Direct and ready market connections from Kenya to Europe and the Middle East.	The knowledge and skill for building sales of fresh passion fruit in export markets is still limited.
	Lack of quality planting materials.
	Lack of appropriate processing technology and under-developed local processing industry.

Just like any other business, passion fruits have opportunities and threats too. Here are a few examples

Opportunities	Threats
The horticultural sector is one of the fastest growing sectors in the economy as individual agricultural land sizes get smaller.	Low level of cold chain use, leading to 30-40% post-harvest loss.
There is a need for more technical support to smallholder farmers.	The maturity period of passion fruit depends on rain or irrigation water, which leads to variation in production, making it unreliable for markets.
Local and national demand for passion fruits is high and still growing.	Lack of trust between smallholders and brokers, brokers and exporters, and most people in the value chain.
Fruit processing as an industry, in Kenya, is growing steadily.	Unorganized production and marketing systems leading to farmer exploitation by commodity brokers
The value chain provides opportunities for infrastructure development, with packaging, storage, transportation, irrigation and value addition being ideal areas for investment.	Inadequate information about EU, and other export/niche market standards and requirements.
Only 1% of farmers get high quality seedlings from KALRO and other registered passion fruit nurseries. This cannot meet the high demand of certified passion fruit seedlings.	Incurable diseases e.g. woodiness virus, stops farmers from investing in the otherwise profitable value chain.
Export market: Europe does not produce passion fruit. Imports into Europe are mainly from Kenya, Zimbabwe, South Africa, Burundi, and Colombia.	

Overview of the Passion Fruit Value Chain

Three Primary Value Chain Segments



Primary production/farming

Here we have many small-scale farmers that produce passion fruit.

1

Primary processing

Local processing is limited. 80% of the passion of harvested fruit are exported to Uganda for juice processing as Kenya does not have many large-scale processors

2



3



Distribution/Marketing

Passion fruit is often used to make juice. Fresh fruits are exported to Europe and the Middle East by plane. It is important to handle the fruits well. Store in a cool dry place from when it is harvested.



Note: Poor storage can lead to losing 30-40% of your fruit.

Frequently Asked Questions



► ***Why are the different varieties recommended for different regions?***

At low temperatures purple passion fruit varieties do best.

At higher temperatures yellow passion fruit varieties do best.

► ***Are there any differences between purple and yellow passion fruit seedlings?***

Yes there are.

The yellow passion fruit seedling leaves are larger, have less veins, smoother, and spear shaped.

The Purple passion fruit seedlings have a darker green color, have thick veins and have rougher edges.

► ***What type of soil is best for passion fruit?***

Passion fruit grows best in well drained soils with a pH range of 6.5 to 7.

Drainage is very important for the purple variety since it is at risk to soil diseases. The roots of plants are shallow so plant them in raised beds to provide the necessary drainage.

► ***Which areas in Kenya is passion fruit cultivated?***

Passion fruit is widely grown in Kiambu, Nyeri, Kisii, Nakuru, Thika, Kakamega, Embu, Bungoma, Uasin Gishu, Murang'a, Vihiga and Meru.

Watch



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