

443/3

AGRICULTURE PROJECT

Jan. - July 2025

(Declaration form)

THE KENYA NATIONAL EXAMINATIONS COUNCIL



Kenya Certificate of Secondary Education

443/3 AGRICULTURE PROJECT REPORT

DECLARATION BY CANDIDATE

This is to certify that this is a true project report of my Agriculture Project and that it contains the details of the operations.

Name of the Candidate	Index No.	Signature
NAKEEL HILDAH SIMALOI	1124101156	

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Enter the score awarded in the box below.

Agriculture Teacher

16



nickel

Hildah

Group 3

Smali

①

11241001156

Cutting of
fruit trees

(avocado trees)

GRAFTING OF AVOCADO FRUIT TREES

Persea Americana

PROJECT INTRODUCTION

Grafting is the process of uniting two separate woody stems that is the rootstock and the scion.

The rootstock is the lower part while the scion is the upper part. When put together the two should be compatible for emergence of the terminal buds.

The scion should be healthy and should be able to produce high quality and quantity of fruits as expected by the farmers. On the other hand the rootstock should be highly resistant to diseases.

For instance in our academic year we opted for grafting of avocado trees.

Persea americana

Some of the reasons for grafting were as follows:

- i) It hastens maturity rate
- ii) facilitates production of plants with desirable characteristics
- iii) facilitates changing of the top of the tree from being undesirable to desirable.

IDENTIFICATION OF THE ISSUES

According to the school community and the community in whole, Avocado fruits were rarely consumed. This was brought about by inadequate supply of the fruits.

For instance I observed that within our school, Avocados were consumed twice in a complete year while according to nutritionists avocado is a fruit with so much nutrient content in it and prevents diseases like cancer.

Out of this we see that students suffer from acne as avocado is a fruit that helps the skin a lot.

Secondly it is a source of income which was now very low as demand was high but the supply was extremely on its low.

This way I opted for grafting fruit trees as it was proven to be a solution to all the problems.

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PROJECT OBJECTIVES

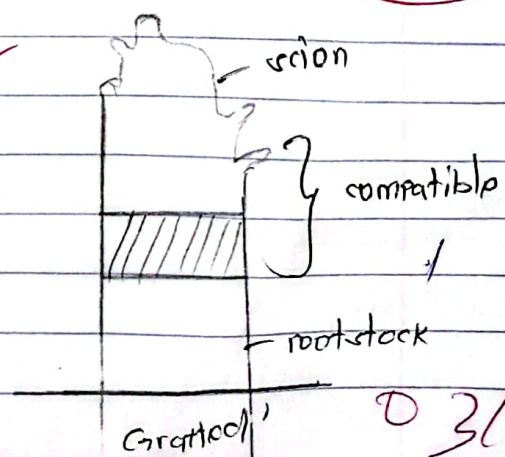
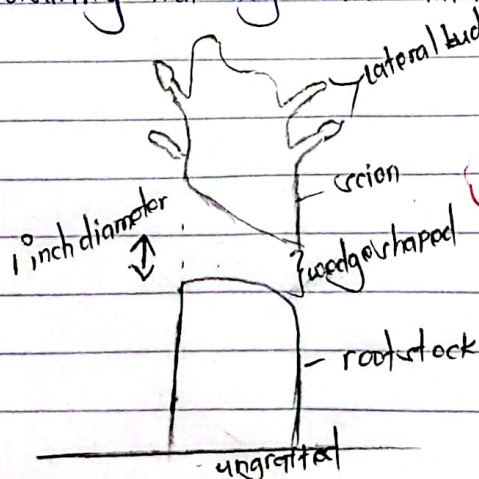
As per the project issued by the Kenya national examination council (KNEC) who had aims when conducting our project individually and even as a group.

The aims were:

- i) To fulfil KNEC's 2025 project requirement
- ii) To carry out the avocado grafting practice and later on update my project report
- iii) To put into practice the theoretical knowledge on grafting as taught in class
- iv) To carry out a successful grafting procedure and process
- v) To address the shortage of fruits through grafting of avocado trees as my solution

PROJECT DESCRIPTION

- In my group, group three me and my members decided to graft the indigenous avocado fruit tree known as the hass tree species.
- We received the trash and healthy scions and considering that we already had the rootstock we were good to go.
- We opted for the whip grafting method as it had advantages like it is quick, easier and very low incidences of failure.
- The scion was cut into a pencil thick wedge shape and the rootstock cut at a diameter of one inch using a scapel.
- The two were fit in together using a grafting tape ensuring that they were intact.



AGRICULTURE 2025 PROJECT BUDGET

Materials	Quantity	unit cost	Total cost.
crenel	5	10	50
Watering can	1	400	400
Grafting tape	20	20	400
Rootstock	20	100	2000
scion	20	10	200
Steriliser	10 ml	150	150
Shadenet	5m x 10m	3000	3000
Rake	1	350	350
Trainer	1	1500	1500
Total			8050



PROJECT IMPLEMENTATION PLAN AND TIMELINES

The following is an analysis on project implementation plan.

Activities

J F M A M J J A S O N D

Introduction of the project

Identification of the issue

Individual presentation

Preparation of the budget

Group presentations

Site selection

Servicing and preparation

Training session with an expert

Fortnight report on the project

Evaluation of the project

Monitoring and inspection

Report writing



PROJECT IMPLEMENTATION PROCEDURES

Training sessions

On May we received a grafting expert who taught us how to do and carry out ~~the grafting procedures~~

He taught us whip grafting where:

We assembled our rootstocks and scions

cut the scions into a wedge shape

cut the rootstock into a length of 1 inch

Using the wedge shaped scion, insert it on the rootstock

Use a grafting tape until the tape is thin and the duo are compatible
tie a knot and you are done.

Selection of planting area.

- i) We selected land that was just next to our school main farm
- ii) We cleared the land through uprooting and harrowing it to a fine tilth
- iii) We chose the piece of land as it was next to the water tanks hence watering would be easier.
- iv) Through support of long poles the shade ^{net} was placed over to cover the nursery bed.

The shading process was for ensuring that the scion was always in the shade to prevent dehydration.

Maintaining growth progress and caring for the plants.

We placed the grafted trees under a shade

Watered the tree seedlings regularly. We all took turns in

watering and accounting for abnormalities

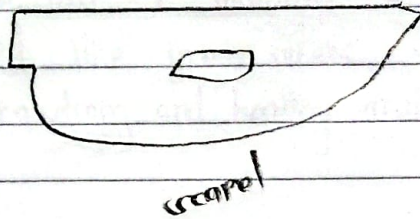
We also weeded the nursery bed through uprooting

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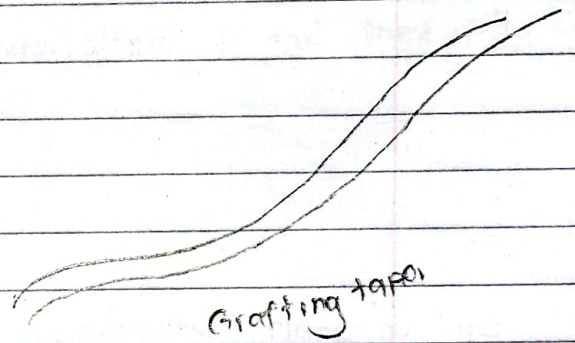
Assembling of the tools:

The tools and materials required for the procedure were assembled from the reliable sources.

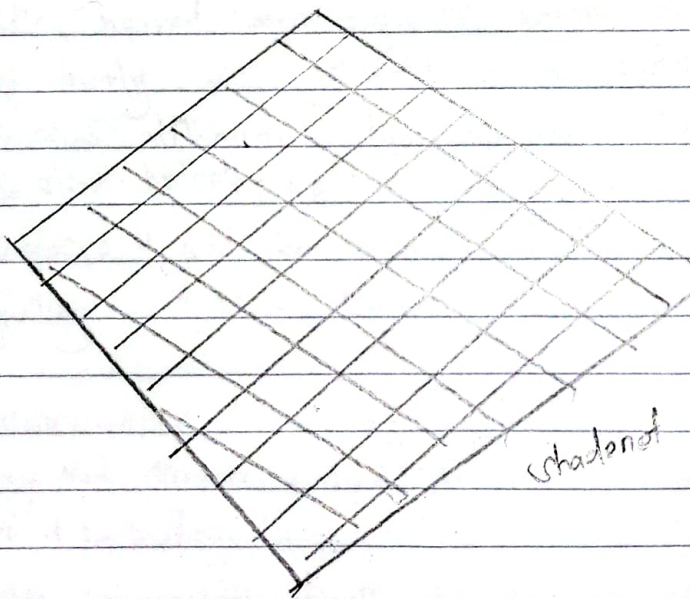
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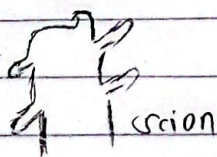
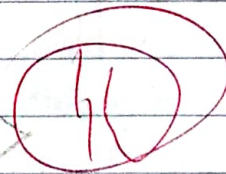
scalpel



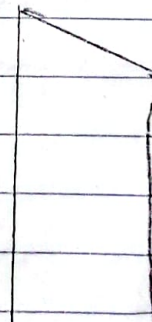
Grafting tape



shade net



scion



rootstock

REFLECTION AND EVALUATION

Out of the five grafted trees that were done by me and my members four of them survived. This was because the one that was damaged was not intact together hence it died off.

Apart from that I managed to graft a replacement where it has survived like the others and expectations is that they will develop into strong and healthy fruit trees.

CONCLUSION

- Grafting on a personal level was an advantageous process as long as it was taken seriously and that all procedures were followed correctly.
- Grafting helped earn farmers income as the demand was high and supply was high ^{as} it hastened maturity.
- Grafting although done in my high school academic year it has also helped me acquire skills that I could use in the future.
- Therefore it will be great if people get the urge to know grafting as it is a solution to almost all problems.

RECOMMENDATION

- I urge that farmers embrace the grafting process and encourage others to use it by teaching them.
- I urge that grafting should not only be taught theoretically in schools but should be done practically as a compulsory experiment and activity.

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