

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
MUTURI IVYONE WACERA	11241001261	

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Agriculture Teacher

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MURI IN ONE
11241001261

GRAFTING OF
AVOCADO FRUIT
TREES

INTRODUCTION

Grafting

It is the practice of uniting two separate woody stems. One of the two parts provides the base and has a rooting system (root stock) whereas the other part (scion) is obtained from another plant.

Grafting as a horticultural technique has a lot of significant like;

- ✓ Through grafting we are able to facilitate the changing of the top of the tree from being undesirable to desirable.
- ✓ Through grafting it is possible to grow more than one type of fruit on the same plant.
- ✓ Through grafting the maturity period of the plant is shortened.

IDENTIFICATION OF THE ISSUES

Through my research I observed that within our School Community there is inadequate supply of fruits. In that we only take fruits on two days a week on Monday and Friday.

I also noted that a lot of students complain that they often get poor quality of fruits they need in that they get ones that are small in size or which are just about to rot.

Also the school goes at a loss whenever it buys the fruits since as we are taught as the demand increases the price increases hence due to the high demand for the fruits there is a great increase in the price required.

Through the project budding and grafting of fruit trees the above issues can be easily solved;

- > For instance when we practice grafting and budding there will be mass production of fruits and hence able to increase the number of days to eat the fruits.
- > In the issue of poor quality products, grafting and budding enables plants with desirable root characteristics such as disease resistance but with undesirable products may be utilised to produce desirable products hence good quality production.
- > Due to the increase in demand for the fruits, grafting and budding helps to shorten the maturing age and mass production and hence the school will be able to produce its own fruits and even sell some hence benefit.

PROJECT OBJECTIVES

Through the 2025 project of grafting of avocado fruit trees I should;

I should have known how to graft different types of fruit trees

I should have known the tools and materials used for grafting e.g. Scalpel, Secateurs

I should have known the precautions taken when carrying out grafting

I should have known the different methods of grafting and which are best and easy to use.

I should have known the importance of grafting the fruit trees

PROJECT DESCRIPTION

The following are members of my group

Muturi Ivyone Wacera 11241001261

Brenda Nkatha Mwiti 11241001282

Shammah Vuyanzi Vireedi 11241001267

Stacie Wangira Wambugu 11241001270

Melanie Esther Nyokabi 11241001279

Stella Pelis Njeri 11241001284

In our project we used the method of Whip grafting whereby the rootstock and scion should be of the same diameter and should be compatible. We chose this method because it is easier and faster to implement. The materials required were sterilised scalpel, rootstock, scion, grafting tape. The selected species of the fruit tree was the Hass species.

PROJECT BUDGET

Tool	Quantity	Unit Cost	Total Cost
Scapel	5	10	50
Watering can	1	400	400
Grafting tape	20	20	400
Root Stock	20	100	2000
Scion	20	10	200
Stelisser	10ml	150	150
Rake	1	350	1500
Trainer	1	150	1500

TOTAL

PROJECT IMPLEMENTATION PLAN AND TIMELINE

Project	January	February	March	April	May	June	July
Instruction							
Problem Identification							
Individual Presentation							
Group Presentation							
Arrival of trees							
Preparation of land							
Training Session							
Watering and inspection							
Grafting of trees							
Fortnight report							

PROJECT IMPLEMENTATION AND PROCEDURE

Training Session It was done by an external trainer

Assembling tools: Materials bought were reliable sources to prevent spread of diseases in the root stock and the scion. The tools required were Scapel, grafting tape and watering can which would be used for watering the fruit trees i.e. avocados.

Selection of location For planting My group and I selected a well secured place, shaded and well established shade using a net. We also site it near to the water tank for easy watering and on gentle slope to prevent flooding.

Performing grafts We did the practical of grafting of avocado seedlings guided by an external trainer and the help of our teachers as one of the students was taking a video. The session was successful and everyone who had a challenge to graft at the end we were able to graft on our own.

Monitoring growth progress - Post operation Monitoring was down everyday by group members making sure that the scion and the rootstock itself was in a shade to prevent dehydration from the sun.

Care and Management For plants watering of the seedlings was done everyday in the first week and uprooting or removing of weeds. Each member of the group was given a duty of one a week in the early morning and late in the evening watering the seedling and removal of weeds.

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EVALUATION

Each group was issued their piece of land of 1m by 1m which was located in a secure place in a school farm.

GRAFTING PROCEDURE

- i) We cut the upper part of the rootstock and made an incision of the top to one inch down the rootstock.
- ii) After cutting the bud in a V-shaped manner.
- iii) The bud is fitted between the incision of the rootstock and sliding the bud downwards until it lies between the edge of the bark.
- iv) They are then tied firmly using a grafting tape.

REFLECTION

During the first time grafting with the first three, it was unsuccessful as none was compatible with the other.

From the help I got from my fellow group members, I was able to identify where I went wrong and hence during the second time grafting it was successful as 2 out of 3 were able to propagate successfully and with each day I got more and more better as by the time I was done all were well and had propagated successfully.

The growth rate is fast compared to the original avocado tree.

CONCLUSION

To Sum it up the project has been very very impact and Fun and it was a great honour to be able to participate in it because I was able to know the different types of grafting cleft at most being the easiest to handle.

> Through Our project we are now Sure that we will never lack enough fruits in our school and also the community at large

RECOMMENDATION

The project so far has helped me to understand and manage to easily graft fruit trees of which is a lesson I took home and began practising it and therefore am Sure we will never lack fruits to keep the doctors away

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