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
Sammy Angel Murugi	112410010015	

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Enter the score awarded in the box below.

Agriculture Teacher | 17

GIRLS' SCHOOL
PRINCIPAL
24 JUL 2025
ACADEMIC
P. O. Box 23080 - 00604, LUR

PROJECT REPORT

GRAFTING OF AVOCADO FRUIT TREES

PERSIA AMERICANA

ANGEL SAMMY

1124100101S

GROUP 1

Introduction

Grafting- grafting is the practice of uniting two separate compatible woody stems that is the scion and the rootstock. The rootstock is the part bearing roots while scion is the part bearing buds which develop into the future plant
Methods of grafts include whip or tongue grafting, cleft grafting, side grafting bark grafting, notch grafting and approach grafting

Importance Of Budding and Grafting

Plants with desirable root characteristics but with undesirable product may be used to produce desirable products for example lemon orange grafts
It facilitate the changing of the top of the tree from being undesirable to desirable
They make it possible to grow more than one type of fruit or flower on the same plant
They help to propagate clones that cannot be propagated in any other way.
Grafting helps to repair damaged trees.
Grafting helps to shorten the maturing age.

Identification Of Issues

I identified the major problem within my community as food shortage. I noted that in schools in my community students only get an opportunity to eat fruits twice a week and it is possible for them to consume fruits everyday.
I opted for grafting as a method of addressing food shortage because grafted fruit trees have increased maturity rate thus leads to production of fruits early addressing the issue of food shortage. Grafting of fruit trees facilitate the growth of more than one type of fruit on the same plant thus controlling food shortage.

Project Objectives

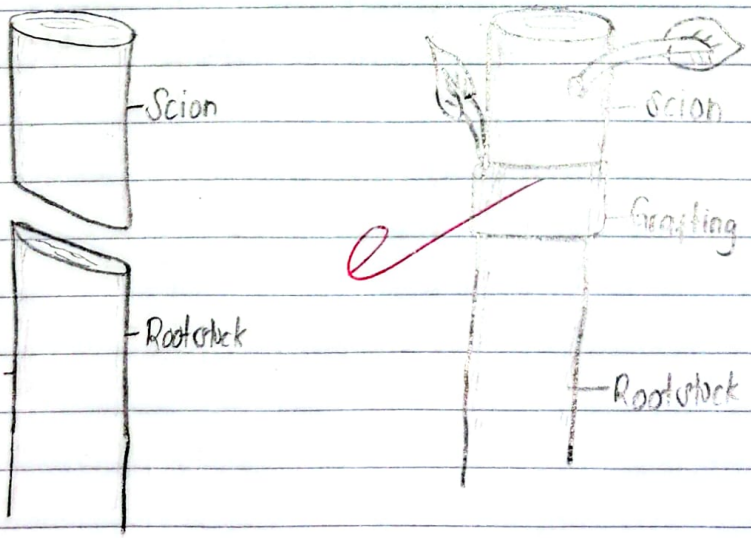
To know how to practise the grafting technique
To acquire practical knowledge on how to carry out some of the routine management practises such as watering, weeding
To learn precautions observed during grafting
To learn how to use various farm equipments such as secateurs

PROJECT DESCRIPTION

We selected Persea Americana fruit tree species because it is known to be of high yields, it is resistant to disease and adverse conditions. It is also known for producing high quality avocado fruits. We selected a suitable site based on factors such as topography, nearness to water body and drainage of the soil. Each group was given a piece of land of 1m by 1m. Each group also received twenty avocado fruit seedlings. The tools purchased were divided equally among all the groups. As group 1 members, that is Natasha, Grace, Rose, Shannon and I opted to practise whip grafting whereby we used the scion and rootstock of the same diameter. We joined the rootstock and scion to form one plant and made the union firm by using a grafting tape.

We used tools such as scalpels, grafting tape, secateurs and a watering can, we required a shade to cover the scion from direct sunlight.

There was daily watering of the seedlings and removal of weeds.



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Budget

Particular			
Scalpel	5	10	50
Water can	1	400	400
Grafting tape	20	100	2000
Root stock	20	100	2000
scion	20	10	200
Steriliser	100 ml	150	150
Shade net	5m x 10m	3000	3000
Rake	1	350	?
Trainer	1	1500	?

Project Implementation Plan and Timeline

Activity	J	F	M	A	M	J	J
Instruction of the Project							
Identification of the Issue							
Individual Presentation of the project							
Preparation of a budget plan							
Group presentation of the project							
Site selection							
Arrival of avocado fruit tree seedlings							
Preparation of nursery plots							
Training session with a grafting expert							
fortnight Report on the project							
Evaluation of the project							
Watering and Inspection							
Report writing							

Project Implementation and Procedure

Assembling of tools - tools and equipments essential for grafting were purchased from reliable source.

Site selection. We selected a site base on the topography of the land. We also considered the nearness to the water source that is the school farm tank. The selected site was well secured. Each group took a plot measuring 1 m by 1 m. A shade was constructed over the nursery to prevent direct contact of sunlight with the seedlings to avoid drying.

Training session

Our agriculture teacher organised for a training session where a trained external personal came to teach and demonstrate on grafting

Grafting Practice

We carried out grafting and followed the following procedure:

i) Identify the rootstock and ~~a~~ scion which should be preferrably pencil thick

ii) Use a sharp sterile scalpel to cut the scion and root stock for compatibility.

iii) Join the scion and rootstock to form one plant.

iv) The union is made firm by joining them tightly using a grafting tape.

Monitering growth progress

Monitering the project was done on a daily basis. As a group, we came up with a watering programme this way to ensure that the avocado fruit trees remain healthy. We also weeded our plot every week and ensured we maintain field hygiene.

2W

Reflection

The avocado grafting project made significant strides from February to July 2025. We managed to graft twenty fruit trees with which two trees did not survive. We were able to replace the dead plants with new plants and now register 100% success.

Conclusion

With the high survival percentage and increased growth rate, the project lays a solid foundation for increased food availability in the near future. Through the project I was able to increase my level of understanding on grafting. I was able to carry out all the farm preparation procedures and carry out successful grafting.

Recommendation

I would recomend grafting to farmers because:

i) Grafting increases the maturity rate of fruit trees and increase the yield of fruit. This addresses the issue on food shortage in schools and society.

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