

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

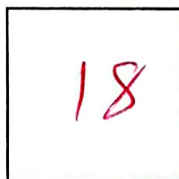
This is to certify that this is a true project report of my Agriculture Project and that it contains the details of the operations.

Name of the Candidate	Index No.	Signature
Thuo Nancy Njeri	112u1001100	

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Enter the score awarded in the box below.

Agriculture Teacher



176

THUO NANCY

NJARI

GRAFTING OF AVOCAVO

FRUIT TREES

PERSEA AMERICANA

11241001100

GROUP 2

ALL

INTRODUCTION

Grafting is the practice of uniting two separate woody stems. Usually one of the two parts provides the base and has a rooting system whereas the other part obtained from another plant. The part with the rooting system is known as root stock and the part which is grafted onto the root stock is known as scion. The scion has buds which develop into the future plant. They are different methods of grafting and they are Whip or Tongue grafting and side Grafting and cleft grafting. The importance of grafting is that they help to shorten the maturity age, helps to propagate clones that cannot be propagated in any other way and help to repair damaged trees and many other.

IDENTIFICATION OF ISSUES

We keenly analysed the problems around the community. The problems that we were able to identify in our community was that growing of ungrafted fruit trees from seeds take a very long time to mature compared to grafted fruit trees. For example growing of a mango fruit tree which is ungrafted takes $7\frac{1}{2}$ years to mature while growing of grafted fruit trees it matures within 3 years. Another problem identified is that most high school students do not eat fruits everyday because there is less supply of fruits. The students eat fruits once in a blue moon. This problems lead us to choose a project of grafting and budding of fruit trees.

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Project objectives:

By the end of the project I want to learn

How to graft fruit trees.

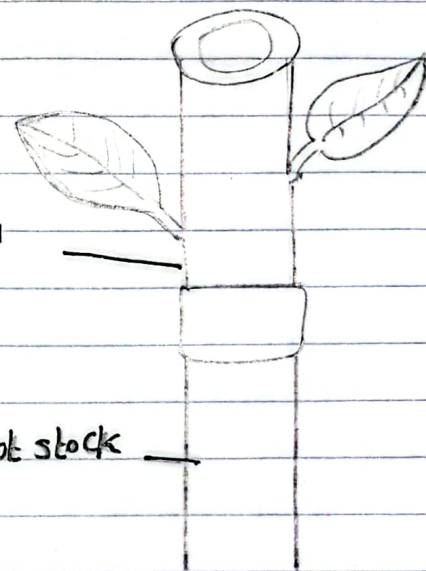
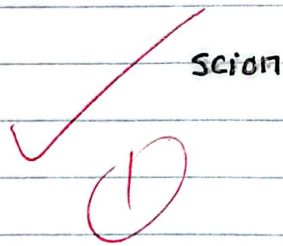
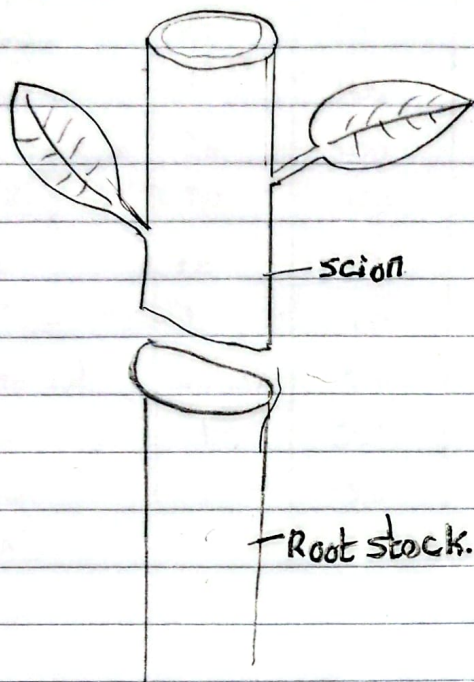
The precautions taken as grafting fruit trees.

The importance of grafting.

Materials required for grafting.

Project description:

Having different types of grafting for example whip grafting, cleft grafting, side grafting and others we decided to carry out whip grafting because it is the easiest type of grafting we could use. We assembled the grafting tools such as secateurs, a sharp scalpel, grafting tape, scion and already established avocado tree seedlings. Each one of the group member was to graft four fruit seedlings. Scion and rootstock of same diameter. We cut off the stem where it is soft of about 8cm from the roots where it is soft with secateurs. We later make a vertical cut on the rootstock of about one inch using the sharp scalpel. We were to have a scion of the same diameter as the rootstock. We then used the sharp scalpel to make a wedge shape cut on the scion. We then fixed the scion in the vertical cut on the rootstock using a grafting tape for compatibility. We then put the grafted trees under a shade and continued taking good care of them like by watering.



Whip grafting

BUDGET.

ITEM.	Quantity	Unit cost	Total cost
Scapel.	5	10	50
Klattercan	1	400	400
Grafting tape	20	100	2000
Root stock	20	100	2000
Scion	20	10	200
Steriliser	1	150	150
Shade net	5m x 10m	300	3000
Rake	1	350	350
Trainer	1	1500	1500
TOTAL.			Kshs. 9,650.

PROJECT IMPLEMENTATION PLAN AND TIMELINE

ACTIVITY	S	F	M	A	M	J	J
Instructions of the Project insurance.							
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 GRAFTING EXPERT							
FORTNIGHT REPORT ON THE PROJECT							
EVALUATION OF THE PROJECT							
WATERING AND INSPECTION							
REPORT WRITING							

Project Implementation and procedure.

Training sessions - Through our Agriculture teacher we got help from an external officer, expert, who was hired to teach us on the grafting process.

Assembling of tools - The materials used during the grafting process was bought from a reliable source so that to prevent transmission of diseases.

Selecting the location - A well secured and shaded part of land of the planting materials around the school compound was well established and a shade erected to protect the seedlings. Land 1m x 1m per group.

Performing grafting - Through the trainer, we performed grafting on the Avocado seedlings and also our teachers also took part in the process by taking videos and pictures as we were grafting.

Monitoring growth - This was done everyday by all the group members making sure that the scion would sprout and always with water in order to prevent them from drying up.

Caring for the plants - Removal of weeds watering everyday was done. Each member was given a responsibility of watering and weeding twice or thrice everyday. We took turns during watering early in the morning and late in the evenings.

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CONCLUSION

Grafting has enabled the avocado trees to have a faster growth.

EVALUATION

Our activities were recorded by our subject teacher as we did everything. We were able to evaluate that the grafted trees were disease resistant and was able to withstand the harsh environmental conditions.

The avocado fruit trees (*Persea Americana*) were successfully grafted. Out of the twenty avocado fruit trees eighteen were able to sprout. One of the remaining had wilted and become black due to lack of proper watering. The other one was because the grafting tape was loose. Due to the use of a rootstock with a good rooting system there is faster growth. This enables proper supply of fruits to the school and the society surrounding. Most of the homes went on carrying grafting.

CONCLUSION

Grafting has enabled the avocado trees to have a faster growth. We are able to carry out grafting with an aim of benefiting the school and also the society. Through grafting we are able to learn the benefits that they faster maturity growth rate. Also it helped the students to be able to take fruits 3 days in a week.

RECOMMENDATION

1. By grafting the fruit trees there is high yielding thus helps the farmer to sell and get a high income.
2. When there is use of a healthy rootstock there is good rooting system which will be disease resistant and also be able to withstand harsh conditions.
3. There is faster growth rate and this has helped the community and the school as there is adequate supply of fruits.

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