

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

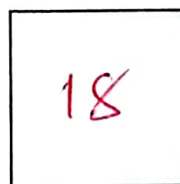
This is to certify that this is a true project report of my Agriculture Project and that it contains the details of the operations.

Name of the Candidate	Index No.	Signature
Vigedi Shammah Vuyanzi	11241001267	<i>[Signature]</i>

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Enter the score awarded in the box below.

Agriculture Teacher



Project Report

Grafting of

Avocado trees.

Persa americana

Shammah

Vuyanzi Vigedi

11241001267

Group 7

INTRODUCTION

Grafting is the practice of uniting two separate woody stems. In this practice, one of the two woody stems provides the base and has a rooting system whereas the other part is obtained from another plant. The plant with the rooting system is known as rootstock and the part which is grafted onto it is known as scion. Grafting is practiced to help shorten the maturity age e.g. Grafted mangoes may take three and a half years to mature while non-grafted mangoes may take up to seven years to mature. It is also practiced to make it possible to grow more than one type of fruit or flower on the same plant, among many other reasons.

IDENTIFICATION OF ISSUES.

After observing and gathering ~~the~~ information, we observed that in our school community we knowmarly eat fruits twice a week and it should be on a daily basis. This is due to scarcity of fruits. For example in mango trees they may take up to seven years to mature when ungrafted but when grafted they take three and a half years and so we saw that if grafting is practiced it will reduce the scarcity of fruits and this will enable us to be consuming fruits each day.

As a group we also observed that wind erosion is also an issue. It has made many students sick and also ~~the growing of trees difficult~~ ^{carrying of the top layer of soil away}. Through the grafting practice, the maturity of the trees has been shortened. This will hold the soil firmly hence providing ground cover. This will reduce wind erasing and also reduce the rate of respiratory diseases in school.

In my community, I observed that farmers lack ^{enough} funds to purchase the grafted trees making them purchase the ungrafted ones which take long to mature.

PROJECT OBJECTIVES

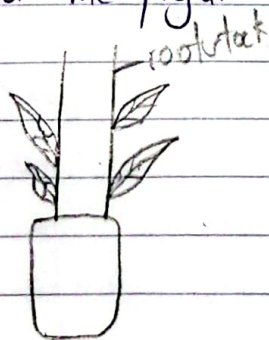
1. Learn how to do grafting
2. To know the precautions to be observed when carrying out the grafting process.
3. To know and be able to identify different types of grafting
4. To be able to determine the method of grafting need.
5. To produce healthy avocado fruit tree seedlings

PROJECT DESCRIPTION

We were placed into various groups in order to carry out the project. Our group, group 7 had the following members:

1. Shammah Vuyanzi Vigedi
2. Stacie Wanjiru Klambugu
3. Stella Pelis Wanjira
4. Melanie Esther Nyokabi Kamau
5. Ivyone Wacera Muturi
6. Brenda Nkatha Mwitii

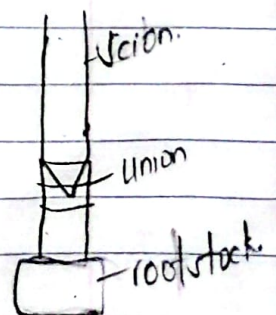
We selected a suitable site which measured 1m by 1m. We then cleared the site by removing weeds and the trash around that area. We decided to carry out whip grafting. After selecting a compatible rootstock and scion. On 17th May, we carried out grafting. We used various materials, they were as follows: a rootstock, sterilised scalpel, a watering can, grafting tape, scion and a pair of secateurs. Each group was issued with 20 rootstocks and 20 scions. We also used a shade net to cover the nursery bed. The figure below illustrates the whip grafting we did:



1-inch incision on the rootstock



V-shaped bud/scion



scion
union
rootstock

BUDGET

The budget was as follows:

Material	Quantity	Unit Cost	Total Cost
Scapel	6	10	60
Watering can	1	400	400
Root Stock	20	100	2000
Grafting tape	20	20	400
Scion	20	10	200
Fertilizer	10ml	✓ 150	150
Shade net	5m x 10m	3000 ✓	3000
Rake	1	350	350
Trainer	1	1500	1500
Total Cost = 8060/-			

PROJECT IMPLEMENTATION PLAN AND TIMELINE

Activity	J	f	M	A	M	J	J
Introduction of the project given							
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 the tree nursery plots							
Training session with extension officer							
Fortnight report on the project							
Evaluation of the project							
Watering and inspection							
Report writing							

PROJECT IMPLEMENTATION AND PROCEDURE

Assembling of tools - after we had identified the materials required, the materials were bought and brought to where we carried out grafting.

Training session - we were brought a trainer by our teacher who took us through the precautions before we did grafting. The trainer then showed us the grafting procedure and we then did it practically in our groups.

Site selection - we then selected a suitable site where we cleared the land and trash around. The site measured 1m by 1m. We established the nursery^{unit} and placed a shade over the seedlings. The placement of the shade was placed there to prevent dehydration of the tree seedlings.

Grafting practice - we did the grafting process using the following procedures:

Cut the root stock at a pencil thick diameter. The scion is also cut at the same diameter as the root stock. The scion and the root stock are then united. Wrap a grafting tape round the joint area so as to make the union firm.

Monitoring growth process - monitoring of the seedlings was done everyday, this was by weeding^{out} any growing weeds in the nursery making sure the scion sprout and always hydrated and also covered in the shade to prevent them from dehydration. Most of our seedlings survived.

Caring for plant - we watered our plants daily ensuring no weed was growing. Each member was assigned to be watering the seedlings once a week, and also weeding the area.

EVALUATION.

We did assessment after we had done our projects and saw that the project was a success. Our trees had begun to sprout. During ~~the~~ our project, we realised that one of the tree seedling had begun drying up by turning to black in colour. It was because the union^{area} was not well tightened or it had not been fixed well. During our second milestone, we ensured that we water our ~~Dung~~ seedlings well and ~~also~~ confirmed the seedlings union if they were well fitted. We ~~also~~ ^{did} weed the area and as of now our tree seedlings are growing well and are healthy. They have even begun sprouting.

CONCLUSION.

We saw that this practice has an impact in our school and home community. It will help solve the issue of scarcity of fruits as they will now be available. I have ~~also~~ learnt how to do grafting and I can now teach my community back at home and also grow fruit trees through the knowledge I have gained.

RECOMMENDATIONS.

We recommended the following as a group:

- We recommend that this practice should be encouraged to farmers to use them so as to help reduce the scarcity of fruits.
- We also recommend that experts to go and help show the farmer the practice of grafting because some of them are not aware of it, this will also help in the supply of fruit trees as they will be enough.
- This practice should also be ~~shown to other~~ ^{done as it will} be a source of income to other farmers helping them having steady supply of income.

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