

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
Munio Joy Abigel Wambui	11241001096	

FOR OFFICIAL USE ONLY

Enter the score awarded in the box below.

Agriculture Teacher

18



PROJECT REPORT

PROJECT TITLE:

GRAFTING OF AVOCADO
FRUIT TREES

Persea americana

NAME: MUNIU JOY
ABIGEL WAMBUI

INDEX NUMBER:

11241001096

✓ ①

GROUP NUMBER:

2

Introduction

Grafting involves uniting two separate woody stems. The woody stems should be compatible to each other. The lower part is the root stock for the seedling while the upper part is called the scion which are of the same species. The significance of grafting includes: Helps to repair damaged trees, helps to shorten the maturing age, Helps to propagate clones that cannot be propagated in any other way and it also makes it possible to grow more than one type of fruit or flower on the same plant, thus improving the quality of fruits. The botanical name for avocado is Persea Americana.

Identification of the issue

The problems that I discovered in the school environment and the community are: scarcity of fruits, production of undesirable avocado fruits but according to my research the most pressing problem was that avocado fruit trees takes a lot of time to mature which leads to less production of fruit trees. For example a mango tree takes $7\frac{1}{2}$ years to mature while a grafted one takes $3\frac{1}{2}$ year to mature similar to the avocado trees. Grafting will solve the problem of long period of maturity in avocado fruit trees and the fruit trees will produce more fruits for the students and the community.

Objectives of the project

- i) To know the various methods of grafting.
- ii) To be able to graft a tree without challenges.
- iii) To know how to take care of seedlings.
- iv) To know how to use equipments like secateurs and grafting tape by the end of the project.

Project description

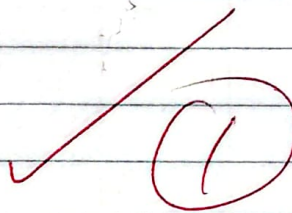
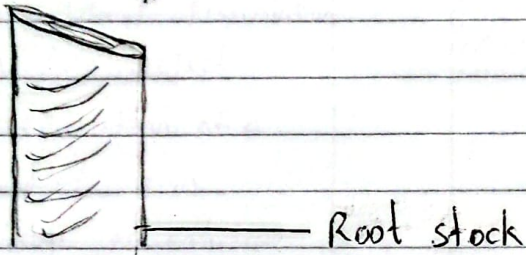
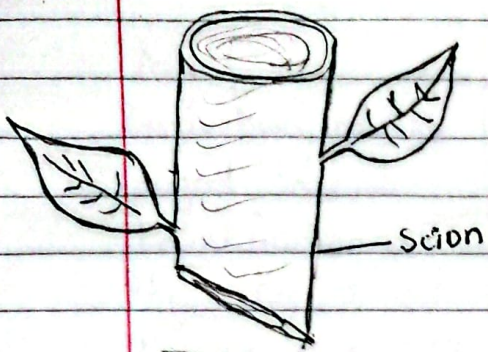
My group members and I grafted the trees using the whip technique. My group members include: Nancy Thuo, Maureen Njeri, Jecinta and Shirleen Karindi. We all helped each other to carry out the procedure for example I was having difficulty in tying the tape but Nancy showed me and I was able to do it. There are several methods of grafting trees, for example, whip grafting, side grafting, notch or wedge grafting, bark grafting and saddle grafting. We did whip grafting through the following procedure: We assembled all the required equipments which were: grafting tape, secateurs, a scapel, a root stock and a compatible scion, We made a slanting cut at the base of the scion and at the top of the root stock, We joined the two pieces and wrapped using a grafting tape. We grafted hass avocado fruit species.

BUDGET PER GROUP

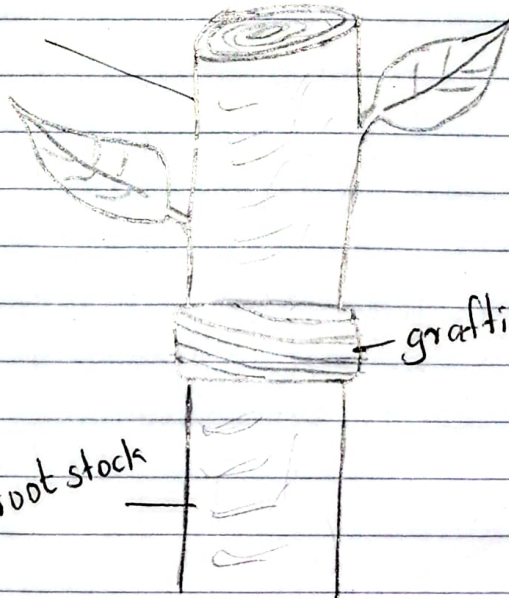
particulars	Quantity	unit cost	total cost
			₦
Scapel	5	10	50
Water can	1	400	400
Grafting tape	20	100	2000
Root stock	20	100	2000
Scion	20	10	200
Steriliser	1	150	150
Shade net	5m x 10m	300	3000
Rake	1	350	350
Trainer	1	1500	1500
TOTAL		9,650	

04

2



Scion



Whip grafting

PROJECT IMPLEMENTATION PLAN AND TIMELINE

Activity	J	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							

②

Project implementations and procedure

- i) Training sessions → Our Agriculture teacher brought an external officer who helped us. He taught us the grafting process which was whip grafting.
- ii) Assembling of tools → We assembled all our tools which were sourced from a reliable source to prevent transmission of diseases which were used during grafting.
- iii) Selecting the location of the planting materials → We selected a well secure and shaded part around our school compound. We shaded to protect the seedlings from direct sunlight.
- iv) Performing grafts → Through the trainer, we performed whip grafting on the avocado seedlings and our teacher took part in the process by taking ideas of the grafting process we undertook.
- v) Monitoring growth → All my group members took part in this process by watering regularly to prevent them from drying up.
- vi) Caring for the plants → We removed weeds from the seedlings watering everyday. Each group member was given a specific day to water the plants.

3

Reflection and Evaluation

Our activities were recorded by our Agriculture teacher. We provided favourable conditions for the grafted seedlings. The Avocado Fruit trees were successful and eighteen out of twenty trees were able to sprout. We evaluated that the chances of survival for the grafted trees were very high. The two seed tree seedlings that did not sprout was because the grafting tape was loose.

Conclusion

The Avocado Fruit trees were able to unite since the buds had started sprouting. We were able to graft almost 100 trees which in the future will be able to provide a lot of fruits for the school. I learnt how to graft trees and I will apply the skills I learnt in future. Grafting the trees was impactful to me and my members of the group since it was my first time. There were few challenges like tying the grafting tape but we succeeded and learnt a lot of things. The project will produce a lot of healthy fruit trees to the school.

Recommendation.

It was recommended that the grafted trees should be transplanted to ensure continuity of the trees. It was also recommended that the school community should be taught on various techniques of grafting.

✓✓