

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.

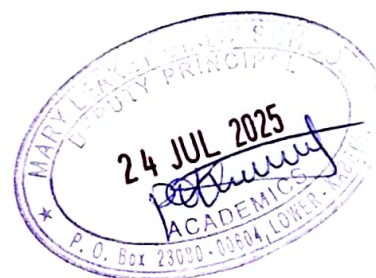
Name of the Candidate	Index No.	Signature
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Agriculture Teacher

18



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925074

GRAFTING OF AVOCADO TREE

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GROUP: 3

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Introduction

Grafting is the practise of uniting two separate woody stems. This is done to different plants for continuous growth as one plant and the scion together with the rootstock encouraging them to form one plant.

The rooting system formed is from the rootstock while that of the upper part of the seedling is the scion.

Grafting of trees is important to both the farmer and the plant itself. This is because it shortens the maturity rate, repairs the damaged trees, facilitating the change of the top of the tree from being undesirable to desirable. It also helps to propagate trees that cannot be propagated in any other way.

Identification of Issue.

The issues that were able to be identified through our data analysis after consulting and observing within our community is that Avocado takes a long period to mature which leads to scarcity of avocado. It not only takes a longer period to mature but also are prone to disease leading to low yield which made markets to be scarce of avocado.

But through grafting which shortens the maturity rate and change the tree from being undesirable to desirable the problem would be solved by increasing the supply of avocado to the community.

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Project Objectives:

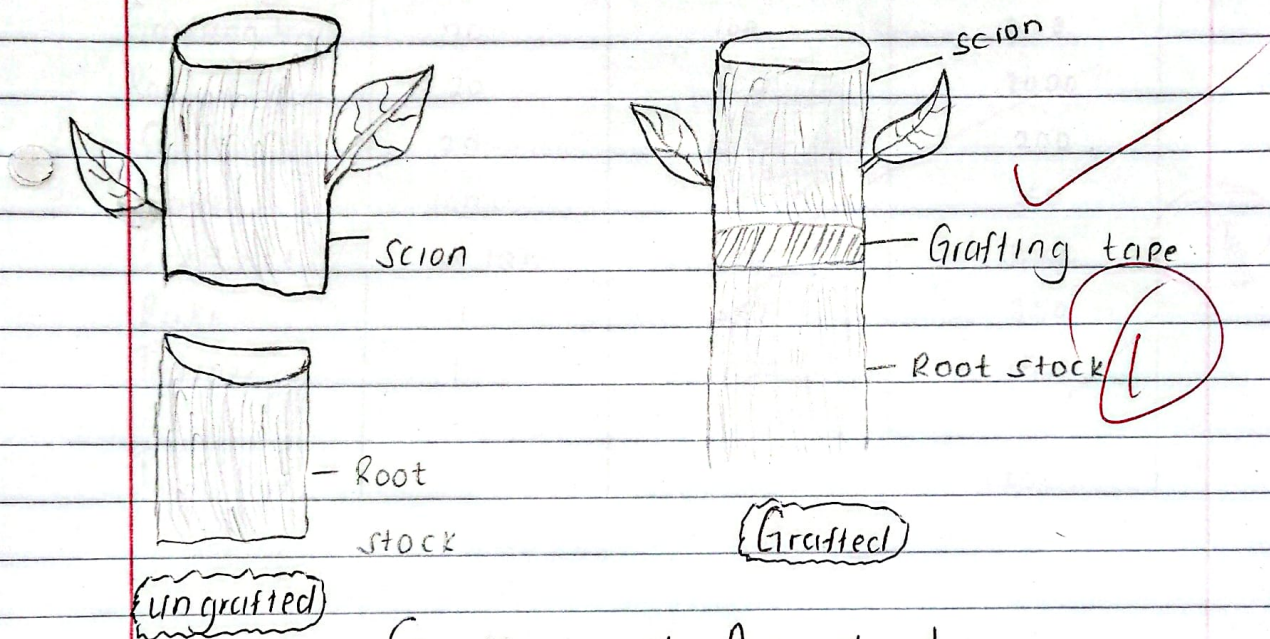
The objectives of the project were

1. To be able to acquire knowledge on how to graft trees which can be implemented in the future.
2. To be able to solve the problem of fruit deficiency in the community by increasing the supply of avocados to the market
3. To learn the benefits of grafting and how it can benefit both the consumer and the supplier.
4. To know the materials that are used for grafting to be able to implement the method of grafting

Project Description:

- The grafting procedure starts by selecting a suitable place to conduct the process. Firstly, we choose a farm area which had a suitable environment and ^{best} conditions to perform the process.
- There ^{are} ~~are~~ different methods of grafting such as side grafting, notch bark grafting, saddle grafting but we opted to do tongue / whip grafting.
- We selected the best and healthy scions and rootstock which had the same diameter for compatibility.
- Tools such as the secateur, rootstock scion, a watering can, grafting tape, secateurs were assembled together for this process. Each group was given pairs of rootstock and scion according to the number of trees to be grafted. The tree nursery bed was 1m by 1m. In our group each member was given 4 trees to be grafted and in total our group had 20 trees.
- Vertical cut on the rootstock was made which was one inch and a wedge-sharpened scion was made which was one ~~quarter~~ inch. To ensure compatibility we used grafting tape in which pressure was applied

as we tied round to articulate parts. The pressure applied was to avoid moisture and infection to the grafted parts.



Grafting of Arocado trees
Persed americana
(whip/tongue grafting)

Budget

The budget for the project was analysed as:

Material	Quantity	unit cost	Total cost
Scapel	5	10	50
klatering can	4	400	2000 400
Grafting tape	20	100	4000
Root stock	20	100	2000
Scion	20	10 150	200
* Stapel	10ml	150	150
Shed net	5x 10m	3000	3000
Rake	1	350	350
Trainer	1	1500	1500
Total Cost			18200

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Project implementation plan and Timeline

The project implementation is analysed by the table

Activity	J	F	M	A	M	J	J
Introduction 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 trees seedling							
Presentation of nursery plots							
Training session with grafting expert							
Fortnight report on the project							
Evaluation of the project							
Watering and inspection							
Report writing							

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Project implementation and procedure.

- Training session This was done a grafting expert who was sourced by the school from an agricultural research centre. He taught and gave us the precautions of grafting.
- Assembling tools - necessary tools that were required for grafting were sourced from the available source.
- Selection of location for planting
The area was cleared using Jembe. We ensured the site selected was gently slopy and well secured and also made sure that the site was near a water source that was easily accessed.
- Performing grafts
We did the actual grafting of the avocado fruit tree in groups. Each member of the group grafted four trees amounting to twenty grafted trees. Guidance was given, the procedure and the precaution of grafting. Videos were taken for each group during the process.
- Monitoring growth progress
We conducted daily inspection. Each member of the group had their day to monitor the seedlings. Activities such as watering weed control were carried out.
- Caring of plants.
About 95% of the avocado trees managed to survive due to the favourable conditions that were offered.

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Evaluation

After a careful evaluation and analysis, we were able to identify that our project was successful and 95% of the grafted avocado fruits seedling had sprouted. Each tree had about six leaves showing that they grew healthy and vigorously. We were able to conclude after investigation that 5% of the avocado trees did not germinate due to overwater method which caused leaf blight. Also some of the 5% trees the grafting tape was not tied tightly and thus the trees ~~did not~~ had secondary infection. However we were able to sell the avocados to our teachers and they expected good results.

Conclusion

Grafting being an effective cultural technique it is used to solve problems emerging in the society. The project has really impacted us great knowledge by allowing us to implement it practically in the farm eg watering and weeding.

Through grafting we have also been taught on how to use our knowledge in exams but also to solve problems emerging in our societies.

Recommendation

Some of the recommendation that were passed by the group members were construction of more nursery plants plots to prevent overcrowding in the nursery plot which could lead to competition of resources.

We also recommended the use of drip irrigation instead of over water to prevent leaf blight.

3 Finally, mulching which would smother weeds from growing.