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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Enter the score awarded in the box below.

Agriculture Teacher | 18 |

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Grafting of fruit trees

[Avocado trees]

Group 6

INTRODUCTION

Grafting is a technique of uniting two woody parts of different plants for continous growth as one plant and the scion and the rootstock encouraging them to form one plant. The rootstock forms the base having a rooting system while the scion is the upper part of the seedling. The scion and the rootstock should be from the same species for compatibility. As an agricultural practice, grafting is beneficial as it is known to; repair damaged trees, facilitate changing of the top of the tree from being undesirable to desirable, help propagate doners that cannot be propagated in any other way and many others.

IDENTIFICATION of ISSUE

The prevving problem we were able to identify through analysis and survey within the community was that avocado fruit trees (Persea Americana) takes along time to mature into a fruit bearing adult plant. Through further research, we were able to know that grafted avocado fruit trees take a shorter time to mature as compared to avocado trees propagated from seed. Therefore grafting solved our problem by shortening the maturity period of avocado fruits in the community. As result of shortening the period of maturity, it also solve the problem on inadequate of fruit in the community as we have identify that in our school community we only take fruits twice a week. In additionall grafted trees also solve the issue of soil erosion as the main resolve of losing soil fertility by holding the soil particles by their roots reducing soil erosion.

PROJECT OBJECTIVES

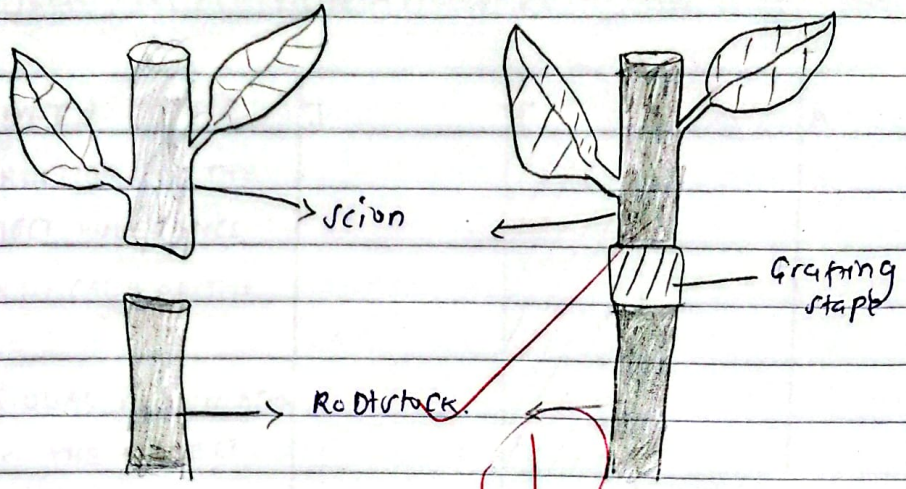
To learn how grafting is done

To acquire practical knowledge on how to carry out some of the routine management practise such as weeding, watering

To learn the precaution observed during grafting.
To practically learn the various grafting methods
To produce succefully grafted avocado fruits tree seedlings.
grafting of avocado fruit trees matures earlier than those propagated from seeds that why grafting shortens the maturity age to 2-5 years.
solves the problem of soil erosion.

PROJECT DESCRIPTION

kle started off by selecting the most suitable sit where we should conduct our project. kle decided to chose the school farm. kle also decided to carry out whip luplice grafting since it was the easiest and it involved less risks. kle then went into the selection of the scion and rootstock which had to have a similar pencil thick diameter for compatibility. The rootstock was also expected to have no physical deformities or any sign of pest and diseave attack. This was importatant to ensure succeful grafting. The scion was expected to be healthy and from the Persea America. species of avocado. This was to ensure that grafted plant will be high quality. The material required for grafting were a sterilised scapel, rootstock, scion, disinfectant, watering cans, secateurs and a shade net. Each group was allocated 20 pairs of rootstocks and scions and a piece of land measuring about 1m by 1m. As a group, each group member grafted three, avocado tree fruits seedlings by making a vertical cut on the rootstock and fitting a wedge-shaped scions on the cut made. To ensure compatibility, we wed grafting tape which we tied round to articulating parts. kle ensured the tie was tight in order to prevent moisture and secondary infection the graft



1 Grafted avocado soft tree seedling (whip grafting)

BUDGET

The budget plan prepared was as follows:

material	Quantity	unit cost	Total cost
scapel	5	10	50
watering can	1	450	450
Grafting tape	20	20	400
Root stock	20	100	2000
scion	20	10	200
steriliser	10ml	150	150
shed net	5m x 10m	3000	3000
Rake	1	350	500
Trainer	1	1500	1500
	Total Cost>		8200 F

2

03

PROJECT IMPLEMENTATIONS PLAN AND TIMELINE.

ACTIVITY	J	F	M	A	M	J	J
INTRUCTIONS OF THE PROJECT IWUERANCE							
IDENTIFICATON OF THE IWUE							
INDIVIDUAL PREVENTATIO N OF THE PROJECT							
PREPARATION OF A BUDGE- T PLAN							
GROUP PREVENTATION OF THE PROJECT							
SITE SELECTION							
ARRIVAL OF AVOCADO FRUIT TREE SEEDLINGS							
PREPARATION OF NURSE- RY PLOTS							
TRAINING SESSION WITH GRAFTING EXPERT							
FORTNIGHT REPORT ON THE PROJECT							
EVAIUTION ~~AND~~ OF ~~THE~~ THE PROJECT							
WATERING AND INSPECTION							
REPORT WRITING.							

PROJECT IMPLEMENTATION AND PROCEDURE

Training session - This was done by a grafting expert (an external trainer) sourced by the school from an agricultural research centre.

Assembling tools - The necessary equipment that were needed for grafting were sourced from a reliable source to prevent transmission of disease eg the rootstock and the scion.

Selection of location for planting the requirement for the site grafting was that it was to be a well shaded place, slightly sloping and a well secured place. The site had to also be near a water source that will ensure easy watering of the seedlings. We chose a section of the school farm that suited all the requirments perfectly. The nursery plots were established and a shade net erected over the seedlings to protect them from dehydration.

Performing grafts - We did the actual grafting in groups of the avocado fruit trees. Each member grafted three avocado fruit trees taking guidance from the external trainers and the teachers as one of us took a short video of the activity.

monitoring growth progress (post operations) - we conducted daily inspection as group members. We had formed a schedule to ensure that seedlings were well monitored and checked on everyday. This was to ensure good results.

Caring for the plants - 95 % of our seedlings were able two survive This was because of the continued watering and weeding that was done to provide the seedlings with best conditions for growth We also destroyed pest that were found attacking our seedlings. The group members tried their best to give the best care to plants for optimum growth.

EVALUATION

After careful evaluation, we identified that our project was successful since 95% of the grafted avocado fruit trees seedlings had sprouted. This means that out of the twenty fruit tree seedlings, eighteen had sprouted. One of the two defective ones had suffered from leaf blight which we suspected was ~~because~~ because we had used overwater method of irrigation from this, we learnt to take the precautionary measures more seriously. However, we were able to sell three grafted embrace our project. She acknowledged our good efforts and looked forward to the good results.

CONCLUSION

Grafting as an effective cultural technique is used to solve many problems such as the ones stated earlier and also many more. In a projectly it has greatly helped us to expand our theoritical knowledge by allowing us to implement it practically in the farm eg watering and weeding. Through grafting, we have also been taught how to use our knowledge not only is excelling in exams, but also curbing many day today issue in the society.

RECOMMENDATIONS

Some of the recommendations passed by the group members were:
Construction of more nursery plants plots to prevent overcrowding in one nursery plot, which could lead to competition for resources eg. light.
Use of drip method of irrigation instead of overhead irrigation to prevent disease attack.
Proper observation of grafting precautions.

03