

KOLA SECONDARY
SCHOOL.

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INDEX NO: 18307307019

SUBJECT: AGRICULTURE.

PAPER 3

(REPORT).

GRAFTING.

Grafting is the practise of uniting two separate woody stems. Usually one of the two parts provides the base and has a rooting system whereas the other part is obtained from another plant.

Methods of Grafting.

1) Whip or Tongue Grafting.

- ✓ It is used for material in which the scion and the root stock are of the same diameter.
- ✓ It is normally carried out when the diameter of the root stock and the scion are thick like pencil.

2) Side Grafting.

- ✓ It is practised when the stock has a larger diameter than the scion.
- ✓ The scion is inserted into the side of the stock.

Importance of Grafting.

1. They facilitate the changing of the top of the tree from being undesirable to desirable.
2. They make it possible to grow more than one type of fruit on the same plants.
3. They help to propagate clones that cannot be propagated in any other way.
4. Grafting helps to repair damaged trees.
5. They help to shorten the maturing age.
6. Plants with desirable root characteristics such as disease resistance, vigorous root system, resistance to nematode attack but with undesirable products may be utilised to produce desirable products.

As Agriculture students we choose grafting fruit trees in order to help people in the surrounding society to solve the problem which they encounter. Some of the problems are:

- a. Low Agricultural produce
- b. Low Living Standards
- c. Scarcity of water.
- d. Deforestation.
- e. High birth rates.
- f. Malnutrition of the children and hygiene.
- g. Poor health.
- h. Unemployment.
- i. High death rates
- j. Poor roads
- k. High rates of school drop out
- l. Idleness
- m. Sexual immorality
- n. Early Marriages
- o. Crime such as theft.
- p. Soil Conservation.

1.> LOW AGRICULTURAL PRODUCE:

When we visited the Community around our school, we conducted some oral interview. We discovered that the Agricultural produce is a situation where the farm and Livestock yields are produced due to weather and climatic conditions eg. Low rainfall Standards. Because some of the rivers are seasonal and they dry up immediately after the seasonal ends. This has lead to food shortage to the community. But we have found out that, if the people are educated about the fruit trees. They would be able to sell the grafted seedlings and fruits produced by the fruit trees and the income generated can be used to buy food and sustain their families. It will also increase farm Labour.

2.> LOW LIVING STANDARDS:

After touring our society around the school, we discovered that people have a low living standards which has led to isolation and depression. And through our project on grafting, we found out our problem can be solved. If the people had been educated about grafting they can sell the grafted seedling and fruits, and the produced fruits can generate income and as well. The income generated can be used to improve their living standards eg Buying food, clothings, constructing good housing and balanced diet.

3.> SCARCITY OF WATER:

We also noted that people in the surrounding society are forced to walk for long distance to search for water. This has led to a lot of pain and suffering to the people. Through the knowledge of grafting fruit trees and generate income through

selling the grafted seedlings and the produced fruit. If all the Community come together they will generate money and dug out boreholes which can supply water and whole Community then all the problems of water Scarcity will be solved.

4) Deforestation.

As we know that deforestation is cutting down of trees which is very much pronounced in the surrounding Society our school due to cutting down of trees for domestic use such as burning firewood and also burning Charcoal, where burning of Charcoal has effect on the land, that it makes the land unproductive as the micro-organisms which decomposes to form nutrients for the ~~Crops~~ are burned. Burning of Charcoal produces smoke can also interfere with the ozone layer hence leading to low rainfall. If the people in the society are educated about grafting of fruit trees they will be able to plant fruit trees which will provide land cover hence replacing the tree that has been cut in the previous year. After planting the fruit trees they will be able to generate income through selling of grafted seedlings and fruits from the fruit trees thus minimising deforestation. The income generated can be used in other activities such as paying School fees for the youths in the Community hence making them committed to academic works.

5) HIGH BIRTH RATE.

High birth rate is also evident in the ~~surrounding~~ Society, this is caused by high rate of school

dropout which lead to early marriage that encourages poverty. For example lack of food, shelter, cloths and money for fees. So you find in the society young girls are in engage in marriage so that they can get the basic need they want. But through the knowledge of grafting fruit trees, Parents can generate income through selling of grafted seedlings and the produced fruits. The generated income is used to pay the school fees and also produce those basic need from their childrens. Thus minimising the number of school dropout and to control the birth rate to the society.

5> MULNUTRITION OF THE CHILDREN AND HYGENE

When we visited different home from the surrounding society. We discovered that children were suffering from mulnutrition. This is condition where by children lack a balance diet and they are even unhealthy. This is because there parents were unable to provide a balance diet. If the parents or the people of the society have knowledge of grafting fruit trees, they would be able to generate income through selling the grafting seedling and fruit from the fruit trees. The generated income would be used to provide a balance diet more so to the children and their families. On poor hygiene we visited the nearby hospital and after conducting oral interview on the doctors about the health records of the people in the society. We discovered that most of the people suffer from stomach related illness. With the knowledge of grafting fruit trees

as communicated earlier in my presentation, the generated income will assist the community at large to improve their hygiene.

7) POOR HEALTH:

Generally people in the surrounding society suffer from poor health this is because of poor living standards such that most of them do not afford a balanced diet. This has led to reduced or low human labour. We found a lot of litters everywhere whereby it made the number of mosquito to increase making people to suffer from Malaria. Also around our nearby market there was a lot of sewage and stagnant water which made a lot of people to suffer from cholera. Through the knowledge of grafting fruit trees the society can generate income through selling of the grafted seedlings. The generated income can be used to take care of health of their beloved ones.

8) UNEMPLOYMENT:

Unemployment is most harmful thing that has increased in the society. Where most of the people in the surrounding are unemployed this is because of illiteracy and high rate of school drop out that has led to increase in crime and low living standard. That has lead to the suffering in the people. If the knowledge of grafting fruit trees is introduced to them they will be occupied by a constructive activity that will make

People to get money they selling grafted fruits. After selling the grafted seedlings and seedlings they will get income to sustain their families in their daily living life. This can be done by advising people in the surrounding society to plant more grafted fruit trees in their farm and maintain the fruit trees by digging the unwanted weeds from the farm, applying fertiliser for faster growth, and harvest good grafted fruit trees. Using this method of grafting fruit trees we will reduced the number of people who are loitering around in the rural and urban areas searching for a job.

g) HIGH DEATH RATES.

We also noted that the death rate in the surrounding society is very high. This is caused by lack of finances to take their sick people to better hospitals buy drugs, and supplement their diets. This has lead to reduced human labour and increase number of orphans. Through the knowledge of grafting the members of the society will be able to generate income through selling of the grafted seedlings and the produced fruits. The generated income is therefore used to take care of the health of their beloved ones.

10.) POOR ROADS.

We also observed that feeder roads in our society are very poor. It has lead to poor transport more so during rainy seasons. During rainy season, perishable fruits like mangoes do not due

to delation cause by the roads. Also during rainy seasons, murram roads prone to accident because they are slippery and this may cause death of driver or damage of the fruits. During dry seasons, roads are dusty, the dust leads to make the driver sick of which the time he ~~takes~~ to heal he could have used it to transport more fruits to the market it create high market demands of the fruits in the market. To solve this problem, people are educate on grafting of fruit trees. These is because they need to use those roads when transporting the grafted seedlings and the fruits so that the generated income they get after selling those grafted seedling and fruits. They are forced to make roads more passable for all weather condition thus the problem of poor roads is solved.

⑩ HIGH RATES OF SCHOOL DROP OUT.

One of the things that are pulling back the growth of the surrounding society is the school dropouts. This is where by young boys and girls stop going to school before completing their primary, secondary and even tertiary education. This is caused by poor living standards in the society which limit the parents from paying school fees for their sons and daughters thus making them unable to sustain them in school. This has lead to generational poverty in the surrounding society to the high thus making most of the youths to drop out of school due to lack of money. Through the knowledge of grafting fruit trees

is being brought up to people, they will be able to sell grafted seedlings and produce fruits which will make them to get income. The generated income can be used to pay school fees for their children thus sustaining them in school, where they will be educated and be able to get a better job that will prevent them from becoming poor. Also the parents will be able to provide all the basic needs required by their children. In order for them to continue well, in their daily living standards. Thus minimising the number of school drop outs in the society surrounding our school.

II) IDLENESS.

A lot of people are idle in the community surrounding our school, this is affecting mostly the youths. For example, when we visited the market place during the day, we found out that many groups of young boys and girls doing nothing at the streets and outside the market. Idleness can also lead to committing crimes such as stealing other peoples property without their concern and even searching for a place where they sit down and plan on how they can break into banks, Markets or even Supermarkets to take some items so that they can fulfil their needs with one needs for the survival and if they are caught stealing they can be stoned by mob justice to death hence leading to poor population of youths in the society. Also idleness has also led to drug abuse which has lead to most of the effects of human being like being

addicted to the drugs. Lack of appetrate. It even makes many of the young boys and girls outside the markets to look like mad people but in their real sense its just the effects of the drugs that they take, so we have decide that, by educating the youths about grafting of fruits tress and they will get income through selling of grafted fruit tress and seedlings to the market. This will make most of the youths to get money. Through the method of grafting they will have something to do and to be more occupied during the day, thus will reduce number of idlers who are loitering around in the market places.

13) SEXUAL IMMORALITY.

Through the oral interviews we conducted around our school, it was also made to be known to us that the issue of sexual immorality is common and has increased in the surrounding society. This has been caused by high rate of school drop out and low living standards mostly to the youths. Also this is caused by poverty and poor growth to the people where by most of the youths are being forced to drop out of school in order to go in a sexual immorality business which is very bad to the young girls of little age. This has lead to high death rate when people are being transmitted by sexual transmission diseases like syphilis, HIV and AIDS etc. Through the knowledge of grafting fruit trees is being taught to the people in the surrounding society they will learn on how to graft fruit trees and be

able to get income, through the illegal means. This is by selling grafted seedlings and produce fruits which are being sold to the market in order to get money. The income generated will allow the people in the surrounding society to get their basic needs which they want like buying medicine which will help them to cure the diseases which affect people when they engage themselves in Sexual immorality. To buy the fruits which are needed by a person who is fully transmitted by syphilis and others. Through the method of grafting fruits the people will abstain themselves from sexual immorality which makes people to suffer.

13) EARLY MARRIAGES:

Early marriages is another problem that is affecting the society around our school. Where by most of the girls in the surrounding society have dropped out for the school because their parents don't have money to pay school fees for them. Thus making them be married at a very young age. Others are being forced to be married by old people because they are orphans yet they don't have any one to help them. Also early marriages makes most of the girls to give birth at a young age which makes most of the girls to be affected by the disease which are being caused by sex like HIV and AIDS etc. The disease may even affect the unborn child due to lack of money to go to the hospital

for a blood test. Early marriages also is encouraged by lack of basic needs for the girls. This makes them to see marriage as a solution to their problems. This makes them to be married at a very young age and also increases the number of birth rate in the surrounding Community at large. This has led to generation of poverty that is highly affecting the generation of poverty that is highly affecting the society at large. Through the knowledge of grafting fruit trees parents can generate income through selling the grafted Seedlings or grafted fruits from the fruit trees. The generated income can be used to pay school fees for their children thus containing them in school and minimising the early marriages around our school.

15) CRIME SUCH AS THEFTS.

After touring the Society around our school, we also discovered that the surrounding society crime ratio is very high. This has been caused by insecurity in the society. This people living around their society they have no knowledge about grafting fruit trees most of the planted they grow without grafted where by they take long to grow.

16) SOIL CONSERVATION.

As we were moving around our surrounding

Society. We discovered that soil erosion is highly pronounced. This is because of deforestation and lack of land cover. Generally some of the common types of soil erosion in the surrounding society includes sheet erosion, rill erosion and Gully erosion. This has lead to poor soils thus leading to low agricultural produce that makes the crops to grow very thin. Through the knowledge of grafting fruit trees, the people in the Society will be able to plant many grafted fruits trees whose roots will help to hold the soil particles together thus minimizing soil erosion. Also the remaining fruit leaves decomposes thus adding fertility to the soil and conserving the soil.

Problem and project identification - 30 mins

Group discussion

Group discussion and presentation - 35 mins

Group discussion and presentation was done in group of four.

GROUP NUMBER 1

1. Jemimah Mutare Muli. 18307307019.
2. Fiona Numbua Matata. 18307307006.
3. Naomi Pos. Mwitiwa Nuthambo. 18307307004.
4. Agnes Pos. Maingi Kateka. 18307307021.
5. S. Pos. Pos. 31

After discussing on our project of grafting avocados, some of the problems are;
We choose Avocado (*Persea americana*)

1. Unemployment
2. Malnutrition of the children and hygiene.
3. Idleness
4. High rates of school dropouts.
5. High birth rates.
6. Deforestation.
7. Low Agricultural produce
8. Low Living standards.
9. Sexual immorality.
10. Scarcity of water.
11. Early marriages.
12. High death rates.
13. Poor roads.
14. Soil Conservation.
15. Crime such as theft.
16. Poor health.

GROUP PROJECT IDENTIFICATION:

We Identified our Project in a group of four as illustrated.

GROUP ONE.

MEMBERS.

NO	Name	Index Number.
1	Jemimah	18 307 307 019.
2	Fiona	18 307 307 006.
3	Naomi	18 307 307 004.
4	Agnes	18 307 307 021.

PROJECT

PROBLEMS

IMPLEMENT'S.

Grafting is a technique of uniting two woody parts of different plants for continued growth as one plant. The plant is cut into two pieces where one part provide the base and has a rooting system whereas the other parts obtained from another plant.

The part with the rooting system is 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.

A successful union is termed as compatibility. There was a man around the community who came to our school. He showed us how to graft then we grafted individually.

We used two methods of grafting to graft the plant which were whip grafting or Tongue and Side grafting.

Tongue grafting where we used the scion and the root stock of the same diameter.

A slanting cut is made using a sterilised scalpel on the scion and top of the stock.

He took the new scalpel and we cutted the softy part ~~upside~~ he took some budding plants which was already for grafting and sharped one which was like the plant and was for the same size. It is fixed well ~~and~~ after that you use a plastic paper and you close it then after that you return it back to the respective

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place. We used A type because materials in which the scion and the root stock are of the same diameter.

Side grafting is where the stock had a large diameter than the scion, we cut the stock using a sterilised scalpel. We inserted into the side of the stock. We wrapped the fitted parts using polythene strip.

Reporting on progress - 10 mks
project report - 18 mks

problem and project identification - 30 mks

Group discussion and presentation - 35 mks

Group project poster - 5 mks.