

KOLA

SECONDARY

SCHOOL

NAME: MUNYOKI

AGNES KAMBLUA

INDEX: 18307307007

SUBJECT: AGRICULTURE

PAPER 3 (REPORT)

GRAFTING

- Grafting is the practice of uniting two separate woody items.
- Usually one of the two parts provides the base and has a rooting system whereas the other part is obtained from another plant.
- The part with the rooting system is known as root stock and the part which is grafted onto the root stock is known as scion. ✓

Methods of Grafting

a) 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 'pencil' thick.

b) Side Grafting.

- It is practiced when the stock has a large diameter than the scion.
- The scion is inserted into the side of the stock.

c) Kedge Grafting

d) Bark Grafting

e) Saddle Grafting

Importance of Grafting

- ✓ Grafting helps to repair damaged trees.
- ✓ Helps to shorten the maturing age. ✓
- ✓ Help to propagate clones that cannot be propagated in any other way.
- ✓ Make it possible to grow more than one type of fruit or flower on the same plant.

GRAFTING

- ✓ facilitate the changing of the top of the tree from being undesirable to desirable.

condition necessary for successful grafting.
Compatibility.

- Both the scion and root stock must be of the same species to enhance compatibility

Temperature

Grafting requires cool temperature.

Species of plants some easily form a union.

Relative Humidity
High relative humidity must be maintained.

Physiological maturity of plants.

- The scion and rootstock should neither be very young nor too mature.

- Grafting is done by uniting the scion part and the root stock part to obtain a compatible fruit tree.
Tie it using a rubber band to unite.

I choose the Avocado fruit tree to plant and solve the following problems:

- 1 Low living standards.
- 2 Deforestation
- 3 Malnutrition of the children.
- 4 Low living standards.
- 5 Unemployment

- 5 High Birth Rate
- 6 Poor Roads.
- 7 Crime such as thefts that will increase the birth rate.
- 8 Early marriage of women leads to unemployment.
- 9 High Death Rate.
- 10 Idleness among the people.
- 11 Low Agricultural produce.
- 12 Scarcity of water.
- 13 High Rates of school Dropout.
- 14 Sexual Immorality.
- 15 Soil conservation.
- 16 poor health.

~~LOW LIVING STANDARDS~~

After touring the society around the school we discovered that people have a low living standard which has led to isolation and depression. Through our project on grafting we found out our problems can be solved. If the people had been educated about grafting they can sell their grafted seedlings and produce fruits and generate income. After planting the seedlings they can sell the fruits and generate income as well. The income generated can be used to improve their living standards e.g. buying food, clothing, constructing good housing and balanced diet.

~~DEFORESTATION~~

As we know deforestation is cutting down of trees which is very much pronounced in the surrounding society around our school to cutting down of trees for domestic

We such as burning firewood and also burning charcoal, where burning of charcoal has effect on the land such 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 trees that have been cut in the previous years. 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, then 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.

MALNUTRITION OF THE CHILDREN

When we visited different homes from the surrounding society, we discovered that children were suffering from malnutrition. This is the condition whereby children lack a balanced diet and they are even unhealthy. This is because there parents were unable to provide a balanced 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 tree. The generated income would be able to generate income to provide a balanced diet more so to the children and their families, on poor hygiene.

We visited the nearby hospital and after conducting oral interviews on the doctors about the health record of the people in the society, we discovered that most of the people suffer from stomach related illnesses 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.

UNEMPLOYMENT

Unemployment is the 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 lead to increase in crime and low living standards, that has lead to the suffering in the people. If the knowledge of grafting fruit tree is introduced to them they will be occupied by a constructive activity that will make people to get money by selling grafted fruits. After selling the grafted seedlings, 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 by digging the unwanted weeds from their farm, applying fertiliser for faster growth and harvest good grafted fruit trees. Using this method of grafting fruit trees we will reduce the number of people who are loitering around in the rural and urban areas searching for a job.

HIGH BIRTH RATE.

High birth rate is also evident in the surrounding society, this is caused by high rates of school dropout, which lead to early marriage that encourage poverty. for example lack of food, shelter, clothes and money for fee. so you find in the society young girls are in engaging 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 or grafting seedlings and the produced fruits. The generated income is used to pay the school fees and also to produce those basic need for their children. Thus minimizing the number of school dropout and to control the birth rate to the society.

POOR ROADS

After touring our society we also observed that feeder roads in our society are very poor. These lead to poor transport more so during rainy season. During rainy season perishable fruits like mango do not survive due to delation caused by the roads, also during dry season the roads are dusty. The dust tends to make the driver sick of which the time he will take to heal, he could have used it to transport more fruits to the market and this creates a high market demand for fruits in the marketing.

Also during rainy season these Murrum roads are prone to accidents because they are slippery this may lead to death of driver or damage of the fruits.

To solve the problem people are educated on grafting of fruit trees because they need to use those roads during transporting those grafted fruit and seedlings so from the generated income they get from seedling those grafted seedlings and fruits they are forced to make roads more passable for all weather. Thus the problem of poor roads is solved.

CRIME SUCH AS THEFT.

We also discovered that in our surrounding society crime rate is very high. Therefore crime are activities that involve breaking the law and it is also said that crime is an act that ~~you think is~~ morally wrong or is a big mistake.

Crime rate is caused by a lot of insecurity in the society. This knowledge of grafting fruit trees in our surrounding society which have something to generate income through selling the fruit and the grafted seedlings. And through the having source of income the crime rate will decrease.

EARLY MARRIAGES.

Early marriage is another problem that is affecting the society around our school. This has led to generation of poverty ~~that is highly affecting the society at large.~~

Through the knowledge of grafting, parents can generate income through selling the grafted seedlings or the

primary fruit from the fruit tree business machine with help of

the windmill and the basic tools required with help of

The generated income can be used to pay school fees
for their children thus containing them in school
and minimizing their early marriage.

Early marriage are also encouraged by lack of basic
needs for the girls. This make them to see marriage
as a solution to their problems. This makes them to
be married at a very young age and this also
increases the birth rate in the community at large.

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 diet. This had led
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 the
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.

IDLENESS.

A lot of people are idle in the community surrounding
our school. This is affecting mostly the youth
for example, when we visited the market place

during the day, we found many groups of young boys and girls doing nothing.

Idleness can also lead to committing crimes such as stealing, raping and also killing people because of poverty that they are into it like for the stealing is whereby they can sit down especially the boys they can plan on how they can break into banks, market or even supermarkets to take some items so that they can fulfil their needs and also feed their families.

And if the people are caught stealing, they can be stoned by mob justice ~~to~~ death hence leading to poor population, early death ~~of~~ of the youths in the society.

Idleness has also led to drug abuse which has resulted to drug addiction, for example at the market place when we visited there we found many boys loitering here and they looked like mad people but in their real sense ~~it's~~ just the effects of the drugs they take.

So we have decided that by educating the youths about grafting of fruit tree, they will have something to do and be occupied during the day, thus the number of idleness in the market places and at home will reduce and they will have some generated income to feed their families and sustain their needs.

Idleness can also lead to raping whereby raping is the crime, typically committed by a man, of forcing somebody to have sex with him, especially using violence. Some of the men whom we visited in our society we found that some of the causes are all about violence. Taking advantages of the small girls around the society.

Through the knowledge of grafting the members of the society will be able to generate income through the selling of the grafted seedlings and employing the idlers and also the selling of the produced fruit. Therefore, the generated income will be used to take care of their beloved ones and also provide their needs and sustain their families their back at home.

LOW AGRICULTURAL PRODUCE.

When we visited the community around the school we conducted some oral interview, we discovered that the Agricultural produce of the society is very low. This has lead to food shortage to the community. For example, people from urban centres have brought food shortage to the society.

In the rural centres unlike for the farming purposes. The farmers construct and till up their lands to generate income. As many rivers are seasonal and they dry up immediately after the season and if there are no rains.

As we visited the community around our school and conducted some oral interview we discovered that the Agricultural production of the society generally is very low. This has lead to food shortage to the community. But we found out that many people from urban centres have been relying on agriculture which is majority practiced in rural areas.

If those people are educated about fruit trees, they would be able to sell the grafted seedling or fruit produced by fruit trees and the income generated can be used to buy food and sustain their families. It will also increase farm labour and human hence increase income of the agricultural produce and help those in urban areas have enough food to reduce expenses.

SCARCITY OF WATER.

As we toured around the school and society we noted that water is a major challenge. This is due to lack of trees in the society which helps in bringing rain. The trees have been cut down for no major reason.

Due to lack of water the livestock and also people are dying as there is no moist and to plant crops. people in the society walk for long distances searching for water which has lead to pain and suffering of the people in the society.

If the people in the society are educated about the grafting of fruit trees they will be able to generate income through the selling of the grafted fruit and seedlings from the planted fruit trees.

The planted fruit trees will provide land cover which will help in bring rainfall in the society hence this will reduce scarcity of water.

The income generated will help them supply water in the whole society hence this will reduce water scarcity and lead people live a better life in society.

HIGH RATES OF SCHOOL DROPOUTS.

One of the things that are putting back the growth of the surrounding society is school dropouts. This is whereby boys and girls stop going to school before completing the primary, secondary or even tertiary education.

School dropout is caused by poor living standards which limit the parents from paying school fees for their sons and daughters. They unable to sustain them in schools.

This has led to generating poverty in the surrounding society to be high.

Through the knowledge of grafting fruits (scudding) the people in the society will be able to sell grafted seedling and the produced fruits.

The generated income can be used to pay school fees for their children thus sustaining them in school. Again the parents will be able to provide all the basic needs required by their children thus minimizing the number of school dropouts in the society surrounding our school.

SEXUAL IMMORALITY

Through the oral interviews 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 rates of school dropout and low living standards mostly to the youths.

This also is caused by poverty and poor growth to the people where by most of the youth are being forced to dropout of school in order to go in a sexual immorality business which is very bad to the young girls of little age.

It has lead to high death rate when people are being transmitted by sexual transmission diseases like syphilis, HIV and AIDS etc. Moreover, the girls are really affected when born by if their parents don't have money to pay for their school fees the parents engage them in early sexual immorality so that they

can find what to food on their families and also pay for their school fees.

Sexual immorality has also lead to crime such as theft and unemployment among them. If the employer if the manager find one of the colleague him or her affected by any disease they don't employ you and this lead to early sexual immorality people engage in sex so that they can food their own families and get their needs to satisfy themselves.

Through the knowledge of grafting fruits 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 other through the method of grafting fruits the people will abstain themselves from sexual immorality which makes people to suffer.

SOIL CONSERVATION.

As we moved around the surrounding society we discovered that soil erosion is highly pronounced. This is because deforestation is practiced majority in the society and lack of land to cover generally some of the common types of soil erosion in the society which is the splash erosion where the impact of water drops are directly on soil particles or on thin water surfaces. It strikes on bare soil hence it disperses the soil particles by detaching and transferring the splashed ~~and~~ leaving the land crusted.

When the land is crusted it leads to low agricultural produce where people can suffer from starvation as the community has no good and fertile soil to plant or do farming to produce crops. If the people in the surrounding society are educated about grafting of fruit trees they will be able to plant trees which will provide land cover as a result of conserving. The fruit trees planted whose root will help to hold the soil particles together thus minimising soil erosion. Also the remains of the fruit trees like leaves decompose thus adding fertility to the soil and conserving the soil which will increase the growth of agricultural produce.

POOR HEALTH

As we toured around the surrounding society around our school we discovered that many people suffered from poor health where this is a major problem because of the poor living standards such that they do not have work to do and chores which can enable them to generate income ~~for themselves~~ since they are jobless they are unable to buy balanced diet

for their families, they will be also unable to take care of their sick people where there has led to reduced or low human labour.

Also we visited the market near the school we noticed that a lot of sewage were unclean and stagnant water which made a lot of people to suffer from cholera also there were many children suffering from malaria and other related diseases because of the poor living conditions such that most of them lacked money to go to hospital or money to buy medicine. And other also can't offer a balanced diet

through the knowledge of grafting fruit trees the society will be able to generate income through selling of the grafted seedling and grafted fruit from fruit trees where the income generated will be used to take care of health of their beloved ones and used to clean all the market and sewage to prevent spread of mosquito.

we agreed to do grafting on avocado trees (*persea americana*).
Group discussion was done in group of four as shown below

Group number 4.

Nungwoki Agnes Kambua 18307307007

Mueni Sharon Muikaliishi 18307307012

Kiitu Phyton Kalondu 18307307017

Muasa Ann Manza 18307307018

low living standards

malnutrition of the children and hygiene

low agricultural produce

Unemployment

High death rates

poor health

Poor roads

Deforestation

Scarcity of water

Riotness

School drop outs

Soil conservation

Crime such as theft

Early marriages

After discussing on our project of grafting avocados,

some of the problems we encountered are listed below

which I have discovered in the previous pages.

After discussing about grafting of avocado we discovered that the problems listed above can be solved through grafting.

Group project identification

According to this group our project was identified using the following posters:

GROUP FOUR		
NO	NAME	INDEX
1	Munywooki Agnes Kambua	18307307007
2	Mueni Sharon Muikali	✓ 18307307012
3	Kiulu phyles Kalonda	18307307017
4	Muara Ann wanza	18307307018

PROJECT IMPLEMENTATION

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 the upper part is the scion and the lower part is the rooting stock.

The scion has buds which develop into the future plant.

A successful union between scion and rootstock is called compatibility.

There was an elder man who came to give us directions on how to do grafting. Then we did it individually.

We used whip and side grafting where whip grafting means you graft using a plant whose scion and rootstock has the same diameter. A plant cutting is made using a sterilized scalpel, then the parts are fitted together and wrapped with a grafting parchment paper.

Side grafting is where the stock had a large diameter than the scion then the same procedure is done on the side of a plant.

• Problem and Project Identification - 32 mks

Group discussion and presentation, - 33 mks

• Group project poster - 5 mks

Project implementation - 44 mks

Reporting on progress - 19 mks

Project report - 19 mks