

KOLA

SECONDARY

SCHOOL

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SUBJECT: AGRICULTURE

PAPER 3 (REPORT)

## GRAFTING

Grafting is the practice 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 part

### METHODS OF GRAFTING

#### 1) Kiship 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 diameters of the root stock and the scion are both like pencils.

#### 2) Side Grafting

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

### Importance of Grafting

They facilitate the changing of the top of the tree from being undesirable to desirable. They make it possible to grow more than one type of fruit on the same plant.

They help to propagate clones that cannot be propagated in any other way.

Grafting helps to repair damaged trees.

They help to shorten the maturing age of 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 fruits trees, in order to help people in the surrounding society to solve the problem which they encounter. Some of the problems are:

- a) malnutrition of the children and hygiene
- b) unemployment
- c) Deforestation
- d) poor roads
- e) high birthrate
- f) low living standards
- g) low agricultural product
- h) illness
- i) Poor health
- j) High rate of school dropout
- k) sexual immorality
- l) High death rate
- m) Early marriage
- n) Scarcity of water
- o) crime such as theft
- p) soil conservation

## MALNUTRITION OF THE CHILDREN AND HYGIENE

When we visited different home from the surrounding society we discovered that children were suffering from malnutrition. This is because of condition where by children took a balanced diet and they are even unhealthy. This is because their parents were unable to provide a balance diet for them. If the parents or people in the surrounding area has knowledge of grafting fruit trees, they would generate income through selling of grafting seedling and fruit trees from the farm. The money generated would be used to provide a balance diet more so to the children and their families who are looking of a balanced diet in the body. On poor hygiene we visited the nearby hospital and after conducting oral interviews on the doctors about healthy record of the people in the society we discovered that most of the people suffer from stomach related illness. This has increased in the community because of poor health eating uncleaned food drinking dirty water from the rivers which have been destroyed by the chemicals from the industries and lacking a good basic needs for them. Even we visited some of the nearby school and discovered that there is lack of balanced diet and clean water which is making the students to suffer from diarrhea and loosing each and everytime with the knowledge of grafting fruit trees discussed from other farmer we have found that are problems can be solved by selling grafted fruit tree that will make them get money and be able to provide proper hygiene to their families.

## UNEMPLOYMENT

unemployment is the most harmful thing that has increased in the society. Likewise most of the people in the surrounding area are unemployed this is because of illiteracy and high rate of school dropout 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 trees is introduced to them they will be occupied by a constructive activity that will make people to get money by selling the grafted seedlings and seedling they will get income to sustain their families in there daily living like.

This will make people to get money and help each other in their community when one person is in need of money this can be done by advising people the surrounding society to plant more grafted fruit trees in their farm and maintain the fruit trees in the farm by digging the unwanted weeds from the farm applying fertilizer for planting this trees were the climate is available by doing this you will get a lot good grafted seedling from your farm. This will reduce the number of people who are loitering around in rural and urban areas searching a job to maintain their families.

## DEFORESTATION

As we know that deforestation is cutting down of trees in an area without planting other in a large piece of land covered by trees. This is very much pronounced in the surrounding society or our school due to cutting down of trees for domestic use such as burning of firewood burning of charcoal whereby the burning of charcoal has effect on the land that makes the land unproductive as the micro organism which decomposes to form nutrients for the crops are burned that resulting to low growth rate of crop in the farm. Also burning of charcoal produces smoke which also interferes with the ozone layer hence leading to low rainfall and pollution of the environment and the atmosphere.

If the people in the society are educated about grafting of fruit trees which will provide shade and increase soil fertility thus replacing the trees that has been cutted down in the previous years.

## POOR ROADS

### MATERIALS

He also observed that feeder roads in our society are poor. It has led to poor transport system during rainy seasons as it is very difficult to move the load. During rainy season perishable fruits like many varieties of fruit suffer delay caused by roads. Also during dry season the roads are dusty. The dust tends to make the driver sick of which the time he drives they will make them to hear. They could have used it to transport more fruits to the market and this creates a high market demand for fruits into the markets. It creates high market to solve this problem people are educated on grafting of fruit trees because they need to use roads when transporting thus grafted fruits and selling.

Then after selling the fruits and selling they will be able to generate income. The income generated after selling the fruits and selling from grafted fruit trees they will be forced to make roads more possible for all weather conditions thus the problem of poor roads is solved.

## HIGH BIRTH RATE AND ABORTION RATE IN INDIA

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 encobraces poverty like lack of food shelter, clothing, and money for fee. so you find through the knowledge of grafting fruit trees parent can generate income through selling of grafted seedling and the produced fruits.

The generated income is used to pay the school fee and also to produce those basic need to the childrens thus minimising the number of school dropout and to control the birth rate.

## LOW LIVING STANDARDS

low living standards can be brought up by lack of food clothing basic diets and houses after touring the society around our school we discovered that many people have low living standards which it has led to depression and isolation. Depression is the state where one is stressed beyond control isolation is the state where one like living alone without interacting with others people they have stress because they don't have money to buy food or basic diets for their children to pay school fees so you

## LOW AGRICULTURAL PRODUCE HTAIS HAIH

Low agricultural produce is a situation where the farm and livestock yields are reduced due to weather and climatic conditions such as low rainfall standards and job opportunities many people in the society suffers as they walk for long distance looking for jobs and water as many rivers are seasonal and they dry up immediately after the season ends.

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

The people are educated about fruit trees they would be able to sell the grafted seedling or fruits 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 hence increase food and agricultural produce. It will also increase demands of the agricultural produce and help those in urban areas have enough food to reduce expenses.

## IDIENESS

HTIAEH BOO

A lot of people are idleness in the community surrounding our school this is affecting mostly the youths for examples when we visited the market place during the day we found many group of young boys and girls doing nothing idleness can also leads to ~~man~~ community crimes such as stealing where they can sit down and plan on how they can break into banks markets or even supermarkets to take some items so that they can fulfill their needs and if they are ~~caught~~ caught stealing they can be ~~startled~~ <sup>started</sup> by mob justice to death hence leading to poor population of youths in the society idleness has also led to drug abuse which has resulted to drug addition for example at the market place there were many young boys who looked like mad people but in their real sense just the effects of the drugs they take if we have decided that by educating the youth about grafting of fruit trees they will have something to do and so occupied during the day thus the number of idle in the market places and at home will reduce numbers of crimes in the society will reduce hence reducing drug and drugs abuse

## POOR HEALTH

AS WE toured around the surrounding society around our school we discovered that many people suffer from poor health where this is a major problem because of the poor living standards such that they do not have jobs which can enable them to generate income 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 this has led to reduced or low human labour

Also as we visited the market near the school we noticed that a lot of sewage were unclear and stagnant water which made a lot of people to suffer from cholera also there were many children suffering malnutrition 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 afford a balanced diet

Through the knowledge of grafting fruit tree the society will be able to generate income through selling of the grafted seedling and grafted fruits from fruit trees where the income generated will be used to clean all the markets and sewages to prevent spread of mosquito

## HIGH RATE OF SCHOOL DROPOUTS

one of the things that are holding back the growth of the surrounding society is the school dropouts. This is because by young boys and girls stop going to school before completing the primary secondary or even tertiary education. This is caused by poor living standards which limit the parents from paying school fees for their sons and daughters thus unable to sustain them in school. This leads to generations poverty in the surrounding society to be high through the knowledge of grafting fruit seedling 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 minimising the number of school dropout in the society surrounding our school.

## Sexual Immorality

Through the oral interview conducted it was also made known to us that the issue of sexual immorality is common in the society. This has been caused by high rate of school drop out and low living standards this has led to high death rate & when people suffer from sexual transmitted disease such as gonorrhoea, syphilis, HIV and AIDS.

Through the knowledge of grafting fruit trees the people in the society will learnt to generate income through legal means. This is by selling grafted seedling and produced fruits. The generated income will allow the people in the society to get their basic needs without engaging in sexual immorality.

## HIGH DEATH RATE

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 to buy drugs and sustain their supplement. This has led to reduced human labour and increase number of orphans. The society will be able to generate income through selling of the grafted seedling and the produced fruits. The generated income is therefore used to take care of the health of their beloved ones.

## Early marriage

Early marriage is another problem that is affecting the society around our school. This has lead 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 seedling or the fruits trees. They earned income can be used to pass school fees for their children thus containing them in school and minimising early marriages. Early marriages 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 increase birthrate in the community at large.

## Scarcity of water

It also noted people in the surrounding society are forced to work for long distance and search of water. This has led to a lot of pain and suffering to the people through the knowledge of grafting fruit trees the people in the society will be able to sell grafted seedling and the produced fruit if all the community come together they will generate money and dug out bore holes which can supply water in whole community thus all the problems of water scarcity will be solved.

CRIME SUCH AS THEFT

It also discovered that in our surrounding society crime rate is very high. This has caused a lot of insecurity in the society. Also it has led to high death rates in the surrounding society thus reducing the number of people who are loafing around through the knowledge of grafting fruit trees.

People in the society will have something to do thus making them to generate income through selling the grafted fruits and seedling in our market and society. The income generated can be used to reduce crime such as killing murder and even corrupting other people in the surrounding society.

## Soil conservation

about 10 pages

As we were moving around the 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 includes sheet erosion, gully erosion, and rill erosion.

This has led to poor soil thus leading to low agriculture produce that makes the crop to grow very thin through the knowledge of grafting fruit trees the people in the society will be able to plant many grafted fruit trees whose root will help to hold the soil particles together thus minimising soil erosion also the remaining fruit leaves decompose thus adding fertility to the soil and conserving the soil.

Group discussion and presentation was done in group of four in today the ~~homestay~~ ~~homestay~~ ~~homestay~~

GROUP NUMBER		
1	MUASA ANN KIANZA	18307307018
2	MUNYOKI AGNES KAMBUA	1830730707
3	MUENI SHARON MKIKALI	18307307012
4	KILLUSTHES KALONDU	18307307017

After discussing on our project of grafting avocados some of the problems which we encountered are as listed below;

Low living standards

poor roads

poor health

High birth rates

Deforestation

Scarcity of water

Illness

Early marriages

High rate of school dropout

Crime such as theft

Soil conservation

High death rates

Unemployment

Low agricultural produce

malnutrition of the children and hygiene

sexual immorality

In our group we decided to graft Avocado (*Persicaria americana*)

which is a tree of about 10m height and

## Group projects identification

KIC identified our project in a group of four as illustrated

NO	ST NAMES	GROUP FOUR		INDEX
		MEMBERS	NUMBER	
1	MUASA ANN KIANYWA	18307307018		
2	MUNYOKI AGNES KAMBUA	1830730707		
3	MUENI SHARON MLIKALI	1830730712		
4	LIKIU PHYLES KAIONDU	1830730717		

## PROJECT PROBLEM IMPLEMENTATION

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

The plant with the rooting system is root stock and the part which is grafted on to the root stock is known as scion. The scion has buds which develop into the future plant. If successful union between the scion and the root stock is known as compatibility.

There was an older man who was invited by the school to show us on how to graft then we grafted on our own individually we used two methods of grafting to graft the plant which was tongue or Tongue grafting where we used the scion

and the root stock of the same diameter.

A slanting cut is made using a sterilised scapel on the scion and top of the stock the two separate parts were fitted together and wrapped with a grafting polythene ~~strip~~

### iii) side grafting

Where the stock had a large diameter than the scion we cut the stock using a sterilised scapel we inserted into the side of the stock we wrapped the fitted part using a polythene strip.

Problem and project identification - 30 mins

Group discussion and presentation - 33

Group project poster - 5 mins

Project implementation - 44 mins

Reporting on progress - 18 mins

Project report - 19 mins