

KOLA

SECONDARY

SCHOOL

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SUBJECT: AGRICULTURE

PAPER 3 (REPORT)

GRAFTING

- Grafting is the practice of uniting two separate woody stems of different plants for continued growth as one plant.
- It has the upper part called the scion and lower part rootstock.
- When scions and rootstocks has the ability to form successful union known as compatibility.
- It has various methods which are as follows:
 - ✓ Whip grafting
 - ✓ Side grafting
 - ✓ Notch wedge grafting
 - ✓ Bark grafting
 - ✓ Saddle grafting

- Grafting is done by uniting the scion and the rootstock to form one complete tree.

- The following are the conditions necessary for the grafting to be successful;
Compatibility where both the scion and rootstock must be of the same species to enhance compatibility. Temperature is required to cool the process, species of plant to easily form a union, Relative humidity should be high and maintained, Physiological maturity of plants that is the scion and rootstock should neither be very young nor too mature.

-Grafting has the following importance;

- i) it helps to repair the damaged trees.
- Helps to shorten the maturity age of the plants. Also helps to propagate clones that cannot be propagated in any other way. It makes it possible to grow than one type of fruit or flower on the same plant.

Importance of Grafting

- They facilitate the changing 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 propagate in any other way.

As Agriculture students we choose grafting Avocado fruit trees in order to earn income through selling the fruit and the money generated to be used to help the people within the surrounding society. Some of the problems they encounter have;

- ✓ Malnutrition of the children and hygiene.
- ✓ Deforestation
- ✓ Unemployment
- ✓ Poor roads
- ✓ Early marriages

High death rates

Scarcity of water

High birth rates

Violence

Poor health

High rates of school dropout

Low agricultural produce

Crime such as theft

Soil conservation

Sexual immorality

Low living standards

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 a 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 parent or the people of the society have the knowledge grafting fruit trees, they will be able to plant fruit trees which after selling them they will be able to generate income through selling of the fruit trees and seedling from fruit trees.

The income generated can be used to buy food which will 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 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 hence this will reduce malnutrition and encourage a healthy life.

DEFFORESTATION

As we know that deforestation is cutting down of trees, which is very much pronounced in the surrounding Society around our school. This is brought by major cutting down of trees for domestic use such as burning of firewood and burning of the charcoal which has major effects on the soil, that is it makes the land unproductive because the micro-organisms which decomposes to form nutrients used by crops in producing yields are burned.

Also burning of the charcoal produces smoke which interferes with the ozone layer hence leading to low rainfall standards. If the people in the surrounding 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 the people in the surrounding Society will be able to generate income through selling of grafted seedlings and fruits from the grafted fruit trees thus minimising deforestation.

Then the income generated after selling the fruits and seedlings from the grafted fruit trees will be used in activities such as paying school fees for the youths in the community loitering freely hence making them committed into academics.

UNEMPLOYMENT

Unemployment is a situation where people have no job opportunities, which is the most harmful thing that has increased in the surrounding Society around our School. Where most of the people in the surrounding Society are unemployed and this is because of illiteracy and high rate of school drop-out that has lead to increase in crimes such as stealing, committing murder, immorality and low living standards.

If the knowledge of grafting is introduced to the people in the surrounding Society around our school such that they will make be occupied by a constructive activity that will make them people to generate income through selling of the grafted fruits and seedling from the grafted fruit trees.

After selling the grafted seedlings and fruits, 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 and the farm, applying fertiliser for faster growth and harvest good grafted fruits; 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 jobs.

POOR ROADS

We also observed that feeder roads in our surrounding society are very poor it has lead to poor transport more so during rainy seasons. During rainy seasons perishable fruits like mangoes, vegetables and oranges are likely to rot due to delation caused by the roads. Also during rainy seasons, murrum roads prone to occur accident because they are slippery and this may cause death of the driver or damage of the fruits.

During dry seasons, roads are dusty. The dust tends to make the drivers suffer from fever or chest pain and can also lead to breathing problems 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 educated on grafting of fruit trees, because they need to use these roads when transporting those grafting fruits and seedling.

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

EARLY MARRIAGES

Early marriages 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 income can be used to pay school fees for their children thus containing them in school and minimising the early marriages.

Early marriages are also encouraged by lack of basic needs for the girls. This makes them to see marriage as a solution for their problems. This makes them to be married at a very young age and this also increase the birthrate in the community at large number. If the parents are educated about grafting of fruits trees this will enable them to sell fruits and seedlings from fruit trees thus making them generate income which will be used to paying school fees, satisfy their basic needs and provide for them in everything thus making all the youths be contained in schools hence reducing early marriages and also reducing high birth rate in the community.

HIGH DEATH RATES

We also discovered that the death rates in the Surrounding Society is very high. This is caused by lack of finances to buy balanced diet for themselves hence this leads to disease such as rickets, marasmus and many more other diseases. Due to lack of finances, the sick will not be taken to better hospitals, buy drugs for them. This has led to reduced human labour and increased number of orphans.

If the people in the Surrounding Society are educated about grafting of fruit trees they will be able to plant fruit trees. After planting the fruit trees they will be able to generate income through the selling of the fruit. Trend seedlings from the fruit trees. Then the income generated will help them to take good care of their beloved ones by buying balanced diet for them to prevent sicknesses and also to take those who are sick to the better hospitals for better treatment hence this will increase human labour because of healthy people in the Surrounding Society.

Also after generating income they will give their beloved ones good care whereby death rates will reduce as the people are healthy in the society hence this reduces large number of orphans and will bring a better society.

SCARCITY OF WATER

As we toured around the School Society we noted that water is a challenge. This is due to lack of trees have been cut down for no reason. Due to lack of water the livestock and also people are dying because there is no moist land to plant crops. They even walk for long distances searching for water. This has led to suffering of other 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 fruits 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. Then the income generated will help them supply water in the whole society hence this will reduce water scarcity and lead people to live a better life in society.

HIGH BIRTH RATES

Due to school dropout many youths have involved themselves to early marriages, relationships and also involved themselves into early marriages which has lead to high birth rate in the society in every day childrens are born in large numbers which has encouraged poverty in the society as the number of educated people is very low hence this leads to lack of knowledge of giving birth to few kids.

For example lack of food, shelter, cloth's and money to pay school fees for their born kids and also the money to take care of their born kids. So you find in the society young girls are engaged in marriage so that they can get the basic needs they want.

If the people in society around our school are educated about the grafting of fruit trees they will be able to plant the fruit trees which will enable them to generate income through selling of the seedlings and fruits from fruit trees. The income generated will help them to pay school fees for their children hence preventing large number of school dropout hence minimising early engagement and marriages which will reduce birth rates in the society and large number of young children in the society will reduce.

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 many place groups of young boys and girls doing nothing. They were just staring each other and asking people for money. Idleness can also lead to committing crimes such as stealing where they can sit down and plan on how they can break into banks, shops, kiosks, markets or even supermarkets to steal some items so that they can get money and fulfill their needs and desires and if they are caught stealing they can be stoned to death by mob justice hence leading to poor population of youths in the society. Idleness has also led to drug abuse which has resulted to drugs addiction, for example at the market place there were many young boys who looked like mad people but in their real sense its just the effects of the drugs they take. So we have decided that by educating the youth about grafting of fruits trees they will have something to do and so occupied during the day thus the number of idlers in the market places and at home will reduce thus the problem of being idleness is solved.

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 which can enable them 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 unclean and stagnant water which made a lot of people to suffer from stomach 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 can't afford a balanced diet.

Through the knowledge of grafting fruit trees the society will be able to generate income through selling of the grafted seedlings and grafted fruits 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 markets and sewages to prevent spread of mosquito.

HIGH RATES OF SCHOOL DROPOUT

One of the things that are pulling back growth of the surrounding Society is the school dropouts. This is where probably 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 has lead to generational poverty in the surrounding society to be high. Through the knowledge of grafting fruit seedlings the people will be able to sell grafted seedlings 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 dropouts in the Society surrounding our school.

LOW AGRICULTURAL PRODUCE

When we visited the community around our school we conducted some oral interview. We discovered that the Agricultural produce of the Society generally is very low. This has led to the food shortage in the community. But we found out that if the people are educated about fruit trees, they would be able to sell the grafted seedlings or fruits produced by fruit trees and the income generated could be used to buy food and sustain their families.

CRIME SUCH AS THEFT

We 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 loitering 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 seedlings in our markets and Society. The income generated could be used to reduce crimes such as stealing in the surrounding Society.

SOCIAL 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 include 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 minimising soil erosion. Also the

remaining fruit leaves decomposes thus adding fertility to the soil and conserving the soil which will increase the growth of agricultural produce.

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 the high rate of school drop outs and low living standard.

This has led to high death rate when people suffer from sexual transmitted disease such as syphilis, HIV and AIDS. Through the knowledge of grafting fruits trees the people in the Society will learn to generate income through Legal means. This is by selling grafted seedlings and produced fruits. The generated income they get they will allow the people in the society to get their basic needs without engaging in sexual immorality.

LOW LIVING STANDARDS

After touring the Society around our schools, we discovered that many people have low living standards which has led to depression and isolation. Depression is the state where one is stressed beyond control and isolation is the state where one likes living alone without interacting with other. Through our project on grafting, we found our problems are solved if people had been educated about grafting. People in the society are able to sell seedling fruits and the produced fruits. The generated income is used to improve their living standards for example to buy food, clothing, construct good houses and look on balanced diet.

Group discussion was done in groups of four.

Avocado (*persea americana*)

Group number 13

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Low living standards

Malnutrition of the children and hygiene

Unemployment

Low agricultural produce

Early marriages

High death rates

Crime such as thefts

Poor health

Soil conservation

Poor roads

Deforestation

School dropouts

Scarcity of water

Idleness

Sexual immorality

High birth rate

After discussing on our project of grafting avocados, some of the problems we encountered are listed above 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 to our project we identified using the following posters.

GROUP FOUR MEMBERS

NO.	NAME	INDEX
1	Ann Mwethya Makau	18307307003
2	Faith Miseni Mutiso	18307307010
3	Consolata Karini Musyimi	18307307011
4	Gomes Warinya Muthieu	18307307025

Project Implementation

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.

The rooting system is known as root stock while the grafted root stock is known as scion. The scion has buds which develop into the future plant. The ability of scion and root stock to form a successful union is termed as compatibility.

A man in the society came to our school to show us directive ways of grafting avocado. After he showed us, we did it individually using Tongue grafting method.