

KOLA SECONDARY
SCHOOL

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INDEX NO : 18307307004

AGRICULTURE

PAPER : 3 (REPORT)

GRAFTING

Grafting is a method of uniting two separate woody stems. One of the two plants provides the base and has a rooting system whereas the other part is obtained from another plant.

The plant with the rooting system is known as root stock and the part which is grafted on the root stock is known as Scion.

The ability of scion and root stock to form a successful union is termed as compatible, e.g. Lemon and Orange on lemon and tangerine.

We have methods of grafting which are:

- i) whip grafting
- ii) tongue grafting
- iii) side grafting

i) whip grafting

It is used for material in which the scion and the root stock are of the same diameter.

Then the slanting cut is made with a sterilised sharp knife on the scion and top of the stock. The two separate parts are fixed together and wrapped either with grafting tape or a polythene strip.

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- whip or tongue grafting
- side grafting

i) Whip grafting

It is used for material in which the scion and the root stock are of the same diameter.

Then the slanting cut is made with a sterilised sharp knife on the scion and top of the stock. The two separate parts are fixed together and wrapped either with grafting tape or a polythene strip.

GRAFTING

ii) 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.

There are other methods of grafting which include:

- i) approach grafting
- ii) Bark grafting
- iii) Notch grafting

Reasons of importance on why grafting is practiced:

- i) Grafting helps to shooten the maturity age on plants.
- ii) It helps to repair damaged trees.
- iii) Helps to propagate clones that cannot be propagated in any other way.
- iv) It also helps them to grow more than one type of fruit or flower on the same plant.
- ✓ Lastly, grafting helps to facilitate the changing of the top of tree from being undesirable to desirable.

And through our project on grafting fruit tree of Avocado, some of the problems encountered in the society around our school can be solved through the following ways:

- ✓ Low living standards
- ✓ Malnutrition of the children and hygiene
- ✓ Low agricultural production
- ✓ Unemployment
- ✓ High death rates
- ✓ Poor health
- ✓ Poor roads
- ✓ High birth rates
- ✓ Deforestation
- ✓ Scarcity of water
- ✓ Idleness
- ✓ Early marriages
- ✓ High rates of school dropouts
- ✓ Crime (such as thefts)
- ✓ Soil conservation
- ✓ Sexual immorality

LOW LIVING STANDARDS

Low living standards can be brought up by:

lack of clothing, lack of houses and lack of balanced diets.

After touring the society around our school, we discovered that many people have low living standards which has led to depression which is a state where you find someone is stressed beyond control. It has also led to isolation in a state where one likes living alone without interacting with others.

And through our project on grafting, we find that our problems can be solved. If people had been educated about grafting, they can sell their grafted seedlings and produced fruits to generate income or after planting the good trees, they can sell the fruit and generate income as well.

The income generated can be used to improve their low living standards. For example, the people could be able to buy clotheings, others construct good houses, buy food, educate their children using that money and others change their balanced diets. So as to improve their low living standards as well.

Even when they got money, people can buy land for settling, and also creating markets as they improve their markets for selling their produced of fruits.

Even after buying the land, they can use it on planting good trees. By doing that, we have found that our problems can be solved easily and improve the low living standards.

MAINUTRITION OF THE CHILDREN AND HYGIENE

When we visited different homes from the surrounding society, we also discovered that children were suffering from malnutrition in a state whereby children lack a balanced diet and even they become unhealthy. It also lead to the children become stressed and fall sick.

If the parents or the people of the society get knowledge of grafting fruit trees, they would be able to generate income through selling the grafted seedlings and fruits from the fruit trees. Income generated would be used to provide balanced diets, buying clothes, mosquito nets to the children and their families.

On poor hygiene, we visited near the hospitals and after conducting oral interviews on the doctors about the health records of the people in the society, we discovered that most people suffer from stomach related illnesses.

And through the knowledge DA our project on grafting, the income generated will assist the community. We also visited near schools and noticed that the hygiene there was not pleasing at all. This will be improved and generate income well.

LOW AGRICULTURAL PRODUCE

When we visited the community around the school we also conducted some of the oral interviews. We discovered that the agricultural produce of the society generally is very low. This leads to food shortage in the society.

Through our project on grafting Avocado trees we have found out that if people are educated about fruit trees they would sell the seedlings or the fruits produced by the fruit trees to generate income.

Income generated could be used to improve their low agricultural produce and buy food to sustain their families.

UNEMPLOYMENT

This is also another problem that we discovered around 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 unemployment and low living standards.

If the knowledge of grafting fruit trees is introduced to them, they will be occupied by a constructive activity that will be occupied by a constructive activity that will

make people to get money after they sell grafted seedlings.

After selling the grafted seedlings, they will sustain their families in their daily living. 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 fertilisers for faster growth and harvest fruit trees.

By using this method of grafting, fruit trees will reduce the number of people who are loafing around in the rural and urban areas searching for a job opportunities.

HIGH DEATH RATES

We also noted that the death rates in the surrounding society is very high. This is caused by lack of finances to take their sick people to the better hospitals, buying of drugs and supplement their balanced diets.

This has led to reduced human labour and increase number of Orphans in the society. And through our 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 grafted income is therefore used to take care of the health of their beloved ones by buying drugs for them, improving their balanced diets and buying clothes so as to lower the high rates of death in the society.

POOR HEALTH

People in the surrounding societies suffer from poor health. For example when we visited at Kola market we found a lot of litters everywhere whereby it made the numbers of mosquitoes to increase making people to suffer from Malaria.

Also there was a lot of sewage and stagnant water which cause people to suffer from cholera. Most of the children in the area also suffer from various different diseases because of poor living conditions such that most of them lack money to go to the hospital or lack money to buy some drugs.

Others also cannot afford a balanced diet to build their body. Through the knowledge of grafting project the society can earn income through selling of the grafted seedlings and grafted fruits to buy medicines and improve on balanced diet so as to manage their good health.

Poor Roads

We also observed that ~~poor~~ roads in our society are poor. It has led to poor transport mode during rainy season.

During rainy season perishable fruits like mangoes rot due to delay caused by roads. Also during dry season the roads are dusty. The dust tends to make the drivers sick of which the time they take to heal. They could have used it to transport more fruits to the market and this creates a high market demand for fruits in to the markets.

Also during rainy season the murram road are prone to accident because they are slippery. This may lead to death of drivers or damage of the fruits. To solve this problem people are educated on grafting of fruit trees because they need to use these roads during transport.

Transporting of those grafted fruits and seedlings through the roads have generated income. Also the income generated can be used to construct good roads as well.

HIGH BIRTH RATES

High birth rate is also evident in the surrounding society which it has caused high rate of school drop out to the students. It has led to early marriages that encourages poverty. For example, lack of food, lack of shelter & lack of shelter, lack of clothes, lack of houses and lack of money for paying school fees.

Through this state you find in the society young girls are engaged 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 produced fruits.

The generated income is used to pay the school fee and also to produce those basic needs for their children, thus minimising the number of school drop out and to control the birth rate to the society.

DEFORESTATION

As we know that deforestation is cutting down of trees in an area without planting others in a large piece of land covered by trees. This is very much pronounced in the surrounding society of our school due to cutting down of trees for domestic use such as burning of firewood. Burning of charcoal has effect on the land, that makes the land unproductive as the micro organisms which decomposes to form nutrients for the crops are burned.

that resulting to low great rate of crops 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 land cover and increase soil fertility thus replacing the trees that has been cutted down in the previous years.

After planting the fruit trees they will be able to plant fruit trees which will provide land cover and generate income through selling of grafted Seedlings and fruits trees thus minimising deforestation in the area surrounding our school.

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 work. This will make people not to cut down the trees in their surrounding areas because they have found a solution that will make them get money and not to cut down the trees again.

SCARCITY OF WATER

Scarcity of water is also another problem we noted in the people surrounding society whereby they are forced to walk for long distances searching for water. This has led to suffering of people. Others can feel sick on the way or attacked by wild animals leading them to death.

Others they lack where to store their water after bringing to their homes. Even transporting methods are insufficient. Some of the people they use their hands to carry their jerricans which is too some.

People face challenges during transportation due to poor roads. In other way such that you find no vehicle can pass through the roads. Even when people cut down trees instead of planting it can lead to lack of rainfall leading to scarcity of water.

The people living in deserts you find it's rare for them to plant trees due to lack of water. Some of the communities even they have not dug boreholes or construction of dams due to lack of money. It has led to pain to the people living in such areas.

And through our knowledge of grafting fruit trees, people can generate income.

through selling the fruits they produce. If all community come together they will get money and dug out bore holes which can supply water in the whole community then all the problems of water scarcity will be solved as well.

IDIENESS

We also noted that a lot of people are idle in the community surrounding our schools, this is affecting mostly the youths both boys and girls.

When we visited the market place during the day, we found many groups of young boys and girls doing nothing, others sleeping on grasses and nearby the roads. Idleness can also lead them to commit crimes such as thefts, rape where they can sit down and plan how they break into banks, markets or super markets to take some items so that they can fulfill their needs.

EVRAM

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

Idleness has also led to poverty in the

society. This is where you find some of the families do not educate their children. Others they lack food to give their children and they also lack good houses. Children and even their parents they walk in bare which can lead to death.

Idleness it has also led to drug abuse which has resulted to drug addiction. For example at the market place there were many young boys who looked like mad people but in their soul because it's just the effects of drugs they take.

Idleness has led to premature pregnancies for the girls who take drugs and its idle doing nothing. So we have decided that educating the youths about grafting of fruit trees, they will have something to do and so occupied during the day, thus the idleness numbers in the market places and at home will reduce.

EARLY MARRIAGES

This is another problem that is affecting the society around our school. This has led to generation of poverty and school drop out of lateness. This is because you find families whose the parents do not educate their children. Others do not take care of them.

This problem is mostly brought up by when people live idle without doing nothing. Even farming or running a business it has become also a big problem.

People living in towns doesn't care about there life tomorrow. They just live idle whereby you find a family has three or more girls do not go to school or they are pregnant. This leads to early marriages because there is no money to protect their children with.

Early marriages also caused by lack of basic needs of hygiene, lack of support from parents, more debt to the girl child, increase of street children and poverty in the society. Thefts increase by lack of food to this people and their children especially.

Others become drug addicts and also the increase of death rates occurs. Early marriages can be decreased when people they will work and get their own money.

Also when people got in farming activities they will never lack their basic needs such as food, water, clothes and build their houses hence increasing their living standards and decreasing early marriages in their society as well.

And through our project on grafting projects, our problems can be solved easily. Even if people could have been encouraged or taught

moored about grafting what they could be able to got on, their parents to graft seedling trees and fruits so as to generate income.

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

HIGH RATES OF SCHOOL DROPOUTS

also discovered another problem around the school which is pulling back the growth of the surrounding society by increasing of high rates of school drop outs.

This is whereby young boys and girls stop going to school before completing the primary or secondary or tertiary education. This is caused by poor living standards which limits the parents from paying school fees for their sons and daughters thus unable to sustain them in school.

Some parents lack jobs and where to get money. They lack school fees and basic needs whose children are unable to continue with education. Even parents sit idle instead of them starting to grow fruit trees and graft them to generate income so as to minimise school drop out to their children and buy basic needs that they acquire.

of them fails to do the project of grafting by lack of water to irrigate. Those people living on desert areas you find that it is also to do the project.

And if people could be supported on planting or grafting they could be able to minimise the high rates of school drop outs. This is by grafting fruit trees to generate income. This will enable students to learn well and help the society ~~surrounding~~ our school as well.

CRIME SUCH AS THEFTS

He also discovered another problem around the society which is crimes such as thefts that are very high.

This has been caused by insociety in the society between the people. Those people living around those they have no knowledge about grafting fruit trees. Most of the trees planted they grow without grafted whosely they take many years to grow.

Thefts of fruits in the society has led to poverty and conflicts among people in the society. This is brought up by the farmers when they lack a way of fencing their farms. Also failure to maintain society on farms. A drugster and robots can affect them.

School dropouts can also lead to early pregnancies and early marriages. Most of them have increased due to lack of money source. Boys and girls involve themselves in drugs by lack of work to do.

Even some of the men and women lack farms to cultivate and get food. It has caused to divorce in many families and increased hatred.

When students drop out of school, also poverty increases whereas students are well educated or parents produce fruits for selling, the family sustains in good health if they have money for buying and educating, they have constructed good houses to stay. This is because they have a project to do.

He also found that the families were not educated more about grafting project. This is why they had never started to plan more about their future.

And some of the elected members does not provide the people with planting materials or the seedlings. Others they lack machines and processing industries to process their raw materials eg; fruits.

People lack market on where to sell their produce after harvesting from their farms. And also some

And through our project on grafting we find that those problems can be solved easily. If people around the society could be educated more about grafting fruit trees, they could stop fruit thefts and increase the fruit production.

After getting the fruits they could be able to sell them and generate income. The income generated can be used to improve their living standards by buying food & building good houses for them, providing their families with basic needs, reducing thefts which are increasing in the society and also educating their children to minimize crimes and poverty.

Soil Conservation

As we were moving around the society, we also discovered that the soil erosion is highly pronounced. This is because of deforestation and high population of land. Some of the common types of soil erosion in the society include:

✓ Sheet erosion

✓ Gully erosion

✓ Rill erosion

✓ Sheet erosion

This has led to poor soil thus leading to low agricultural produce. Through the knowledge

of grafting fruit trees the people in the Society will be able to plant many fruit trees whose roots will help to hold the soil particles together thus minimising soil erosion.

Also the remains of fruit trees like leaves decompose thus adding fertility to the soil and observing the soil.

SEXUAL IMMORALITY.

Through the Oral interviews conducted it was also made known that a common 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 syphilis and HIV and AIDS.

Through the knowledge of grafting fruit 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 will allow the people in the society to get their basic needs without engaging in sexual immorality.

Group discussion and presentation were done in group of four.

GROUP NUMBER 1

Naomi	Muthamii	Mutition	18307307 004
Fiona	Munibya	Matata	18307307 006
Muli	Jommimah	Mutava	18307307 019
Agnas	Maingi	Katoko	18307307 021

- ✓ Low living standards.
- ✓ Malnutrition of hygiene and the children.
- ✓ Unemployment
- ✓ Poor health
- ✓ High death rate
- ✓ Deforestation
- ✓ Scarcity of water
- ✓ Idleness.
- ✓ Early marriage
- ✓ School dropout
- ✓ Crime such as thefts ✓
- ✓ Soil conservation
- ✓ Sexual immorality.

After discussing on our project of grafting Avocados, some of the problems we encountered are listed above which I have discussed in the previous pages. In our group we chose to graft Avocado fruits (persea americana).

Group PROJECT IDENTIFICATION

GROUP NUMBER

ONE 1

No.

Name

Index no.

1.	Muthami	Naomi Muition	18307307 004
2.	Fiona	Mumbua Matata	18307307 006
3.	Jemimah	Muli Mutava	18307307 019
4.	Agnar	Maingi Katoke	18307307 021

PROJECT IMPLEMENTATION

Through our project on grafting fruit seedlings, there was a man from the Society who came to show us how to do it. He first do it alone as we observed.

In each group, each student was to perform it alone while being ~~assisted~~ while united the two woody stems which had the same diameter.

We make a slanting cut with a sterilised sharp knife on the scion and top of the root. We fitted the two separate parts together and wrapped with a polythene strip tightly to allow the two parts attach to each other so rain water from getting through it.

Method we had used is whip grafting because the diameters of the stems were

Group project
of the same.

After grafting we ~~reintroduced~~ them in cage
on placebo

problem and project identification - 33 mins
Group discussion and presentation - 36 mins
Group project poster - 5 mins
Project implementation - 10 mins
Reporting on progress - 19 mins
Project report - 20 mins