



Production of Planting Materials



LEARNING / FACILITATING MATERIALS

PINEAPPLE PRODUCTION
NATIONAL CERTIFICATE I





Introduction

Welcome to the start of your career in land and soil preparation in pineapple production

A career in land and soil preparation for pineapple production has never been as popular as it is now; competition is strong and the standards are getting high. So you must aim higher, particularly if you see pineapple industry as opportunity to build up your lifelong career.

Many career options are also available within the land and soil preparation for pineapple production. This unit will also look at the, methods of land preparation, farm land demarcation and understanding of soil preparation for planting

While training, you should make an effort on improving your personal habits, skills and knowledge to get along well with the working industry. All these aspects are essential to achieving success in the world of work.

Congratulations for making the decision to study land and soil preparation for pineapple production. You have taken the first step towards a very interesting and satisfying career.

This learning material covers all the Learning Outcomes for land and soil preparation requirements for the Certificate I programme.

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Demonstrate knowledge of the characteristics of good planting materials and their sources.

In this LO, you will learner to be able to:

- a) Explain the importance of good planting material.
 - b) Identify the certified farms from which planting materials can be sourced.
 - c) Explain the procedure used for selecting good planting materials.
 - d) Identify types of planting materials.
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PC (a) Importance of having good planting material include:

In the selection of planting material, choose those with desirable qualities such as resistant to diseases and pests, uniform size, shape and sizable crowns.

Pineapple is vegetatively propagated by the use of suckers, slips or crowns.

The importance of having good planting materials include:

- It helps to obtain disease and pest free fruits
- It helps to obtain uniform fruit size
- It helps to obtain uniform growth of plants
- It helps to obtain uniform cultural practices.
- It helps reduce cost of production

PC (b) Sources of known certified planting materials include:

- Koranco farms-Nsawam,
- Prudent farms -Badwiase,
- Jei River-Ofankor
- Eloc Farm-Ayibonte

PC (c) Procedure used for selecting good planting material

The following procedure is used in selecting good planting material:

- Identification- to help select the variety required.
- Observation- to identify pests and diseases
- Weighing- for uniformity in planting material,
- Sorting- Put all uniform sizes together.

PC (d) Types of planting materials

Pineapple planting materials are obtained from various parts of the plant and are identified according to the part of the plant on which they are found. The figure below shows the various planting materials.

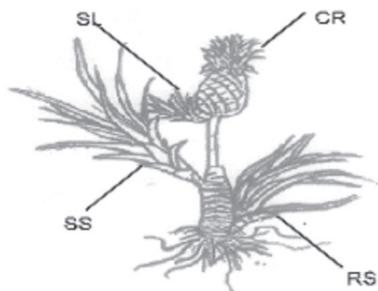


Fig 1 Plant shoots used for planting material

CR = crown; SL = slip; SS = Hapa (side shoots or suckers); RS = Sucker (ratoon suckers)

Crown: Crowns are situated at the apex of the fruit (labeled CR). This type of planting material is not commonly used by farmers, and even when used, they take as long as eighteen - twenty months after planting to produce fruit

Slips: slips "are located at the base of the fruit (labeled SL). They produce fruit within twelve to sixteen months after planting and are the preferred type of planting material.

Hapa: this is also called Side Shoots or (labeled SS), these are shoots produced above ground level and, when used, bear within eighteen to twenty months after planting

Suckers (Ratoon) : suckers (labeled RS) are shoots produced from ground level and, when used, will produce fruit within eight to twelve months after planting and are the preferred type of planting material.



Self-assessment

1. List three (3) characteristics of a good pineapple planting materials.

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2. State four (4) importance of good planting materials

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3. State three (3) sources of known certified planting materials

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4. State three (3) procedures for selecting good planting materials

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5. List three (3) types of pineapple planting materials.

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Outline the procedures used for preparing a good planting material.

On completion of this LO, you will be able to:

- a) Explain the importance of adopting the procedure for preparing a good planting material.
 - b) Determine the storage time between harvesting of suckers (curing) and planting.
 - c) Identify disease and pest free and well-formed planting materials.
 - d) Demonstrate the procedure for the handling and treatment of good planting materials.
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PC (a) Importance of adopting the procedure for preparing a good planting material

The following are the importance of preparing good planting materials:

- It helps to reduce rotting of the planting material
- It improves its growth potential
- It reduces diseases and pests on plants
- It increases the life span of the planting material
- It ensures higher yield

PC (b) Storage time between harvesting of suckers (curing) and planting

Suckers or slips are cured by removing the lower leaves to about 2.5 cm followed by drying in the sun or in the partial shade for about 7-14 days after they are cut from the mother plant.

Activity

Learners will be given suckers to store and determine the storage period.

PC (c) Disease and pest free and well-formed planting materials

Diseases, pests free and well formed planting materials must not have the following characteristics:

- Deformation on the planting material
- Curly or twisted leaves
- Yellowish and brownish leaves
- Perforation on the leaves.
- Traces of mealybugs infestation
- Traces of fungi infestation
- Pungent smell from the leaves

PC (d) Procedure for the handling and treatment of good planting material

The learner will be given an activity to conduct the following:

- Remove dried leafless found at the base of the suckers and trim the ends with a sharp knife.
- Pack slips with a leafless pointing upward in a container, layer after layer.
- Add a solution of malathion or diazinon 0.1% to 5 mills in 4.5 litter water (1tsp/1gal water).
- Submerge slips for 20mins then drain of the solution into another container and store for re-use.
- Remove suckers from the container and pack on ground under shade in an upright position for 7 days.



Self-assessment

1. State three (3) importance of adopting the procedure for preparing a good planting material in pineapple.

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2. State the Storage time between harvesting of suckers (curing) and planting

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3. State three (3) qualities of disease and pest free and well-formed planting materials in pineapple.

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4. State three (3) procedure for the handling and treatment of good planting material in pineapple.

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Produce planting materials from the mother plant

On completion of this LO, you will be able to:

- a) Explain the characteristics of a mother plant.
 - b) Demonstrate the skill of deriving planting materials from the mother plant.
 - c) Demonstrate the skill of rapid multiplication of planting materials.
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PC (a) Characteristics of a mother plant

The following are the characteristics of a good mother plant:

- Mother plants from which materials are selected should be green in colour
- Mother plants should be free from rots and gums
- Do not select materials from plants infested with mealy bugs
- Do not select materials from plants showing earthen shelters
- Planting materials should be selected from erect plants showing firm leaves

PC (b) Skill of deriving planting materials from the mother plant

In deriving planting materials, propagules should be cut from the mother plant and set aside for a week or two to cure.

Activity

The learner will undertake the following activity to acquire skills of deriving planting materials from the mother plant:

- Trim off old (dry) leaves, especially around the base of the planting material.
- Remove dry material canals to expose mealy bugs, and therefore allow for more effective control when pre-treating the material with an insecticidal solution
- Treat planting material with a solution of Basudin 0.05% or Malathion 0.1ml in 4.5 liters of water or any recommended fungicides before planting.

PC (c) Skill of rapid multiplication of planting materials

There are four main stages in rapid multiplication of pineapple planting materials. These are;

- Explants establishment-
- Shoot multiplication-
- Rooting of shoots-
- Hardening and transfer to soil/field-

Activity

The learner is to undertake the activities indicated above to acquire skills of multiplication of planting materials



Self-assessment

1. State the four (4) important of the mother plant for planting materials in pineapple propagation.

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2. Explain the procedure used in obtaining planting materials from mother plant.

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3. State three (3) importance of following the stages involved in rapid multiplication of planting materials for pineapple.

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