



اَللّٰهُمَّ صَلِّ وَسَلِّمْ عَلٰى اَبْنائِنَا  
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MARA



**FACULTY OF PLANTATION AND AGRO-TECHNOLOGY**

**AGR232 : PLANT PROPAGATION**

**PRACTICAL REPORT**

**PART 3**

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**TITLE**

STEM CUTTINGS AND LEAVES CUTTINGS

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## **INTRODUCTION**

A plant cutting is a piece of a plant that is used in horticulture for vegetative propagation. A piece of the stem or root of the source plant is placed in a suitable medium such as moist soil. If the conditions are suitable, the plant piece will begin to grow as a new plant independent of the parent, a process known as striking. A stem cutting produces new roots, and a root cutting produce new stems. Some plants can be grown from leaf pieces, called leaf cutting, which produce both stems and roots. The scions used in grafting are also called cutting. However, there was the advantages and disadvantages of this vegetative propagation. The plant that we had used for stem cuttings is Song of India (*Dracaena reflexa*) and for leaf cuttings is Lidah Jin (*Sansevieria*).

### **Advantages**

1. Easy and fast to do.
2. Does not require any special technique as like budding or grafting.
3. Can get more than one feet high plant in a little period of time.

### **Disadvantages**

1. Lack of genetic diversity.
2. May potentially increase insect and disease weakness in the new plant.
3. Many plants are produced, it result in overcrowding and lack of nutrients.

## **OBJECTIVE**

1. To increase the varieties of the plants.
2. To improve variety creation and selection methods.

## **MATERIAL**

Polybags, stock plant, secateurs, rooting hormone (IBA), sharp knife, soil mixture (ratio 5 : 1 ; soil : dolomite), wheelbarrow, and scope.

## **PROCEDURE OF STEM CUTTING**

1. Firstly, we were prepared the medium for planting with ratio 5 : 1 (topsoil : Dolomite). Dolomite has been used to replace lime. The function is to increase the soil pH and it can decrease the pH of soil that was in acidic condition.
2. Then, we were choose the plant that we used for stem cuttings which are Song of India (*Dracaena reflexa*). We were cut the branches from the parent plant about 45° angle and the cutting size is 7-15cm. And we were cut out the below of node with secateurs.
3. After that, we were removed the excess leaves and leaving in 2-3 pairs of leaves per plant only to prevent water losses from occurs.
4. We were dipped the cutting part into the IBA root hormone.
5. Lastly, we were making a hole with our finger in the polybag and insert the cutting part about 2-3cm into the medium.

## **PROCEDURE OF LEAF CUTTING**

1. Firstly, we were took the best sections from a thriving, vigorous parent packed with leafy growth which are LidahJin (*Sansevieria*).
2. Next, we were cut it off cleanly at the base, by using a sharp knife, we done it with carefully and ensure not to squeeze or damage it during the process.
3. The cutting part was been laying on a clean surface, so that is face down and then proceed to slice it across the stem into equal sections (3cm).
4. After that, we were left it with a jigsaw arrangement of pieces and clearly showing the tops and bottoms of each pieced.
5. We were putting the IBA root hormone at the bottom of each pieces. Then, we insert the bottoms in the medium.
6. Lastly, we were transfer the polybags into the nursery and watering the plants including the stem cuttings.

## Leaf cuttings



Some of the leaf cuttings was successful. Whereas, some were stunted and did not growth very well.

## DISCUSSION

From the result, I can conclude that half of the plants are successful and half of the plants are not successful to growth well. This was may cause by the mistakes in the method during the process of making the stem and leaf cutting. When the plant is cut off and the bark at the below of the plant was removed, the tissue of the plant is maybe has been infected with germs either from hand of another factor. This will cause the planted died due to the germs.

To prevent this problem from happening, make sure the root stock are in good condition before cut the plant to get the new one. In addition, avoid from touching an exposed plant tissue. Next, make sure the soil that will be used have are good contain of nutrients.

## CONCLUSION

In a nutshell, stem and leaf cutting is easy to do and it has a high successful rate to grow if the method used was correct. Besides, it is more rapid, simple and cheaper than other asexual methods. This method can get greater uniformity of plant. The plant will reach maturity at an earlier age.