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FACULTY OF PLANTATION AND AGROTECNOLOGY

DIPLOMA IN PLANTING INDUSTRY

MANAGEMENT (DPIM)

AGR 232 : PLANT PROPAGATION

PRACTICAL REPORT 3:

(GRAFTING AND BUDDING)

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2016677772

GRAFTING

INTRODUCTION

Grafting is a horticultural technique whereby tissues of plants are joined so as to continue their growth together. The upper part of the combined plant is called scion while the lower part is called the rootstock. The success of this joining requires that the vascular tissue grow together and such joining is called inosculation. The technique is most commonly used in asexual propagation of commercially grown plants for the horticultural and agricultural trades.

In most cases, one plant is selected for its roots and this is called the stock or rootstock. The other plant is selected for its stems, leaves, flowers, or fruits and is called the scion. The scion contains the desired genes to be duplicated in future production by the stock/scion plant.

For successful grafting to take place, the vascular cambium tissues of the stock and scion plants must be placed in contact with each other. Both tissues must be kept alive until the graft has taken, usually a period of a few weeks. Successful grafting only requires that a vascular connection take place between the grafted tissues.

APPARATUS AND MATERIAL

Scissors, polythene tape, secateurs, hand knife, *Bougainvillea* red (stock), *Bougainvillea* white (scion)

OBJECTIVE OF GRAFTING :

1. To know what grafting is and how to work with it.
2. To make plant stem grafting correctly.
3. To produce a new plant using the cleft grafting techniques

BUDDING

INTRODUCTION

Budding is a type of asexual reproduction in which a new organism develops from an outgrowth or bud due to cell division at one particular site. The small bulb like projection coming out from the yeast cell is called a bud. The new organism remains attached as it grows, separating from the parent organism only when it is mature, leaving behind scars tissue. Since the reproduction is asexual, the newly created organism is a clone and is genetically identical to the parent of a child.

Budding is a form of grafting that uses a smaller scion pieces. Sometimes just a piece of the stem with an axillary bud. The scion pieces from which buds are collected for budding (shoot) and become the new shoot system of the graft. Rootstock is the layer portion of the graft, which develops into roots system of the grafted plant.

OBJECTIVE:

- To know how to make proper patch budding
- To produce new plant using patch budding techniques
- To increase the number of product by using patch budding

APPARATUS AND MATERIAL:

Hand knife, polythene tape, secateurs, two type color of *bougainvillea plant* (scion and rootstock)

PROCEDURE:

Preparing the rootstock

1. Choose the healthy rootstock for scion patch on that plant
2. Cut the vertical and horizontal on the rootstock

Preparing the bud or scion

1. The scion should be of desired cultivar and free from disease
2. The patch containing the bud is cut from the scion by two horizontal cuts with the double with the hand knife
3. Followed by two vertical cut on each side of the bud. The bud patch is removed by sliding it off to one side



Inserting the bud into the rootstock

1. Insert the bud patch of scion into the rootstock that have been prepared before.
2. After that, wrap it together using polythene tape



RESULT:

The plant start wilting and after a few day it was died



DISCUSSION:

Based on the practical that we have done, this plant start wilting and died. This is because it does not do with the proper method. Maybe the cell of the plant died during the practical we done and the rootstock and the scion not patch together properly. Next, the scion or rootstock maybe was infected by and bacteria or virus

CONCLUSION:

As a conclusion, we managed to make the flowers becoming more color, type and varieties .But the plant was died because of some factor like infected of bacteria and other. Next, we can know how to produce new plant using patch budding techniques with the proper techniques