

BAMBOO PLANTING MATERIAL PRODUCTION: BRANCH MARCOTTING TECHNOLOGY

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Introduction

Large-scale production of bamboo is hampered by insufficient supply of planting materials. The one-node cutting technology for mass-producing bamboo planting materials, has been found promising. However, it is constrained by the difficulty in procuring culm materials. Previous studies also revealed that some bamboo species do not respond favorably to the one-node cutting technology. Thus, branch marcotting was evaluated as alternative method of propagating commercially grown bamboo species such as Buddha (*Bambusa ventricosa* Mc Clure), and Bayog (*Dendrocalamus merrillianus* Elm.), Kawayan Tinik (*Bambusa blumeana* Schults F.), and Giant Bamboo (*Gigantochloa aspa*).

Marcotting is a traditional method of propagating plants. The stem or branch is induced to root while still attached to the plant, so that after removing the rooted branch, the other portions of the culm can still be used for other purposes. Marcotting is easy and success is high. The additional labor and materials needed are compensated by the high rate of survival.

The Marcotting Technology

Materials used in marcotting

- Sphagnum moss
- Coco-coir
- Sawdust
- Plastic film
- Plastic straw

Steps in Marcotting

1. Select branches of one or two-year old culm with good branching habit.
2. Fill a transparent film (plastic or cellophane) with rooting medium (sphagnum moss, coco-coir, or sawdust) and attach at the basal portion of the branch. Wrap tightly the plastic film around the branch and tie with plastic straw at the lower and upper portions to avoid spillage of the rooting medium and water.

Separation of marcots

Separate the rooted marcots from the culm two months after marcotting using a sharp bolo. Take extra care so as not to dismantle the ball containing the roots and the rooting medium.



Care of marcots in the nursery

1. Immediately plant the rooted propagules individually in a 7 in. x 7 in. x 11 in. polyethylene bags containing soil medium.
2. Arrange the potted propagules in seedbeds constructed in partially shaded area.
3. During the DS, water the marcots twice a month until they are ready for transplanting.
4. Weed the beds once a month.
5. Maintain the propagules for about 8 to 9 months in the nursery.

Outplanting of propagules

1. Outplant the propagules in the field in the later part of June or early part of July or when soil moisture is 30 cm deep.
2. Plant the propagules in a 30 cm width and 30 cm deep hole.

Fertilizer Application

Fertilize the outplanted propagules one month after planting at a rate of 20-10-10 kg N-P₂O₅-K₂O ha⁻¹ which is equivalent to one cup full of a mixture of complete fertilizer (14-14-14) and urea (46-0-0) per plant.

Weeding

Weed the newly planted propagules to prevent them from competing with the propagules on the use of moisture, nutrient and sunlight.

Benefits

Branch marcotting is considerably effective and economical in mass propagating Buddha, kawayan tinik and giant bamboo. Higher net returns can be derived especially with the use of sphagnum moss or sawdust for giant bamboo.

Marcotting is relatively simple and can be easily adopted by farmers. The success of propagating different bamboo species by marcotting is considerably high and risk of mortality in the field is avoided. The utilization of culms can be maximized because it can be used for other purposes after separating the marcots.

Cost and return of producing 1000 marcotted propagules of the different bamboo spp. using sphagnum moss, coco-coir and sawdust.

Bamboo spp./ Rooting media	Gross Income (₱)	Expenses (₱)	Net Income (₱)
<i>Buddha</i>			
Sphagnum moss	34,080.00	14,814.00	19,266.00
Coco-coir	34,300.00	15,356.00	18,944.00
Sawdust	34,280.00	15,314.00	18,966.00
<i>Bayog</i>			
Sphagnum moss	35,000.00	18,155.00	19,845.00
Coco-coir	36,640.00	23,734.00	12,906.00
Sawdust	37,240.00	25,881.00	11,359.00
<i>Kawayan tinik</i>			
Sphagnum moss	35,560.00	20,188.00	15,372.00
Coco-coir	35,360.00	21,161.00	14,199.00
Sawdust	36,360.00	22,735.00	13,625.00
<i>G. Bamboo</i>			
Sphagnum moss	115,690.00	85,880.00	30,080.00
Coco-coir	119,800.00	115,851.00	3,949.00
Sawdust	113,920.00	72,120.00	41,800.00

Based on CY 2002 input costs