

2.5 Propagation through Tissue Culture

Tissue culture can be used in advanced laboratory for rapid multiplication. The initial attempts that have been undertaken in our laboratories are promising and working jointly with our partners some positive outcomes will be realised.

3.0 Field Planting

- Planting of container or potted seedlings should be done immediately at the start of the rainy season.
- For offsets removed from the forest, planting must be done the same day with a maximum delay of one night.
- The size of planting holes for seedlings raised from seeds and wildlings should be 30 cm x 30 cm while the holes for those from offsets and cuttings should be 60 cm x 60 cm (Figure 5).

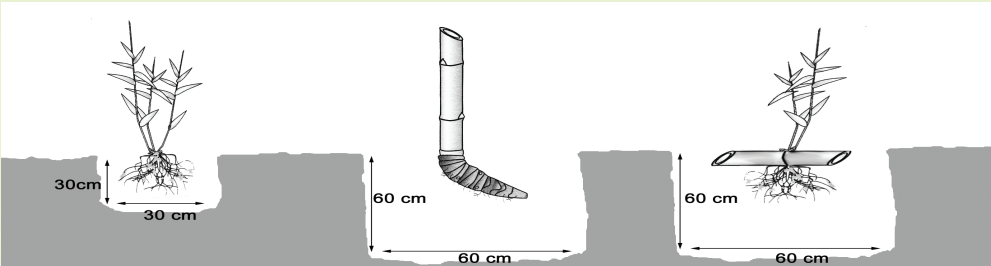


Figure 5: Planting hole sizes for seedlings raised from seeds and wildlings, offsets and cuttings

Table 1: advantages and disadvantage of various types of bamboo propagation planting materials

Type	Advantages	Disadvantages
Culm (stem) Cuttings	<ul style="list-style-type: none">• Rapid multiplication for some species• Type guaranteed• Fast growth	<ul style="list-style-type: none">• Shorter life cycle than seed produced plants• Long time needed to propagate large quantities of planting material• Bulky plants hence high logistical costs• Large propagation area needed• Some species are difficult to propagate e.g. Yushania alpina
Seeds	<ul style="list-style-type: none">• New generation (long life)• Diversity of genotypes• Low cost• Small plants easy to transport to the field• Opportunity for selection and macro proliferation	<ul style="list-style-type: none">• Limited availability• Limited viability• Long time needed before plants are ready for planting
Offsets	<ul style="list-style-type: none">• Quality guaranteed• Type guaranteed• Success rate high with most species• Opportunity for selection and macro proliferation	<ul style="list-style-type: none">• Bulky seedlings• Labor intensive• Long time needed to propagate large quantities of planting material• High logistical costs• Large propagation area needed• Shorter life cycle than seed produced plants• Limited clonal diversity
Tissue culture	<ul style="list-style-type: none">• Mass production• True-to-type plants• Vigorous plants with multiple new shoots• Very fast growth and high biomass production• Small and vigorous planting materials• Logistical advantages	<ul style="list-style-type: none">• Limited clonal diversity• Shorter life cycle than seed produced plants• High investment needed for propagation• Require large orders to justify investment



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BAMBOO PROPAGATION METHODS

