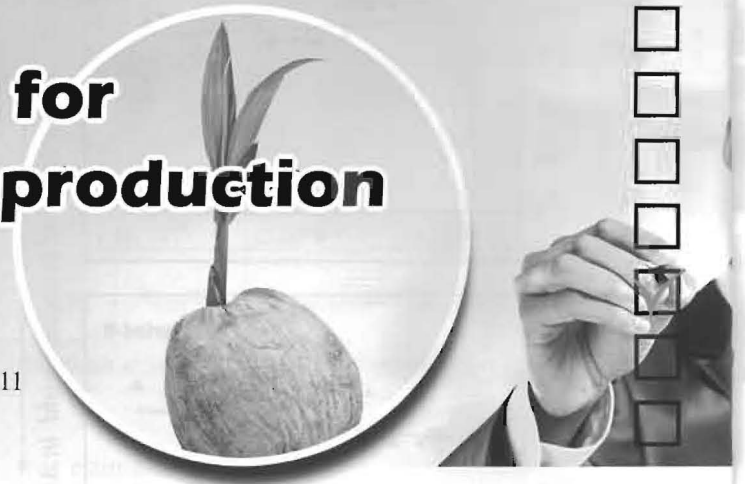


Quality standards for coconut seedling production

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Quality planting material is the most important input for getting sustainable and optimum yield from any crop. In coconut, quality should start from the mother garden level. In the absence of commercially vegetative propagation techniques only seed propagation is possible in coconut. The desirable qualities like early bearing, yield, high copra content & oil and short stature are controlled by genes present in 32 chromosomes in each cell of coconut palm which is transferred from generation to generation through seeds. Hence quality of seeds is highly correlated with mother garden characters. Further, as coconut is cross pollinated, the palm do not breed true, making the selection of seeds and seedlings more difficult and important. Therefore for production of quality seeds and seedlings, selection of good mother gardens and seed nuts is of great importance. Quality standards for selection of mother palms and seed nuts and seedlings recommended for coconut are given below

1. Field standards (Quality at mother palm level)

Identify high yielding blocks. Selection of parent palms from high yielding blocks is important to obtain good seednuts for making optimum use of genetic potential of coconut.

Quality criteria for selection of parent palms.

- Select bearing palms between 15-45 years.
- Stout, sturdy and straight stem and closely set leaf scars.
- Short leaves in a spherical orientation on the crown.
- The crown should comprise of 25-30 fully opened fronds with bunches of nuts at all stages of maturity.
- Short and stout petioles capable of providing a solid support to the bunches.
- Short and strong bunch stalks.
- Bunches of medium sized nut in sufficient numbers.
- Avoid palms affected by pest and diseases for collection of seeds.



2. Seed Standards

- Germination - >80%
- Purity - >98%
- Fruit weight (g) - >400g-(Dwarf) >600g (Talls)
- Nut water - Present
- Maturity - 10-11 months (Dwarfs) / 11 – 12 months (Talls)
- Pest and disease incidence - Nil
- Validity period - *Validity period for germination for coconut nursery is three months after sowing of seednuts.*

In the West Coast region seed nuts can be collected during the period January – April and can be sown in June in the nursery where as in the East coast region seed nuts are sown during October - November.

Harvested seed nuts are stored in shade to prevent drying of nut water till their husks become completely dry. Seed nuts of the tall variety can be stored for two months after harvest whereas the seed nuts of dwarfs should be sown within 15 days of harvest. Only fully matured nuts should be harvested for seed purpose. Discard nuts having irregular shape and size. All immature and empty nuts should be rejected before delivery of seednuts to nursery.

3. Coconut nursery standards

- The land should be flat or with low gradient.
- Soil should be sandy or sandy loam and well drained.
- The site should have sufficient sunlight, scattered shade and source of water.
- Seed beds should be 15-25 cms above the ground level.
- Spacing between nut should be 15 cms and between rows it should be 25 cms.
- Mulching the nursery with coconut leaves or coirpith.
- Regular watering in nursery during dry weather.
- Weeding once or twice in a month.

4. Seedling Standards

- Age of seedling - 10 to 12 months
- Number of leaves - 6 and above with short petiole.
- Girth at collar region - Dwarfs - >8cm, Hybrids/talls - >10cm
- Height -Dwarfs - >80cm, Hybrids/talls - >100cm
- Petiole colour - Dwarfs- should exhibit petiole colour of parent, Hybrids- Green/Brown/intermediate shades of parents
- Disease/pest incidence - Absent

Good quality seedlings which germinated early are to be selected in the nursery for field planting. The seedling vigour which can be identified based on the quality parameters stated above can be selected. Early splitting of leaves is another character preferred for



selecting good seedlings. In general recovery of good seedlings will be 60 – 65 percent of total seed nuts sown as coconut is a cross pollinated crop. In a well managed nursery, rejection of seedlings should be kept at following levels.

- Non germinated - 8-10%
- Late germinated - 10%
- Low quality - 12-15%
- Total - 30-35 %

Selection of mother garden, mother palms, seeds and seedlings are important steps in production of quality coconut seedlings to ensure higher yield. Seeds/ seedlings with good quality based on the parameters described above should be selected through a rigorous selection. Selection of fully matured nut is very important in coconut seedling production as the germination and quality of planting material has got a direct bearing on maturity. It is necessary to select consistently yielding mother palms from a block of mother garden for seed procurement. The expectations of each farmer while purchasing seedlings for planting will be that it should be early bearing, high yielding, give high copra content and oil, shall be of short stature etc. If poor quality planting materials are used for planting, the performance of the palm will not satisfy the expectation of the farmer and cause considerable loss of time and money to the farmer. Hence while purchasing seedlings especially from private nurseries the quality parameters as stated above shall be insisted. Wide publicity should be given through various media by the extension officers involved in coconut sector so as to ensure supply of good quality seedlings to the farming community. ■