

A GUIDE TO IDENTIFICATION OF DIFFERENT CULTIVAR SEEDLINGS OF COCONUT AT THE NURSERY STAGE

Considerable difficulties have been encountered in identification of cultivar seedlings of coconut in nursery selections. Distinguishing illegitimate *dwarf* seedlings from the hybrids (*dwarf x tall*) is important in the production of hybrid seedlings. The hybrid seed nut of *dwarf green x tall* can be differentiated from *tall* seed nut because of the small nut size and its characteristic features of the *dwarf green* seed nut. But the *dwarf yellow x tall* seed nut cannot be identified likewise. Accidental mixing of seed nuts often occurs during transport, especially while exporting. Requests for a guide to identification have been made by overseas buyers of our planting material and also from the nursery officers of the Coconut Cultivation Board who are routinely engaged in the selection of hybrid and *tall* seedlings.

Differences in germination

Seedlings of *Tall*, *dwarf green*, *dwarf yellow* and the hybrid combinations between them are generally used for plantation purposes in Sri Lanka. Of these *dwarf* seed nuts germinate first; sprouting initiates by about the fourth week from laying and often reaches 80% sprouting within 10 - 11 weeks from laying of nuts. No significant difference is observed in germination time between the two *dwarf* types *dwarf yellow* and *dwarf green*. *Tall* seed nuts initiate sprouting much later, about 12 - 13 weeks from laying and 80% germination is achieved after a time lapse of 17 - 20 weeks from laying. The hybrid performance is intermediate with sprouting beginning at about 6 - 7 weeks, reaching 80% at about 13 - 14 weeks and continuing up to about 16 weeks from laying (fig. 1). Variation in the pattern of germination of different coconut cultivars according to the changing weather conditions and rainfall regimes is minimum but differences may occur in the time taken for sprouts to emerge and in the final germination percentages mainly according to the moisture availability. *Dwarf* and hybrid seed nuts

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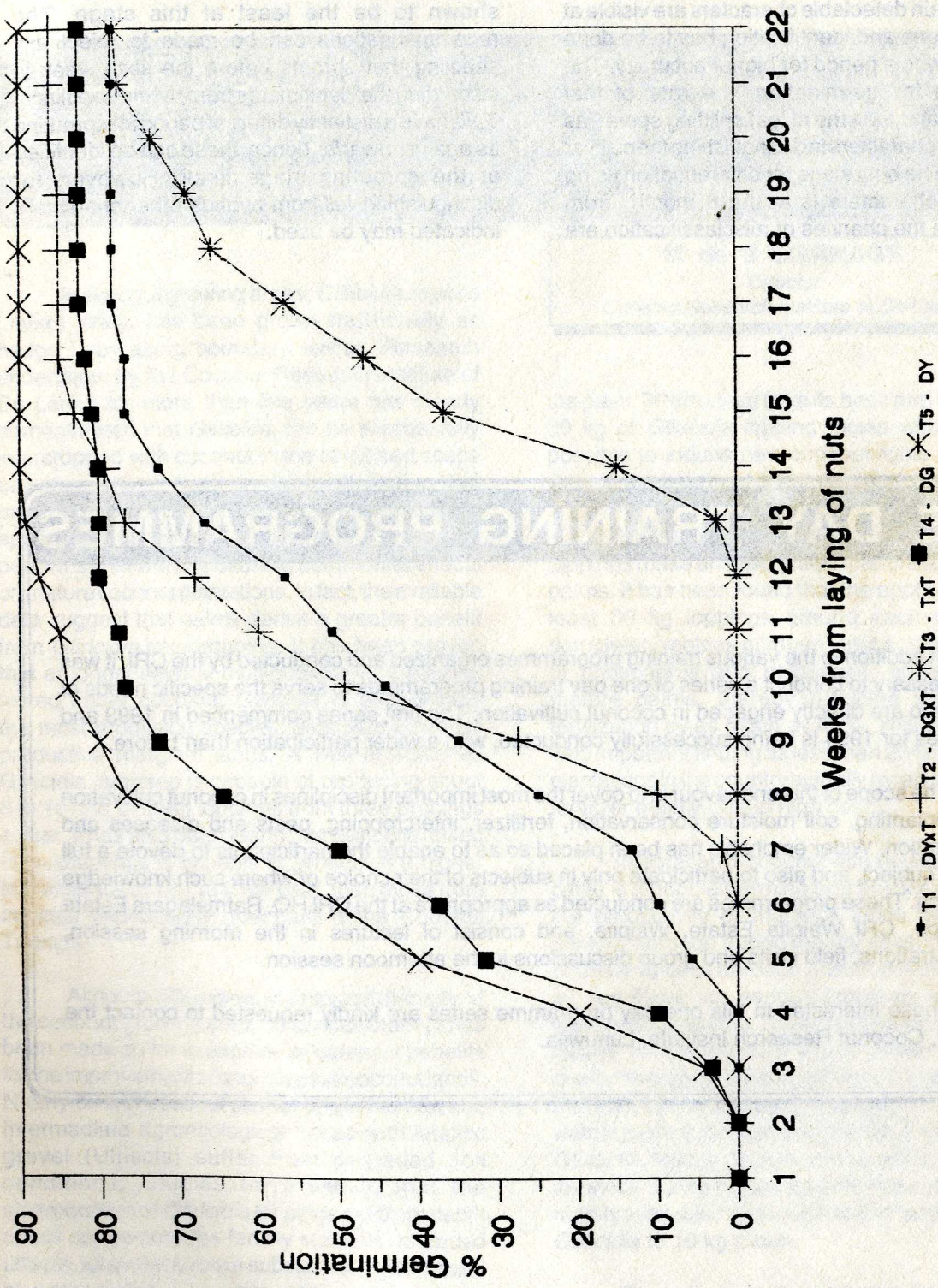
are generally more sensitive to dry conditions resulting in lower germination percentages compared with *Tall* seed nuts.

Vegetative growth

Advantaged by early germination, *dwarf* seedlings appear to be the most vigorous at the early stage compared with *tall* and hybrid seedlings. *Dwarfs* are capable of producing as many as 4 leaves at the 6 month from laying by which time splitting of leaves has already begun. At the 6 month, the *tall* seedlings are relatively small with about two unsplit leaves. The hybrids appear to be intermediate in size with about 3 leaves yet unsplit. Although the *tall* seedling starts its vegetative growth much later it catches up with the other two cultivars about 8 months and hence at this stage the differences are visible only in leaf measurements. About 2 - 3 months from laying, *dwarfs* produce about 2 - 3 leaves which are pale green in colour, curled and smooth in texture. After 7 - 8 months *dwarf* leaf blades appear narrower than *tall* leaves and the length from the tip of the leaf up to the point of dichotomy is greater. Consequently *dwarf* leaves appear more elongated than *tall* leaves. In *dwarfs* the canopy spread is lesser as the leaves point upwards whilst the *tall* has a better canopy spread.

Conclusion

The time of germination as well as the vegetative characters used to aid identification of cultivar seedlings show continuous variation and therefore the process of categorizing into discrete groups is difficult.



T1 - dwarf yellowxtall, T2 - dwarf greenxtall, T3 - tallxtall, T4 - dwarf green, T5 - dwarf yellow

Figure 1. Germination pattern of cultivar seednuts of Coconut in the nursery

Certain detectable characters are visible at various stages and identification has to be done during the whole period for higher accuracy. The time taken for germination, the rate of leaf production and the time of leaf splitting serve - as most useful characters in distinguishing the cultivar seedlings. The best stage for differentiation using vegetative characters is at the 6 month from laying since the chances of misclassification are

shown to be the least at this stage. The recommendations can be made to reject any seedling that sprouts before the sixth week in discarding the illegitimates from hybrid seedlings. *Talls* have a distinctly different period for sprouting as against *dwarfs*; hence these can be identified at the sprouting stage itself. However, for distinguishing *tall* from hybrids other characters indicated may be used.

ONE DAY TRAINING PROGRAMMES

In addition to the various training programmes organized and conducted by the CRI, it was felt necessary to conduct a series of one day training programmes to serve the specific needs of those who are directly engaged in coconut cultivation. The first series commenced in 1993 and the series for 1994 is being successfully conducted, with a wider participation than before.

The scope of this endeavour is to cover the most important disciplines in coconut cultivation thus, replanting, soil moisture conservation, fertilizer, intercropping, pests and diseases and rehabilitation. Wider emphasis has been placed so as to enable the participants to devote a full day per subject, and also to participate only in subjects of their choice or where such knowledge is wanting. These programmes are conducted as appropriate at the CRI HQ, Ratmalagara Estate Madampe, CRI Walpita Estate, Walpita, and consist of lectures in the morning session, demonstrations, field visits and group discussions in the afternoon session.

Those interested in this one day programme series are kindly requested to contact the Director, Coconut Research Institute, Lunuwila.