

## CORRELATION BETWEEN SEED AND SEEDLING CHARACTERS IN JACK, *ARTOCARPUS HETEROPHYLLUS* L.

Success from the common methods of vegetative propagation particularly air-layering and approach grafting is not satisfactory in jack (*Artocarpus heterophyllus*). Further, the establishment of air-layers and grafts in different situations and their performance in terms of fruit yield and timber outturn are uncertain (Kannan and Nair, 1960). Seedlings are often to be used for planting in view of the above disadvantages particularly for large scale plantings. Sonwalker (1951) observed that the seedlings obtained from seeds of good grade were more vigorous. Similar observations were made in cashew (Auckland, 1961; Gopikumar, 1978), papaya (Reddi, 1962) and mango (Giri and Choudhury, 1966). The present investigation was carried out in the College of Horticulture, Vellanikkara to ascertain whether the seed and seedling characters are associated in jack of the two popular types 'Varikka' and 'Koozha' of the State.

A random sample of 150 seeds from fully ripe fruits of one tree (about 15-20 year old) of each of the two jack types, 'Varikka' and 'Koozha' were collected. Immediately after extraction, the seeds were immersed in water and the floating ones were discarded. The weight and volume of each of the seeds were determined accurately without the pericarp (ovary wall). The seeds from the two types were sown in a medium consisting of equal parts of sand and soil in polybags at the rate of one seed per bag on the same day of extraction. Seeds were sown flat and 2-3 cm deep. Watering was done on alternate days. One hundred seedlings were randomly selected for recording observations, two months after sowing when they have fully emerged and started producing normal leaves. Important variables included in the study were height from ground level, girth at the collar region, number of nodes and number of leaves produced by seedlings.

Simple linear correlation coefficients were worked out between seed and seedling characters for assessing the associations between different pairs of characters.

The correlation coefficients between seed and seedling characters for the types 'Varikka' and 'Koozha' are presented in Table 1.

It is indicated that the weight of seeds does not influence the seedling characters in the types 'Varikka' and 'Koozha'. Significant correlation is not evident between volume of seed and the seedling characters. It is thus found that the two characters of the seed are not associated with seedling vigour in the nursery. Sonwalker (1951) reported that seeds of good grade gave more vigorous seedlings in the nursery. The present results may perhaps be due to the small experimental populations and the limited range of variations in the quantitative characters of seeds within a particular type. Gopikumar (1978) observed that in cashew, variation of qualitative characters of nuts was quite limited within a type.

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Table 1  
Correlation coefficients between seed and seedling characters of  
'Varikka' and 'Koozha' types of jack

Seed characters	Seedling characters			
	Height	Girth	No. of nodes	No. of leaves
<b>'Varikka'</b>				
Weight	0.97	0.040	0.041	0.038
Volume	0.001	0.002	0.041	0.089
<b>'Koozha'</b>				
Weight	0.001	0.044	0.044	0.031
Volume	0.031	0.089	0.001	0.044

സംഗ്രഹം

നഴ്സറീയിൽ പ്ലാന്റിൽ തൈകളുടെ പുഷ്പിയും ഓജസ്സും കരുവിന്റെ തൂക്കം, വ്യാപ്തം എന്നീ സ്വഭാവങ്ങളുമായി ബന്ധപ്പെട്ടിട്ടുണ്ടോ എന്ന് പരിശോധിക്കുവാനായി 'വരിക്ക' 'കൂഴ' എന്നീ രണ്ടിനം പ്ലാന്റിൽ നിന്നും ലഭിച്ച തൈകളെ പാനവിയേയമാക്കി. തൈകളുടെ നാല് വ്യത്യസ്ത സ്വഭാവങ്ങൾ പരിശോധിച്ചതിൽ നിന്നും കരുവിന്റെ രണ്ടു സ്വഭാവങ്ങൾ തൈകളുടേതുമായി ബന്ധപ്പെട്ടു കണ്ടില്ല. രണ്ടിനം പ്ലാന്റിലും ഒരേ ഫലങ്ങൾ തന്നെയാണ് കിട്ടിയത്.

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