

# Root Form of Jack Pine Seedlings Grown in a Variety of Containers

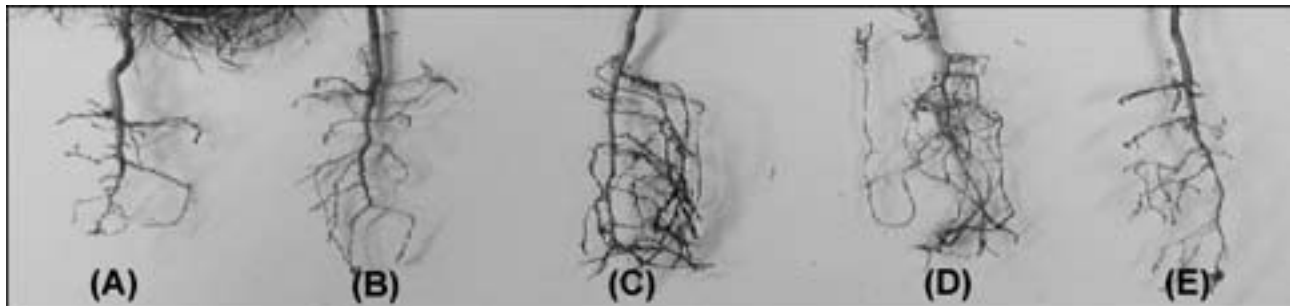
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Stability of trees grown in containers is an economic and ecologic concern as instability owing to root system form can make trees susceptible to stem defects. Jack pine grown in Rigi-pots and Ventblocks had many vertically oriented roots after the first season, and fewer lateral roots distributed evenly around the plug after planting (Fig. 1, Table 1). Seedlings grown in Jiffy pellets, Starpots, and Copperblocks had high proportions of horizontal roots at lifting and more evenly-distributed roots after the second season, which should lead to greater stability. Asymmetric distribution of first-order lateral roots resulted

from off-centre placement of seed in the cavity, either from sowing or from seed shifting to the container edge during handling or by irrigation water before germination. It is feasible to cull seedlings with asymmetric root forms, as the off-centre stem is easily seen. Pruning Jiffy seedlings substantially reduced root mass and sometimes ripped or scarred the taproot, but this may be minimized by earlier pruning. Although root mass of Jiffy seedlings was lower than other containers at lifting, they increased the most after planting, ending within the range of those grown in other containers.



**Figure 1.** Root forms observed at time of lifting. (A) ladder (soft-walled type), (B) ladder (hard-walled type), (C) sinker, (D) elevator and (E) asymmetric.

**Table 1.** Root forms produced in seven container types. The three Jiffy pellet types each had two pruning dates, 'E' early (September) and 'L' late (November).

Container type	Root form (% of seedlings)				
	Ladder	Sinker	Elevator	Truncated	Asymmetric
Jiffy E28-140	70	0	0	15	15
Jiffy L28-140	95	0	0	0	5
Jiffy E28-165	80	0	0	5	15
Jiffy L28-165	95	0	0	5	0
Jiffy E30-140	85	0	0	15	0
Jiffy L30-140	95	0	0	0	5
Rigi-pot	0	30	65	0	0
Starpot	95	0	0	0	5
Copperblock	67	0	0	13	20
Ventblock®	0	40	45	5	5