

REFORESTATION USING "JIFFY 7" PEAT PELLETS

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Interest in planting tree seedlings in containers is growing rapidly in Canada. Many different kinds of containers are being tested, and a few are used extensively. One that has received little attention so far is the "Jiffy 7" peat pellet. Preliminary comparative data have now been obtained for growing seedlings in this pellet and in plastic tubes at the Forest Research Laboratory, Fredericton.

The "Jiffy 7" peat pellet, (manufactured by jiffy -Pot Ltd. of Grorud, Norway, patent No. 108.315), is made completely of peat, with fertilizer added, enclosed in a plastic net and compressed for easier handling, shipping, and storage. Soil mixing, sterilization, or soil filling are not required: the pellets are simply soaked in water and then seeds, small seedlings, or stem cuttings are placed in the tops. No additional fertilizer is needed for several weeks. Plant roots penetrate the net covering of the "Jiffy 7" (fig. 1) as readily as they grow out through peat pots, and because the whole container is planted, shock-free transplanting is achieved.

In the dry compressed form, each pellet is about 4.6 cm. (1.2 inch) in diameter, 0.9 cm. (0.2 inch) deep, and weighs from 10 to 14 g. (0.4 oz.). After soaking in water (9-12 minutes), the pellet retains approximately the same diameter but swells to about

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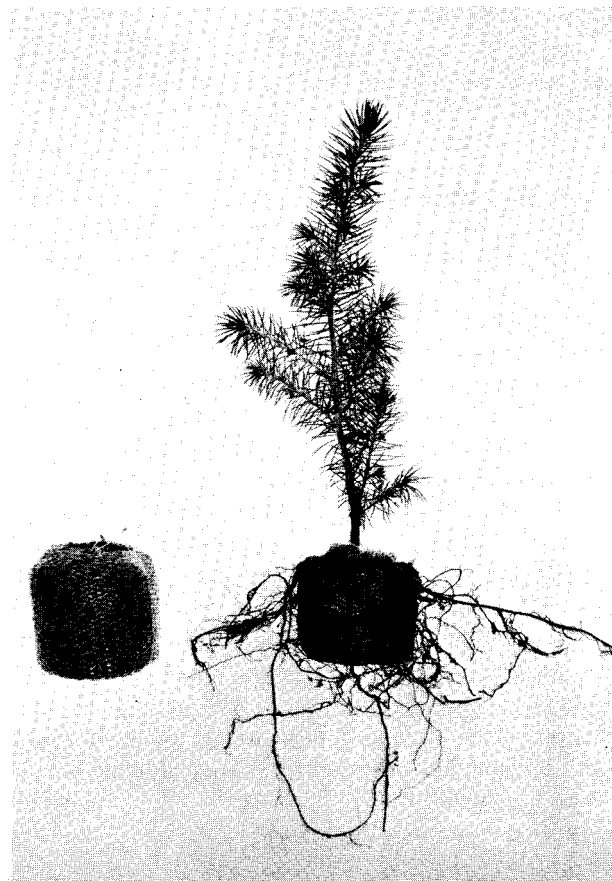


Figure 1.—Two-year-old seedling of black spruce grown from seed in a "Jiffy 7".

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seven times its compressed depth to a height of 5 cm. (1.3 inch). Wet weight for individual pellets varies from 72 to 86 g. (2.5 to 3.0 oz.). Price delivered is about \$20 (Canada) per thousand.

In the first trial in 1968, seedlings of black spruce (*Picea mariana* (Mill.) BSP.) were grown from seed in 1,600 "Jiffy 7" pellets. Two or three seeds were placed in the top of each water-soaked pellet in March. The germinants were grown in a greenhouse until May and then transferred to a tree nursery where they were given standard watering, fertilizing, and weeding treatments. The same numbers of black spruce seedlings were similarly grown and cared for in three kinds of plastic tubes filled with a soil mix having a high peat content. In the late summer of 1968, all the container-grown seedlings were planted in randomized block designs in two different forest environments.

Both outplanting sites are in central New Brunswick in the Bantalor District of the Maritime Lowlands Ecoregion (Loucks 1962), one near Bronson Settlement, the other near Boiestown. The first site was on a gravelly clay soil of fresh moisture conditions where the slash had burned immediately after a mixed wood stand had been harvested in 1965. A considerable cover of lesser vegetation and deciduous tree sprouts had already developed by the time of planting. The second site was on a sandy, gravelly loam also having fresh moisture conditions on which a mature stand of red spruce (*Picea rubens* Sarg.) had been cut about 1960. This cutover, which had not regenerated, was scarified in 1967 using tractor pads and anchor chains. In the autumn of 1969, one growing season after outplanting (two growing seasons after seeding), the survival of the stock in the "Jiffy 7" pellets was 88 percent in the 1965 burn and 95 percent in the 1967 scarification (table 1). At the end of two growing seasons, height of seedlings in the "Jiffy 7's" varied from 5 to 12 cm. (1.3 inches to 3.0 inches). The seedlings in the pellets showed superior survival and height compared with those for the seedlings grown and planted in tubes on either site.

In a second trial in 1969, which was carried out in precisely the same manner as the first, the opposite results were obtained. Growth in the "Jiffy 7" pellets was much inferior to that observed both in other containers and in the 1968 trial of the pellets. The reason is unknown, but differences in seed source and pellets are being investigated.

Although the results for 1968 and 1969 are not consistent, the successful trial begun in 1968 indicates that further tests of this interesting and potentially useful container are justified. Although the unit price is high compared to plastic tubes, soil mixing, sterilizing, or filling treatments are not required, and because the pellet is small and sturdy the development of mechanical planting methods would be possible.

TABLE 1.—*Survival percentages and average heights in 1969 of seedlings in various containers on two sites, 1968 trial*

Site and containers	Planted Number	Mean Sur- height vival at Autumn		Seedling height	
		planted Cm.	1969 Percent	Mean Cm.	Range Cm.
1965 burn—					
"Jiffy 7" pellets ..	640 ¹	4.9	88	7.4	5-12
½-in. plastic tube .	800	2.2	84	4.3	3- 6
¾-in. plastic tube .	800	2.3	84	4.6	3- 8
¾-in. plastic bullet	800	2.5	85	4.7	3- 8
1967 scarification—					
"Jiffy 7" pellets ..	685 ¹	3.9	95	7.4	5-12
½-in. plastic tube ..	800	2.0	74	3.8	2- 5
¾-in. plastic tube ..	800	2.4	76	4.2	2- 6
¾-in. plastic bullet .	800	2.3	66	3.2	2- 5

¹ Number with living seedlings at time of outplanting.

Literature Cited

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1962. A forest classification for the Maritime Provinces Proc. Nova
Scotian Inst. Sci. 25(1): 86-167.