ROOTING SASSAFRAS CUTTINGS

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Though sassafras *(Sassafras albidum* (Nutt.) Nees) is of little commercial value, it is important as food and cover for wildlife *(1, 2, 3, 5, 6, 7) ; so* in our wildlife studies we are searching for an effective method for rooting sassafras cuttings.

Little work has been done on this. Only one published reference was found on regenerating sassafras from root and stem cuttings, and the results were negative (4).

Materials and Methods

Six types of cuttings, collected in Warren Co., Pa., were tested for sprouting under greenhouse conditions (table 1) . Forty cuttings (4 replicates in sets of 10) of each type were tested.

Root cuttings were planted vertically and horizontally. Those placed vertically had the shoot end removed with a slanted cut and the tops placed even with the soil. Those placed horizontally were covered with 2 cm. of soil. Stem cuttings were dipped in 0.8-percent indolebutyric acid and planted upright to a depth of 5 cm.

All cuttings were placed in beds of fine topsoil within 2 hours after collection. Temperatures ranged from 50° to 90° F., and the soil was kept moist. The cuttings were removed after 5 months and examined for live rootlets, callus tissue, and presence of stem sprouting or leafing.

Differences in the percentages of the following characteristics for each type of cutting were examined for: (1) Stem sprouting or leafing, (2) presence of live rootlets, and (3) presence of callus tissue. These differences were tested $(a = 0.10)$, utilizing a randomized-block design.

Results

Most of the stem sprouting and leafing was from root cuttings that already had a sprout and from large roots planted horizontally (fig. 1). The large roots planted vertically did not do as well, but

TABLE 1.—*Characteristics of sassafras cuttings and results of experiment*

Type of cutting (40 of each)	Month of collection	Size range		Cuttings showing new growth		
		Length	Diameter	Stem sprouts or leafed out	Live rootlets	Callus tissue
		Cm.	Cm.	Pct.	Pct.	Pct.
Roots:						
With a live stem sprout,_____ planted vertically	April	[1] 9–17 [2] 20–78	0.8–1.7	90.0	82.5	62.5
Large root,_____ planted horizontally	April	12–16	1.0–2.5	75.0	47.5	77.5
Large root,_____ planted vertically	April	12–16	1.0–2.5	52.5	22.5	45.0
Small roots,_____ planted vertically	April	5–6	.3–1.0	12.5	7.5	12.5
Stems:						
Dormant (all old growth),_____ planted vertically	April	15	—	0	0	0
Softwood (all new growth),_____ planted vertically	June	15	—	0	0	0

[1] Roots.
[2] Sprouts.

the differences among all these types were, not statistically significant. Stem cuttings failed to sprout.

Discussion

Two of the cutting types tested (roots with a stem sprout planted vertically and large roots planted horizontally) seemed clearly superior under the conditions of this test. These two types should be tested further to measure survival during a longer time period, and to measure growth in outplantings.

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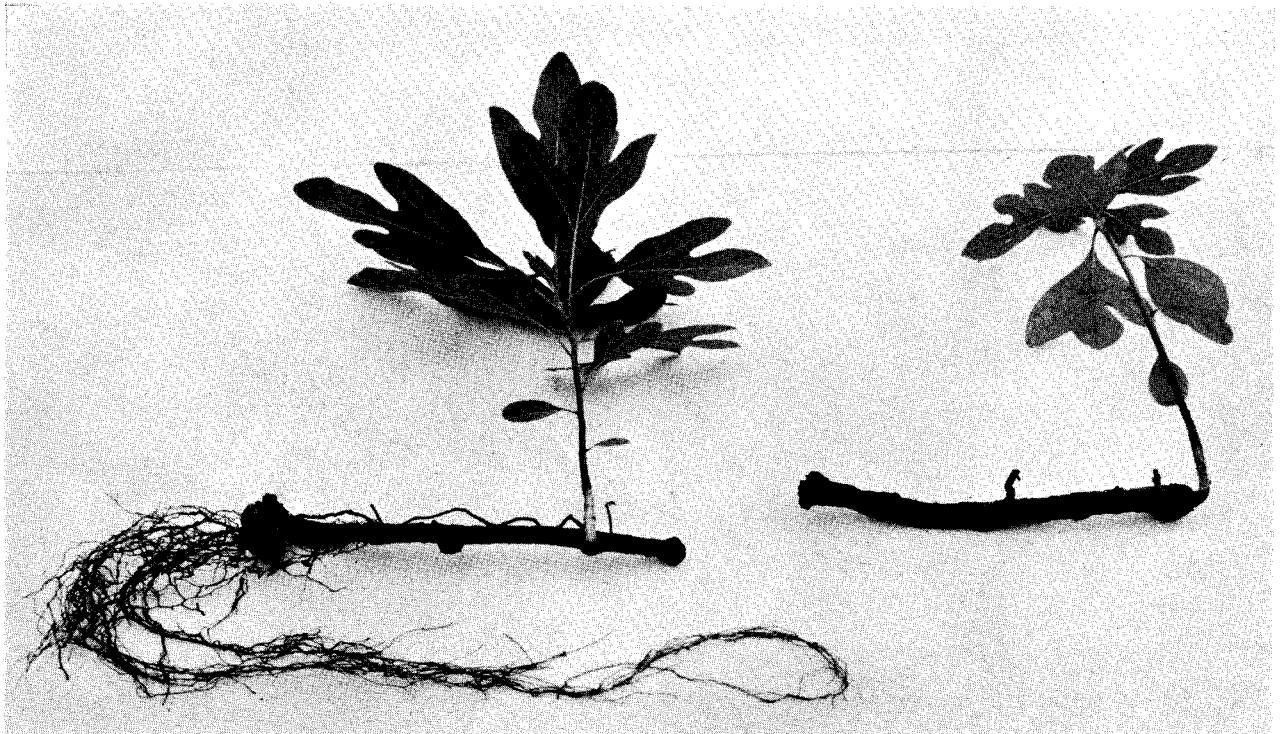
Figure 1.—Large sassafras root sprouts planted horizontally: *Left,* planting has rootlets and sprout; *right,* planting has sprout but no rootlets.