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Brown Turkey Fig Softwood Cutting Propagation

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Summary

A shortage of hardy common fig cultivars in 2020 led to a study to produce plants of brown turkey fig that could be grown in containers for fruit production. Softwood cuttings of *Ficus carica* 'Brown Turkey' were collected in June 2020, scored and dipped in Hormodin 2 talc, and then placed in 50% : 50% by volume perlite : pine Bark and Pro-Mix BX : pine bark substrates. These cuttings were evaluated for rooting a month later. In 2021, this method was repeated but with 100 cuttings. The cuttings were collected in June 2021 from the fig plants that grew from cuttings in 2020, and they were evaluated for rooting a month later.

INTRODUCTION

In May of 2020 nurseries that grow cultivars of *Ficus* spp., known for hardiness and a parthenocarpic (fall) crop that would ensure a harvest each season, were out of stock. In order to start a trial growing figs in containers for plant production practices and to be transplanted into 25-gal containers for fruit production, we would have to

produce the liners needed. Considering the shortage, a trial on softwood cutting propagation was initiated.

Ficus carica 'Brown Turkey' plants were needed for a container grown fig fruit production research project. Cutting wood was provided by a colleague. No literature was found on soft wood cutting propagation of figs. Personal communication, indicated figs rooted easily from softwood cuttings. Most figs are propagated by hardwood cuttings that are callused and placed directly into the ground or rooted in containers. (Hartman and Kester, 2011).

MATERIALS AND METHOD

On June 5, 2020, 40 cuttings were divided into two groups. All cuttings were single wounded 0.5 inches (1.27 cm) from the basal end and dipped in Hormodin 2 IBA Talc [3000 (0.3%) ppm]. One group was placed in perlite : pine bark at 50% : 50% by volume and the other in Pro-Mix BX : pine bark at 50% : 50% by volume. Cuttings were placed in community trays. The cuttings were further subdivided into those considered vigorous (Tray – 1) and those determined to be of lesser quality (Tray – 2).

All were placed in a mist propagation bed with 10 seconds of mist every 10 minutes. Those of lesser quality would be considered bonus plants if they rooted. All cuttings were rated on 0 to 5 scale with 0 indicating no rooting and 5 indicating the best rooting (Figure 1). In order to be able to replicate future cutting production of 'Brown Turkey', records were maintained.

Figure 1. Rooting rating scale 2020; left to right 0, 1, 2, 3, 4, 5.

The 2020 study was replicated in 2021 with 100 cuttings beginning on June 3, 2021 following the same propagation practices. There were five trays of cuttings in each treatment placed in perlite: pine bark, and Pro-Mix BX : pine bark, each at 50% : 50% by volume. All trays were placed in a mist propagation bed with 10 seconds of mist every 10 minutes (Figure 2). After noticing sun damage, a shade cloth was placed overhead with 50% shade. The cuttings were rated on the same scale as before (0 to 5 scale) (Figure 3).

Figure 2. Trays in mist propagation bed 2021.

Figure 3. Rooting rating scale 2021; left to right 5, 4, 3, 2, 1, 0

RESULTS AND DISCUSSION

On July 8, 2020, the cuttings were evaluated (Table 1). The vigorous cuttings all rooted. Of the lesser quality cuttings, 4 did not root (0) and 4 rated 1 on a 1-5 scale. Cuttings in Trays 1 are shown in Figure 4.

Table 1: Rooting rating based on substrate and cutting quality.

Rating	Perlite : Pine Bark		Pro-Mix BX : Pine Bark	
	Tray 1	Tray 2	Tray 1	Tray 2
0		3		1
1		3		1
2	5	2	4	2
3	2		4	3
4	2	1	2	2
5	1	1		1
Average	2.9 a*	1.6 b	2.8 a	2.7 ab

*Means followed by the same letter are not statistically different (least significant difference) (P>0.05).

The images and observation rating indicate that the substrate did not influence rooting. Looking at Figures 4 and 5 and rating observationally based on white roots there appears to be a Pro-Mix BX : pine bark advantage. The quality of the cuttings influenced rooting of softwood fig cuttings in the evaluation. All the rooted cuttings grew vigorously. Three plants did not overwinter in an unheated nursery quonset with a single layer of white poly cover.

Figure 4. Rooting of Pro-Mix BX : pine bark 2020.

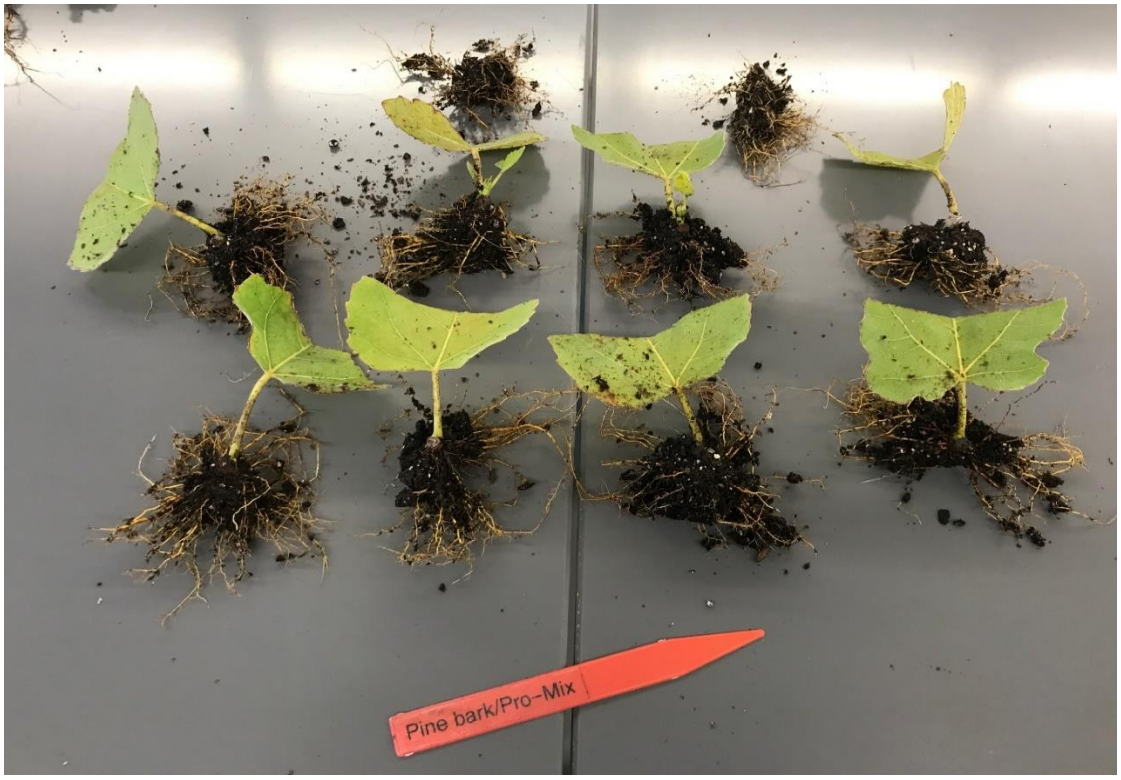

Figure 5. Rooting of Pro-Mix BX : pine bark 2021.

On July 16, 2021, the cuttings in the repeated study were evaluated (Table 2). The cuttings placed in the Pro-Mix BX : pine bark substrate had a higher average rating than the cuttings placed in the perlite : pine bark substrate. Because the Pro-Mix BX : pine bark substrate has a higher water-holding capacity, the cuttings were less affected by sun damage in the beginning stages of rooting.

The images and statistics indicate that the substrates did not have an influence on rooting because there is not a large enough difference between the two substrates; however, there is a slight Pro-Mix BX/Pine Bark advantage considering the higher observed average rating and percent of cuttings with roots.

Table 2: Effect of Substrate on rooting and quality of roots of fig cuttings.

Substrate	Percent with roots (survival)	Average rating
Pro-Mix BX : pine bark	92	3.84
Perlite : pine bark	84	3.50
Mean	88	3.67
LSD[1] (0.05)	16.2	0.71

[1]Least significant difference – means that are less than the LSD are not statistically different at the 0.05 probability level.

LITERATURE CITED

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