Several New Dwarfing Rootstocks Compared to Lovell in the 2002 NC-140 Peach Rootstock Trial

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As part of the 2002 NC-140 Peach Rootstock Trial, a planting of Redhaven on eight rootstocks was established at Clarkdale Fruit Farm (Deerfield, Massachusetts) in 2002.

Rootstocks included in this study are from many locations: Adesto 101 from Spain, Cadaman from France, Pumislect from Germany, Penta and MRS 2/5 from Italy, and VSV-1 and VVA-1 from Russia. The objective of the study is determine adaptability of these rootstocks to various soil, climatic, and pest conditions.

In Massachusetts, the trees have grown reasonably well, but suffered a complete crop loss in 2004 (due to winter cold temperatures) and a partial crop loss in 2005 (due to spring frost). Average yield in 2005 was

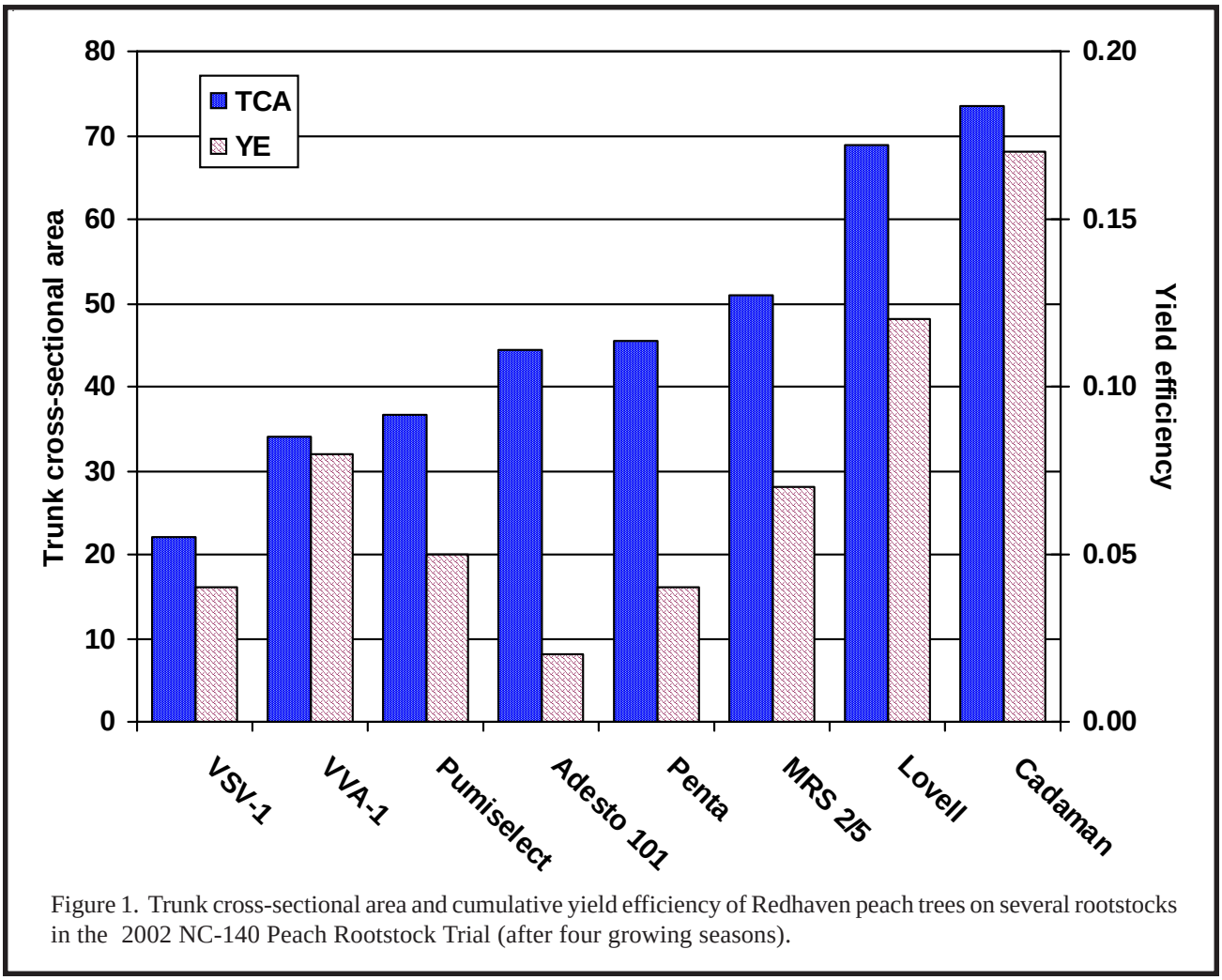

Figure 1. Trunk cross-sectional area and cumulative yield efficiency of Redhaven peach trees on several rootstocks in the 2002 NC-140 Peach Rootstock Trial (after four growing seasons).

Table 1. Trunk cross-sectional area in October, cumulative suckering, yield, and fruit weight in 2005 of Redhaven trees on several rootstocks in the Massachusetts planting of the 2002 NC-140 Peach Rootstock Trial.[z]

Rootstock	Trunk cross-sectional area (cm^2)	Root suckers (no./tree, 2002-04)	Yield per tree (kg)	Yield efficiency (kg/cm^2 TCA)	Fruit weight (g)
Adesto 101	44.5 bc	0.1 a	0.8 c	0.02 c	181 ab
Cadaman	73.4 a	0.0 a	13.1 a	0.17 a	189 ab
Lovell	68.9 a	0.0 a	8.3 ab	0.12 ab	197 ab
MRS 2/5	50.8 b	0.6 a	3.4 bc	0.07 bc	211 a
Penta	45.4 bc	1.4 a	1.7 c	0.04 bc	171 ab
Pumiselect	36.6 bcd	0.5 a	2.2 c	0.05 bc	142 b
VSV-1	22.2 d	0.3 a	1.1 c	0.04 bc	190 ab
VVA-1	33.5 cd	0.3 a	2.6 c	0.08 abc	194 ab

[z] Means within column not followed by the same letter are significantly different at odds of 19 to 1.

only 9 lbs. per tree, but average fruit size was 0.4 lbs. The planting included eight replications in a randomized-complete-block design. Means from 2005 (4th growing season) are included in Figure 1 and Table 1.

After the 2005 season, the largest trees were on Cadaman and Lovell, significantly larger than trees on the other rootstocks (Figure 1, Table 1). Smallest trees were on VVA-1, VSV-1, and Pumislect.

Very few root suckers were produced on these trees, and rootstock did not affect suckering from 2002 through 2005 (Table 1).

Yield per tree in 2005 was greatest from trees on Cadaman and Lovell (Table 1). Likewise, trees on these two rootstocks were the most yield efficient in 2005 (Figure 1, Table 1).

Largest fruit were harvested from trees on MRS 2/5, and the smallest were from trees on Pumiselect (Table 1). Size of fruit from trees on the other rootstocks were reasonably large and intermediate.

To date, the greatest tree loss (50%) was of trees on Pumiselect. The only other mortality was a single tree each of VVA-1 and Penta.

The potential for dwarfing rootstocks presents interesting management opportunities for peaches. Pruning and tree vigor could be handled quite differently than it is now. High-density plantings may allow for significantly earlier and greater yields as well. It will be interesting to follow the development of these trees.

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