

1998 NC-140 Apple Rootstock Trial: G.16 versus M.9

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As part of the 1998 NC-140 Apple Rootstock Trial, a planting of Gala on three rootstocks was established at the University of Massachusetts Cold Spring Orchard Research & Education Center in Belchertown in 1998. The experiment was a randomized-complete-block design with ten replications. This trial was planted at several locations throughout North America, but only Massachusetts data are reported here. Means from 2004 (seventh growing season) and cumulative means are included in Table 1 and Figure 1.

Rootstock significantly affected trunk cross-sectional area, with trees on G.16 significantly larger than those on M.9 or M.9 EMLA (Figure 1). Trees did not produce many root suckers, and cumulative (1998-2004) root suckering was similar among the three

rootstocks. Yields per tree in 2004 and cumulatively were not different among trees on the three rootstocks. In 2004, trees on the M.9 strains were more yield efficient than trees on G.16. Cumulatively (2000-04), however, the two M.9 strains resulted in numerically more but statistically similar yield efficiency to G.16 (Figure 1). In 2004 and on average (2000-04), G.16 resulted in smaller fruit size than did M.9 or M.9 EMLA.

As a new rootstock introduction, primary interest is in how G.16 compares to M.9. This trial suggests that G.16 results in large dwarf trees, which are somewhat less yield efficient than M.9 and with smaller fruit size. Results from younger trials with McIntosh, Cameo, and Golden Delicious as the scion cultivars are also reported in this issue.

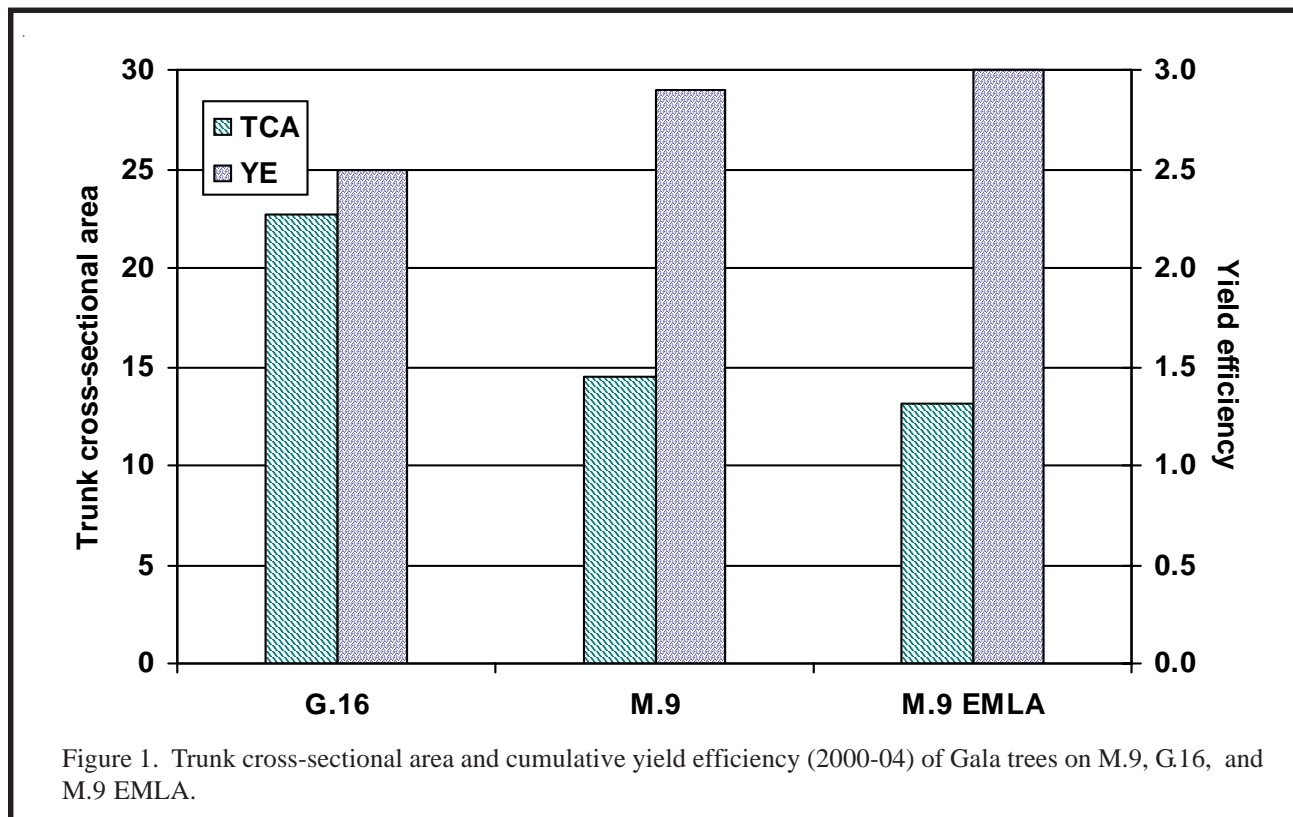


Table 1. Trunk cross-sectional area, suckering, yield, yield efficiency, and fruit weight in 2004 of Gala trees on various rootstocks in the Massachusetts planting of the 1998 NC-140 Apple Rootstock Trial.^z

Rootstock	Trunk cross-sectional area (cm ²)	Root suckers (no./tree, 1998-2004)	Yield per tree (kg)		Yield efficiency (kg/cm ² TCA)		Fruit weight (g)	
			2004	Cumulative (1999-2004)	2004	Cumulative (1999-2004)	2004	Average (1999-2004)
G.16	22.7 a	0.7 a	18.7 a	58 a	0.77 b	2.52 a	155 b	116 b
M.9	14.5 b	0.7 a	18.0 a	42 a	1.25 a	2.89 a	204 a	157 a
M.9 EMLA	13.2 b	0.3 a	20.9 a	40 a	1.56 a	2.99 a	194 a	156 a

^z Means within not followed by the same letter are different at odds of 19 to 1.

