

2002 NC-140 Apple Rootstock Trial: B.9, M.9, and M.26 Strains and New Polish and PiAu rootstocks

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As part of the 2002 NC-140 Apple Rootstock Trial, a planting of Gala on 11 rootstocks was established at the University of Massachusetts Cold Spring Orchard Research & Education Center in 2002. The planting included seven replications in a randomized-complete-block design. This trial was planted in several locations throughout the United States, Canada, and Mexico, but only Massachusetts data are reported here. Means from 2004 (3rd growing season) are included in Table 1.

Largest trees were on PiAu51-4 and M.26 NAKB, and smallest were on B.9 (Europe), B.9 (Tresco), M.9 NAKBT337, and Supporter 4. Root suckering, yield, yield efficiency, and fruit size were not affected significantly by rootstock in 2004.

Obviously, data from the third growing season do not provide much useful information to compare rootstock performance; however, it is interesting to follow these trees as they develop. This trial was planted with several objectives in mind. There are two strains

of B.9 in commerce, and it is hoped to begin understanding differences between them with this trial. Also, an alternative strain of M.26 (NAKB) must be compared to the standard M.26 EMLA. The Bergmer 756 strain of M.9 may have value and is compared to other strains in this trial. Further, newly available rootstocks, P.14, PiAu51-11, PiAu 51-4 are included in this trial for their first NC-140 evaluation. In future years, this trial will provide interesting data from which to make rootstock selection decisions.

Table 1. Trunk cross-sectional area in October and cumulative suckering in 2004 of Gala trees on several rootstocks in the Massachusetts planting of the 2002 NC-140 Apple 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) |
|-----------------|---|----------------------------------|---------------------|---|------------------|
| B.9 (Europe) | 5.8 d | 0.0 a | 3.0 a | 0.51 a | 149 a |
| B.9 (Tresco) | 6.5 cd | 0.0 a | 2.3 a | 0.37 a | 163 a |
| M.26 EMLA | 9.9 abc | 0.2 a | 1.6 a | 0.17 a | 144 a |
| M.26 NAKB | 11.4 ab | 0.1 a | 2.6 a | 0.24 a | 121 a |
| M.9 Bergmer 756 | 8.7 abcd | 0.1 a | 1.9 a | 0.23 a | 172 a |
| M.9 RN29 | 8.1 bcd | 2.3 a | 2.7 a | 0.34 a | 180 a |
| M.9 NAKBT337 | 6.9 cd | 0.0 a | 1.3 a | 0.19 a | 155 a |
| P.14 | 10.0 abc | 0.3 a | 0.6 a | 0.12 a | 135 a |
| PiAu51-11 | 8.0 bcd | 0.2 a | 0.6 a | 0.09 a | 159 a |
| PiAu51-4 | 12.6 a | 0.0 a | 0.2 a | 0.03 a | 128 a |
| Supporter 4 | 7.3 cd | 0.0 a | 0.9 a | 0.22 a | 155 a |

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

