

10-Year Performance of Cameo® Apple Trees on Three Dwarf Rootstocks in Massachusetts and New Jersey as Part of the NC-140 Regional Rootstock Research Project

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In 2002, as part of the NC-140 Regional Rootstock Research Project, rootstock plantings were established at the University of Massachusetts Cold Spring Orchard Research and Education Center in Belchertown, MA and at the Rutgers Snyder Research and Extension Farm in Pittstown, NJ. Cameo® (Caudle cv.) apple trees on three dwarfing rootstocks – Geneva (G.) 16, M.9-NAKBT337 (M.9-337), and B.9 – were planted in a randomized complete block design (10 replications) spaced at 1.2 X 3.6 m. (Massachusetts) and 2.5 X 4.5 m. (New Jersey). All trees are trickle irrigated and have been trained to a vertical axis. Measurements of tree growth, fruit yield, fruit size, and root suckers have been made annually. In 2011, G.16 had the largest trunk cross-sectional area (66.2 cm.²) followed by M.9 and B.9 (51 and 30 cm.² respectively). Canopy size (tree height and spread) was also largest for G.16. Cumulative fruit yield (2003-2011) was higher for M.9 (194 kg.) compared to B.9 (156 kg.), however, M.9 did not differ from G.16 (182 kg.). B.9 had the highest cumulative (2003-2011) yield efficiency (6.8 kg./cm.²) followed by M.9 (5.0 kg./cm.²) and G.16 (3.9 kg./cm.²). Across both states in 2011, fruit size did not differ between the rootstocks, however, fruit in New Jersey were significantly larger (228 g.) than those in Massachusetts (207 g.).