Increasing Branching of Newly Planted Apple Trees in the Orchard, an Update

Jon Clements
Center for Agriculture, Food, & the Environment, University of Massachusetts

In the Summer 2014 issue of Fruit Notes (Vol. 70, No. 13, http://umassfruitnotes.com/v79n3/Cover793.html) I reported on the use of in white latex paint to improve branching of newly planted apple trees. At the time, I reported that this improved branching, however, I did not have any numerical data to support my observation. In 2014, I conducted an experiment and measured the results.

To summarize the procedure, Maxcel was mixed in white latex paint at 5,000 ppm (0.2 pint of Maxcel per pint of latex paint) and applied to newly planted Honeycrisp/B.9 trees (approximately 2 weeks after planting in mid-May) at the UMass Cold Spring Orchard using a foam brush to coat the one-year old wood in the region where branching was desired (from knee-height to just below the terminal bud). The trees used in 2014 were small, ¼ inch caliper and largely un-branched, i.e., a small 'whips'' at the time of plant-

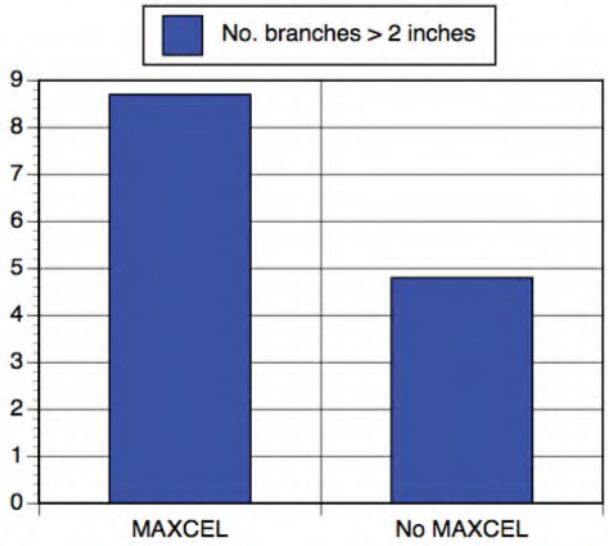

Figure 1. Total number of shoots (greater than 2 inches) for trees treated with Maxcel versus control trees.

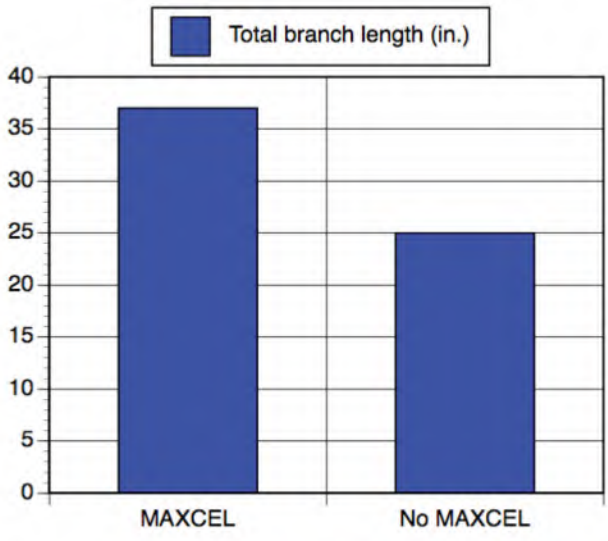

Figure 2. Total shoot length (of those greater than 2 inches) for trees treated with Maxcel versus control trees.

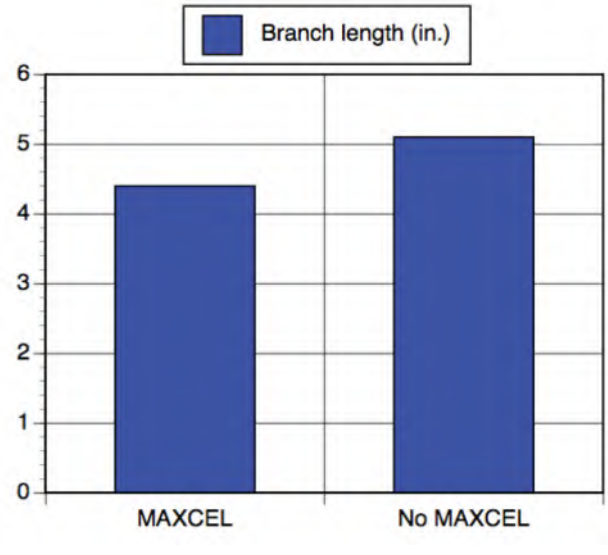

Figure 3. Average shoot length (of those greater than 2 inches) for trees treated with Maxcel versus control trees.

Figure 4. Tree treated with Maxcel had 8 -9 branches that were greater than 2 inches in length per tree.

ing. The Maxcel treatment was applied to 46 of 92 trees planted, while No Maxcel treatment was applied (i.e., No Maxcel in the same latex paint paint) to the other 46 in a totally random fashion.

At the end of the growing season (in December, 2014), measurements of each tree included: trunk diameter, leader growth, total number of branches (greater than 2 inches long) per tree, and the length of all branches (greater than 2 inches long).

Maxcel treatment did not affect trunk diameter and leader growth (not shown); however, it significantly increased the total number of branches (Figure 1) and the total length of shoot growth (Figure 2). Maxcel treatment, however, reduced the length of branches somewhat (Figure 3). Figures 4 and 5 show typical result of the Maxcel treatment and the control, respectively.

Based on these results, it is pretty clear that application of Maxcel in white latex paint per label recommendation is a very effective method of increasing branching on one-year-old wood of newly planted or young apple trees. I would not suggest, however, using any higher rate that the 5,000 ppm rate, as I detected some stunting of leader and shoot growth when applied at even this rate. One question that was not evaluated here: Would it have been equally effective to apply a dilute, directed, 500-ppm spray of Maxcel (or Promalin) to one-year-old wood?

Figure 5. The control trees (no Maxcel) had 4-5 branches that were greater than 2 inches in length per tree.

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