2025 SAI Field Trial: Pierce Almond Trees

Two trees planted on the same day (28 Febuary 2024) at Rapp Ranch. The tree on the left is about average of the monitored control trees. The tree on the right received the blend that we have settled on as "optimum" in 2025. The man in the photo is 6' tall, and the photos are scaled to him. You can see a massive different in height, in the width of the canopy, and you can see with your eyes the difference in trunk thickness. These photos were taken on 7 October 2024.

In 2025, Rapp Ranch allowed us to treat ~600 trees, with various ratios of the blend, and even individual ingredients. We typically measure the trees about 1x per month. For the trees planted in 2024, in Feb'25, the SAI treated trees bloomed about 10 days earlier than the control trees, and had 3-5x more blossoms/tree. We are trying to achieve an almond harvest, sooner, and maybe larger. (Unfortunately, field maintenance removed the branches with the almond nuts in later April. At that time, we were running about 3x more almonds per two year old tree, and the nut diameters were about 2x larger.)

Variables experimented with:

1) Bare root Pierce almond trees, either on Guardian or Viking rootstock.
2) Dose amount: "par", par x 0.75, par x 1.25.
3) SAI delivery method: bagged vs broadcast.
4) Planting method: 1 hole, 12"x12"12"; 2 holes 1 cu ft; hand mixing the material in the soil.
5) Bacteria: 1 vendor's material; another vendor's material; a 50-50 mix of these two.
6) A material that forms hydrogel: shanked in to 16" depth, 8 gr/liner ft; 5 gr spread on the hole bottom; 1 liter of hydrogel per hole.
7) Presoak the bare root trees: overnight in water, or overnight + a dip of a mycorhizzae fungi + a fungi food, or a "foliar drench" a week after planting.

Photos on 8 October 2025. Photo 3 (l): a “control row”. You can see how these control trees are shorter, narrower, with sparser leaves on that day. Photo 4 (r): one of the taller JB treated trees. This tree is slightly taller than the 11’ yellow pole. You can see the man’s legs behind this tree, to give you a “sense” of the height, the canopy width, the # of leaves, and the fact that the leaves are hanging weeks longer than the “control” trees. The man is 6’ tall.

Our final measurements took place on 11 November 2025. These were accurate enough, to “pick up” 2 stripes of “poor soil”, one running West to East, and another running from near the NE corner of this 12 acre block, towards the SW corner of that block.

Our conclusions will inform our planting strategies in 2026 and beyond. Here are a few:

1) One of the rootstocks consistently outperformed the other, in all three measurements.
2) In nearly all measurement comparisons, the JB treated trees grew taller, with a wider canopy, and a thicker trunk diameter, compared to “control” trees 4 rows away.
3) The JB blend at “par”, again outperformed 25% more and 25% less material.
    a. The 50-50 bacteria blend produced that most reliable and largest differential.
4) There was no statistical difference bagged JB vs broadcast JB.
    a. There was no benefit to digging 2 holes at planting –
    b. splitting the amendments between two holes, or with hand mixing the amendments into the soil.
5) The hydrogel slightly outperformed the broadcast granules, which slightly outperformed the “shanked in” method.