

Summary of 2025 Field Study

Plant Type: Tomatoes, “Lucid Gem”

Summary: On 6 May 2025, we planted 4 Lucid Gem tomatoes in 5 gallon pots. The base soil was fresh potting soil; all got an initial dose of tomato fertilizer, and the same amount of water. We used 4 different ratios: control, 12:1, 20:1, and by area (which works out to ~ 60:1). For example, 20:1 means 20 parts of the potting soil, and 1 part of the SAI blend of biochar, plant compost, animal compost, beneficial bacteria, beneficial fungi, and a water retention ingredient. All are certified by the Ca EPA and by the CDFA, and all are certified organic except for one. The SAI treated plants more than doubled in height in 2 weeks. We saw the first blooms on 20 May 25 measure; below are measurements and a photo.



Photo 1: L to R, “Control”, 12:1, 20:1, “by area” (~60:1). If you look closely, you can see the first blossoms, the largest leaves, and the difference in height and width/density.

	<u>Ht (cm)</u>	<u>W x L (cm)</u>	<u>Stalk diameter</u>	<u>Largest leaf area (cm²)</u>
Control:	41	33 x 30	8.3mm	14.2
12:1	46	37 x 37	8.6mm	42.9
20:1	48	40 x 40	10.9mm	56.1
By area	46	36 x 37	9.7mm	41.1

Analysis: First blooms appeared today on the 20:1 and the “by area” plants. The 20:1 plant is doing the best- so far. Compared to the control plant, the 20:1 plant has a plant volume 1.9x larger, the largest leaf is ~ 4x larger, and the cross section of the stalk is ~ 1.7x more area (this is the plumbing of the plant, in both directions).

In 2024, our best tomatoes used a 12:1 ratio. For 2025, we added the fungi, and the best performing plants- the ratio of amendment has been reduced to 20:1, so far. The ultimate metric is the weight of tomatoes/plant; we’ll keep monitoring.

Update 27 May 2025:



While all SAI treated plants are taller, are wider, and have thicker stalks, larger leaves, and more blossoms, the 20:1 plant seems to be outperforming the others.

The largest leaf on this SAI treated plant is ~2.2x larger than the largest leaf on the control plant.

The stalk diameter on the SAI treated plant is 1.3cm vs 0.94cm, for a stalk cross section area of ~ 1.9x more surface area than the stalk on the control plant.



The plant volume of the SAI treated plant is ~ 2.5x greater than the plant volume of the control plant.

The # of blossoms on the SAI treated plant is some 3x more than the control plant (12 vs 4).

We will continue to monitor, and to report on the differences in plant size, and eventually on the # and size of harvested tomatoes.