2025 Field Study

Plant Type: “San Francisco Fog” Indeterminate Tomatoes
Field Trial vs. a Retail Compost Competitor (“$Comp_{sc}$”)

Summary: Since 2023, SAI has been collaborating with a local plant nursery, as we’ve developed our soil amendment. We’re at the point where we are ready to bag it and sell it at retail. To help establish the value proposition, this plant nursery suggested that we conduct a field trial, comparing plant response to the closest product that they carry. We call this $Comp_{sc}$ (composted cow manure+seafood wastes+plant bits). At the request of this local plant nursery, we purchased a bag of $Comp_{sc}$, and used it in 2 field trials.

The first trial started on 20 June 2025, with Sweet 100 Cherry Tomato plants. By 2 weeks, we could see a massive difference in the plant response (SAI treated plant vastly outperformed control, and $Comp_{sc}$). It occurred to us that perhaps the beneficial plant response of the SAI soil amendment was due to our formula, which contains several ingredients that $Comp_{sc}$ does not contain. So we blended up a batch of the SAI soil amendment, replacing our plant compost and manure compost, with $Comp_{sc}$ compost. We figured this might “ levelplaying field”: what happens when $Comp_{sc}$ gets the benefit of our biochar, our beneficial bacterial, our mycorrhizal fungi and a starter food, and our water retention ingredient?

2 July 2025 Update: today, we planted 3 “San Francisco Fog” tomato plants in 2 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 3 different ratios: control, control plus the SAI amendment-substituting $Comp_{sc}$ compost for our custom blend of plant and animal composts- at the same ratio of 20:1, and the control plus the SAI soil amendment at 20:1. For example, 20:1 means 20 parts of the potting soil, and 1 part of the SAI blend of biochar, plant compost, animal manure compost, beneficial bacteria, beneficial fungi and a starter food for the fungi, and a water retention ingredient. The purpose of this experiment was to understand *if* the $Comp_{sc}$ produced an improved plant response, when it had the benefit of our SAI ingredients. All SAI materials are certified by the Ca EPA and by the CDFA, and all are certified organic except for one. All three plants were planted at 23cm tall; the SAI plant today is ~37cm tall.

Photo 1: 7 July 2025, control plant on left, $Comp_{sc}$ plant in the center, SAI treated plant on the right. At 5 days, the SAI plant is already much taller and wider.

Yardstick in the red tagged pot for size reference.

16 July 2025 Update: The SAI 20:1 plant is growing the fastest: it is taller, wider, and has larger leaves than the other two.

Photo 2: Control plant on the left, $Comp_{sc}$ blended with the additional SAI ingredients in the center (at 20:1), and the SAI treated plant on the right (at 20:1).

- The Control plant (left) has 2 clusters, and 5 tomatoes. The largest tomato has a diameter of 1.81cm; that sphere volume is 3.1cm^3.
- The $Comp_{sc}$ plant (center) has 2 clusters, and 4 tomatoes. The largest tomato has a diameter of 1.67cm; that sphere volume is 2.4cm^3.
- The SAI amendment plant (right) has 3 clusters, and 5 tomatoes. The largest tomato has a diameter of 2.69cm; that sphere volume is 10.2cm^3. The blossom clusters of the SAI treated plant has three additional blooms at the end; the other two plants don't - yet.

These results are in line with what we see in other field trials for indeterminate tomatoes: that is, the SAI treated plants produce more tomatoes/plant, and each individual tomato weighs more.

While we expected the SAI amended plant to perform the best, this is the second experiment with $Comp_{sc}$ that is underperforming. That is surprising. While of academic interest, we have little commercial interest is pursuing this further. Thus this experiment is concluded, and the space will be used for additional and different field trials.