ROI Case Study: Field Tomatoes

In 2023, one of our tomato farmers grossed $4k/acre for field tomatoes, and earned under $300/acre net profit. In that same field, we produced over 2.7x more tomatoes/plant, earning his interest in a greenhouse experiment that winter.

Over winter 2023-'24, this farmer brought 2 acres of his soil to a greenhouse in Marin county, along with his fertilizers and schedule. Over the winter, in the greenhouse (i.e. controlled conditions), we grew control tomato plants in his soil + fertilizers, and 31 additional identical tomato plants, using various combinations of our soil amendments. The best one, we internally call it "JB" (John's Blend), produced plants that were taller and wider, and that produced 3.7x more weight of tomato per plant.

Greenhouse tomatoes.
L photo: weekly harvest from a control plant.
R photo: weekly harvest from a SAI treated plant.

That blend was used at many sites in 2024, and these typically resulted in 3-5x more weight of tomatoes/plant- including at the garden of one of his workers close to the farm (i.e. same soil, same fertilizers). We worked out a business model with that farmer. While the production contract was cancelled prior to planting, here's how it would have worked out.

1) The cost of inputs was about $1k/acre. In order to reduce risk, we split the up front costs 50-50. So the farmer put in $500/acre.
2) We allowed the farmer to take the carbon offset (2 tons/acre @ $170/ton), which further reduced his up front risk capital to $160/acre.
3) At 3.7x harvest, his gross revenue per acre would have been $14.8k/acre.
4) Pay him back his up front $160, pay us back our upfront $500, and take away $4k (he would have got that without us). That leaves $10,160/acre to share. Initially we agreed to share any upside 2/3 to the farmer, 1/3 to SAI. We (on paper) agreed to a share of $3k/acre to SAI, and $7,160/acre to the farmer. His net income/acre would have risen from under $300/acre, to **$7,160/acre** . His ROI would have been: $7160/160*100 = **4,475%!** (the farmer notes that his costs would have risen slightly, due to higher labor costs for picking 3.7x more weight of tomatoes, and for additional trucking costs.)

The 2025 version of JB adds mycorrhizae fungi to the blend. So far, it is producing tomato plants that are taller, wider, with larger leaves, earlier blossoms, and new this year (we are measuring it) thicker stalks.