Case Study

Cherries

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This case study examines a set of farmer-led trials by cherry grower Mike Omeg of Omeg Family Orchards in Oregon. Omeg compared AEA programs side-by-side with his conventional management programs on a number of blocks, each with different management objectives.

Key Achievements:

- **$2000 (13%) increase** in revenue per acre from increased fruit size alone
- **Saved** a problem block from bulldozing; cheaper than the cost of replacement
- **Eliminated** bacterial canker infestation after 3 years
- **4x yield increase** on infected block

Background

Mike Omeg is currently director of orchard operations at Orchard View Farms, which grows 3,600 acres of sweet cherries in The Dalles, Oregon. Omeg ran this trial while operating Omeg Family Orchards, comprising 330 acres in The Dalles. Omeg's continuous quest to optimize fruit quality led him to explore soil health as a driver of tree health and fruit quality. It was in this quest that he encountered AEA, and, intrigued by our ideas, decided to put them to the test at his orchard.

Trial Design

Omeg ran two trials on separate blocks, each with a specific management goal:

1. As a seller on the wholesale market, Omeg is compensated based on the firmness and size of his cherries. His primary goal with the first trial was to improve those quality metrics on an average block. Omeg chose two varieties (Bing and Skeena) from the same block with average cherry production (~10,000 lb/ac) and compared an AEA protocol to his standard management program to see if it would improve fruit size and firmness. The trial was run on 40 acres.

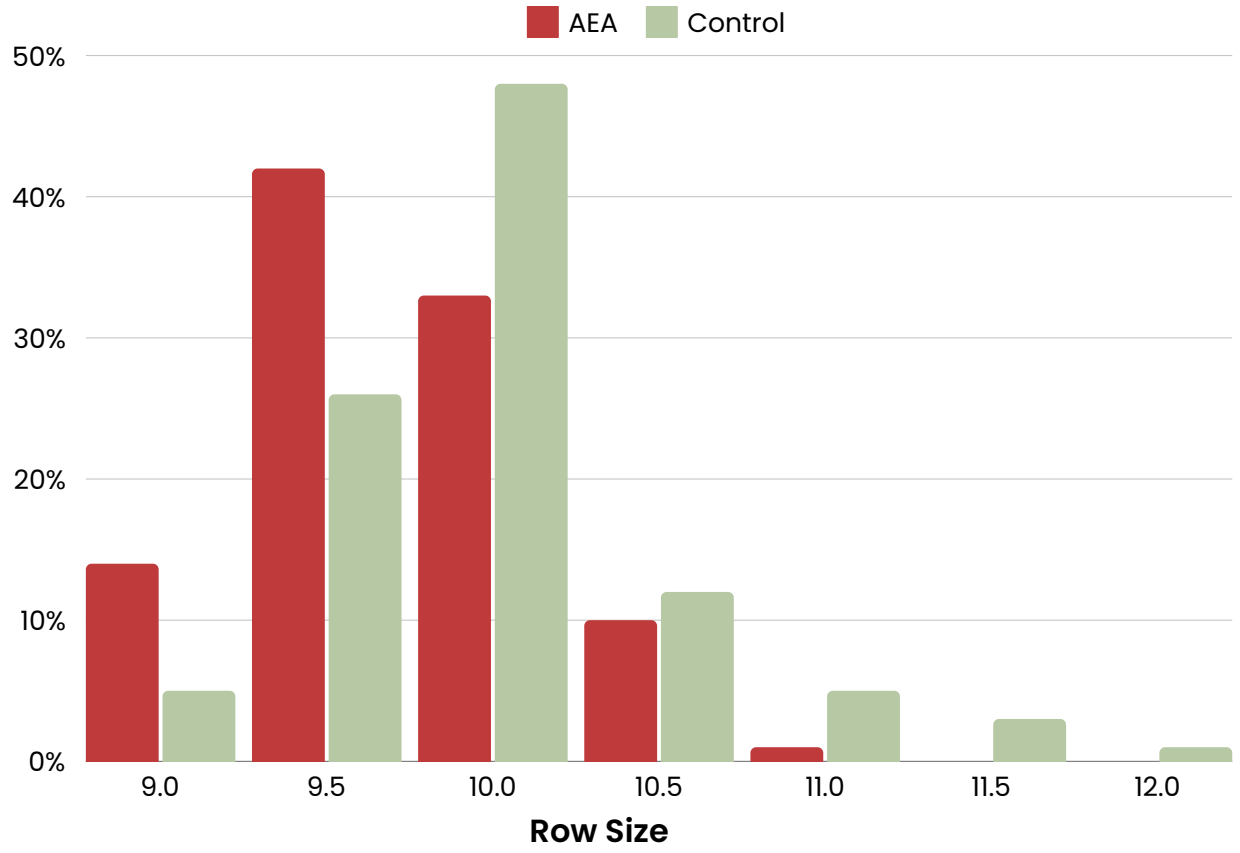
2. Omeg also tried an AEA program on a 17-acre “problem block” that was due to be bulldozed. The trees on that block were of the Regina variety, 5-12 years old, and generally weak and low-vigor. They produced a reasonable bloom, but most of the flowers fell off, resulting in very low fruit yields. Additionally, much of the fruit sun-burned due to sun exposure from a thin, stunted leaf canopy. The block was heavily infested with bacterial canker (~50% of trees infected) and was producing only 2 tons of fruit per acre. The 17-acre problem block was trialed vs. a 4-acre control.

An AEA consultant suspected the trees’ roots were the source of the problem; this was confirmed when some roots were dug up and found to be stunted, with few root hairs. The management program focused on fostering tree health and re-invigorating root growth. The cost to remove and replace the block would have been substantial, so Omeg put on very aggressive nutrient applications that were much more expensive than his normal treatments but still less than the cost of replacing the block.

Results

1. In the first trial, fruit samples from both the treatment and control blocks were chosen at random. The row size of each fruit was measured.

The AEA-treated fruit showed a substantial increase in size over the control. (A lower number row size indicates larger fruit).



Per-acre return was calculated by assuming average yield from both treatments (10,000 lb/acre) and measuring the revenue based on row size distribution (a yield increase with AEA was observed but was not able to be quantified). Since each row size garners a different market price, the revenue from each size was calculated individually, and then summed together.

The calculation used was:

(percent of fruit) x (average yield of 10,000lb/acre) x row size price

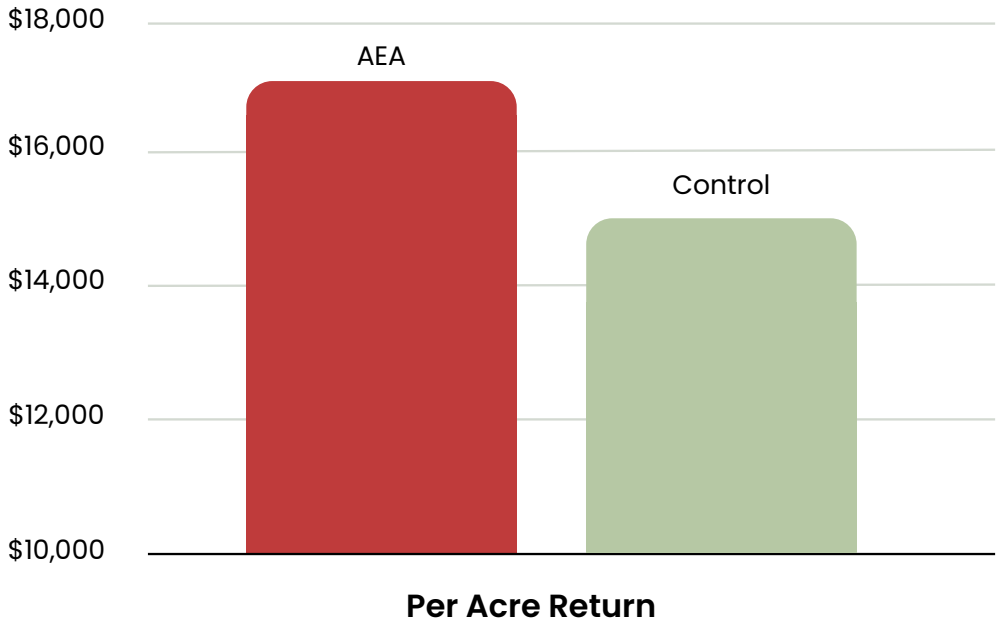
Example: AEA treatment, row size 9

(14%) x (10,000 lb/acre) x (row size 9 price) = [Row Size 9 Revenue per acre]

Taken cumulatively, the increased row sizes yielded an impressive $2000 (13%) increase in revenue per acre from the AEA treatment.

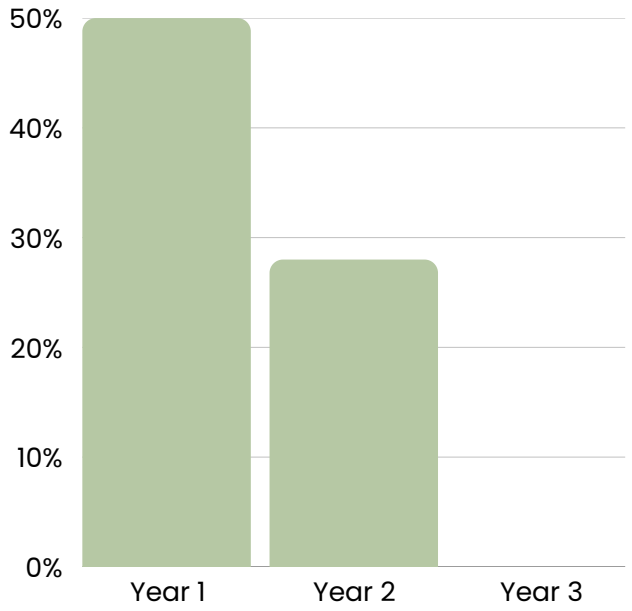
2. The trees in the “problem” Regina block completely turned around after a single season of aggressive AEA treatments. They had an increased fruit set and leaf canopy, and produced reasonable yields for the first time in years. Even more encouraging, they showed vigorous shoot growth to set them up for further improvement the following season.

The aggressive program cost more than Omeg typically spent per acre, but was vastly more affordable than removing and replanting the entire block, and it provided the opportunity to harvest fruit on mature, established trees.

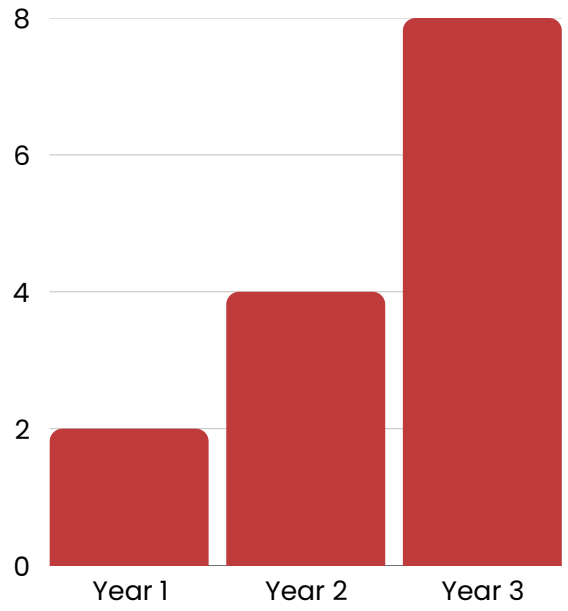


Left: Untreated row of Regina. Poor canopy, leaves are curled and dull, small branch caliper.
Right: Regina after AEA treatment. A much healthier plant: leaf canopy is fuller, new shoots are growing. But not yet at the peak of health.

Most impressively, having started with 50% of trees infected with bacterial canker, after 3 years of AEA treatment, it was impossible to find a single incidence of canker. The block's yield **increased 4x** over that timeframe, from 2 tons per acre to 8 tons per acre.



Bacterial Canker



Yield (tons per acre)

We filmed a tour with Mike Omeg of that problem block after it had recovered.

Click here to watch that video.

Professor Lynn Long of Oregon State University discussed the eradication of bacterial canker on this block on the Regenerative Agriculture Podcast with John Kempf.

Click here to listen to that conversation.

Conclusion

These trials demonstrate the broad range of benefits that a comprehensive regenerative plant nutrition program can provide: the cherry trees showed improvements in fruit size, yield, disease resistance, and overall health. All of these metrics have a direct impact on a farm's bottom line.

It's this clear boost in profitability that has led Mike Omeg to continue using AEA products on his orchard and to become AEA's partner in educating growers on the benefits of regenerative management in tree fruit.

About Advancing Eco Agriculture

Advancing Eco Agriculture (AEA) helps farmers succeed by empowering them to grow crops that are more productive, resilient and profitable. We provide data-based agronomic consultation and a range of powerful liquid mineral nutrition and biological products.

AEA is dedicated to a whole-systems approach to revitalizing soil and plant health, looking beyond symptoms by diagnosing root causes and providing treatments. This approach, informed by more than 18 years of data and on-farm experience, increases yields and crop performance, reduces or eliminates the need for pesticides and fertilizers, and generates immediate economic returns for farmers.

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