



Case Study

Florida Grapefruit

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This case study examines the results of a controlled trial in Florida grapefruit where a 16-acre block under AEA management was compared side-by-side with an equivalent block on the grower's standard management program.

Key Achievements:

After a single year on the AEA program:

- **41% reduction** in pesticide costs
- **14% reduction** in per-acre costs
- **Identical yield and packout rate**



Background

The trial took place at a large citrus producer and packer in central Florida with over 4000 acres in production. The grower had 3 goals for their grapefruit:

- Increasing fruit size, especially in the third bloom
- Improving packout percentage
- Managing budget and cost

The grower was experiencing poor sizing and excessive fruit drop from the third bloom. They had to pick the trees multiple times to bring in the fruit before it dropped, decreasing their harvest efficiency.



Trial Design

For the controlled trial, two equivalent 16-acre blocks were used for the treatment and control. Trees in both blocks were of the same age, variety, and rootstock.

To the treatment block, the grower applied:

- Bi-weekly fertigation containing HumaCarb™, Rejuvenate™, SeaShield™, and Spectrum™.
- Bi-weekly nutritional foliar spray containing a mix of AEA products based on sap analysis.

On the control block, the grower maintained their standard program.

The two blocks were overseen by the same field manager, who made pesticide application decisions based on scouting observations and grove needs.



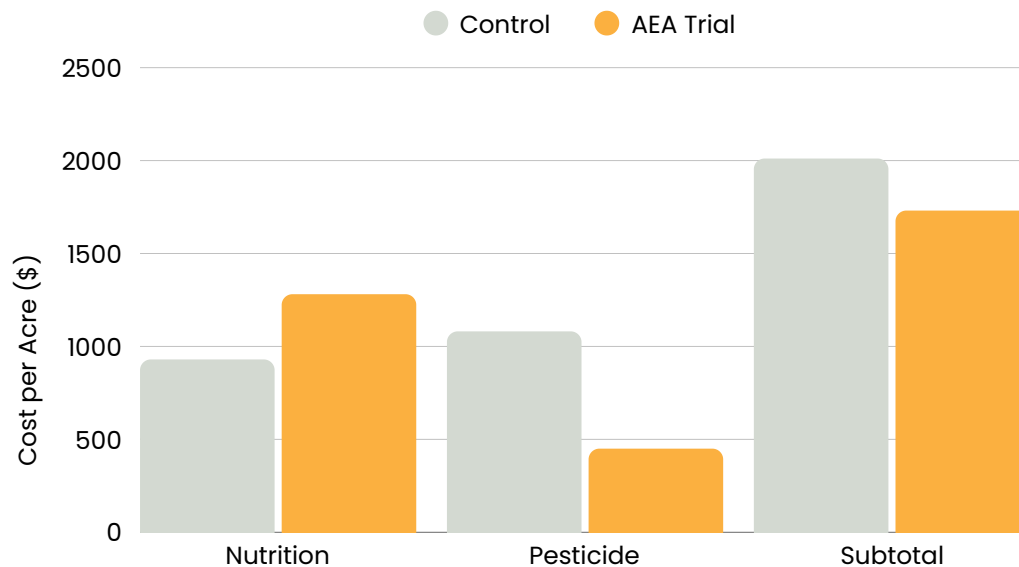
Results

Pesticide Reduction

- **Pesticide costs were** reduced by 41% on the AEA block.
- **Chemical controls dropped** from 50% of total per-acre costs to 25%.
 - Most of the grower's budget was going towards nutritional programs that will enhance the long-term health of their groves and continue to decrease costs in the long run.

Total cost reduction

- Even with an increased spend on nutritional products, the grower's **cost per acre dropped** by \$280, or about 14%, due to the **decreased pesticide use**.



Yield and Quality

- The AEA and control blocks had **identical yields** of 212 boxes per acre
- **Packout rate was also nearly identical:** 84% on the AEA Block, 83% on the control block.
- Achieving identical results with decreased costs in year one is especially impressive given the long-term benefits of a system that improves soil health and biological activity year over year.

Even before the yield results came in, the grower was excited enough by the outcomes to greatly expand their acreage on the AEA program next year.

In 2025, year 2 on the AEA program, the grower has observed a better-looking crop than last year in the AEA blocks, with lower canker, rust mite, and mealybug pressure than the control blocks.

Harvest data for year 2 will be available in February 2026





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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