



# Case Study

Greenhouse Cucumbers

## Background

Agricola Campana is a family-owned mixed-vegetable farm in the Culiacan Valley of Northwestern Mexico.

## Challenges

Agricola Campana experienced increasing pest and disease pressure over time, in spite of heavy pesticide use. Our experience shows that the over use of chemical inputs can lead to soil degradation, weaker plants, and the development of chemical resistance in target pests. The farm approached AEA to see if a regenerative approach could control pests and diseases while decreasing pesticide use and improving crop quality.

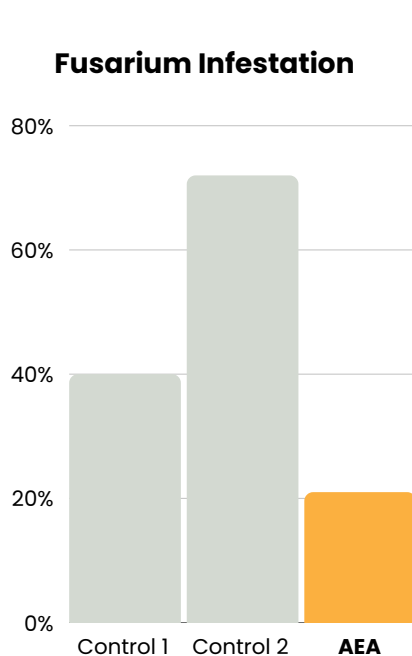
## Solution

Our consultants designed an intensive nutritional program that included targeted applications of AEA products based on nutrient imbalances determined by bi-weekly sap analysis. We implemented AEA's Protocol in one cucumber greenhouse and compared the results to two control greenhouses that used the farm's conventional program.

## Outcomes

Compared to the control greenhouses, the greenhouse with AEA's protocol had:

- **50-70% less disease pressure** (incidence of fusarium)
- **28.8% increase in yield** compared to the previous year in the same greenhouse
- Lowered synthetic inputs



Control



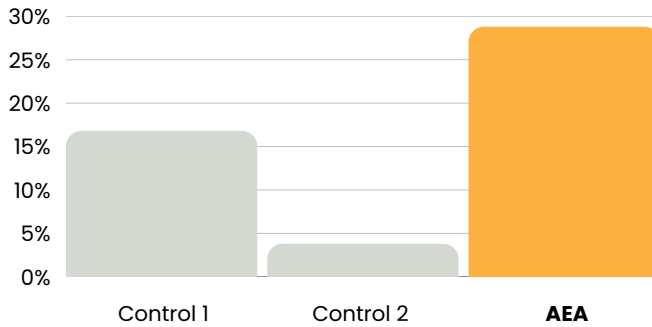
AEA



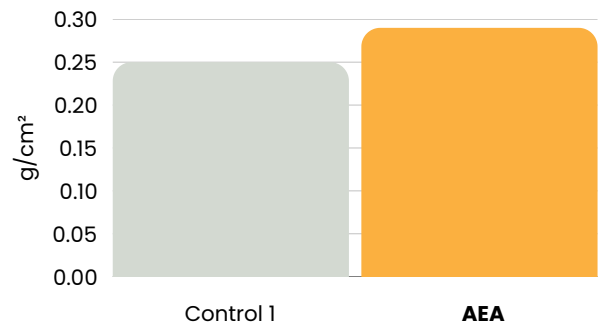
The reason for these successes is clear: increased plant health due to AEA's regenerative nutrition. We found that, compared to the control, the plants in AEA's greenhouse had:

- **14.6% higher** leaf relative density (an indication of photosynthetic efficiency)
- **2.4% shorter** internode spacing (an indication of better hormonal balance)

**Yield Change, 2024-2025**



**Leaf Relative Density**

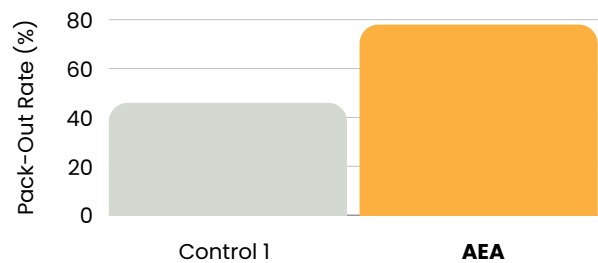


Control

AEA



**Pack-Out Rate, 2024-2025**



The AEA-treated block achieved a 78% pack-out rate compared to just 46% in the control, highlighting better efficiency in the post-harvest process, leading to higher profits for the grower.

## Conclusion

By adopting AEA's regenerative approach, Agricola Campana has successfully increased yield while reducing pest and disease pressure—all while using fewer synthetic chemicals.

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*AEA doesn't push a one-size-fits-all solution—instead, they adjust to what works best for the farmer. Their protocols are clear and straightforward, rooted in real data rather than guesswork, and their products consistently deliver results. I now have complete confidence that AEA is the surest path to transitioning to regenerative agriculture.*

Francisco Campaña Beltran  
Co-owner, CAMPAÑA AGRICULTORES







# 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.



(800) 495-6603  
[hello@advancingecoag.com](mailto:hello@advancingecoag.com)  
[advancingecoag.com](http://advancingecoag.com)