



**Bending the Arc of Agricultural  
Innovation**

**AIC2020**

**COMPREHENSIVE CROP CARE**



# MicroAlgae, A Next Generation Biological, Responsible for 50% of the earth's oxygen

Not only do we owe them our life...but they will also improve our lives

Currently



Agriculture



Aquaculture



Human Nutrition



Animal Nutrition



Cosmetics

In the future



Pharma



Biomaterials



Biofuels



Microalgae are **NOT** Seaweed  
*Microalgae are Biological Powerhouses*



# MicroAlgae vs Seaweeds/Kelps

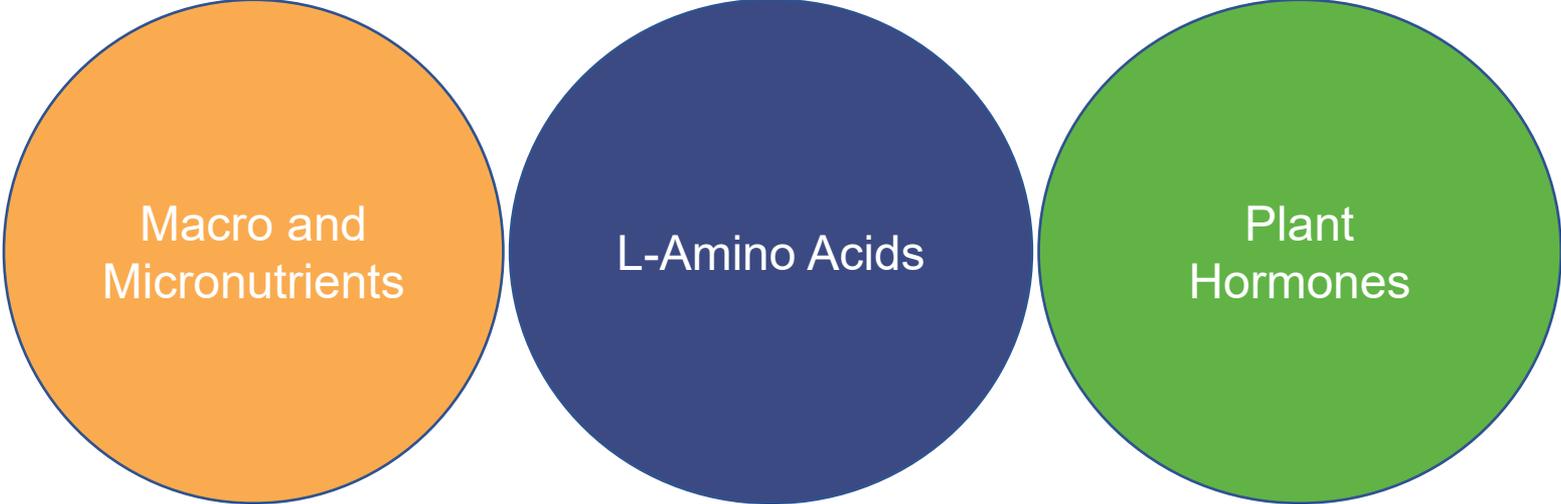
## Microalgae

- New to agriculture
- Sustainably produced in controlled systems- “photobioreactors”
- Consistent, homogenous, high quality
- Plant beneficial phytohormones
- Very high in proteins/L amino acids(40-60%+)
- Single cell-> high uniformity
- 60,000+ identified strains
- Consumes 2 tons of CO<sub>2</sub> to produce 1 ton of microalgae- quality C source

## Seaweeds/Kelps

- Established
- Sustainable? Harvested in coastal waters
- Variable depending on harvest locations
- Plant beneficial phytohormones
- Relatively lower in proteins/L amino acids (5-15%)
- Multi-cell-> less uniformity
- A few common strains

# Microalgae Provide Balanced Biology



Macro and  
Micronutrients

L-Amino Acids

Plant  
Hormones

# About AlgaEnergy

Biotech company established in 2007 focused on **microalgae**

The company is uniquely positioned based on:



Extensive experience in the field of microalgae, consolidating 5 decades of R&D



Microalgae technologies and culturing facilities developed “in-house”, offering the most advanced in the world



Innovative products, which are efficient, competitive and sustainable



Ongoing:



# About AlgaEnergy

Head Office

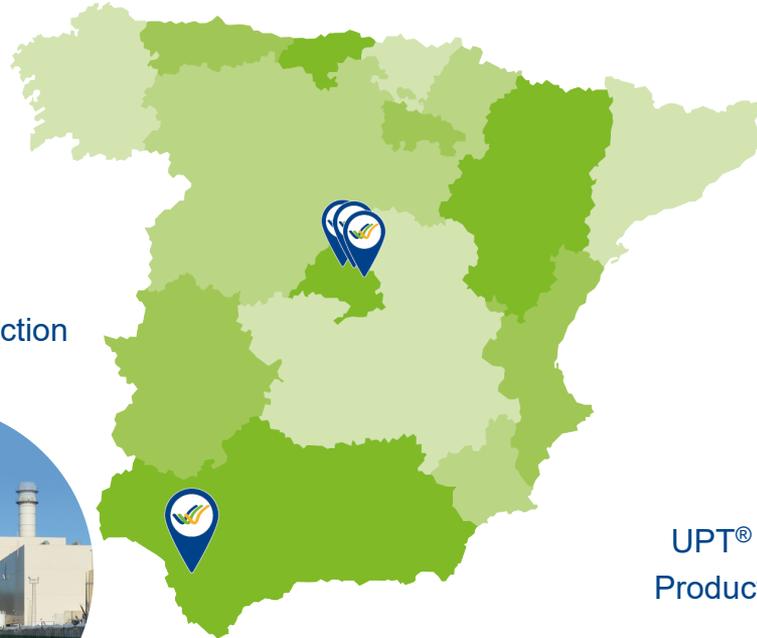


Madrid

Industrial Production  
Plant



Cadiz



Platform for  
Technology & Experimentation  
with Microalgae



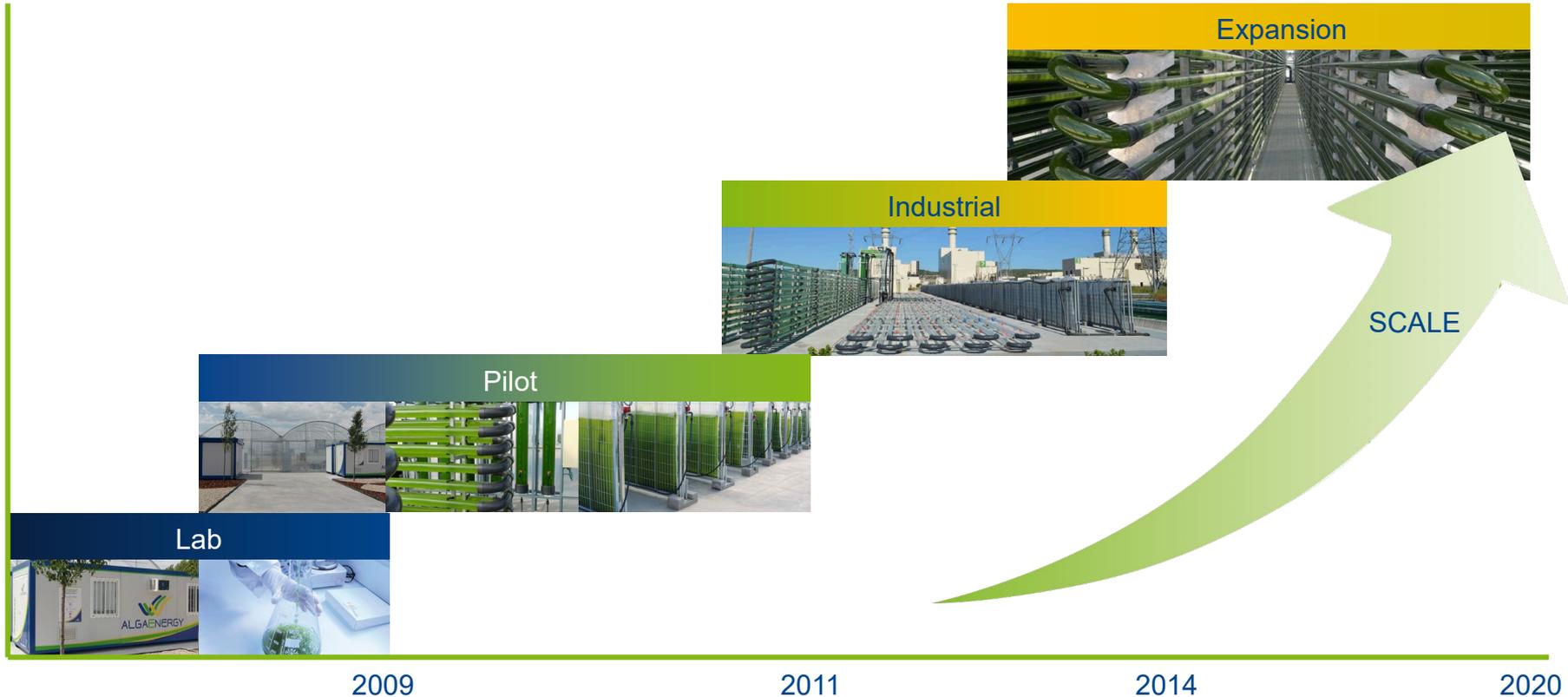
Madrid

UPT<sup>®</sup> Center  
Production Unit



Madrid

# The most advanced production technology



# Industrial Plant in Cadiz (South of Spain)



Built in collaboration with:

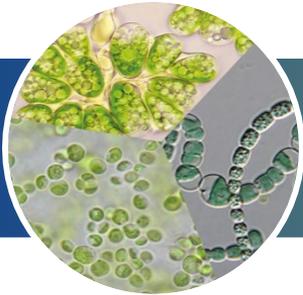
CO2 pumped directly from Iberdrola's combined cycle power plant (largest power plant in Spain) to AlgaEnergy's microalgae production facility



# What Makes **AlgaEnergy** Products Unique?

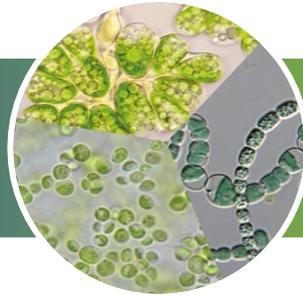
Key factors for achieving a quality product

Raw material source  
Microalgae



Novel raw material, inexhaustible, sustainable, natural and with a high quality biochemical composition

Process  
UPT<sup>®</sup> Process



  
Ultimate Performance  
Technology

9 years of  
development



Final Products

# Current Products

- Surety MA is our foundation microalgae only product
- Surety Soil, Phytomer Growth and Phytomer Fruit provide added nutrient packages
- Approved for conventional use by CDFA and in approx 15 additional states including AZ, OR and WA
- Surety MA Organic is in the approval process



Microalgae ●

The Company ●

Technology & Facilities ●

**Field Trials ●**

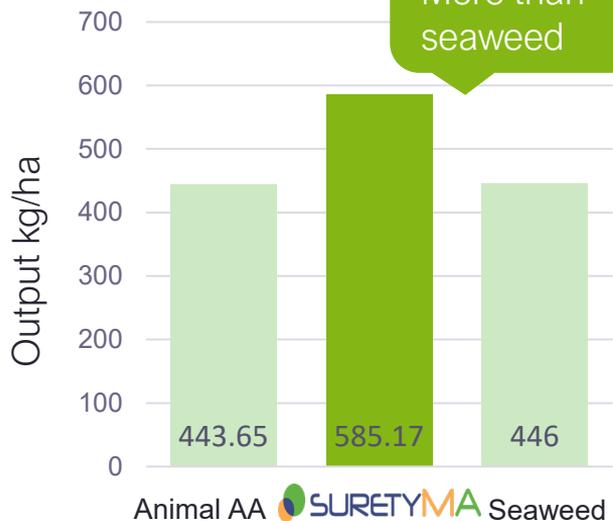


# AlgaEnergy trials

Comparative trials in Melon over two years

**+32%** More than Animal AA

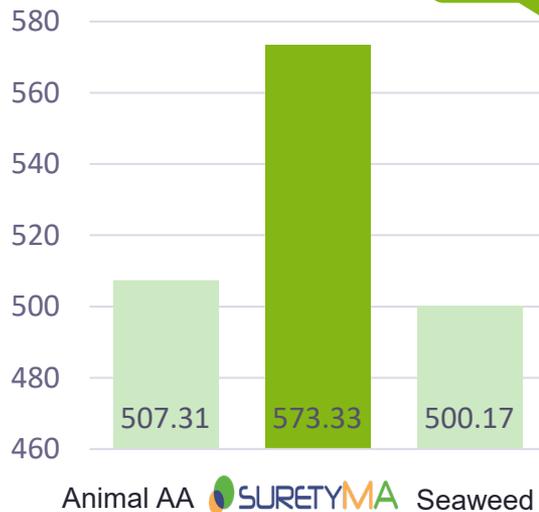
**+31%** More than seaweed



2016

**+13%** More than Animal AA

**+15%** More than seaweed



2017

# Evaluation of Surety MA for Growth and Yield Increase in Strawberries



**Objective:** To monitor growth and production in strawberries when treated with AlgaEnergy programs vs Grower Standard in winter production strawberries.

**Location:** Oxnard, CA, Holden Research

**Crop:** Garden Strawberry      **Variety:** Wellpick 3.324

**Planting Date:** 10/10/2019      **Trial Completion Date:** 05/31/2020

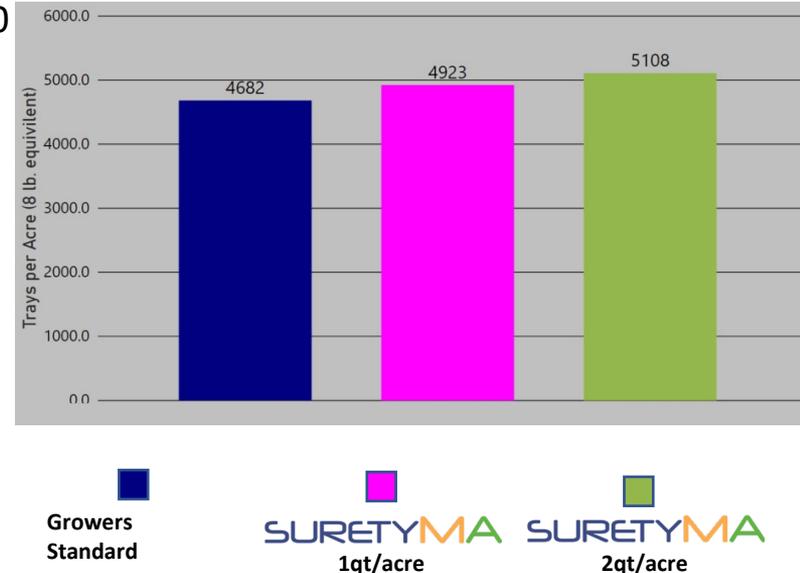
**Observations:** Both Surety MA treatments showed an increase in production over the Grower Standard. A correlated rate response was seen in an earlier increase in production and higher cumulative yield in the 2 qt/A rate vs 1 qt/A providing increased confidence in product performance over GS as well as use rate flexibility.

**Application Schedule:** Via drip line every 2 weeks starting 4 weeks after planting

**Application Rate:** Control, 1qt/acre, 2qt/acre

**Sampling Plan:** 30 harvest samples were taken between 01/06/20 and 04/16/20

**Replications:** 6



# Evaluation of Surety MA in Substrate Raspberries



**Objective:** To monitor growth and production in substrate raspberries when treated with Surety MA vs Grower Standard alone.

**Location:** Oxnard, CA, Cal Coast Crop Cnslt

**Crop:** Organic Substrate Raspberry

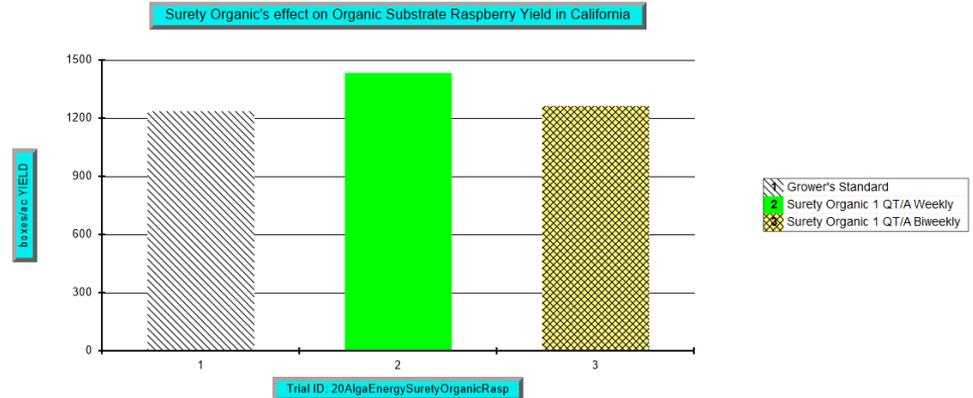
**First Treatment:** Feb 1, 2020

**Trial Completion Date:** May 25, 2020

**Observations:** Both Surety MA treatments showed an increase in production over the Grower Standard. However, *the weekly protocol provided a much greater increase in production at +16%*

**Application Rate and Timing:** Control, 1qt/A weekly, 1qt/A every other week

**Replications:** 6



# Evaluation of Surety MA in Cannabis

**Objective:** To evaluate the response in cannabis yield and lab components when treated with AlgaEnergy microalgae.

**Location:** Salinas, CA

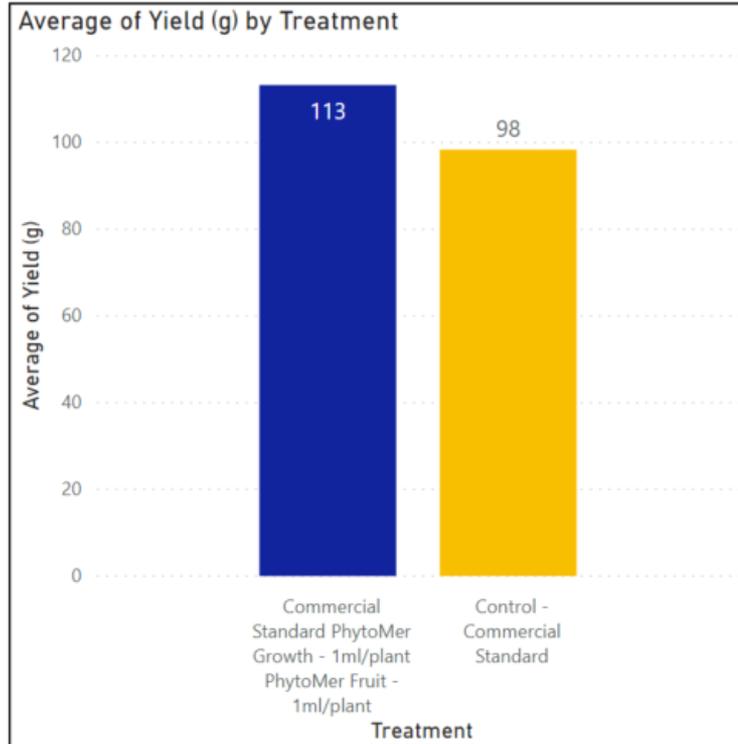
**Crop:** Greenhouse cannabis

**Trial initiated** on Oct 12, 19 to March 4, 20

**Observations:** Treatment offered a +15% increase in yield per plant with subtle positive effects on labs.

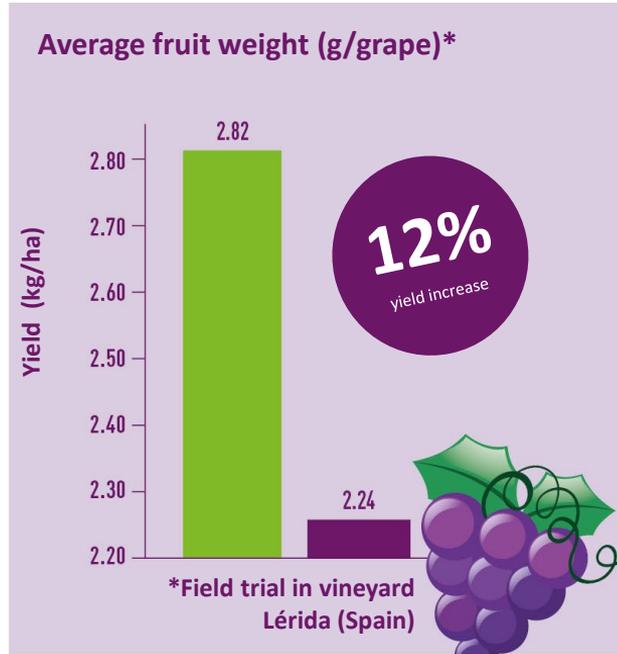
**Application Rate and Timing:** 6 weekly applications

**Replications:** 10



# AgriAlgae® trials

## Comparative trials in grape production:



Other biostimulants



AGRIALGAE®



### Better crop development



Better crop development



Optimal bunch development



Higher quality and larger size



# Evaluation of Surety MA in Avocado



Conducted in 2017 in Malaga, Spain

Hass var avocado, irrigated

Treatment- 3 foliar(.5%), 3 soil 5L/Ha(2qts/A) vs Grower Standard

## Results

+11.5% yield increase compared to control treatment: 7,421 kg/ha vs. 6,655 kg/ha

+18.2% increase larger fruit (8-20): 86.7% vs 73.73%

Reduced export culls of 1.6% vs 4.8% for UT



-  Natural **plant-based** products
-  Complete amino acid profile
-  L- amino acids (No racemization)
-  Wide range phytohormones in microalgae
-  Soft production process (no chemical extraction)
-  Stable and homogenized quality
-  Not a byproduct of any industry with **no animal derived content**

 **UPT**<sup>®</sup>  
by AE  
ultimate • performance • technology

