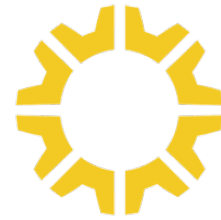




US HYBRiD
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WAVE
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NC CLEAN ENERGY
TECHNOLOGY CENTER

Product Feature: 5 Reasons Why Your Organization Can Benefit from Electric Tractors

October 18, 2021





 **SUSTAINABLE
FLEET
TECHNOLOGY**
WEBINAR SERIES 2022

Sessions through December 06, 2022

<https://www.sustainablefleetexpo.com/>



Upcoming Webinar Sessions

- **10/27 SFT Webinar: Maintaining Your Level of Service and Balancing Sustainability Goals with a Broken Supply Chain**
- **11/09 SFT Webinar: Drive Fleet Productivity and Efficiency with a Right Sized Fleet and Right Typed Vehicles**
- **11/15 Product Feature Webinar: Build Your Fleet Dream Team with Sourcewell**
- **11/29 Product Feature Webinar: Meeting Carbon Reduction Goals Through Propane with PERC**
- **12/01 SFT Webinar: The Rise of Hydrogen Fuel Cells in Transportation**
- **12/06 Product Feature Webinar: Integrating and Managing Your Fleet Charging Network with Gilbarco Veeder-Root**



Format

- Q&A at the end
- Submit questions and comments to “Panelists”
- Scheduled for 2:00p-3:00p
- Handout
- Recording





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Introducing Our Speakers:



Steve Heckroth
Chief Innovation Officer and
Chairman of the Board, Solectrac
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John T. Bailey
Director, UCal ANR Hopland
Research & Extension Center
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Jim Hessler
Director, West Coast
Operations at Altman Plants
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SOLECTRAC

by Ideanomics

ELECTRIC TRACTORS

SOLECTRAC ELECTRIC TRACTORS



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October 2022

NASDAQ: IDEX



Safe Harbor Statement

Any statements contained in this presentation that do not describe historical facts may constitute forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, including statements regarding the expected timing for the filing of the Form 10-K, the Company's ability to regain compliance with the Nasdaq requirements for continued listing and related matters. These forward-looking statements are often identified by the use of forward-looking terminology such as "believes," "expects," or similar expressions, that involve known and unknown risks and uncertainties. Any forward-looking statements contained herein are based on current expectations, but are subject to risks and uncertainties that could cause actual results to differ materially from those indicated, including, but not limited to, risks and uncertainties relating to the failure of the Company to file the Form 10-K on its expected timeline and other risk factors discussed from time to time in the Company's filings with the SEC. These and other factors are identified and described in more detail in the Company's filings with the SEC, including, without limitation, the Company's most recent Form 10-K and Form 10-Q. The Company expressly disclaims any intent or obligation to update these forward-looking statements other than as required by law.



ABOUT US

Soletrac is based in California and a manufacturer of 100% battery electric tractors that offer fleet operators clean, quiet, and more reliable operation while reducing cost and their carbon footprint.

It's our mission to lead the transition to zero emission regenerative agriculture and utility fleet operations with best in-class technology for a safer, cleaner and healthier future.



Steve Heckerroth, Founder and CIO and Mani Iyer, CEO at World Ag Expo 2022



For You and Your Community



- ❖ **Zero-Emission**
- ❖ **No Idling**
- ❖ **Quiet Operation**
- ❖ **Improved Worker and Environmental Health**



Zero Emission

IMPROVED ENVIRONMENTAL & WORKER HEALTH

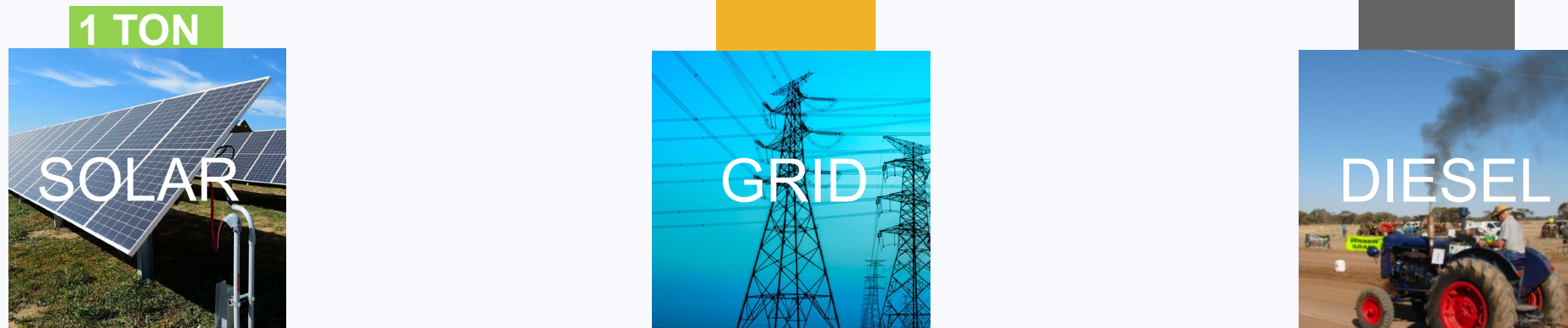
- ❖ Reduce Air Pollution and GHG emissions
- ❖ Eliminate Exposure to Toxic Diesel Exhaust
- ❖ Remove Diesel Particulates on Crops and Soil





Carbon Footprint Diesel vs Electric

CO₂ Emissions from a 30 HP electric tractor vs 30 HP diesel tractor with average use over 15 years





No Idling

The motor in an electric tractor only runs when you hit the throttle. When the tractor is stopped, it is quiet with no exhaust and no energy being wasted.

A diesel tractor idles all day wasting energy and spewing exhaust, even when no work is being done.

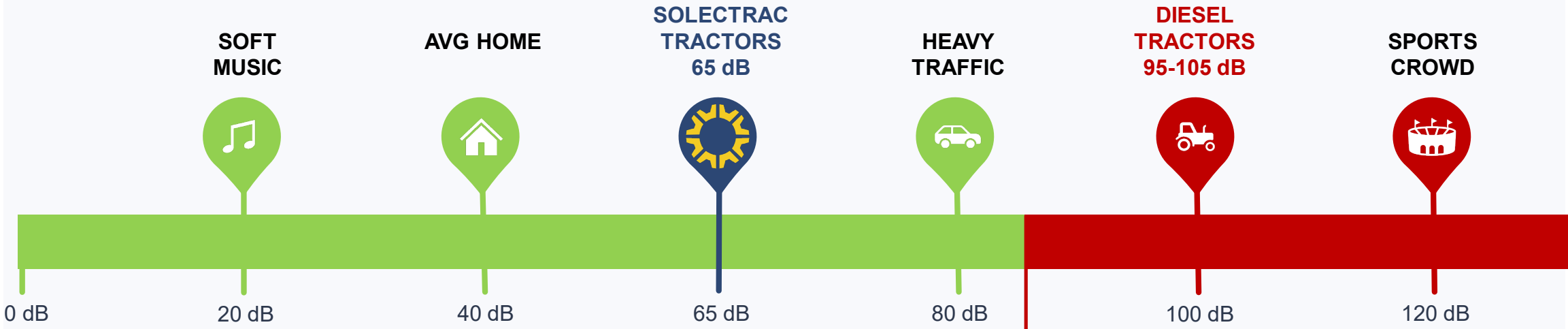




QUIET OPERATION

Improved Safety

SOLETRAC ELECTRIC TRACTORS



Sound levels under 85 dBA are generally thought of as “safe,” although there is some risk of hearing loss for prolonged exposures to 80 dBA*

Safe exposure to 105 dB is 4 minutes.*

* NATIONAL AG SAFETY DATABASE

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More Electric Tractor Benefits



- ❖ **Battery Weight is an Asset**
- ❖ **Instant Torque**
- ❖ **Regenerative Braking**
- ❖ **Lower Operating Cost**
- ❖ **Less Maintenance**
- ❖ **Charge from Renewable Energy**



Battery Weight is an Asset

Tractors need traction to move heavy implements .
Traditionally implements are balanced by heavy steel weights on the front bumper. In an electric tractor, the weight of the on-board battery adds traction. Additionally, the weight of an exchangeable battery pack* becomes its energy source and can be placed on the front or rear hitch to balance the weight of implements.



*Exchangeable battery packs are only offered for the e70N at this time.



Instant Torque

Electric motors have maximum torque at zero RPM. This allows for more pulling power at slow speeds where tractors normally operate.

Diesel tractors do not reach maximum torque until 2000-3000 RPM, so they take time to come up to maximum torque under heavy loads.





Regenerative Braking

An electric tractor can return energy to the battery that would otherwise be lost. When you let the foot off the throttle, go downhill or brake, the motor turns into a generator and recharges the battery.

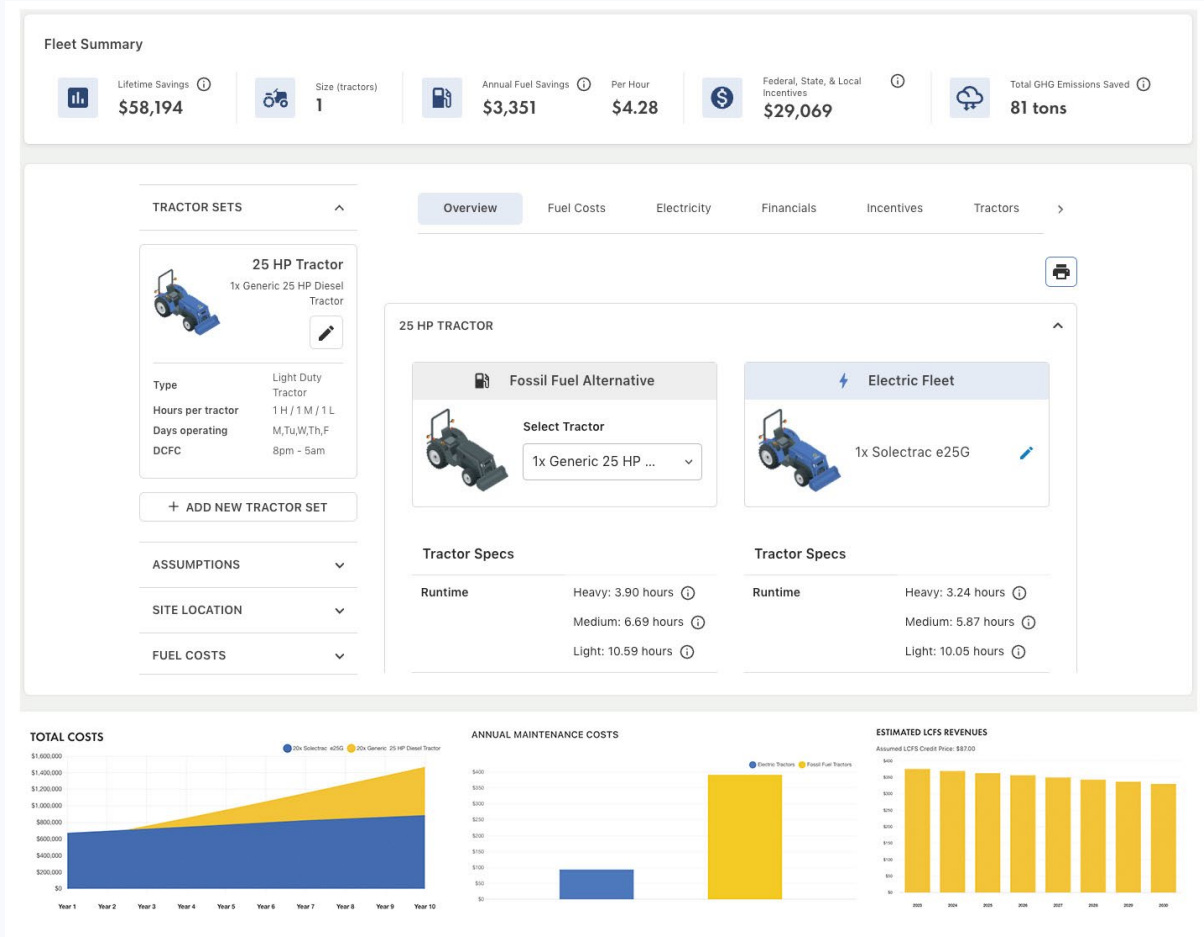




SOLECSAVE

SolecSave compares the cost of owning an e25 Electric Tractor with a diesel tractor of similar size and power.

This comprehensive app also shows maintenance estimates, emissions statistics, incentive programs, and many other details highlighting the cost-saving benefits of owning an e25 Electric Tractor.



Cost of Ownership Calculator

SOLECTRAC ELECTRIC TRACTORS

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When the Health of Your Operators and Community Matter



Savings* in Raleigh, NC

- \$2,944 in annual fuel cost
 - \$3,249 vs \$305
- \$27,505 in lifetime cost
 - After 3 years, the cumulative cost of electric is cheaper than diesel
- 78 tons of Greenhouse Gas Emissions



*Based on annual medium use of 783 hours



★ CALIFORNIA ★ ABOUT **CORE**

- The Clean Off-Road Equipment (CORE) Incentive Program is a \$125 million project to encourage California businesses and government agencies to purchase or lease zero-emission off-road equipment.
- The incentive voucher pays for part of the cost of a new e25 electric tractor.
- The program opened July 18, 2022 and still has funding.





e25

COMPACT ELECTRIC TRACTOR

The 25 HP Category CET is a versatile, 4WD utility vehicle, great for hobby farms, golf courses, parks, sport fields, equestrian centers and municipalities.





e70N

NARROW ELECTRIC TRACTOR

The 70 HP Category e70N is a powerful, narrow electric tractor that is perfectly suited for vineyards and orchards.

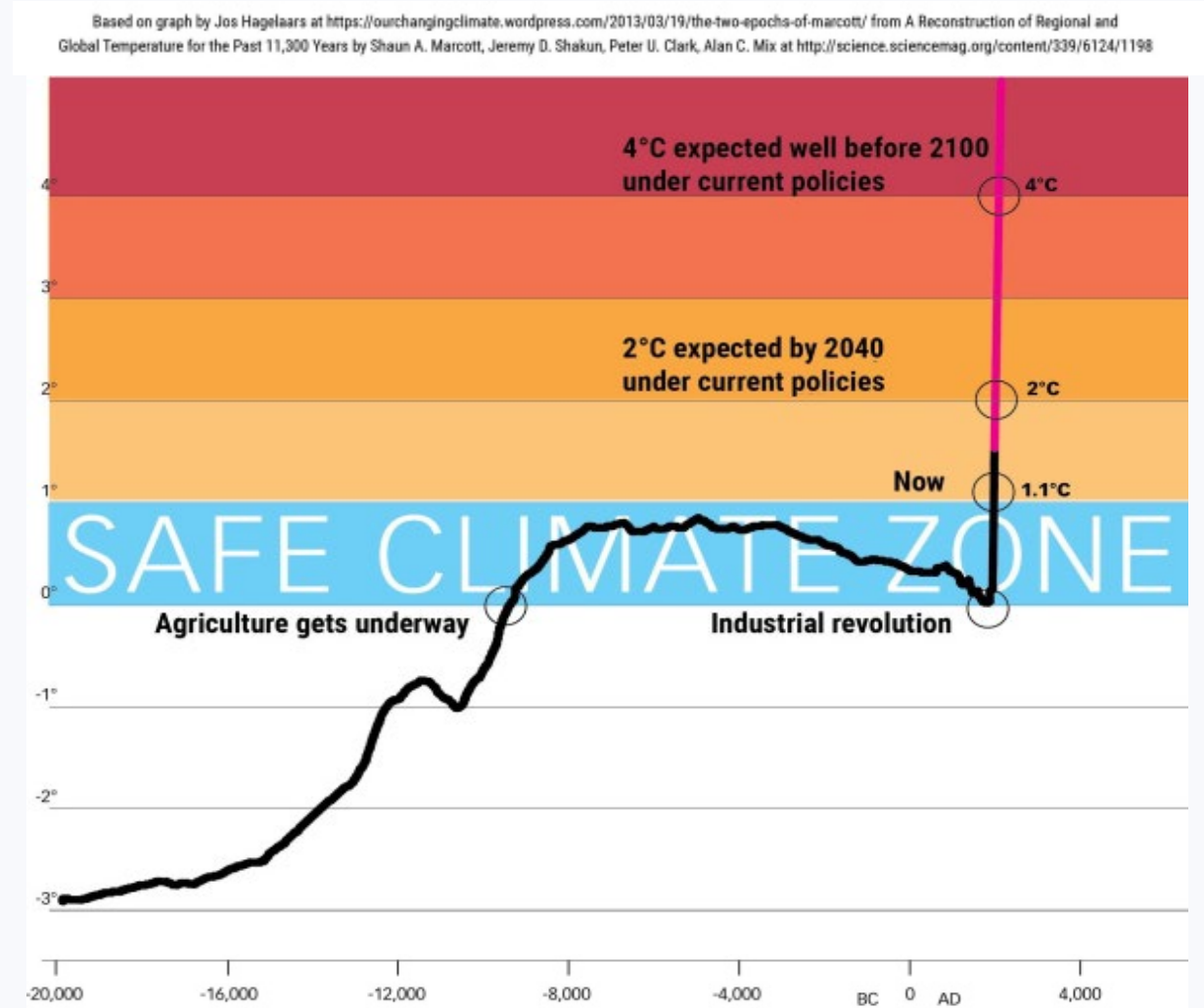




This graph clearly shows that over the last 12,000 years, agriculture slowed and then reversed the warming of the Earth's climate - until the start of the industrial revolution and the burning of fossil fuels.

To again slow global warming there needs to be an immediate shift to a renewably powered economy.

Only then can agriculture stabilize the climate and increase the productivity of the world's 600,000,000 farms to equitably feed the Earth's population.





Charged by on site/local renewable energy

Reduce Greenhouse Gas Emissions (GHG)

Reduce long fossil fuel supply chains

Use electric equipment

Focus on community scale operations

Reduce size of agricultural operations

Community Scale

When the Health of Your Operators and Community Matter





Agrivoltaics



Benefits*

- Reduced land use competition
- Reduced need for irrigation by 20%
- Rainwater collection opportunity
- Use of PV structure for protective netting or foils
- Optimization of light availability for arable crops, ie. PV tracking systems
- Higher module efficiency through convective cooling
- On site electricity generation
- Charging of electric tractors can be done directly in the field

*<https://www.ise.fraunhofer.de/content/dam/ise/en/documents/publications/studies/APV-Guideline.pdf>



Experience the Charge from Renewable Energy benefits of zero emissions, reduced noise and lower operating costs with Solectrac electric tractors.

Achieve your sustainability goals with clean, efficient and quiet tractors that prioritize the health of your operators and community.

Get in Contact

Call: 866-219-6750

Email: sales@solectrac.com

Website: www.solectrac.com



University of California Agriculture and Natural Resources Research and Extension Centers

Experience with Solectrac Electric Tractors

Presented by John Bailey
Director of the Hopland Research and Extension Center

October 18th, 2022



UNIVERSITY OF CALIFORNIA
Agriculture and Natural Resources

Research and Extension Center System

UCANR's network of UC researchers and educators bring practical, trusted, science-based answers to California.

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- Campus based Specialists

- IGIS
- 4H
- California Naturalist
- Climate Stewards
- CA Institute of Water Resources
- Organic Agriculture Institute
- Nutrition Policy Institute
- Sustainable Agriculture Research and Education Program



Background

- Seven of nine RECs purchased the e25
- Units delivered in July, use and assessment just beginning
- Part of UC Carbon Neutrality Initiative to achieve carbon neutrality for entire UC system (10 campuses, five medical centers, UCANR) by 2025:
 - 100% renewable energy – purchase and self-generation
 - Green buildings, all electric
 - **Fleet converting to hybrid and electric vehicles**
 - Zero plastics, zero waste, water use reduction
 - Carbon offsets – purchase and internal development



Charging

- 110V and 220V cords with integrated charge controllers
- Plugs into standard outlet
 - No charging station needed



Site Maintenance



- Materials handling
- Grading
- Mowing

Field use



- Soil mixing
- Harvest bin movement
- Mowing in spring
- Cleaning barns
- Maintaining areas around and in buildings

Loader Usage 1

“I worked in the Outreach Barn with the electric tractor today. I used it side by side with the old skid steer (wheeled) for comparison. I feel the electric tractor will push harder and back drag better than the skid steer, and the tractor offers far better visibility around the workspace. It turns sharp and gets around small spaces better than the skid steer. It will still take some getting used to and we need to learn how to use the features like range control, differential lock, and 2wd/4wd, but it is a very capable machine and we will have a number of uses for it at HREC.” HREC Facilities Supervisor

Video : [Electric Tractor at UC Hopland REC - YouTube](#)





Loader Usage

- Drags and pushes well
- Good lifting capacity
- Tight turning for small spaces
- Front end needs more weight to achieve solid down pressure

Video: [Electric Tractor at UC Hopland REC - YouTube](#)



Overall Benefits

- **Quiet operation**, especially indoors > lower impact on operator hearing, greater situational awareness
- **Emission free** > lower impact on driver, no point source carbon emissions
- **Ease of operation** with controls similar to standard tractor
- **Easy charging** using standard 110V or 220V outlets, no charging station required
- “The tractor is quiet, **powerful for it’s size...also has a lot of torque and speed**” – IREC Director
- “Another advantage is that **the tractors can go very slowly**, which is helpful for some uses such as harvesting” – HAREC Director
- “For pulling the trailer with harvest bins during harvest it will be good as it does not emit any gases” – LREC Director
- “Our operators appreciate the lack of noise or exhaust, especially when working in the barn or in tight spaces” – HREC Director



Possible Improvements

- Operators and technician need training on electric tractors
 - Manual is provided but hands-on experience needed
- More weight in front for down-pressure and balancing implements
- Longer battery life: currently must be recharged every 3-5 hours when using for tasks requiring more power
 - Mowing, scrapping, tilling, using loader with weight/pressure
- e25 works well for light duty tasks, but not for production agriculture



Next Steps

- More weight in front for down-pressure and balancing implements
- Purchase implements matching tractor capabilities
- Continue evaluation:
 - Fuel cost savings
 - Trial in different usage types: mowing, tilling, harvest
 - Operator interviews
 - Emissions reduction quantification
 - Battery performance under different usage
 - Maintenance and repair costs



Altman Plants and Solectrac Tractors

October 2022



Our passion for plants runs
deep



Who we are

Built on a belief of passion, unity, innovation, quality and a can-do attitude

It began as a *hobby* in a Los Angeles *backyard*



From local mail-order catalogs to expanding regionally—then nationally—**Altman Plants began with a vision: To grow the highest quality plants and make them available to everyone.**

Today, we're the largest horticultural grower in the United States—still family-owned-and-operated—and just as passionate about plants and customers as we were when we first began our journey, nearly 50 years ago.

Where we *operate* & *grow*



Our passion for plants runs deep

Where we operate & grow



Lake Mathews, CA



Giddings, TX



Peyton, CO

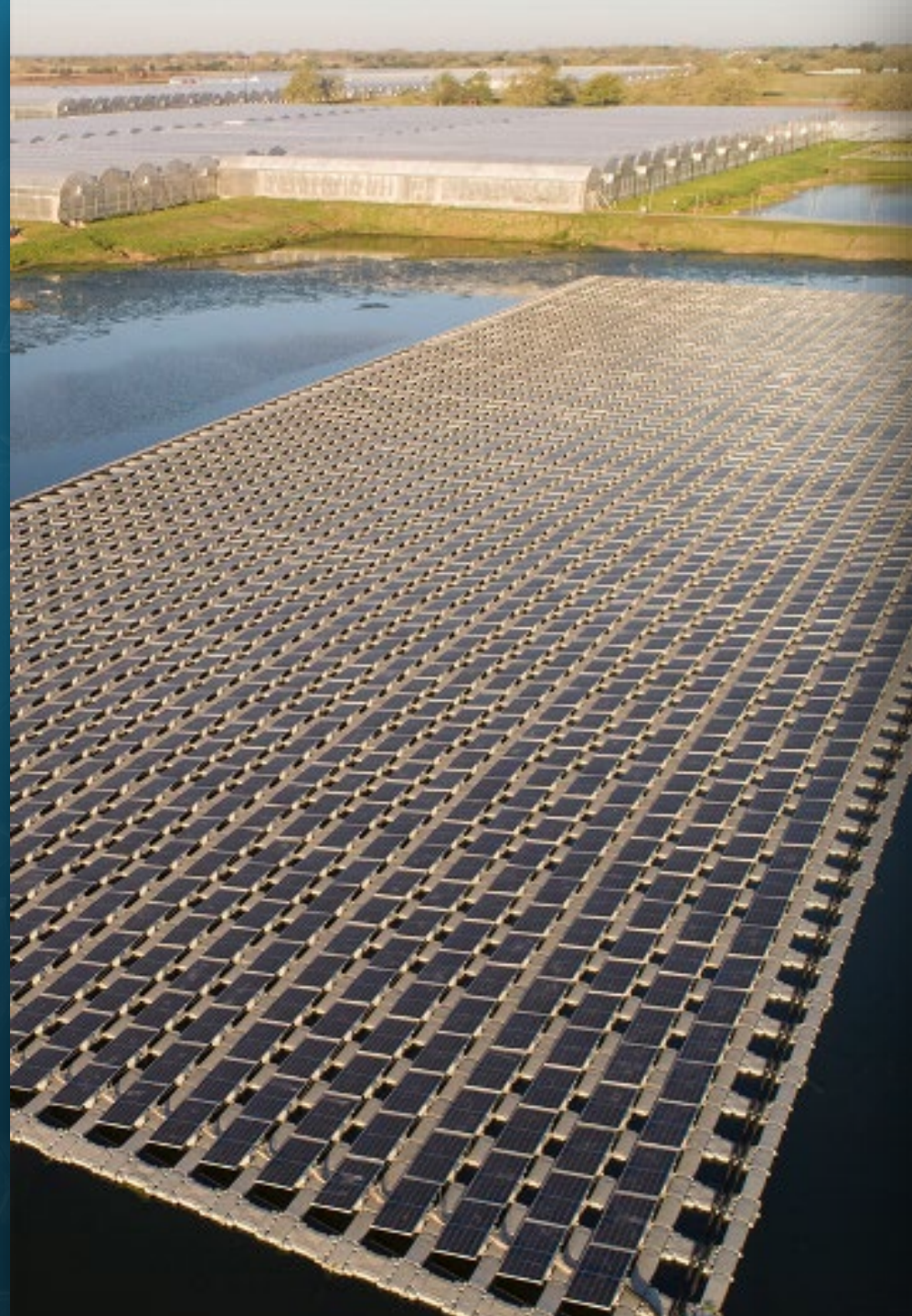
Our passion for plants runs deep

Culture of *Conservation*

We are grateful to belong to many wonderful communities and strive to be a positive presence among our neighbors and fellow community members. We embrace the chance and responsibility to do what we can to soften our environmental impact and serve as an example to others of meaningful stewardship.

We welcome an active role in helping achieve a sustainable present and future for our communities and those near and far. These are some of the ideas we have acted on and continue to pursue further:

- Nurseries powered by solar
- Fields and greenhouses where water to grow plants is recycled and reused
- The reliance on plastics reduced
- A program that donates veggies and herbs to school gardens so that children might discover the joys and delicious utility of gardening
- Infrastructure upgrades such as high efficiency boilers, LED lighting and passive cooling



With you *every* *step* of the way

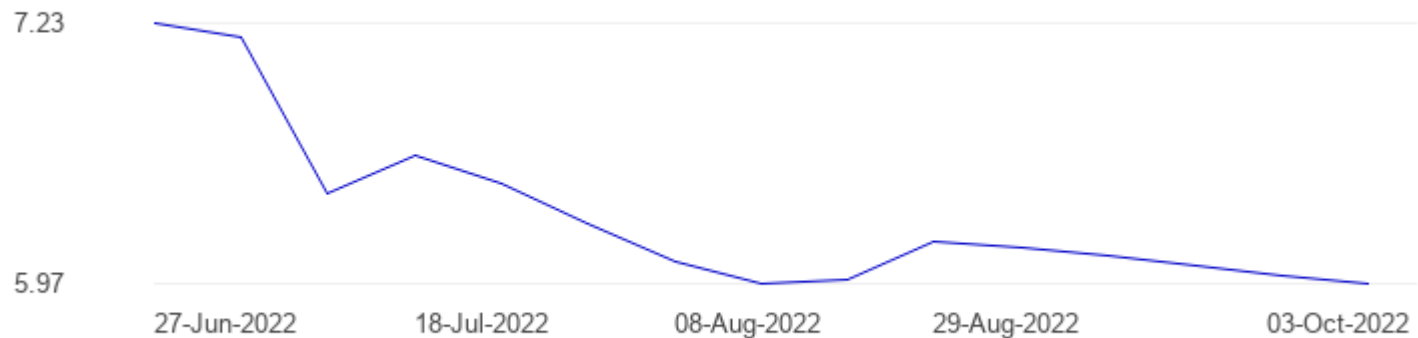
From research and development and new breeding programs to automation, logistics, marketing, store services, e-commerce and national committee involvement —we stop at nothing to answer with “yes” to every customer.

- Breeding of proprietary genetics
- Young plant production
- Plant production
- Logistics
- In-store merchandising programs
- E-commerce
- Gifting & home décor
- Branded products: product development, packaging, POP and more



Our passion for plants
runs deep

Diesel prices, US Gallon, U.S. Dollar



Our diesel bills were the tipping point that caused the urgency to look closely and seriously at moving to electric tractors.



- Our delivery of our first 10 zero emission electric Solectrac tractors at our Lake Mathews dock.



- Moving field trailers at our Salinas nursery. We have more than 300 acres in production in Salinas, and move fully loaded field trailers throughout the nursery.

- Ready to go at our Fallbrook, CA nursery





- And at our Lake Mathews, CA nursery.



Our Diesel tractors would struggle pulling this many fully loaded trailers, the Solectrac didn't even break a sweat!



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