

TRIC

Peer-Reviewed UV-C Suppression of Spider Mite & Lewis Mite

Commercial field research validates TRIC autonomous UV-C platforms as an effective mite suppression tool for California strawberries.

KEY INSIGHTS

▼ 97% Reduction

Spider mite egg hatch suppression in field trials



Built for IPM

Supports integrated biological and chemical programs

▼ 87% Reduction

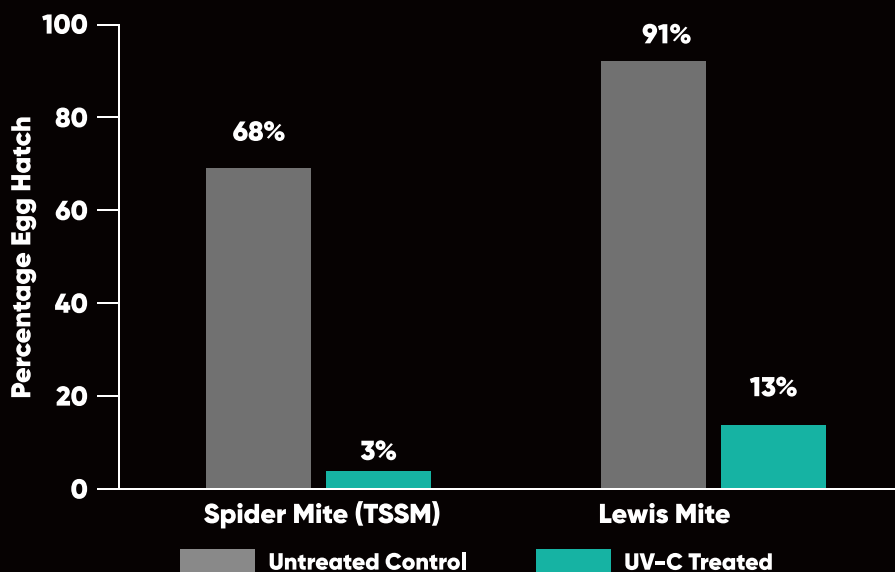
Lewis mite egg hatch suppression
(scientifically documented for the first time)



TRIC Robots Used For This Study

Both TRIC robot models, Eden and Luna, were used in this peer-reviewed scientific field research

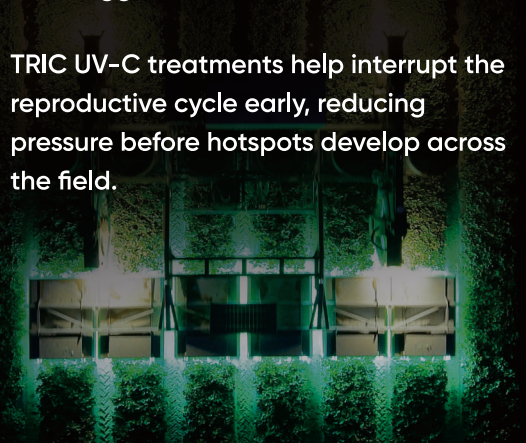
FIELD-PROVEN EGG HATCH SUPPRESSION



WHY EGG SUPPRESSION MATTERS

Spider mite outbreaks accelerate rapidly when egg hatch is left unchecked.

TRIC UV-C treatments help interrupt the reproductive cycle early, reducing pressure before hotspots develop across the field.



WHAT THIS INDEPENDENT RESEARCH CONFIRMED

A 2026 peer-reviewed study published in *Frontiers in Agronomy* evaluated UV-C suppression of Two-Spotted Spider Mite (TSSM) and Lewis mite under California strawberry field conditions using TRIC EDEN and LUNA autonomous robots platforms. Researchers found that commercially applied UV-C doses consistently suppressed mite egg hatch across multiple field trials and growing conditions. The study concluded that UV-C is most effective as an early-season ovicidal tool that helps slow mite population growth before pressure escalates.



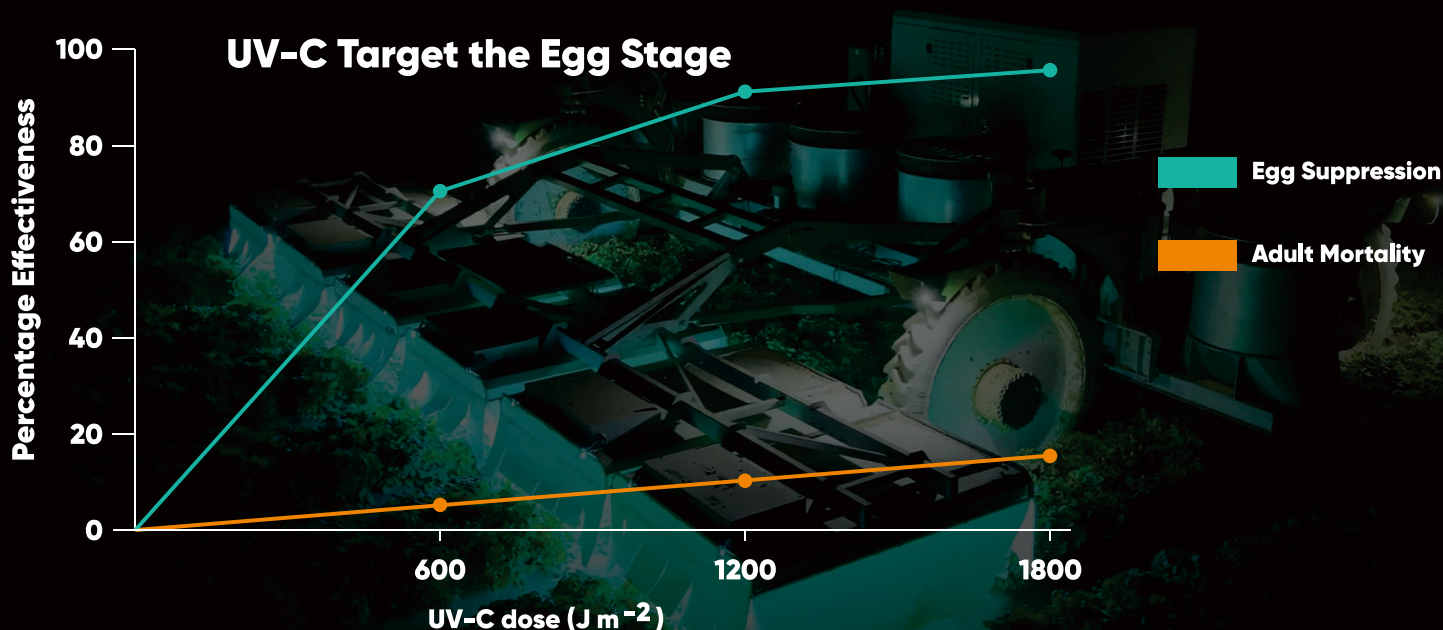
CAL POLY
Strawberry Center

CITATION

Koubek CT and Aghaee MA (2026)
Evaluation of UV-C light for control of
Tetranychus urticae and *Eotetranychus lewisi* (Acari: Tetranychidae) on strawberry.
Front. Agron. 8:1805940.
doi: 10.3389/fagro.2026.1805940

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UV-C TARGETS THE EGG STAGE OF MITES



KEY FINDINGS FROM THE PUBLISHED RESEARCH

- Commercial field doses consistently suppressed mite egg hatch
- UV-C efficacy confirmed across multiple growing seasons
- Lewis mite suppression by UV-C documented for the first time
- Best fit as an egg-stage suppression strategy within IPM systems

OPERATIONAL ADVANTAGES OBSERVED

- Early-season suppression before outbreaks escalate
- Reduced reliance on supplemental miticide applications
- Compatible with commercial IPM programs
- Supports cleaner, more uniform fields
- Nighttime autonomous operation reduces daytime field disruption
- Non-chemical tool for resistance management programs

DESIGNED TO COMPLEMENT IPM PROGRAMS

This published research supports UV-C as an early-season suppression tool that can complement predatory mite and miticide programs when strategically timed within commercial IPM operations.

SUMMARY RESULTS TABLE

Metric	Research Findings
Spider Mite Egg Hatch Reduction	97% Reduction
Lewis Mite Egg Hatch Reduction	87% Reduction
Field Validation	Multiple California Seasons
Best Fit	Early-Season IPM Suppression

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CONTACT

Tim O'Brien

Director of Business Development

✉ 206-719-5317

📞 timo@tricrobotics.com

tricrobotics.com

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