Powdery Mildew and Miticides Evaluation in Strawberries

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M. phaseolina in summer-planted strawberry

165 CFU g/soil

UC Eclipse no inoculum

Portola no inoculum

UC Eclipse with inoculum

Portola with inoculum

Powdery mildew - strawberry *Podosphaera aphanis*

- **High RH**
- **70-75 F**
- **Susceptible cultivars**

Powdery mildew - strawberry

Spray application and sampling:
T-jet flat nozzles in 70 gal/A solution.
2 sprays: 9/29 and 10/6
5 sampling times of 20 leaves/plot on:
9/29 (pre-spray) and 10/4, 10/11, 10/17 and 10/23 (4 post-spray)

treatment		rate/A, fl oz
Untreated-Eclipse		**0**
Untreated - Portola		**0**
Cevya	all -Eclipse	**5**
Luna sensation	all -Eclipse	**7.6**
Quintec	all -Eclipse	**6**

Powdery mildew % incidence (% cover on the undersides of the leaves)

		P>0.05		P>0.05		P>0.05		P>0.05		P>0.05
Treatment	29-Sep, pre-spray		4-Oct		11-Oct		17-Oct		23-Oct	
Untreated Eclipse	24	ab	33	a	14	a	12	a	13	a
Untreated Portola	21	ab	37	a	14	a	20	a	12	a
Cevya	25	b	45	a	15	a	10	ab	10	ab
Quintec	38	a	37	a	19	a	16	a	9	ab
Luna Sensation	27	ab	33	a	1	b	5	b	1	b

Fruit yield in first 10 harvests

	Total	P>0.05	Marketable	P>0.05
Untreated (Eclipse)	**4324**	**a**	**2656**	**b**
Cevya	**5454**	**a**	**3744**	**ab**
Quintec	**6513**	**a**	**4335**	**a**
Luna	**5747**	**a**	**3750**	**ab**

Fungus-Feeding *Psyllobora* Lady Beetles

Psyllobora vigintimaculata must consume the mycelia, spores, and spore-forming structures of powdery mildews to reproduce and survive. For example, during its development a larva consumes all the powdery mildew covering about 1 inch^2 of leaf surface.

Per trifoliate

	eggs	larvae
Untreated Eclipse	**6.25**	**4.75**
Untreated Portola	**5**	**1**
Luna	**1.75**	**0.25**
Quintec	**1.75**	**0.25**
Cevya	**2.75**	**0.5**

Two major mite pests

Twospotted spider mite

- No. 1 pest in Ventura Co. strawberry production
- Has >1,000 hosts
- Known to be resistant to >90 unique insecticide/miticide active ingredients in over 367 cases world wide
- Present in winter & summer berries

Two major mite pests

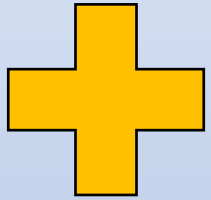
Lewis spider mite

- Increasingly common on strawberry & raspberry (esp organic)
- Hosts: raspberry, poinsettias, lemon, & castor bean
- Present in fall & summer berries

Spider mite control methods

Sprays

Miticides (conventional)
Organic sprays, oils (Organic)



Predator mite releases (Phytoseiidae)

Phytoseiulus persimilis
Neoseiulus californicus
N. Fallacis
Amblyseius andersoni

Previous lab predatory mite biocontrol results…

TSSM **ONLY**

P. persimilis

N. fallacis

A. andersoni

N. californicus

Lewis **ONLY**

P. persimilis

N. fallacis

A. andersoni

N. californicus

Lewis

+

TSSM

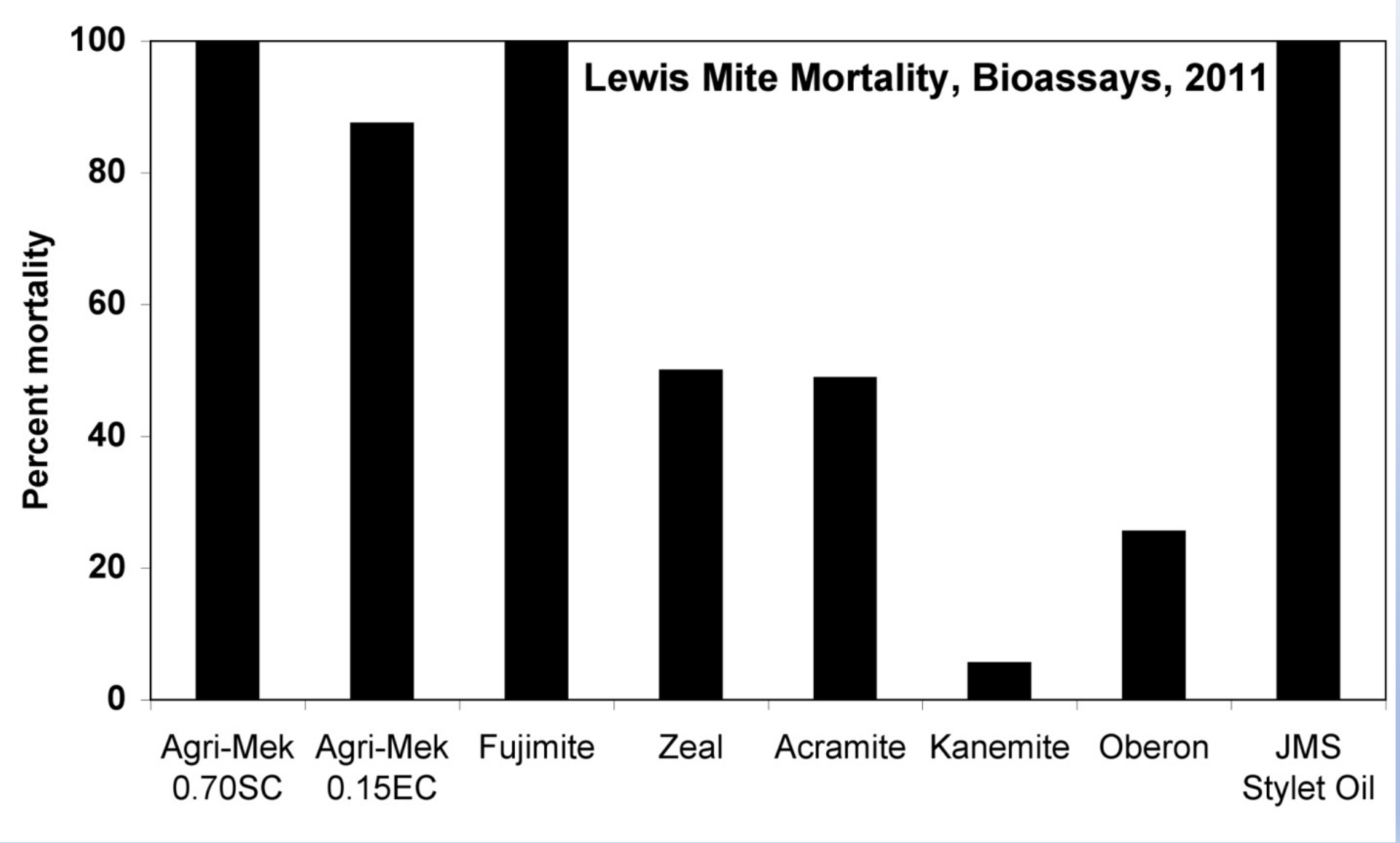
P. persimilis

N. fallacis

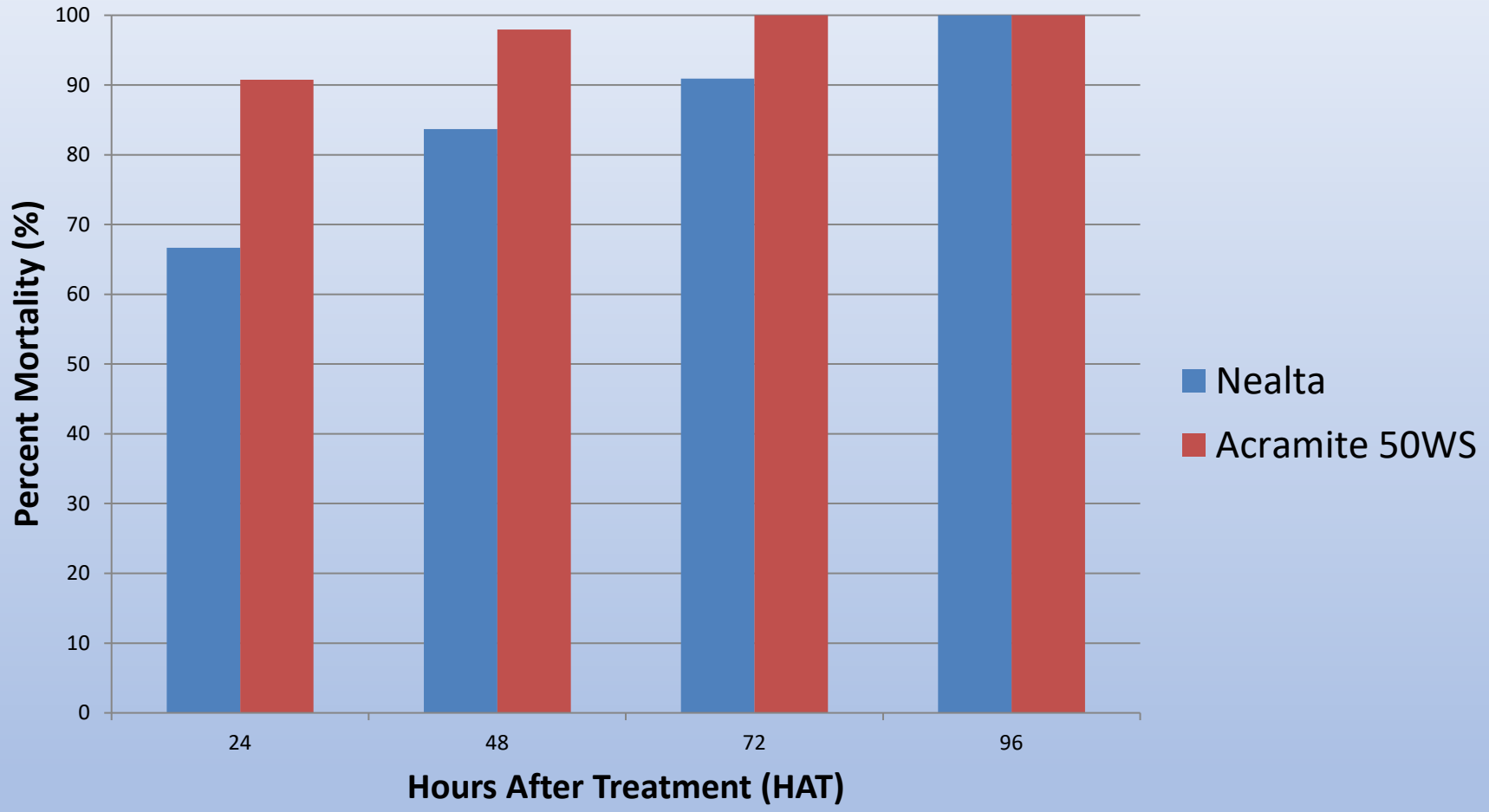
A. andersoni

N. californicus

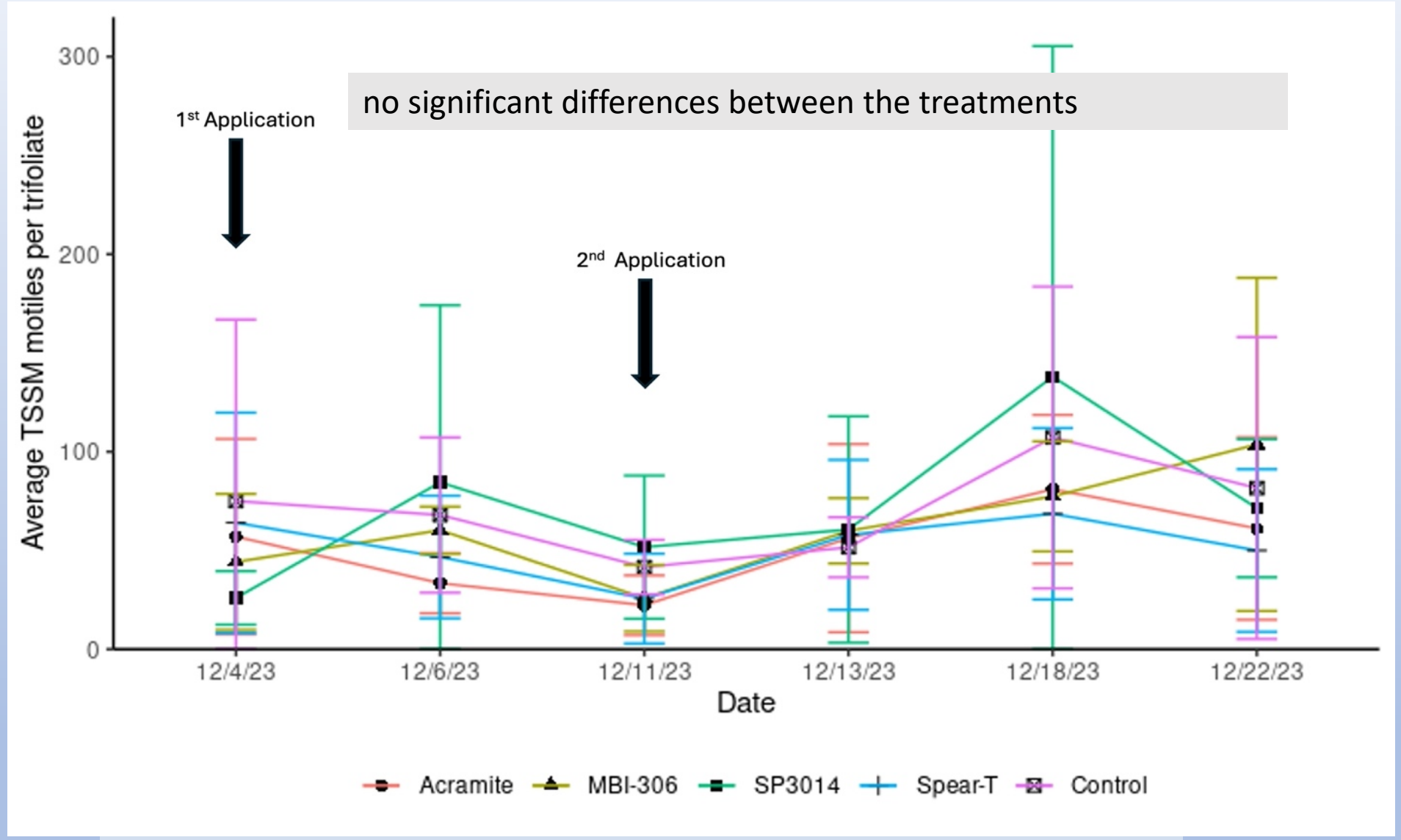
Previous lab bioassay results by Frank Zalom



Lewis Spider Mite Mortality (in lab)

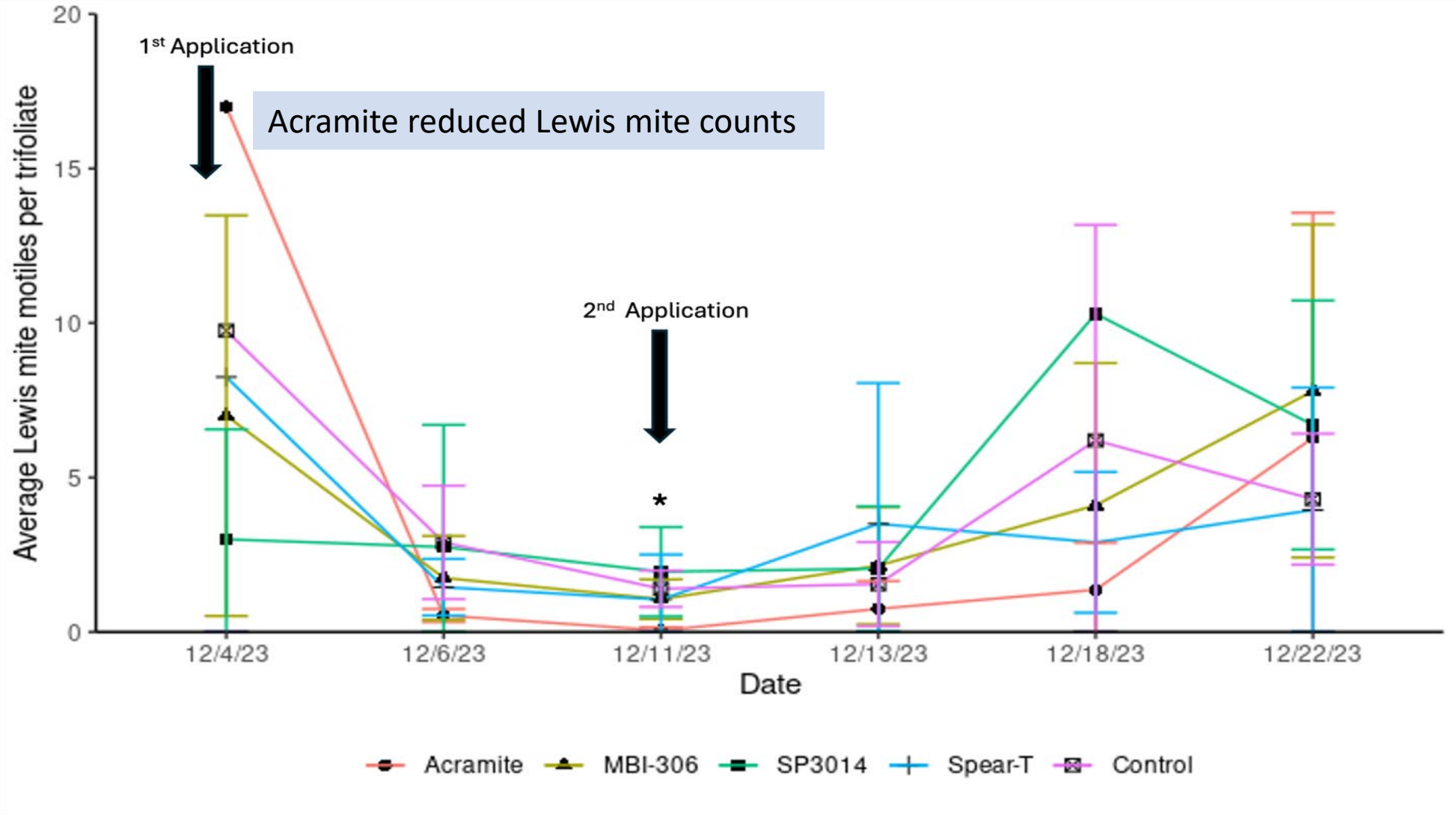


2023 Testing ‘soft’ miticides for two-spotted mite control



NO injury, No fruit yield differences among treatments (first 10 harvests)

2023 Testing ‘soft’ miticides for Lewis mite control



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