Low Toxicity Strawberry Trial: Results from 2023 season

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Introduction

- Interested in organic, low-toxicity products for strawberry production
- Management options for foliar diseases: fungal leaf spot, fungal leaf scorch, bacterial leaf spot, powdery mildew
- Comparing old organic products with a new organic bio-fungicide

Fungal leaf spot

- *Mycosphaerella fragariae*

Burn

- Crispy, dead tissue without any characteristic color, pattern, or shape.
- Spraying oily or harsh products in hot, humid weather

Trial design

- 2 rows of ‘Albion’ planted on plastic landscape mulch
- 4 treatments with 4 replicates:
- Untreated control
- Copper octanoate (Bonide) spray
- Beauveria bassiana dip
- Beauveria bassiana dip and spray

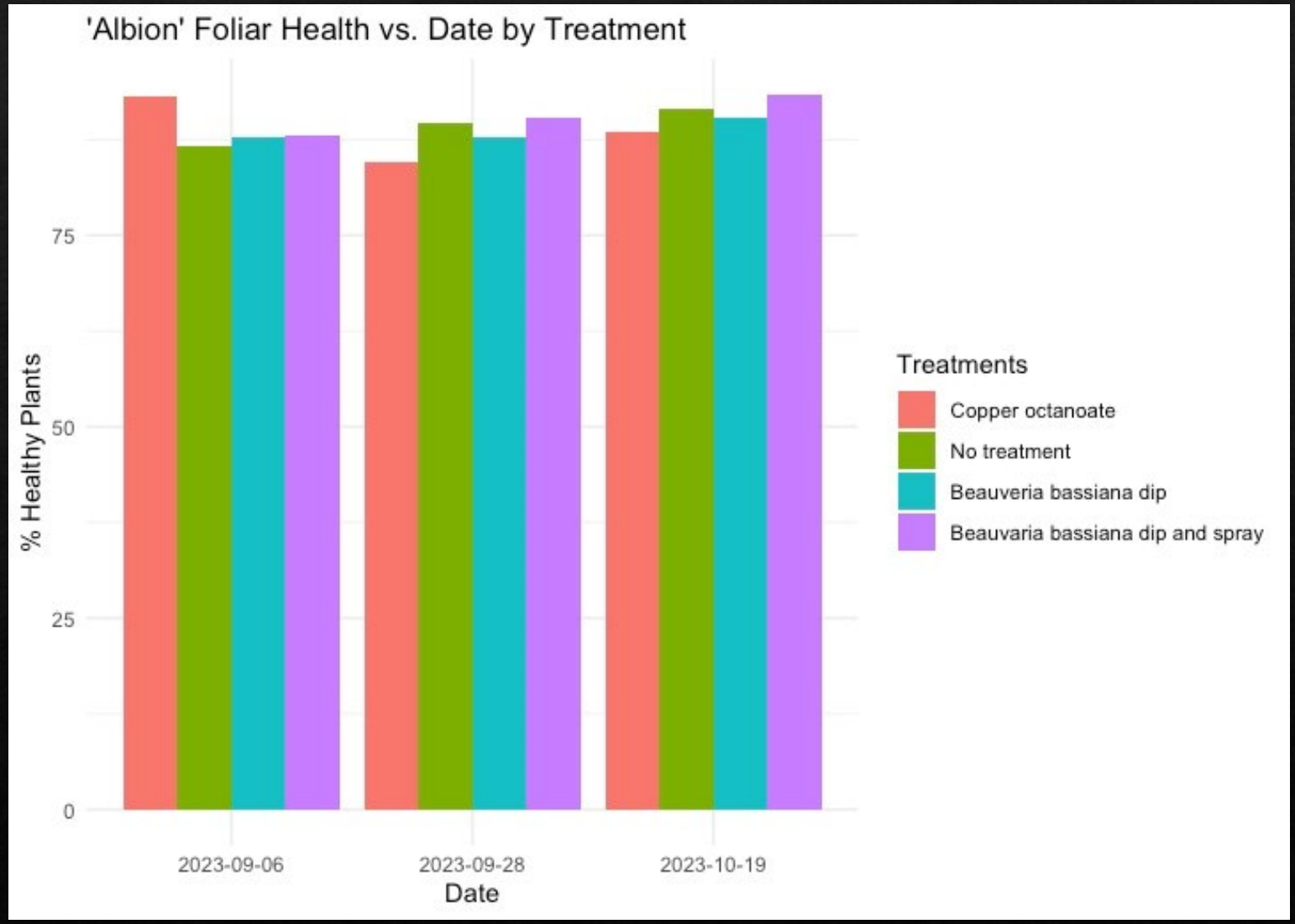
Beauveria Bassiana

- Fungus discovered in Italy in 1835
- Accepted use as an insecticide
- Potential systemic use as a fungicide?

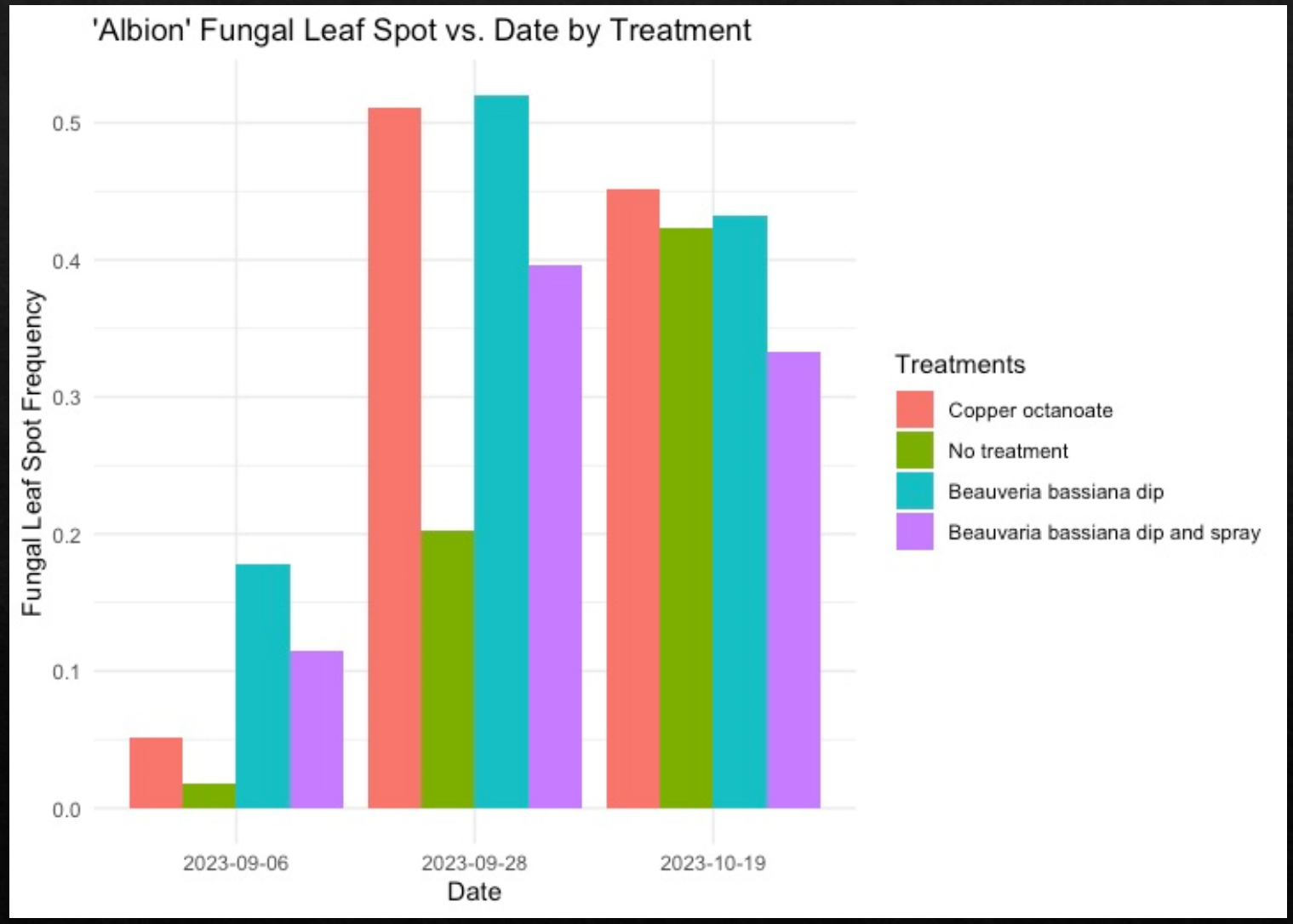
Copper octanoate

- Contact fungicide
- Foliar spray
- Toxic to all organisms
- The dose makes the poison
- Persistent in soil
- Can cause leaf burn

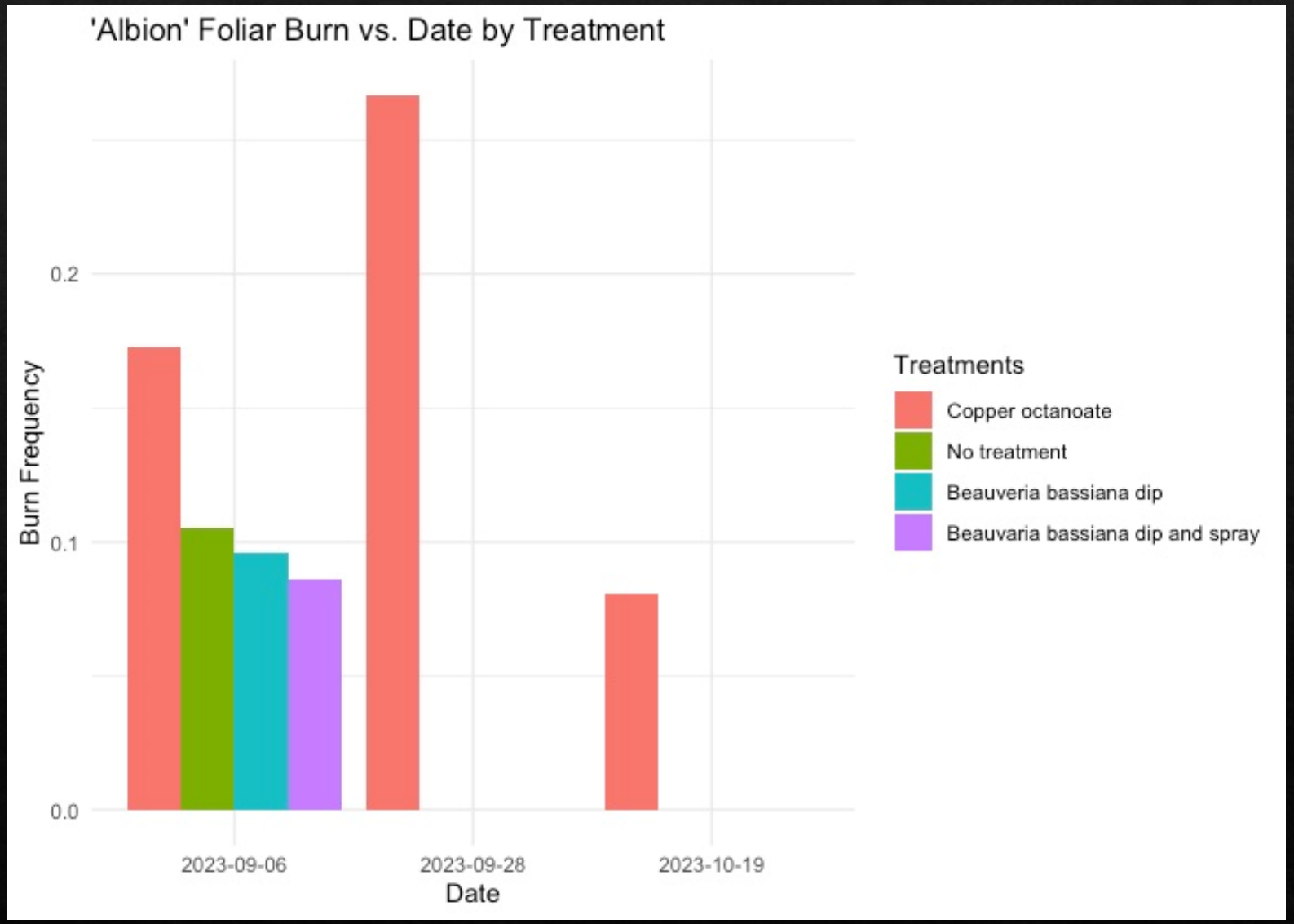
Results


'Albion' Foliar Health vs. Date by Treatment
% Healthy Plants
75
50
25
0
2023-09-06
2023-09-28
2023-10-19
Date
Treatments
Copper octanoate
No treatment
Beauveria bassiana dip
Beauvaria bassiana dip and spray

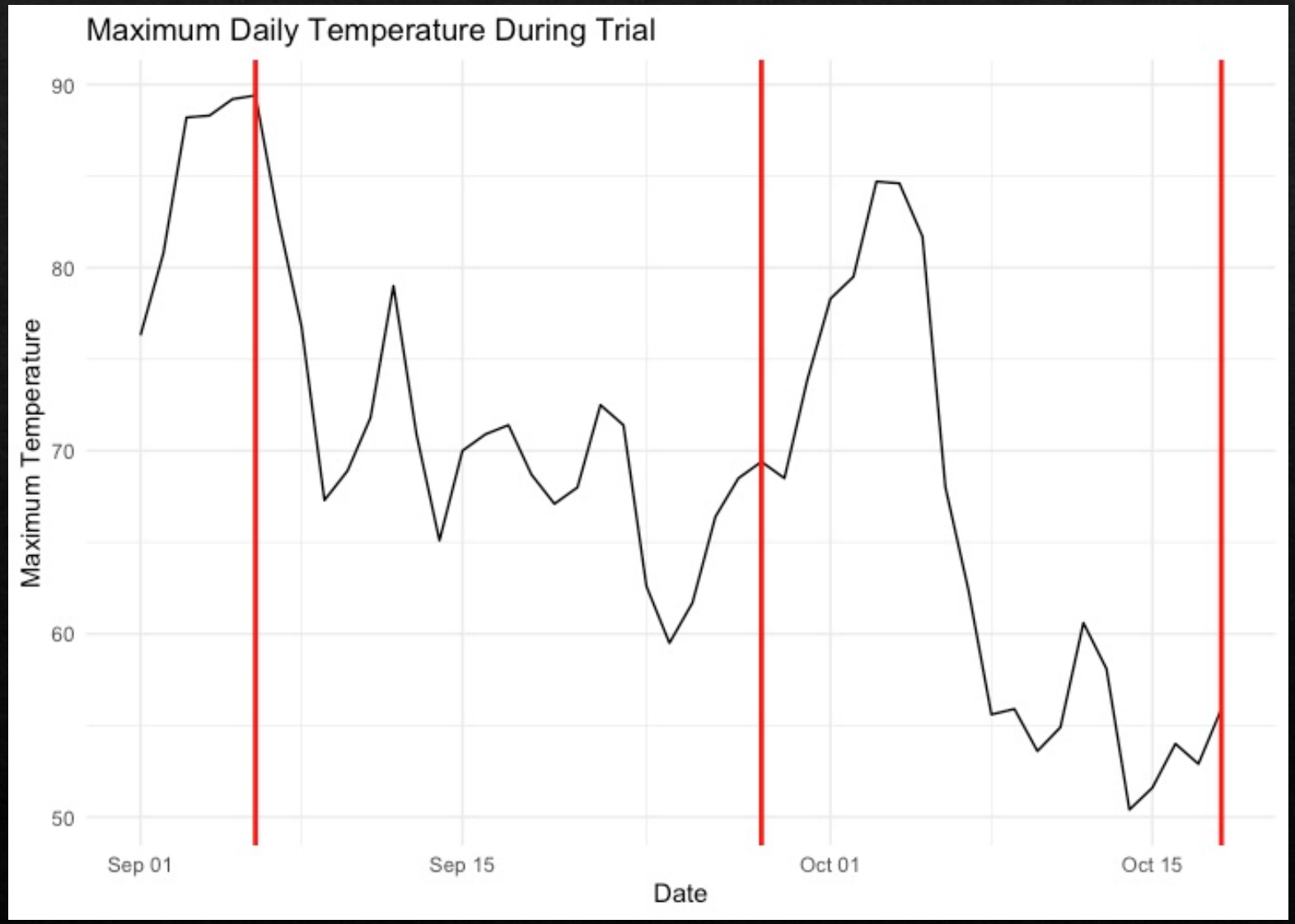
Results


'Albion' Fungal Leaf Spot vs. Date by Treatment
Fungal Leaf Spot Frequency
0.0
0.1
0.2
0.3
0.4
0.5
2023-09-06
2023-09-28
2023-10-19
Date
Treatments
Copper octanoate
No treatment
Beauveria bassiana dip
Beauvaria bassiana dip and spray

Results


'Albion' Foliar Burn vs. Date by Treatment
Burn Frequency
0.2
0.1
0.0
2023-09-06
2023-09-28
2023-10-19
Date
Treatments
Copper octanoate
No treatment
Beauveria bassiana dip
Beauvaria bassiana dip and spray

Weather


Maximum Daily Temperature During Trial
Maximum Temperature
90
80
70
60
50
Sep 01
Sep 15
Oct 01
Oct 15
Date

Closing thoughts

DID THE BEAUVERIA BASSIANA BECOME SYSTEMIC?

WAS THE BURN CAUSED BY COPPER WORSE THAN THE FUNGAL LEAF SPOT IT PREVENTED?

WHAT IMPACT DID WEATHER PLAY ON THESE RESULTS?