

Four Years of Successfully Managing SWD Using Exclusion Netting



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Every Year

Berries collected weekly mid-July – mid-Sept.

225 berries/week from 80 gram ExcludeNet

75-100 berries/week from smaller plots

2014 – adults reared out from berries

2015 through 2017 – berries scanned for eggs and larvae detected using salt flotation.

Netting Application Dates

2014 – July 11 First NY SWD Catch July 13, 7/22 at BP

2015 – July 5-6 First NY SWD Catch June 22, 7/14 at BP

2016 – July 1 First NY SWD Catch June 16, 7/5 at BP

2017 - July 5-7 First NY SWD Catch May 31, 6/17 at BP

Treatment Comparisons

2014 – 80 gram ExcludeNet vs 60 gram ExcludeNet vs Bird netting with 4 pesticide applications

2015 – 80 gram ExcludeNet vs Bird netting with 5 pesticide applications

2016 – 80 gram ExcludeNet vs 2 reps of “Attract and Kill” spheres

2017 – 80 gram ExcludeNet vs 4 reps of “Attract and Kill spheres











2015







2016



2017







Netting Infestation Summary

2014 – 0.67% infestation over 10 week harvest season

2015 – 0.37% infestation over 6 week harvest season

2016 – 0.00% infestation over 8 week harvest season

2017 - 1.20% infestation over 10 week harvest season*



2017 Infestation – A Closer Look

Netting Application Dates

2014 – 7/11	First NY SWD Catch 7/13, 7/22 at BP* (ACV bait)
2015 – 7/5-6	First NY SWD Catch 6/22, 7/14 at BP* (ACV bait)
2016 – 7/1	First NY SWD Catch 6/16, 7/5 at BP
2017 - 7/5-7	First NY SWD Catch 5/31, 6/17 at BP

2017 - 1.20% infestation over 10 week harvest season*

BUT

Only 0.50% infestation (7 berries of 1350 sampled – 6 weeks) through 87% of Harvest (August 21st).



2017

SWD Trap counts reported July 12, 2017

7/5/17

In-1 = 1F, 3M (Ripening Dukes)

In-2 = 0F, 0M (Green Fruit)

7/10/17

In-1 (C6) = 19F, 1M

In-2 (C5) = 0F, 0M

Netting Installed July 5-7, 2017

So what did I do?

SANITATION!!!!

Attract and Kill Spheres

Mass Trapping with Scentry Lures

Spinosad on low branches one time 7/25



Netting Investment

For ½ acre blueberries (8 rows x 250 feet)

7 rolls of 13 foot wide 80 gram ExcludeNet netting

plus sewing charge = \$4230*

Life span 7-12 years or more

Yearly cost with life of 7 years = \$604

Loss due to SWD in 2012 (40% loss) = \$6200, a 40% loss in 2017 would have been over \$15,000

Gives 5 way protection – SWD, birds, hail, heavy rain, wind

2017 Raspberries

1.2% infestation
over a 15 week
harvest season

Cost of netting	\$288
Cost of bees	<u>\$177</u>
Total	\$465

Cost of Entrust	\$420
Cost of Pyganic	\$160

Cost of Delegate	\$245
Cost of Assail	\$330





1995















Drew Lake

College Rd

College Rd

Salispuedes Creek

Lakeview Rd

Lakeview Rd

Lake Tynan

Garrouette Farms

Carlton Rd

Farm Fuel

Creekside Farms

Johnston Corner

BadCreditLoans Watsonville

Boyer Fertilizer Services

Carlton Rd

Lakeview Rd

129

Riverside Dr

Riverside Dr

129

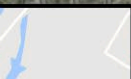
Riverside Dr

Riverside Dr

129

Lakeview Rd

Colleen Strawberries





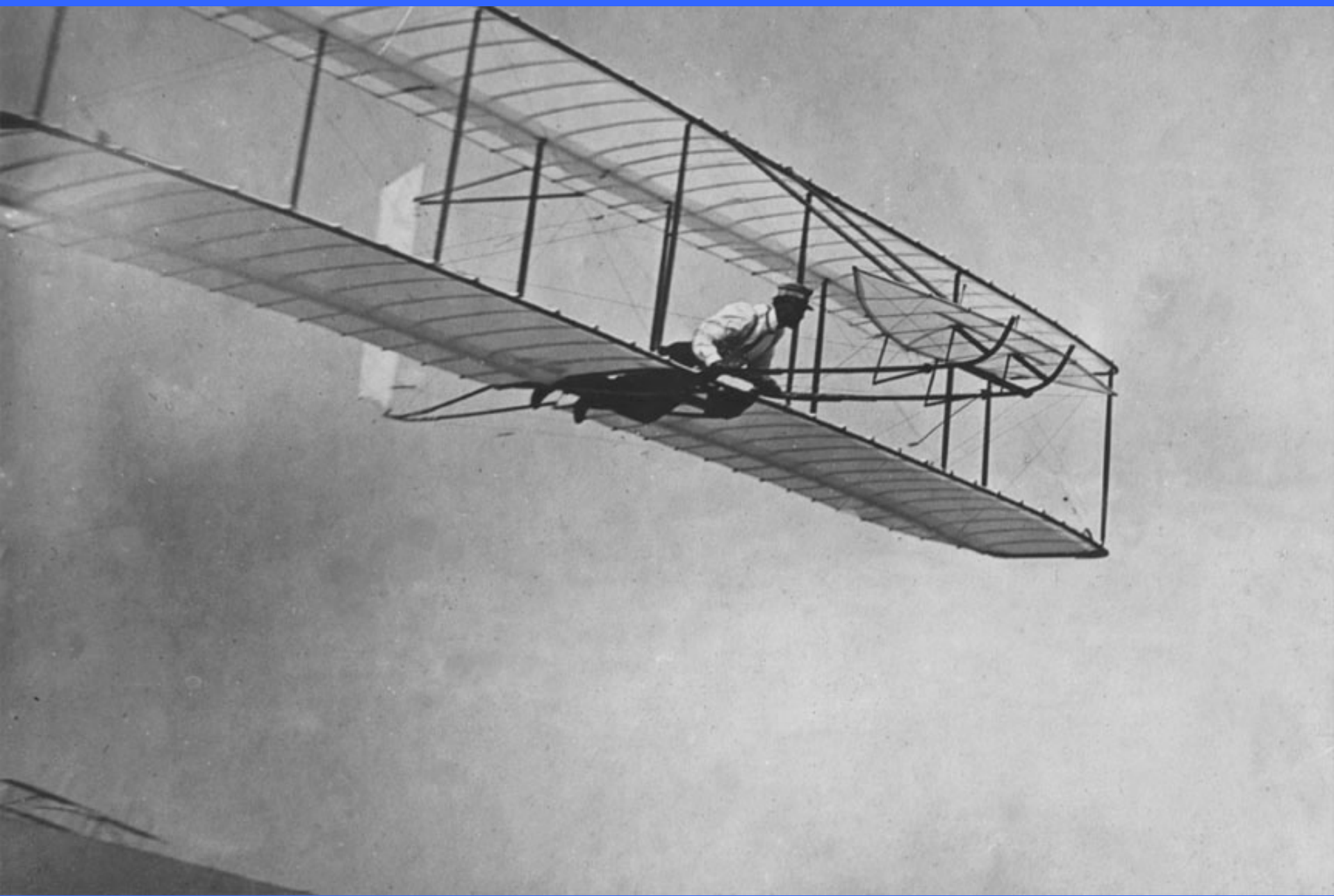


Blackberry plantings
are kept for
5 years.

Raspberry plantings
are kept for
2-3 years.













Grower Quote of the Year

“It’s hard to argue with 0%”

Netting Supplier

Berry Protection Solutions

www.berryprotectionsolutions.com

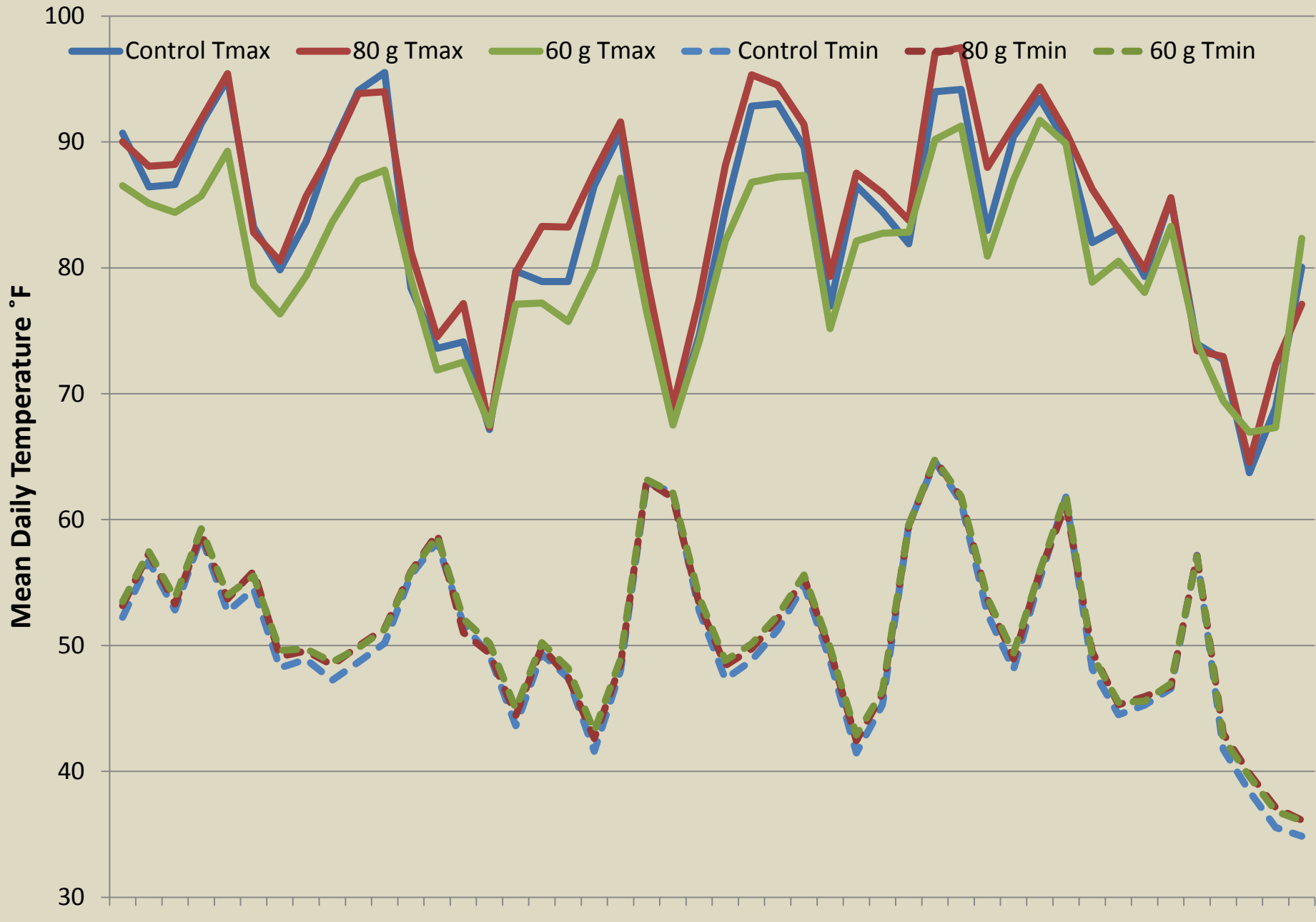
berryprotection@fairpoint.net

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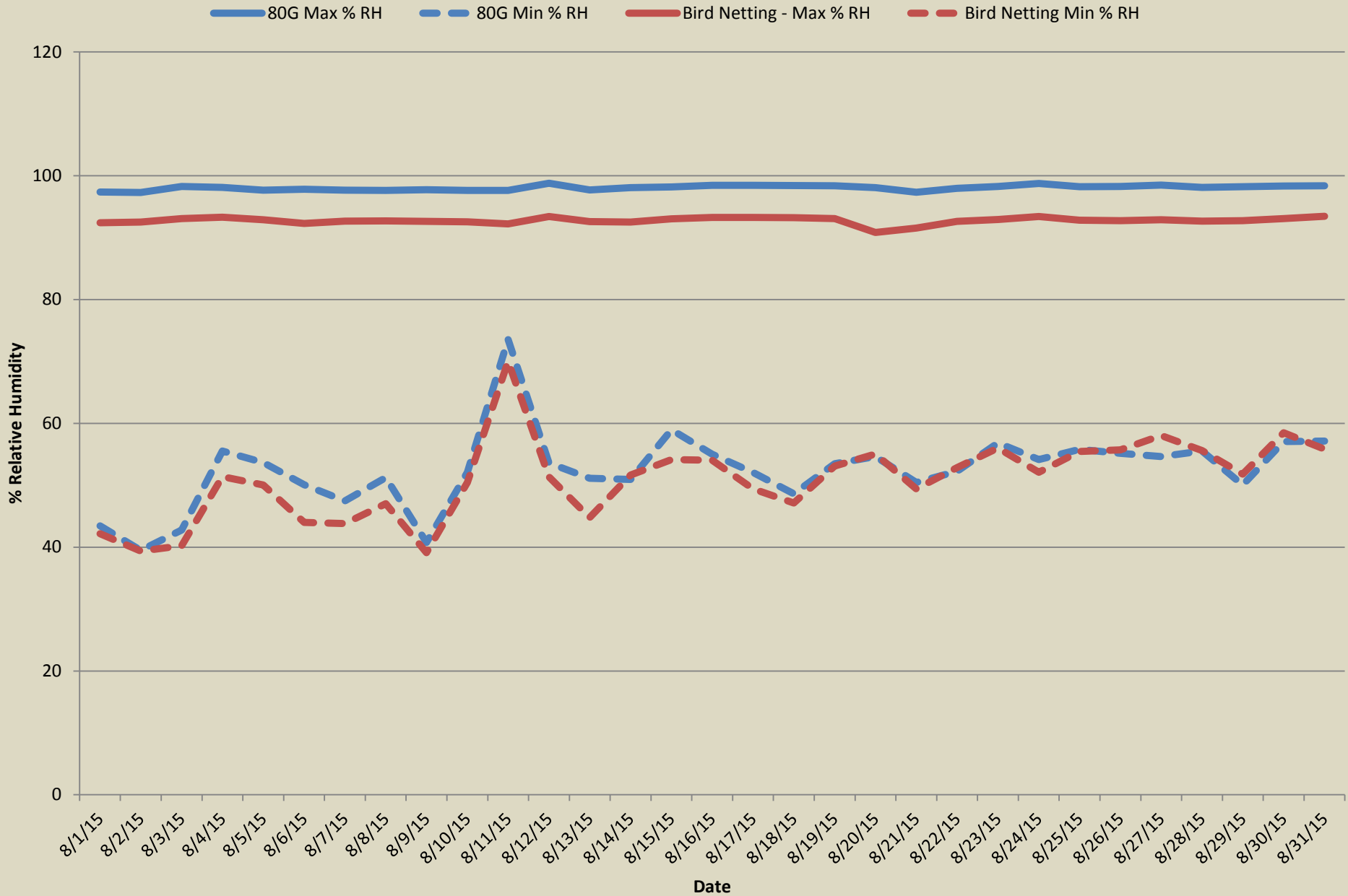


Mean Max-Min Temperatures Inside Three Different Exclusion Netting Zones



2015-Exclusion Netting Demonstration

Relative Humidity Data



















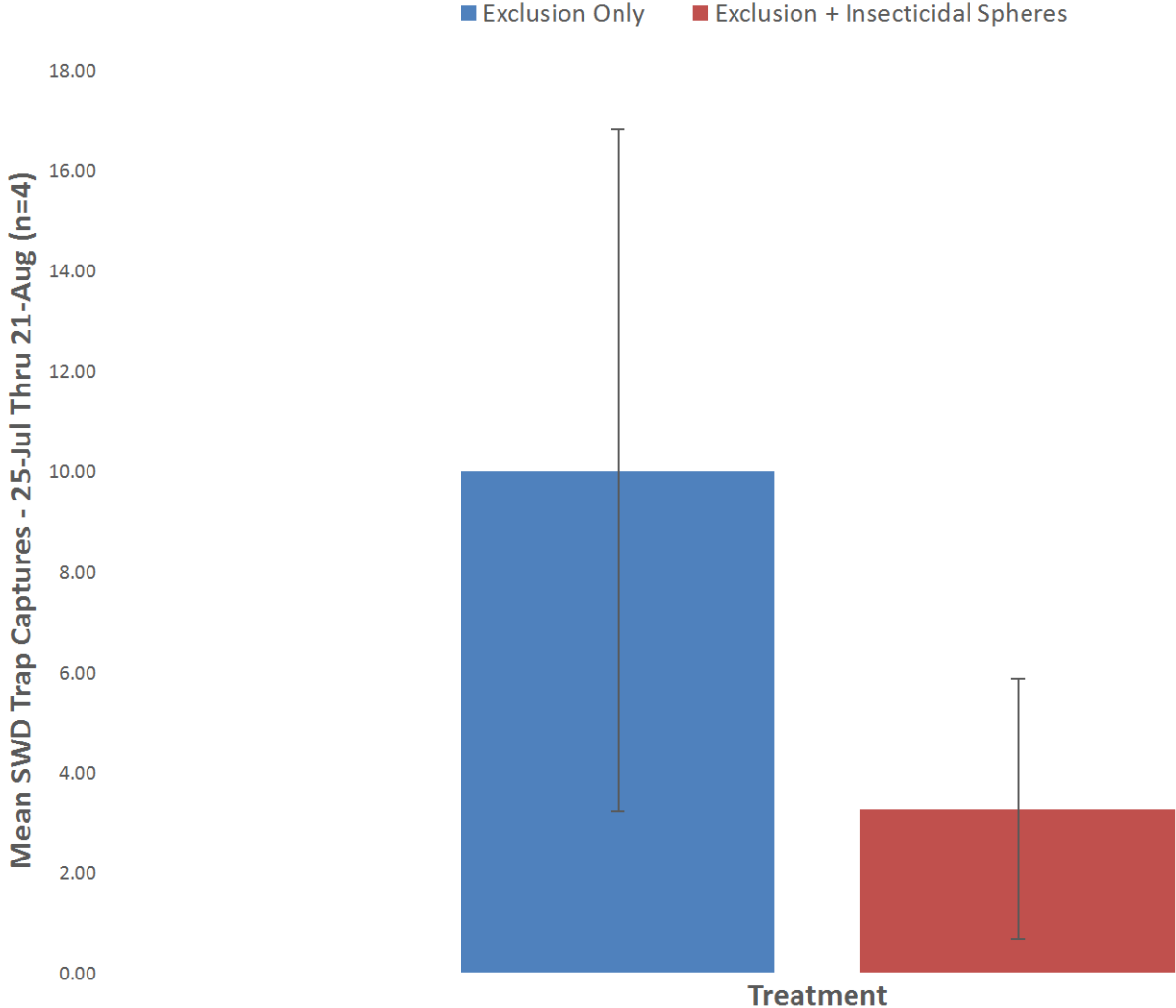
Join us!



\$1,940,000 for SWD and other berry
research in 5 years!



Comparison of Exclusion Netting With or Without Insecticidal Spheres in Blueberry











How did we put it up?

60 gram netting comes in 26 foot wide pieces





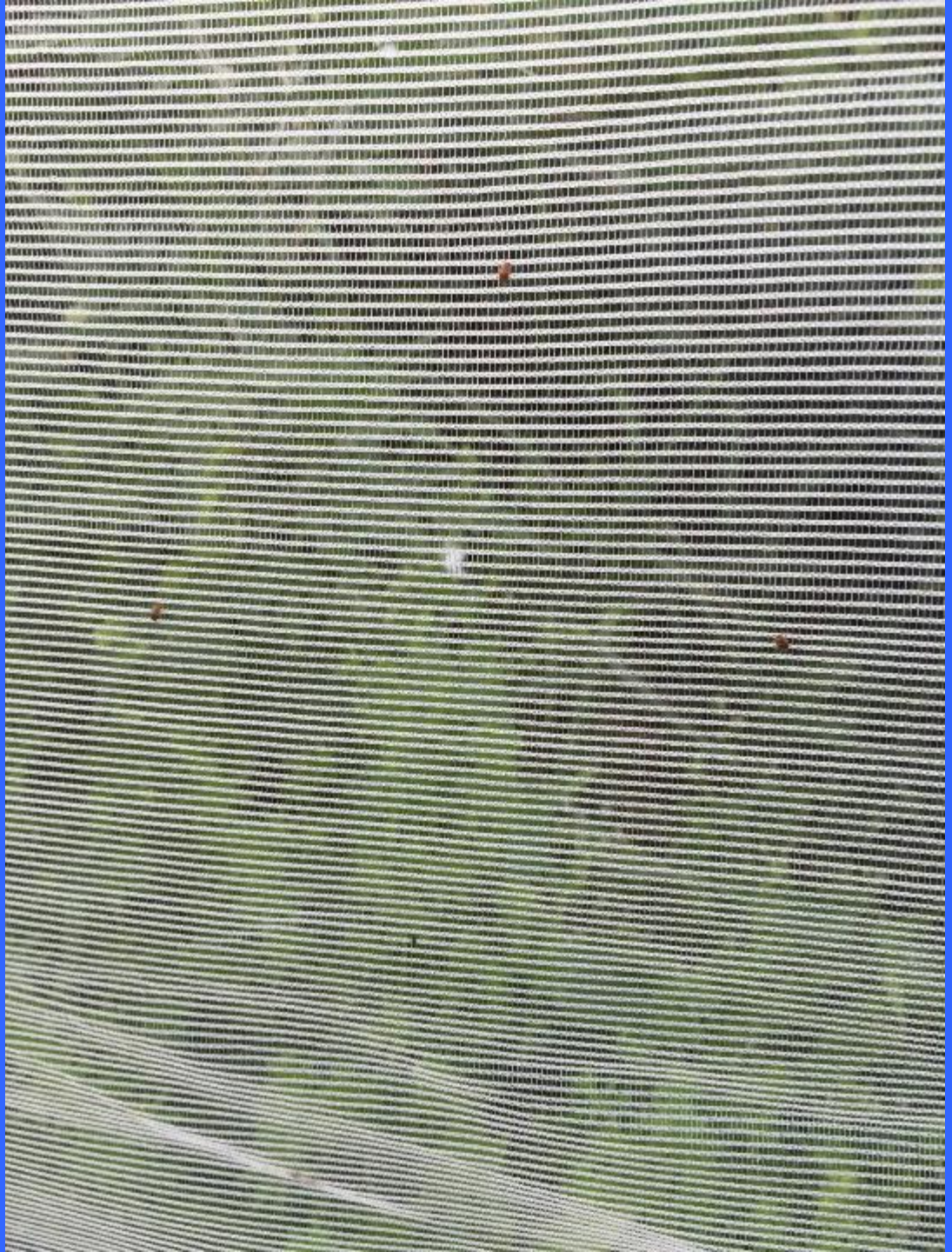
















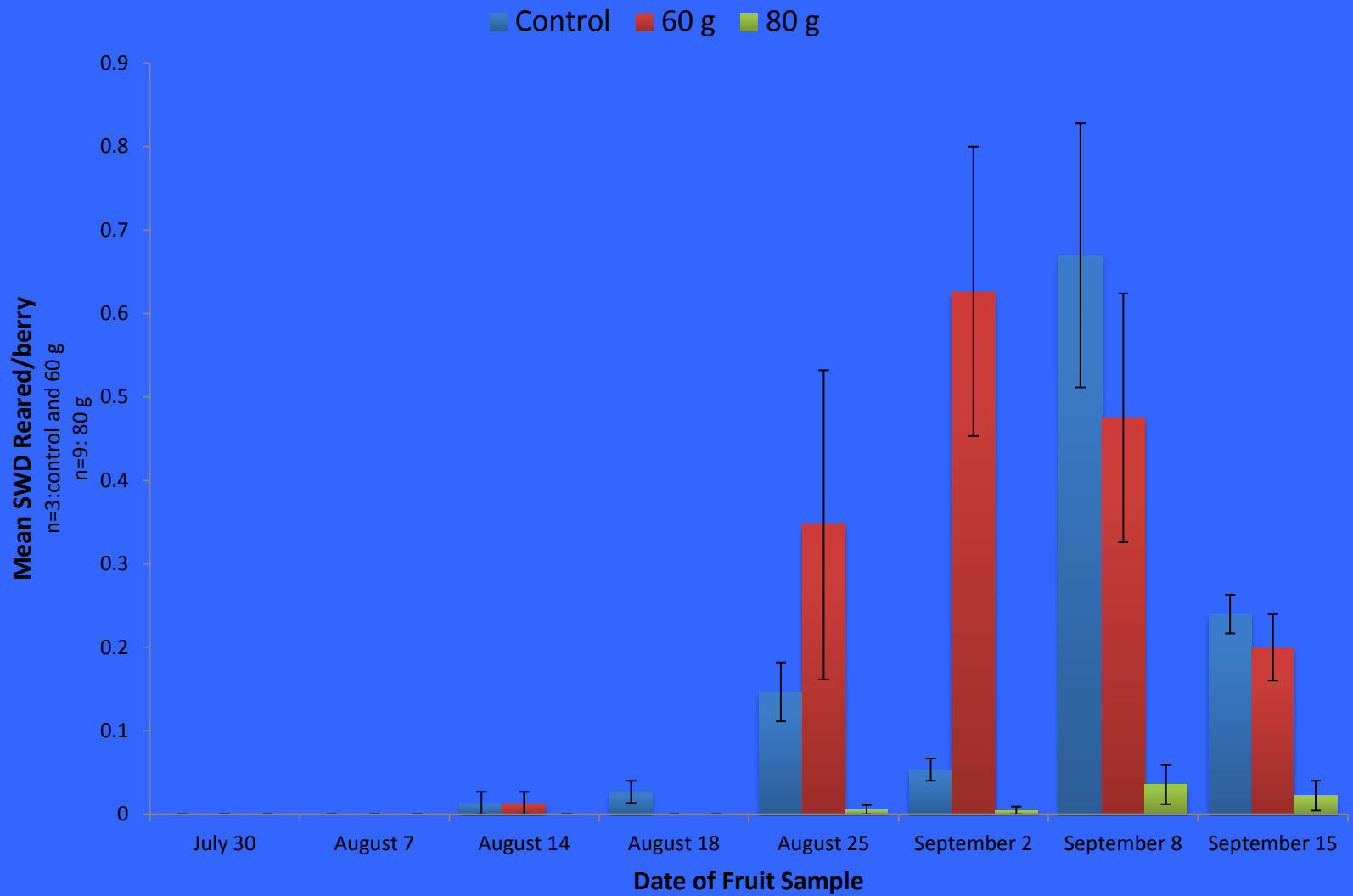








Exclusion Netting Demonstration: Mean SWD/berry reared from marketable fruit



Control (blue bars) received 4 pesticide applications





2014 Sampling Data – Number of infested berries/total number sampled

Sampling Date	80 g Netting	Control (4 applications)
7/16	0/225	0/75
7/23	0/225	0/75
7/30	0/225	0/75
8/7	0/225	0/75
8/14	0/225	1/75
8/18	0/225	3/75
8/25	1/225	12/75
9/2	1/225	4/75
9/8	8/225	50/75
9/15	5/225	27/75
	0.67%	13.1%



Treatments 2015

80 gram ExcludeNet netting – 7 rows

Standard Bird netting – 1 row

Applied July 5-6, 2015

Berries collected weekly 7/15/15 – 8/17/15 (6 wks)

225 berries/week from 80 gram

75 berries/week from control

Control received 5 pesticide applications

Treatments 2016

80 gram Tek-Knit agricultural netting – 7 rows

2 replications “Attract and Kill” plots – 1 row

Applied netting June 30 and July 1 , 2016



Berries collected weekly 7/7/16–8/29/16 (9 wks)

225 berries/week from 80 gram

100 berries/week from Attract and Kill

No pesticide applications on anything

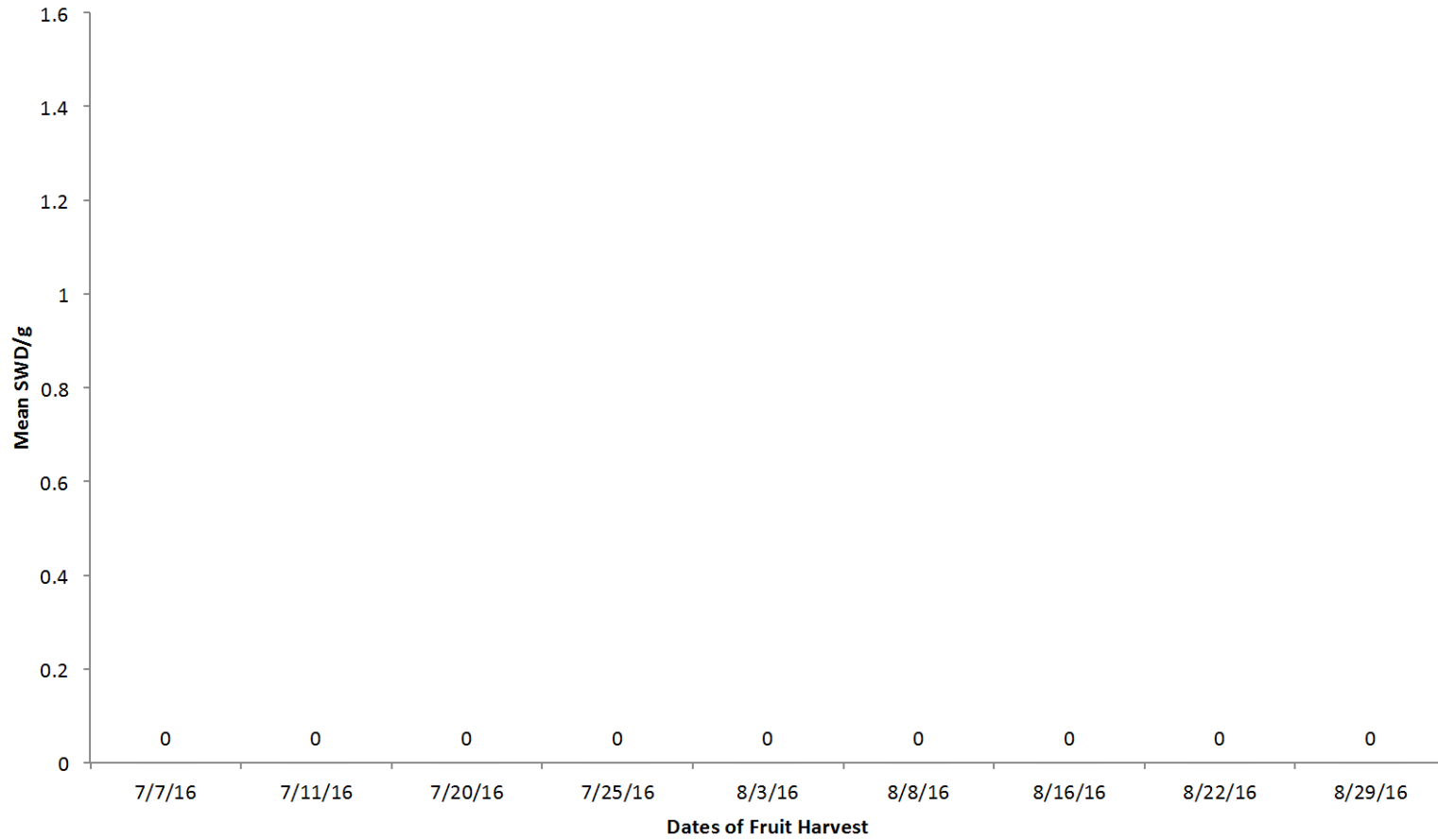






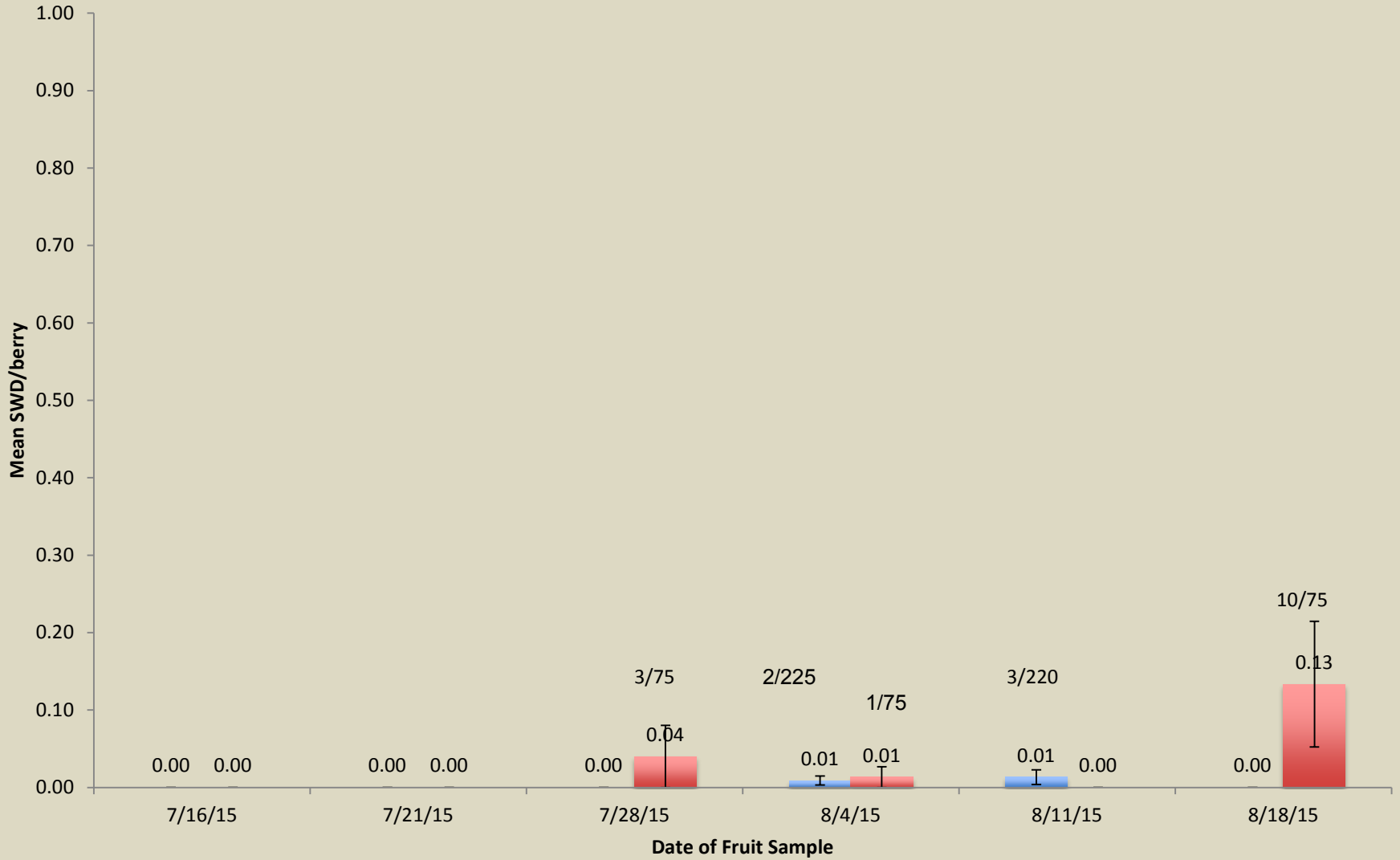
Exclusion Netting Demonstration, 2016

■ 80g(n=9)



2015-Exclusion Netting Demonstration in Blueberries

80G Standard



Control received 5 pesticide applications



