



Navel orangeworm management in 2011 vs. 2010:
Factors affecting successful control

Joel Siegel, USDA/ARS, Parlier

Martin Barnes

John Beck

Bob Beede

Walt Bentley

Charles Burks

Leo Caltagirone

Ring Carde

Robert Curtis

Charles Curtis

Kent Daane

Brad Higbee

Bill Kellen

Bas Kuenen

Peter Landolt

Walter Leal

Fred Legner

Jocelyn Millar

Dick Rice

Harry Shorey

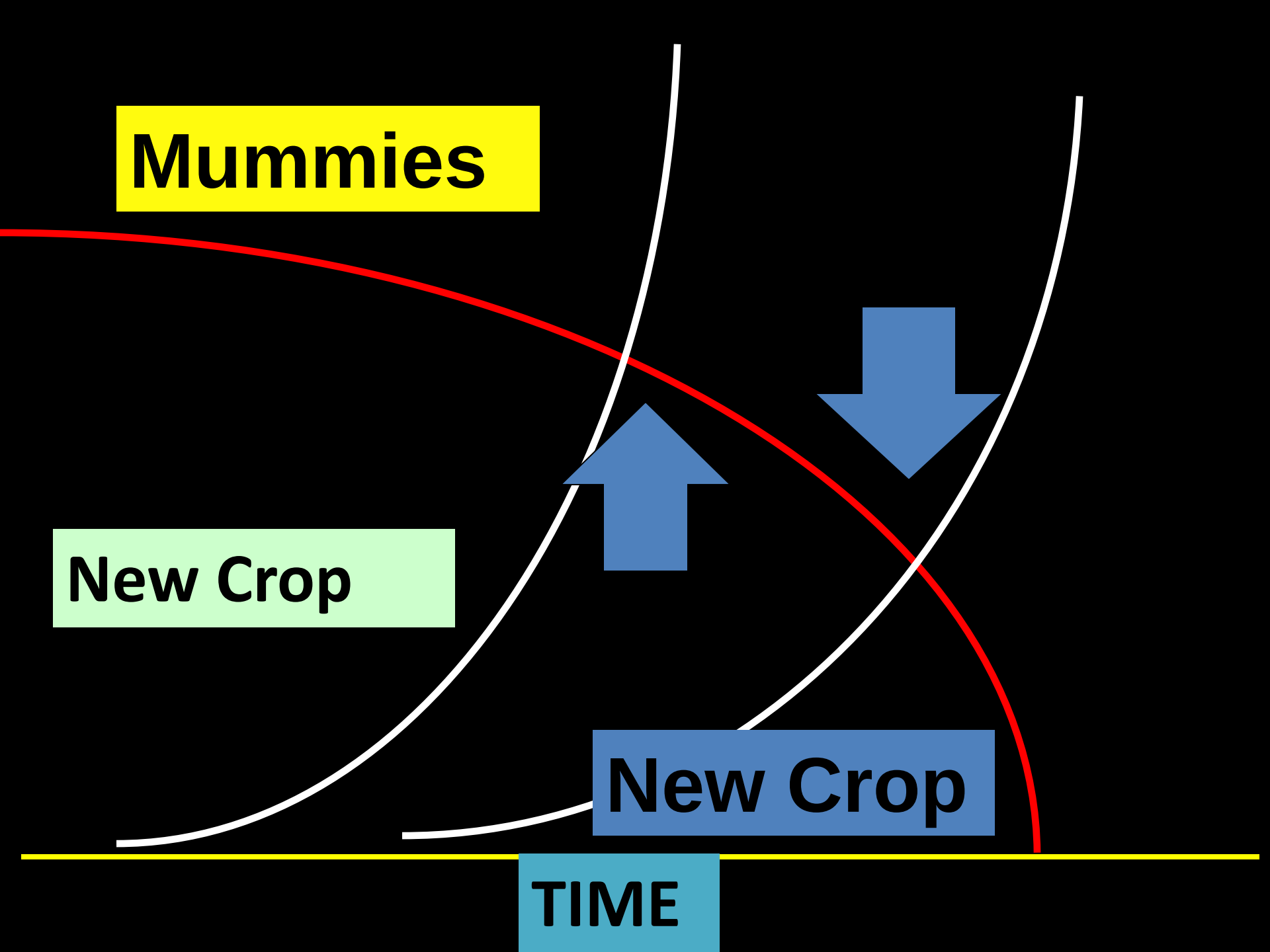
Frank Zalom

70

More like a Stored Product Pest



Mummies



The graph illustrates the relationship between 'Mummies' and 'New Crop' over 'TIME'. The y-axis represents the quantity of these items, and the x-axis represents time. A red curve, labeled 'Mummies', starts at a high value and decreases as time progresses. Two white curves, both labeled 'New Crop', start at low values and increase over time. The first white curve intersects the red curve. A blue arrow points upwards from the x-axis to this intersection point. A second white curve starts at a later time and intersects the red curve at a lower point. A blue arrow points downwards from this intersection point to the x-axis.

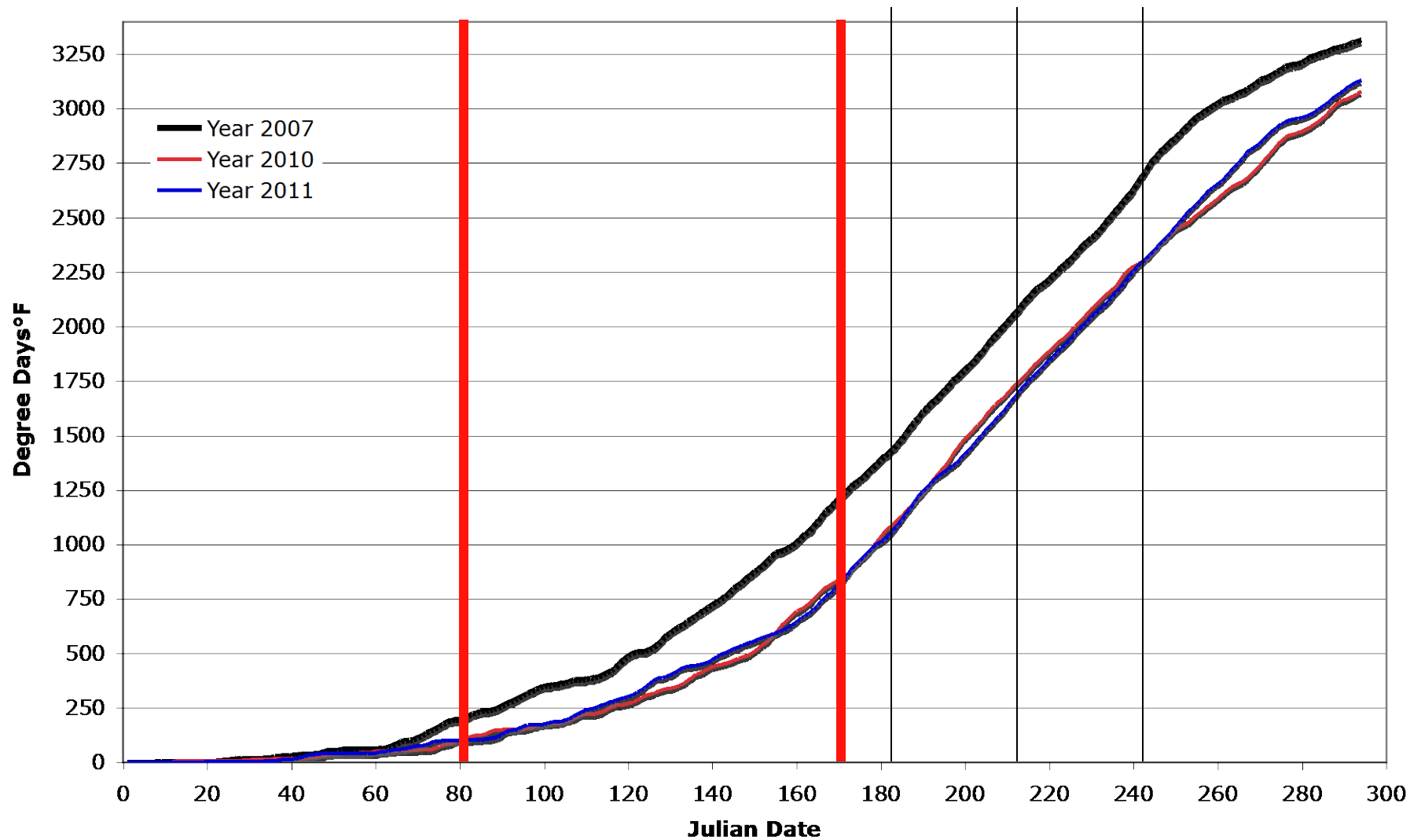
New Crop

New Crop

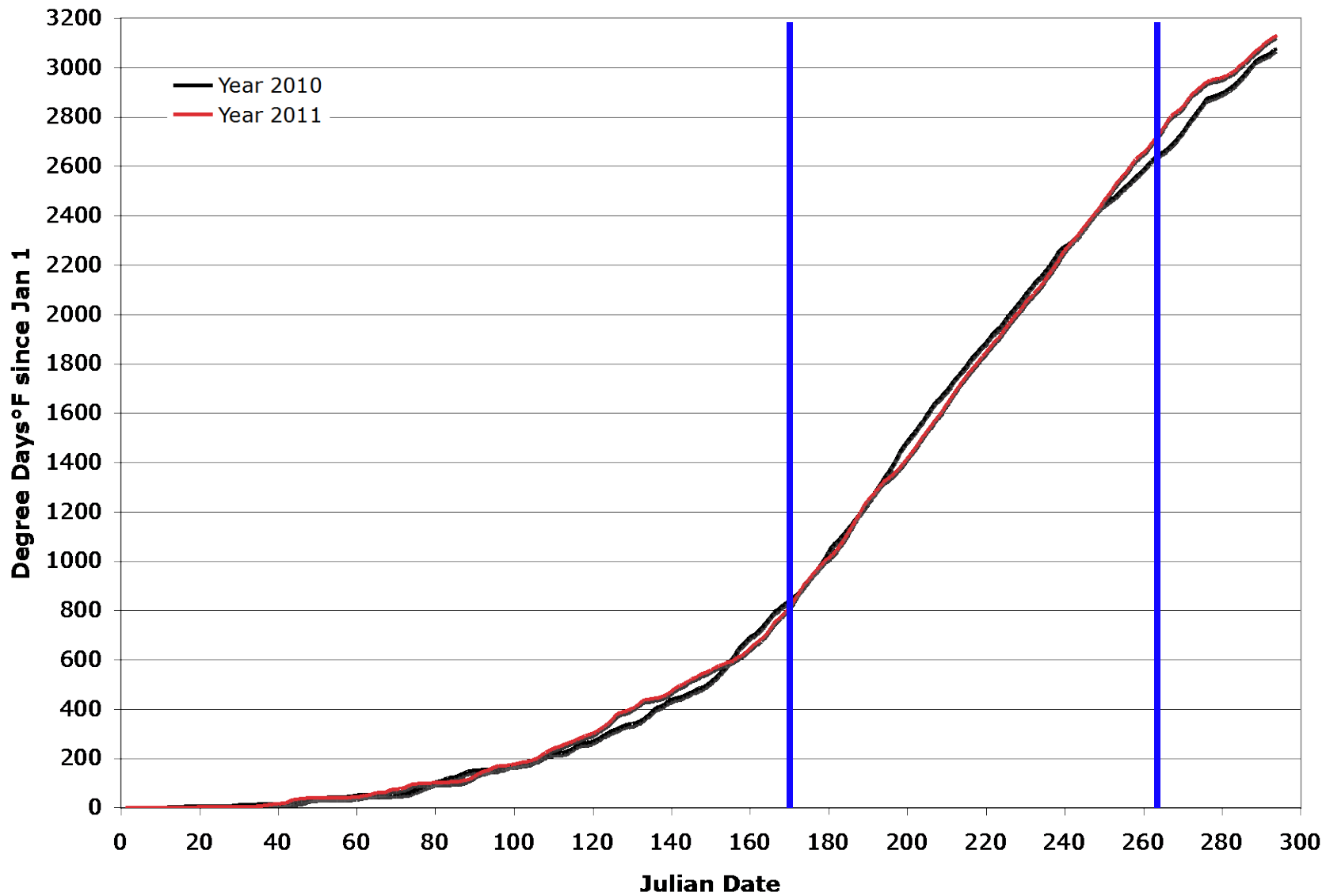
TIME

Contrast
Years

Madera County



Madera County



Overall Summary

Category	2007	2010	2011
Infestation	1.71% (7,648)	0.17% (10,242)	0.33% (6,464)
Split	85.64% (7,648)	72.57% (10,242)	77.21% (6,464)
Dark Stain	3.10% (7,648)	2.19% (10,242)	2.28% (6,464)

Infestation

County	2007	2010	2011
Fresno	0.84% (1,498)	0.10% (1,827)	0.17% (1,882)
Kern	1.22% (8,926)	0.12% (9,509)	0.07% (816)
Kings	1.36% (2,452)	0.29% (2,736)	0.52% (876)
Madera	2.61% (1,732)	0.28% (3,222)	0.62% (1,349)
Tulare	1.94% (1,671)	0.16% (2,696)	0.31% (1,541)

Dark Stain

County	2007	2010	2011
Fresno	0.92% (1,498)	1.24% (1,827)	0.88% (1,882)
Kern	1.03% (8,926)	1.56% (9,509)	2.13% (816)
Kings	1.42% (2,452)	1.66% (2,736)	1.60% (876)
Madera	3.61% (1,732)	2.68% (3,222)	2.74% (1,349)
Tulare	5.10% (1,671)	2.59% (2,696)	4.06% (1,541)

**What Causes
Damage?
Nut Factors**

Insect Damage

50.0% median 0.00641

Mean 0.0099828

N 432

Percent Split, curvilinear

Percent Dark Stain

Percent Shell Defect, curvilinear

Percent Blanks

0—
—

9 RMSE=0.0073

Insect Damage

75.0%quartile	0.00997
50.0%median	0.00499
Mean	0.0082471
N	111

Percent Dark Stain, curvilinear

Percent Shell Defect, curvilinear

Percent Blanks

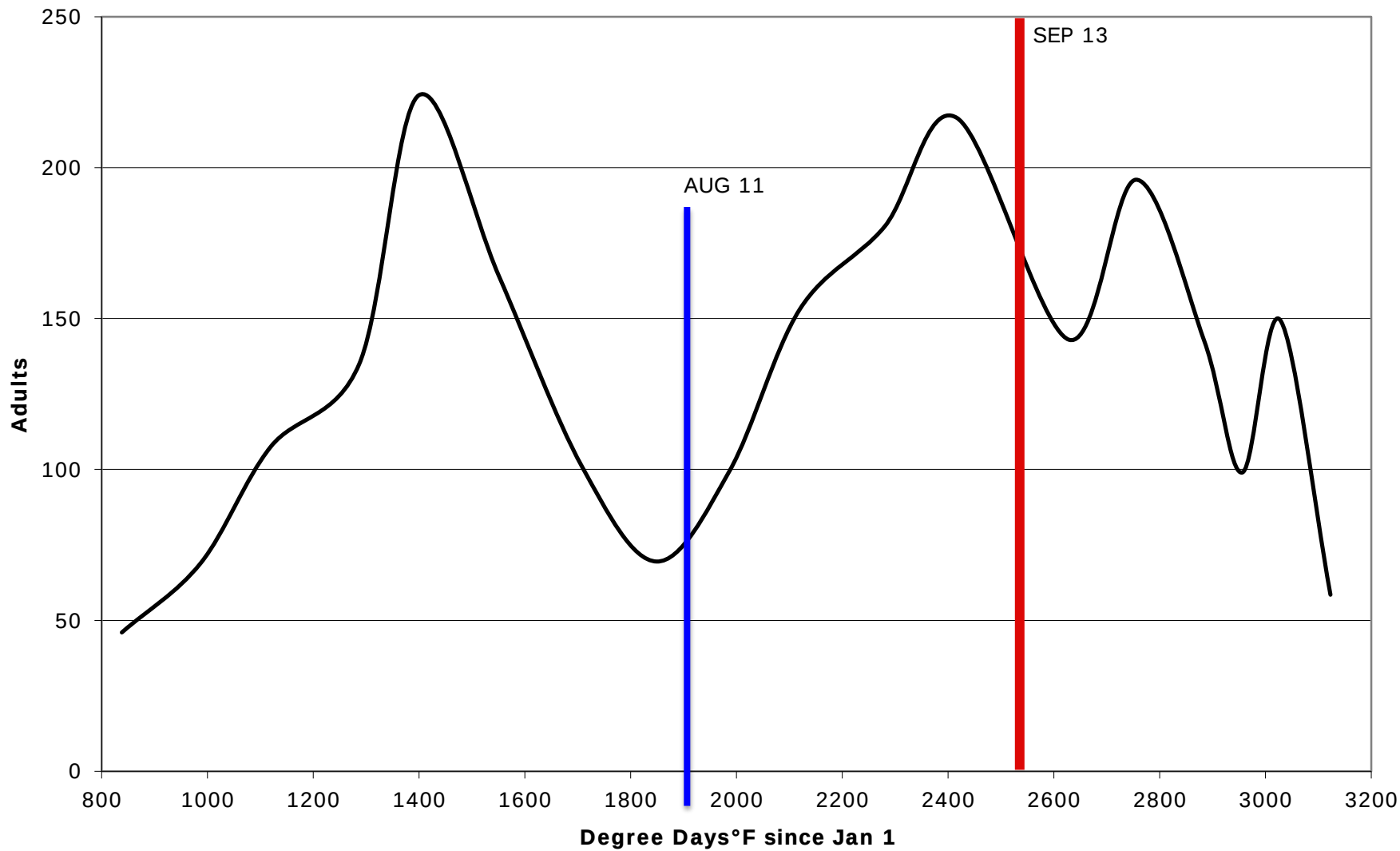
0—
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0001 RSq=0.56 RMSE=0.0063

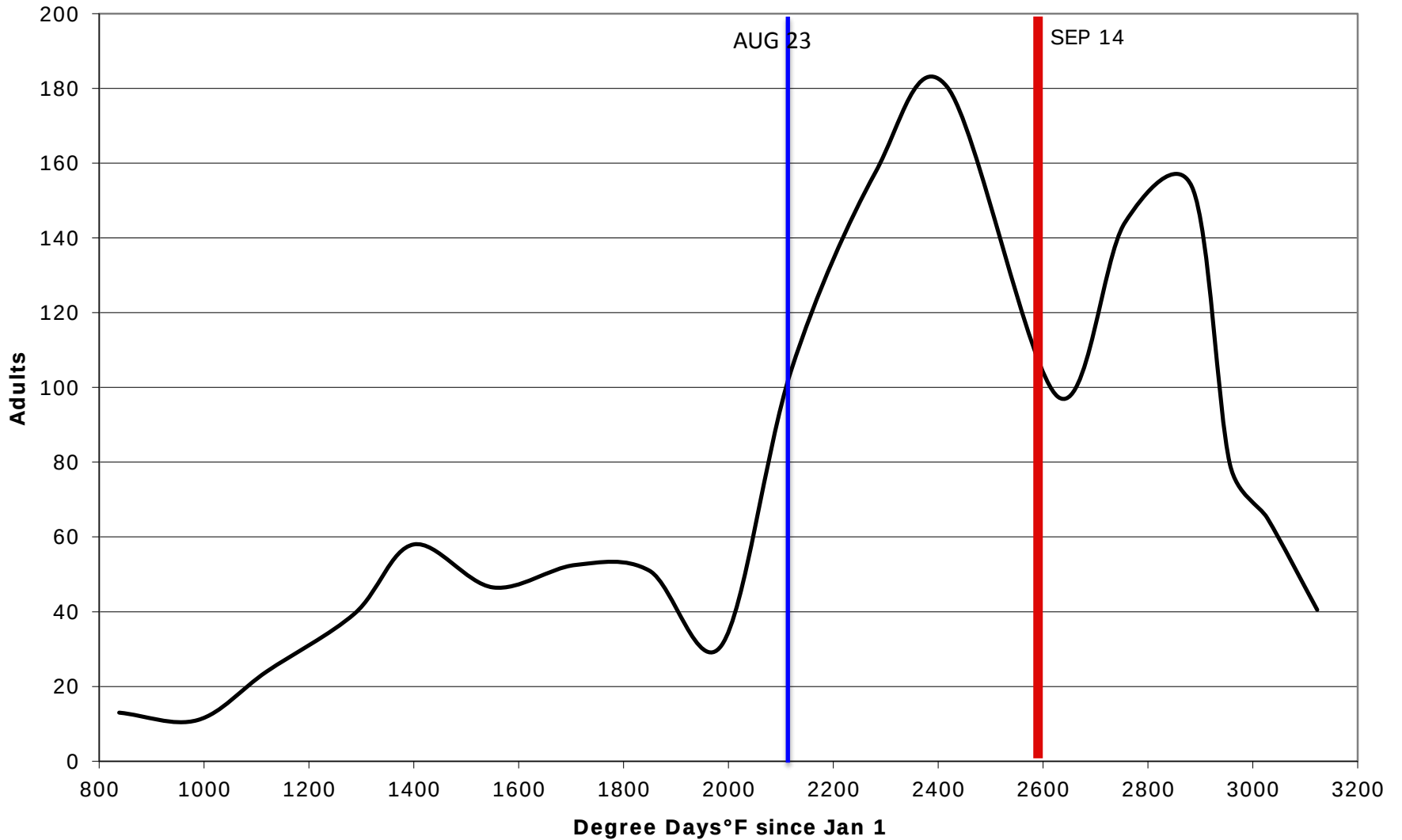
**Dark Stain
Shell Defect
Blanks**

**Focus
on
Timing**

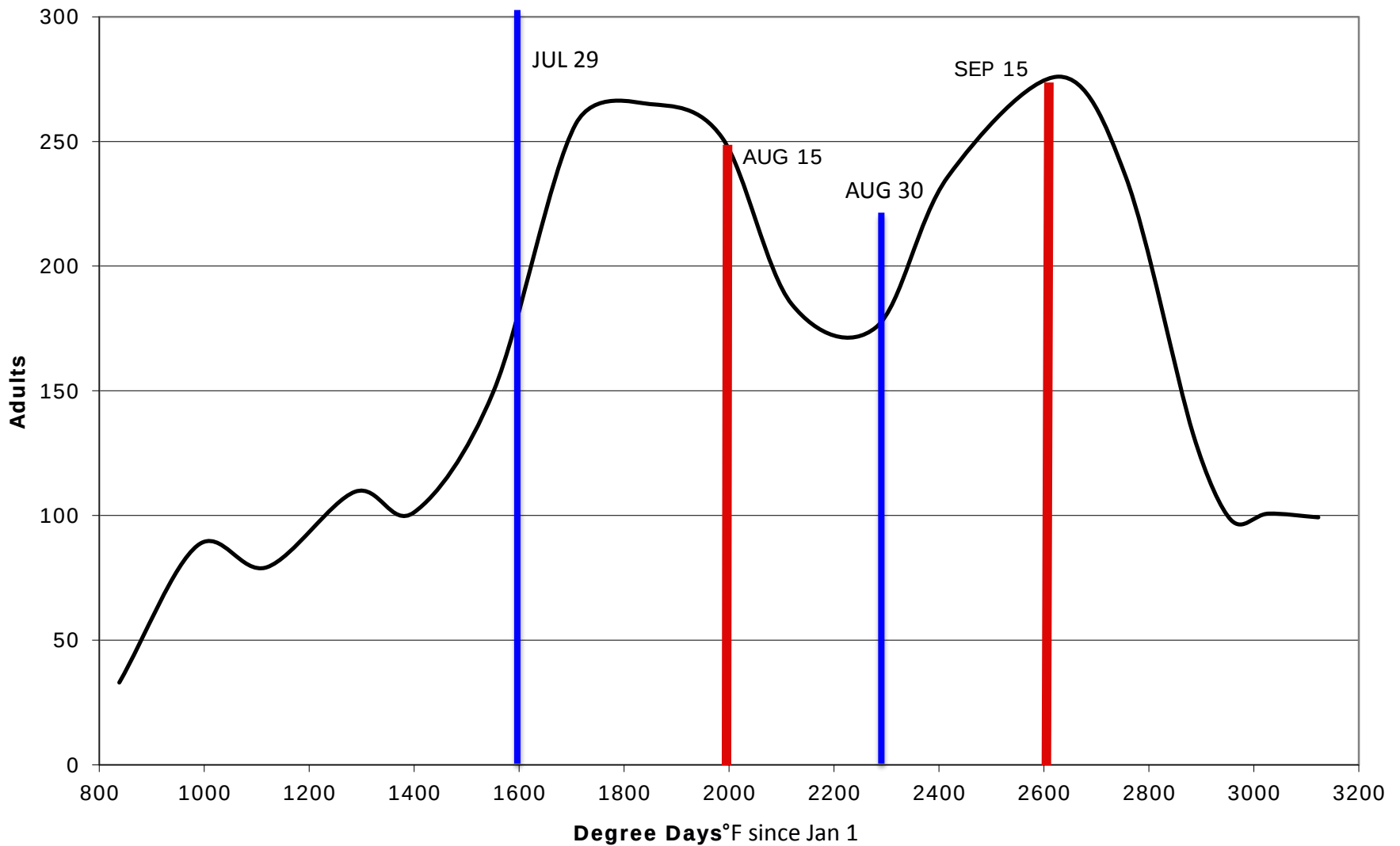
Madera Single Spray A



Madera Single Spray B

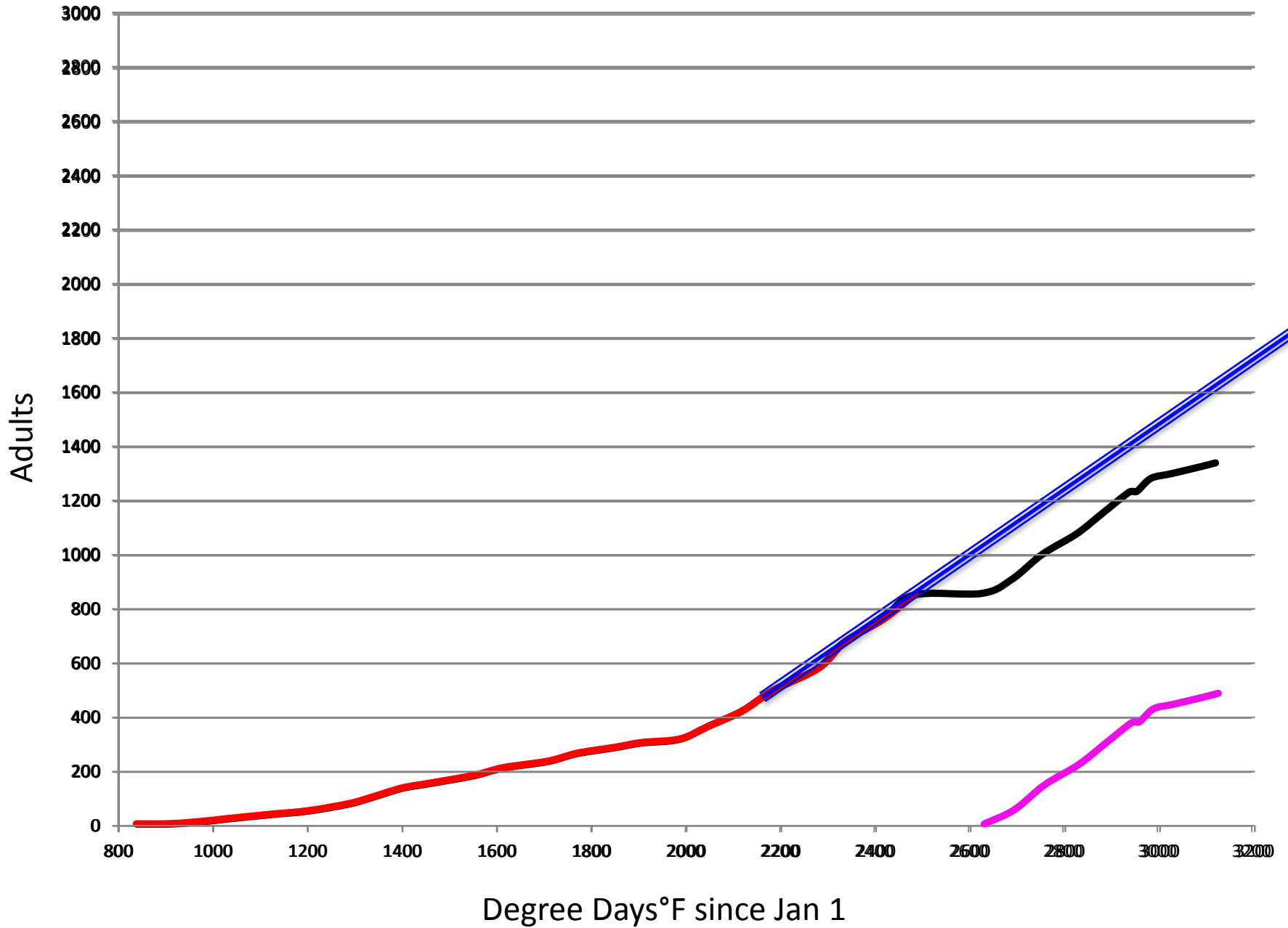


Madera Double Spray

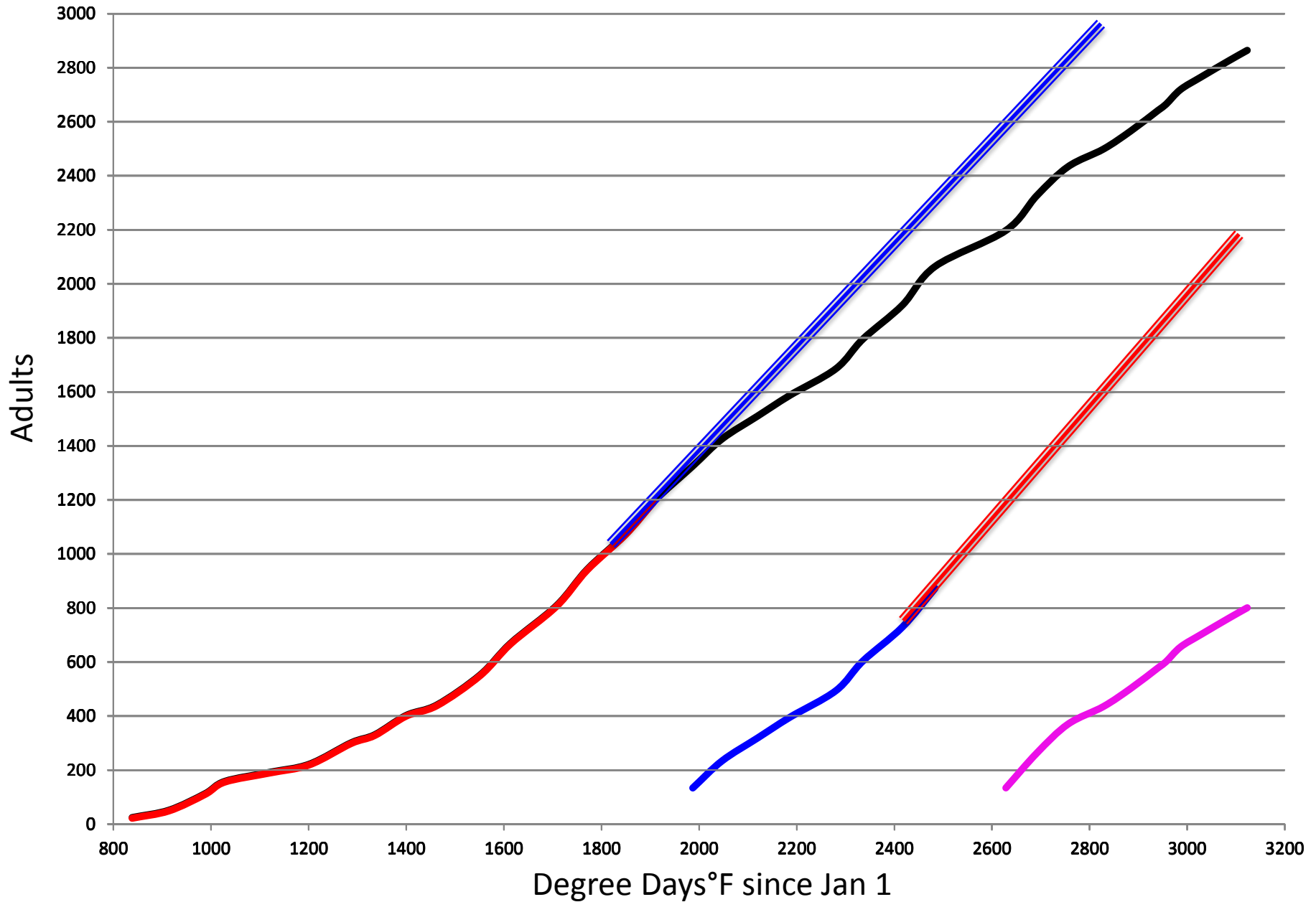


Spray
Impact

Single Spray



Double Spray



Control
by
Harvest

Duration

of

Control

Insecticide	Percent Mortality	Eggs
24 Days after Exposure		
Proclaim 4.5 oz	96.67 a	600
Intrepid 24 oz	96.25 a	1,200
Voliam Xpress 10 oz	95.83 a	600
Belt 4 oz + Warrior II 2.5 oz	95.33 a	600
Intrepid 18 oz + Lambda Cy 5 oz	93.25 b	800
Proclaim 4.5 oz + Warrior II 2.5 oz	91.50 b	1,200
Intrepid 18 oz + Warrior II 2.5 oz	90.38 bc	800
Bifenture EC 10 oz	89.50 c	600
Intrepid 8 oz + Warrior II 2.5 oz	88.75 c	800

Insecticide	Percent Mortality	Eggs
30 Days after Exposure		
Belt 4 oz + Warrior II 2.5 oz	97.25 a	800
Intrepid 24 oz	95.83 a	600
Proclaim 4.5 oz + Warrior II 2.5 oz	95.67 a	600
Intrepid 18 oz + Lambda Cy 5 oz	94.38 a	800
Intrepid 18 oz + Warrior II 2.5 oz	93.88 ab	800
Voliam Xpress 10 oz	92.50 ab	800
Intrepid 8 oz + Warrior II 2.5 oz	92.00 b	800
Bifenture EC 10 oz	91.25 b	800
Proclaim 4.5 oz	89.83 b	600