

IPM Strategies for PTB Management in Utah

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EXTENSION
*extending
usu to
you*

Anarsia lineatella
Peach Twig Borer



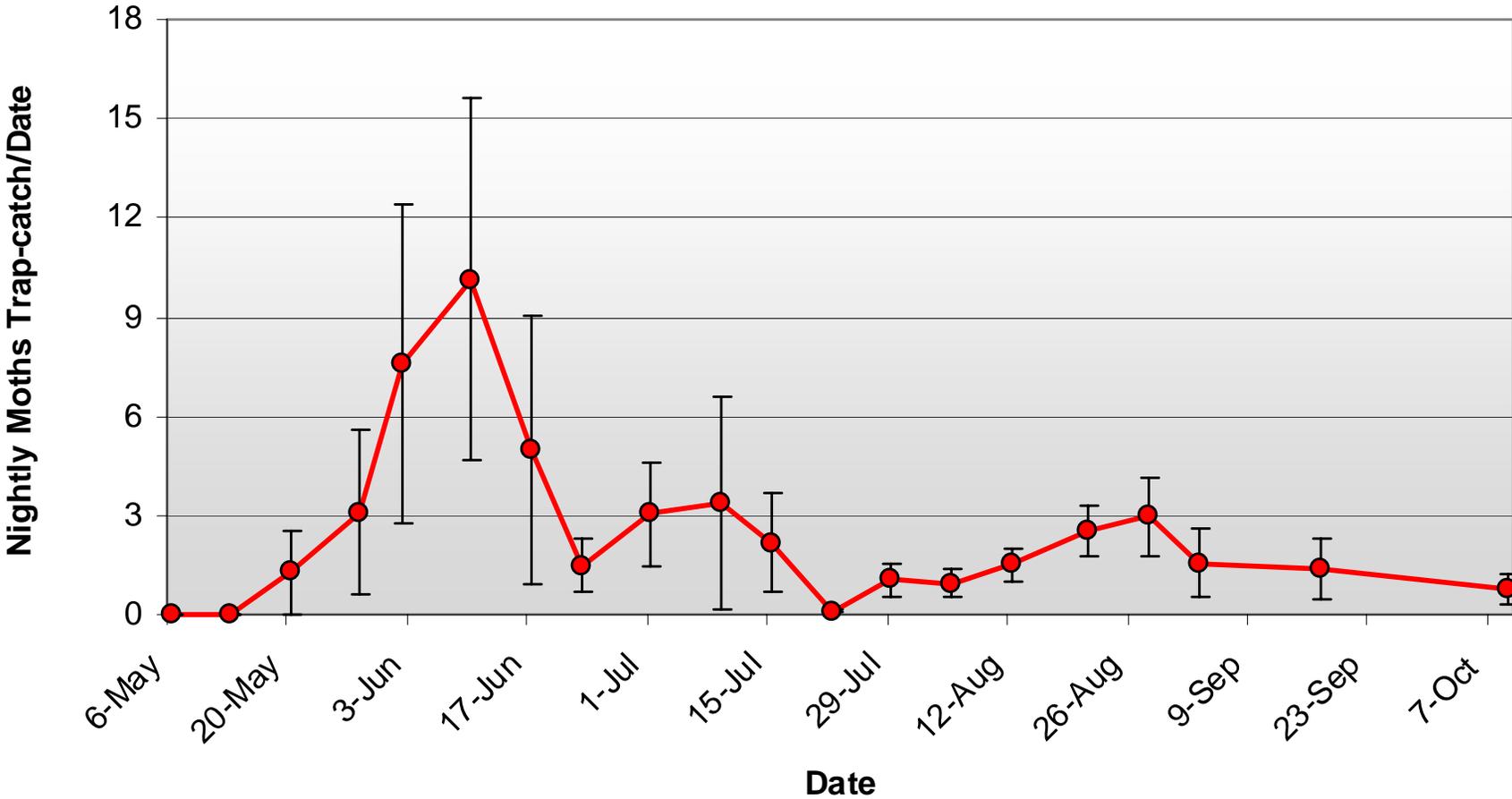
Twig Borer Life Cycle



Typical Fruit Damage



2003 Peach Twig Borer Flight Pattern



Trapping Results: 2003

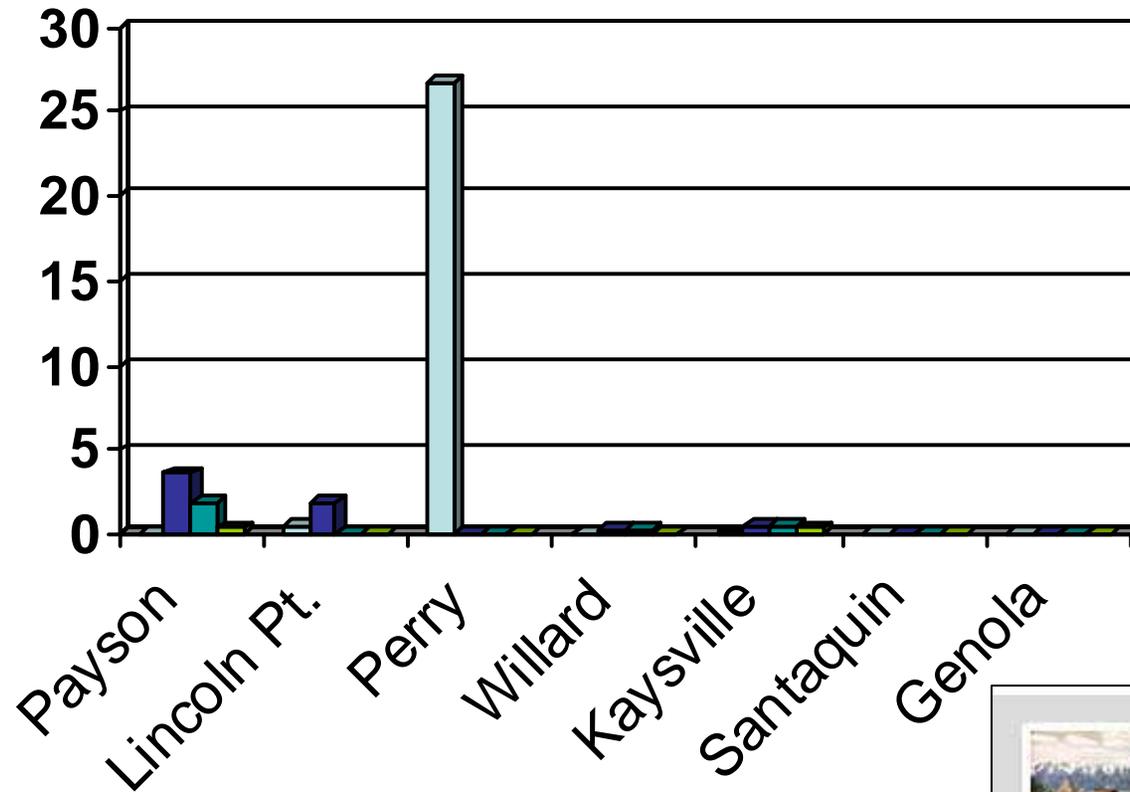
- Total PTB: **4,863**
- Average per trap: **413**
 - Duration: April-October
- *Ave. per block:* **608**
 - Boxelder County: 1,976
 - Utah County: 131

Site	Total PTB	Per-Trap
Perry	3388	1694
Willard	564	282
Kaysville	256	128
Payson	19	9.5
Santaquin	60	30
N. Santaquin	91	91
Genola	83	41.5
Lincoln Pt.	402	201
Overall:	4863	
Average:	608	413



Peach Harvest Damage (%)

PTB Thrips Cat-facing bugs Various Leps



2003 Shoot Strike Counts

Orchard Site	Mean Strikes/tree	Harvest Damage (%)
Payson Peaches	0.00	0.00
Lincoln Pt. Nectarines	0.06	0.50
Perry Peaches	2.30	26.80
Willard Peaches	0.01	0.00
Kaysville Peaches	0.04	0.12
Santaquin Peaches	0.00	0.00
Genola Peaches	0.00	0.00



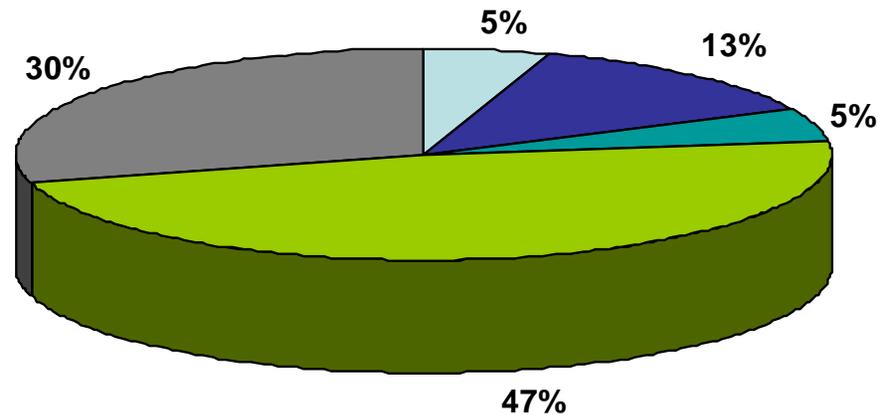
Key Elements for Management

- Overwinters as a larva in hibernacula
- 3-4 generations/year
- First generation targets succulent shoots.
- 2nd and 3rd generations target fruit.

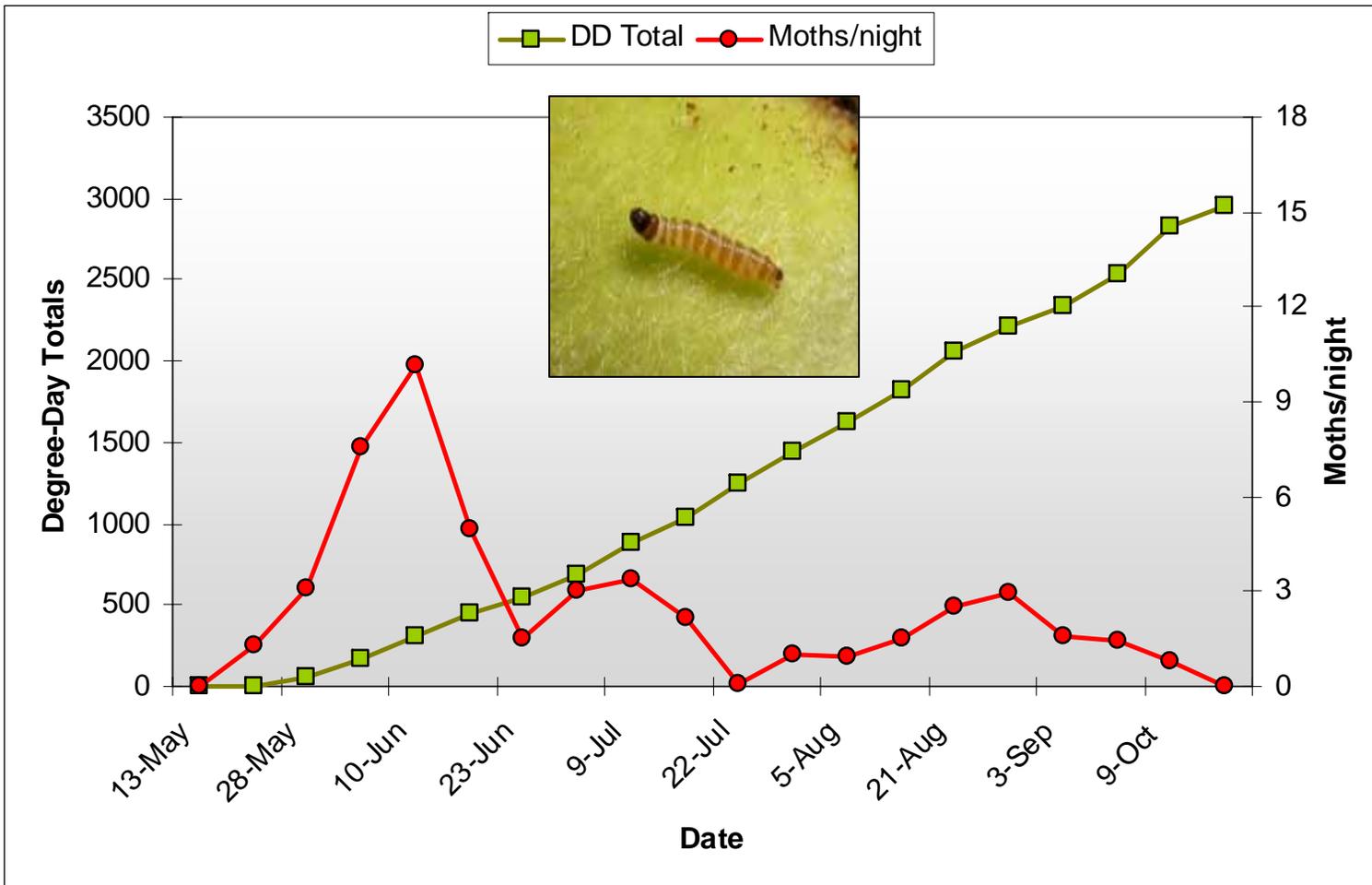


Degree-Days (DDs) for Each Stage

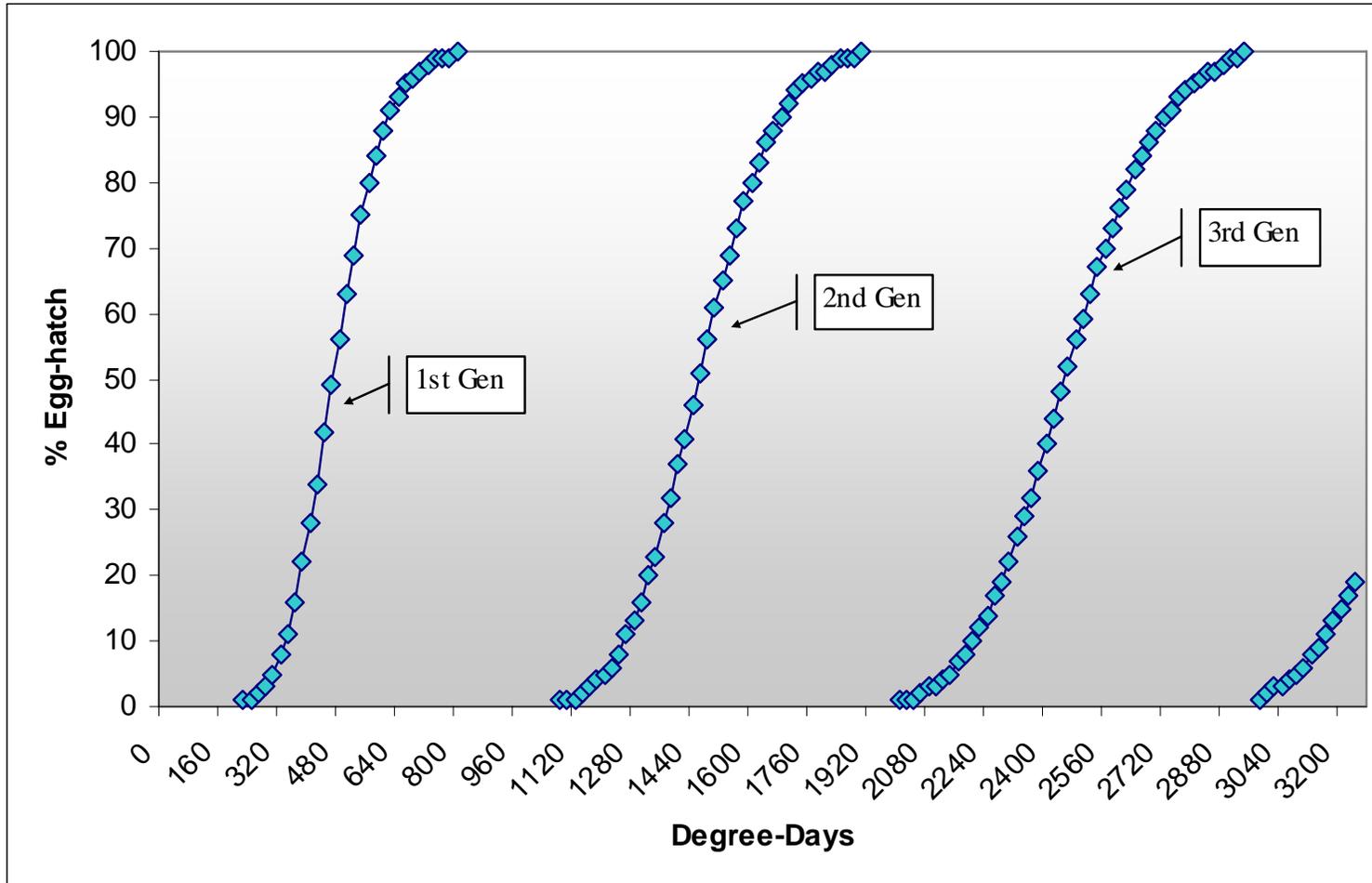
- Total required for a generation: **1,092.6** DDs
 - Pre-ovipositing Adult: **50.4**
 - Ovipositing Adult: **124.2**
 - Egg: **165.6**
 - Larva: **464.4**
 - Pupa: **288.0**



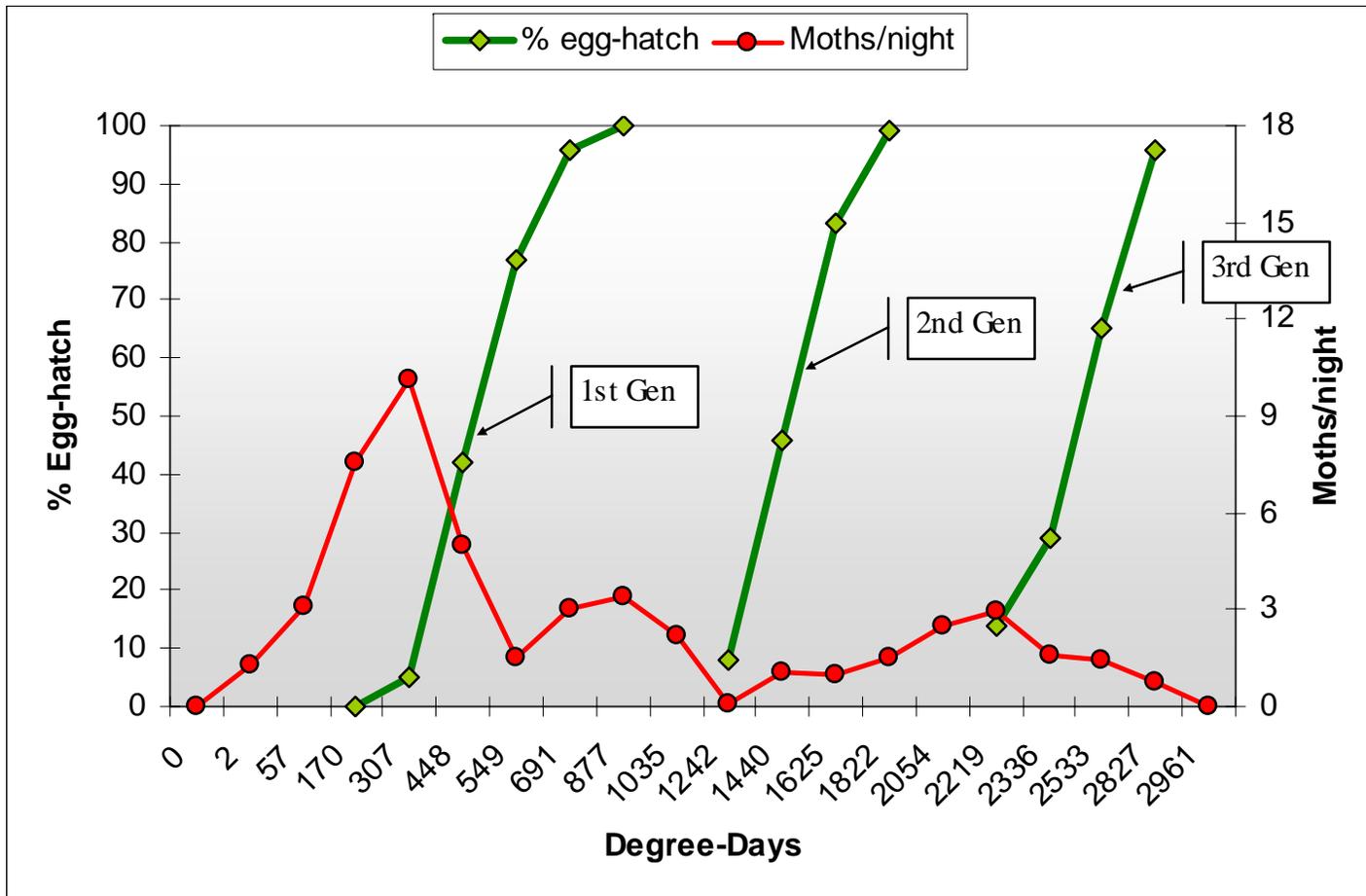
2003 PTB Flight and DD Accumulations



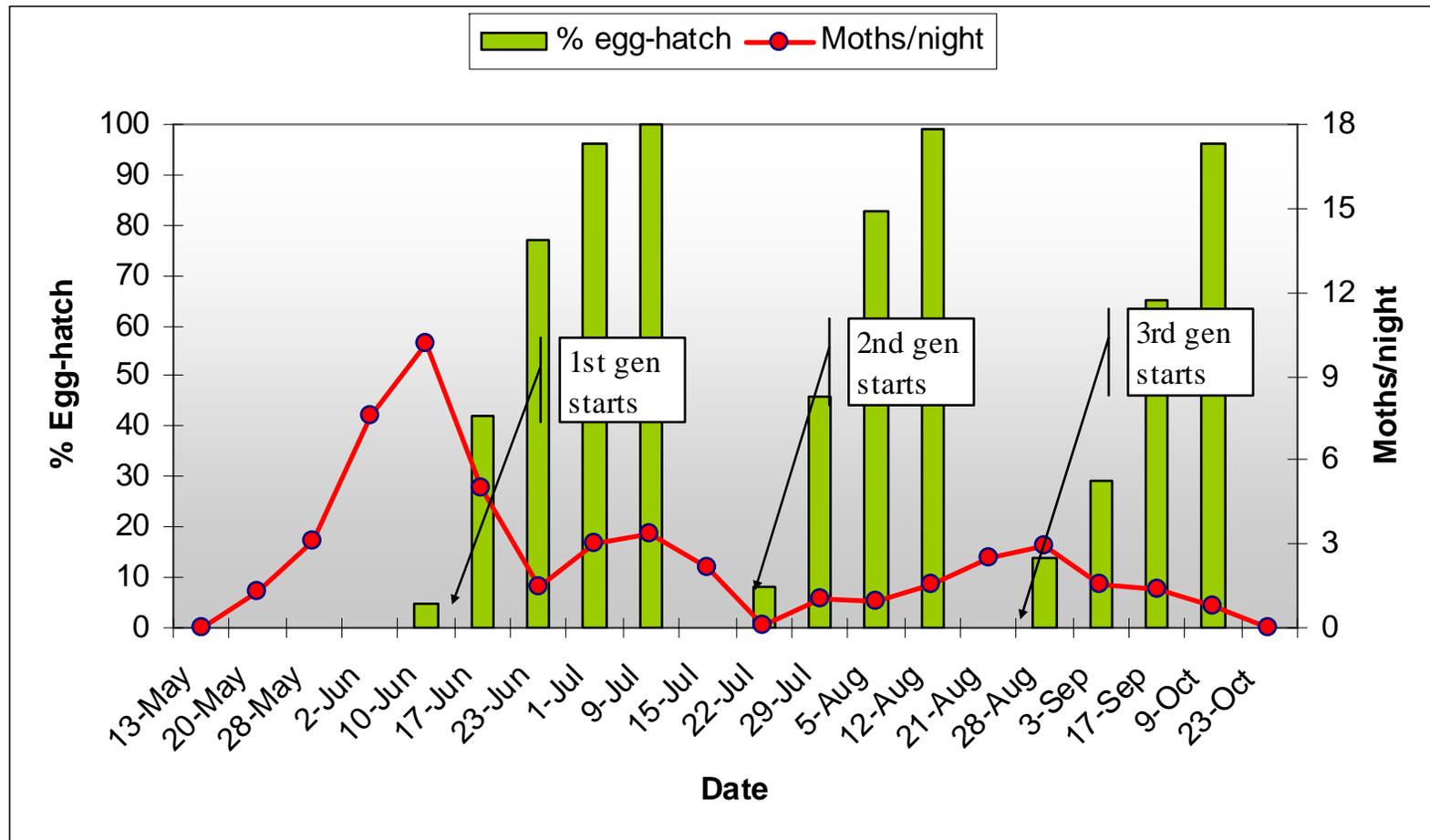
Percent PTB Egg-hatch



Egg-hatch in Northern Utah Stones



Egg-hatch Relative to Date



Pest Control Options for Peaches

- *Delayed-dormant sprays*
 - Dormant oil (Volck Oil, SunSpray Ultra-Fine)
 - Esfenvalerate (Asana, Bug-B-Gon, Ortho MAX)
- *Bloomtime sprays*
 - Bt (DiPel, Thuricide, Safer's B.t. Caterpillar Killer), 2 apps.
 - Copper Sulfate
- *In-season materials*
 - Insecticidal soap, oil, neem, mating disruption, malathion, spinosad, carbaryl, endosulfan, pyrethroids



Potential Strategies for 2004

- **340-640** is likely peak egg-hatch window for 1st generation.
- **1,300-1,650** is likely 2nd generation treatment window.
- Accurate trapping is key to precision in management.
- Average DDs for first moth emergence in 2003:
 - **367 ± 53 DDs**
 - get traps out ~ 250 DDs to ensure reliable biofix.



Integrated Pest Management

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IPM Advisory

- [Advisories - updated Oct. 3rd, 2003](#)
- [Degree-Days, Biofix Dates, & Spray Intervals - updated Nov. 11th, 2003](#)
- [Fire Blight Model Predictions- updated May 21st, 2003](#)
- [Previous Advisories \(may take several minutes to download\)](#)
- [Salt Lake Home Orchard Web Site](#)

- [Utah IPM Program](#)
- [Recent Slide Show Presentations](#)
- [Tree Fruit Pesticide Registration Updates](#)
- [Pesticide Labels and MSDSs](#)
- [Pheromone Mating Disruption Information - under construction](#)
- [2000 Home Orchard Pest Management Guide](#)
- [Weather Station Information](#)
- [Utah Department of Agriculture and Food](#)



Some Good Links & Resources

- Shawn Steffan, 435-797-0776, steffan@biology.usu.edu
- Diane Alston, 435-797-2516, dianea@biology.usu.edu
- Mike Pace, 435-734-9945, ext. 263
- Code-a-Phone, 801-370-8533 (Utah Co.)
- www.extension.usu.edu/ipm
- www.extension.usu.edu/ipm/SlideShowIndex.htm
- www.ipmtech.com
- www.homeharvest.com
- www.greatlakesipm.com