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Update on Pest Management  
and Crop Development

F R U I T J O U R N A L

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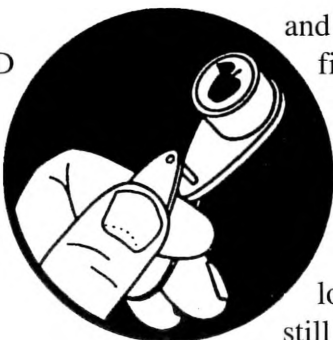
Geneva, NY

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RAINY  
DAYS &  
MONDAYS

2004 FRUIT  
ARTHROPOD  
PEST  
REVIEW

(Art Agnello  
& Dave Kain,  
Entomology,  
Geneva)



and 1st cover applications to obtain sufficient protection.

Seemingly unaffected by climatic conditions, **obliquebanded leafroller** appeared pretty much on schedule again this year, but still at lower than crisis levels, and evidently still susceptible to timely intervention using the newer selective materials labeled recently. The **internal worm (oriental fruit moth, codling moth, etc.)** populations were once again detectable, but evidently were not much more problematic than in 2003, except in a few high pressure orchards. Among other factors, some credit can certainly be given to increased grower attention to monitoring and timing, as well as to new chemistry available for treatment decisions.

❖❖ We once again find ourselves approaching the end of a growing season that was more suitable for waterfowl than for insects and mites, and while keeping the trees "covered" and the diseases under control was undoubtedly a challenge for most growers, arthropod pests also had a hard time making their presence known under the cool, wet conditions of 2004. Perversely, the past week's weather may presage a September that's more summer-like than much of our July or August has been. Nevertheless, other environmental cues already have been having their effects on the insect community, so this is probably a good time to attempt our annual re-cap of the season's arthropod features.

Although they tend to blur together in memory, this year's cool spring differed from last year's in giving way to a nice warm spell just long enough to accommodate the bloom (and pollination to fruit set) period, before regressing into weather patterns that resembled early fall for much of the summer. This had the positive effect of not only obstructing the early season pests such as **European red mite, spotted tentiform leafminer**, and **rosy apple aphid**, along with **pear psylla**, but it also gave **plum curculio** enough juice to progress through its oviposition period in fairly short order, so that most locations could get by with just the petal fall

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## IN THIS ISSUE...

### INSECTS

- ❖ The year in review
- ❖ Pest events Roundup

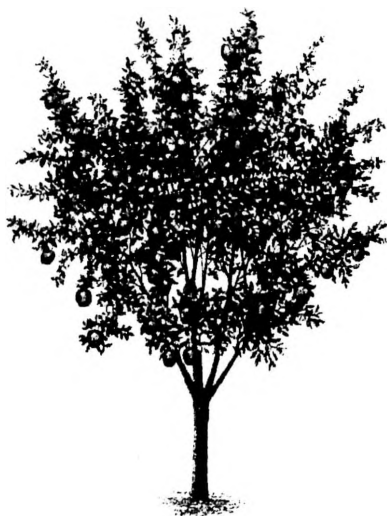
### UPCOMING PEST EVENTS

### INSECT TRAP CATCHES

**Apple maggot** occurrence was fairly normal this year — some high populations evident in eastern NY, particularly in the Hudson Valley, and rather spotty in western NY locations — on the whole, about what we would expect in a wet season.

**Woolly apple aphid** was an early and widespread concern in many orchards again this year, and promises to continue its ascendance to the level of an annual problem since we are lacking any very effective tactics to use against it. Other sometimes sporadic summer pests were similarly troublesome, depending on the specific locality: **green aphids** and **potato leafhopper**, **stink bugs**, **mirid bugs** and **San Jose scale** all generated their share of attention in one area of the state or another.

Finally, a few pests were apparently not around in any noticeable number, or else we haven't yet heard from all quarters: **Comstock mealybug**, **white apple leafhopper** and **tarnished plant bug**. As always, some of these won't be known entirely until after the fruit starts to hit the packinghouse door. ♦♦



## STANDARD DEVIATES

PLUS OR MINUS  
(Dave Kain & Art  
Agnello, Entomology,  
Geneva)

❖❖ Comparing weather statistics is a lot like throwing around batting averages or field goal attempts — it doesn't have any impact on how things turn out, but it makes you feel like you've said something definite about what is otherwise out of your control. Degree-day accumulations were up and down at various times. Things started out looking pretty normal, and for one short stretch even ahead of normal. But, for most of the summer, and up 'til the end (calling now the end) we were about a week behind normal, and just a little ahead of last year. Seemingly incessant rains made disease management particularly challenging and provided the pat answer to all the questions regarding unusual insect occurrences — It's the weather.

Following are comparative listings of some of the pest events that occurred this season (in Geneva) with calendar and degree-day normals. The values and dates are given +/- one standard deviation; i.e., events should occur within the stated range approximately 7 years out of 10.

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## scaffolds

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### scaffolds FRUIT JOURNAL

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and on the World Wide Web at:  
<http://www.nysaes.cornell.edu/ent/scaffolds/>

<u>EVENT</u>	<u>DATE</u>	<u>2004</u>	<u>DEGREE DAYS (BASE 43 F)</u>	
	<u>Normal (+/-days)</u>		<u>Normal (+/-DD)</u>	<u>2004</u>
APPLE MAGGOT				
1st catch	30-Jun(+/-9)	24-Jun	1391(+/-204)	1275
Peak	4-Aug(+/-13)	5-Aug	2363(+/-224)	2324
AMERICAN PLUM BORER				
1st catch	17-May(+/-7)	17-May	422(+/-101)	529
1st flight peak	2-Jun(+/-6)	27-May	703(+/-139)	716
1st flight subsiding	29-Jun(+/-7)	28-Jun	1355(+/-200)	1347
2nd flight start	11-Jul(+/-5)	26-Jul	1639(+/-237)	2058
2nd flight peak	28-Jul(+/-7)	5-Aug	2179(+/-233)	2324
CODLING MOTH				
1st catch	19-May(+/-7)	17-May	487(+/-100)	529
1st flight peak	4-Jun(+/-11)	24-May	804(+/-191)	659
2nd flight start	20-Jul(+/-15)	6-Jul	1936(+/-363)	868
GREEN FRUITWORM				
1st catch	4-Apr(+/-8)	15-Apr	86(+/-37)	99
Peak	15-Apr(+/-11)	29-Apr	144(+/-52)	216
Subsiding	7-May(+/-10)	17-May	339(+/-109)	529
LESSER APPLEWORM				
1st catch	9-May(+/-9)	24-May	375(+/-139)	659
2nd flight starts	10-Jul(+/-11)	12-Jul	1646(+/-322)	999
LESSER PEACHTREE BORER				
1st catch	26-May(+/-9)	20-May	581(+/-144)	584
Flight subsiding	9-Sep(+/-6)	7-Sep	3193(+/-217)	3115
OBLIQUEBANDED LEAFROLLER				
1st catch	10-Jun(+/-5)	7-Jun	916(+/-86)	887
1st flight peak	19-Jun(+/-9)	14-Jun	1132(+/-190)	1041
2nd flight begins	6-Aug(+/-9)	9-Aug	2464(+/-195)	2398

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<u>EVENT</u>	<u>DATE</u>		<u>DEGREE DAYS (BASE 43 F)</u>	
	<u>Normal (+/-days)</u>	<u>2004</u>	<u>Normal (+/-DD)</u>	<u>2004</u>
<b>ORIENTAL FRUIT MOTH</b>				
1st catch	1-May(+/-7)	7-May	290(+/-91)	336
1st flight peak	13-May(+/-10)	17-May	417(+/-89)	529
2nd flight begins	30-Jun(+/-5)	28-Jun	1416(+/-149)	739
2nd flight peak	9-Jul(+/-10)	6-Jul	1740(+/-361)	868
3rd flight begins	11-Aug(+/-9)	9- Aug	2549(+/-207)	2398
<b>PANDEMIS LEAFROLLER</b>				
1st catch	7-Jun(+/-8)	7-Jun	833(+/-70)	887
Flight peak	12-Jun(+/-9)	11-Jun	959(+/-91)	989
Flight subsides	5-Jul(+/-5)	28-Jun	1526(+/-121)	1347
<b>PEACHTREE BORER</b>				
1st catch	17-Jun(+/-11)	6-Jul	1059(+/-279)	1554
Flight subsides	24-Aug(+/-13)	30-Aug	2827(+/-302)	2922
<b>REDBANDED LEAFROLLER</b>				
1st catch	17-Apr(+/-7)	19-Apr	179(+/-80)	138
1st flight peak	3-May(+/-9)	3-May	304(+/-77)	309
2nd flight begins	1-Jul(+/-6)	28-Jun	1455(+/-209)	1365
2nd flight peak	14-Jul(+/-7)	6-Jul	1783(+/-256)	1554
2nd flight subsiding	6-Aug(+/-11)	16-Aug	2420(+/-265)	2566
3rd flight begins	20-Aug(+/-10)	30-Aug	2797(+/-163)	2922
3rd flight peak	28-Aug(+/-10)		2982(+/-240)	
<b>SAN JOSE SCALE - adult males</b>				
1st flight begins	17-May(+/-8)	17-May	484(+/-111)	529
1st flight peak	31-May(+/-8)	24-May	663(+/-74)	659
<b>SPOTTED TENTIFORM LEAFMINER</b>				
1st catch	19-Apr(+/-7)	19-Apr	174(+/-63)	138
1st flight peak	6-May(+/-8)	3-May	330(+/-80)	309
2nd flight begins	15-Jun(+/-7)	17-Jun	1062(+/-118)	1126
2nd flight peak	7-Jul(+/-10)	6-Jul	1604(+/-238)	1554
3rd flight begins	6-Aug(+/-7)	2-Aug	2466(+/-178)	2241
3rd flight peak	21-Aug(+/-10)	30-Aug	2827(+/-228)	2922

continued...

<u>CROP</u> <u>PHENOLOGY</u>	<u>DATE</u>		<u>DEGREE DAYS (BASE 43 F)</u>	
	<u>Normal (+/-days)</u>	<u>2004</u>	<u>Normal (+/-DD)</u>	<u>2004</u>
APPLE (MCINTOSH)				
Green tip	12-Apr(+/-7)	19-Apr	120(+/-27)	138
Half-inch green	21-Apr(+/-7)	22-Apr	174(+/-24)	180
Tight cluster	28-Apr(+/-7)	29-Apr	231(+/-20)	216
Pink	4-May(+/-6)	3-May	293(+/-19)	309
Bloom	10-May(+/-6)	13-May	382(+/-36)	440
Petal fall	18-May(+/-6)	17-May	483(+/-41)	529
APPLE (RED DELICIOUS)				
Green tip	11-Apr(+/-7)	19-Apr	139(+/-31)	138
Half-inch green	19-Apr(+/-8)	26-Apr	185(+/-27)	199
Tight cluster	26-Apr(+/-7)	3-May	248(+/-28)	309
Pink	7-May(+/-8)	10-May	341(+/-44)	361
Bloom	15-May(+/-8)	13-May	438(+/-61)	440
Petal fall	23-May(+/-9)	20-May	557(+/-84)	584
PEAR (BARTLETT)				
Bud burst	21-Apr(+/-7)	19-Apr	165(+/-44)	138
Green cluster	29-Apr(+/-7)	29-Apr	237(+/-27)	216
White bud	5-May(+/-7)	2-May	297(+/-42)	293
Bloom	8-May(+/-8)	7-May	350(+/-49)	336
Petal fall	15-May(+/-7)	13-May	441(+/-52)	440
SWEET CHERRY				
Bud burst	21-Apr(+/-8)	19-Apr	170(+/-24)	138
White bud	29-Apr(+/-7)	29-Apr	217(+/-26)	216
Bloom	4-May(+/-7)	3-May	269(+/-30)	309
Petal fall	12-May(+/-5)	7-May	385(+/-44)	336
Fruit set	16-May(+/-5)	10-May	447(+/-40)	361
TART CHERRY (MONTMORENCY)				
Bud burst	25-Apr(+/-7)	26-Apr	206(+/-38)	199
White bud	4-May(+/-8)	1-May	270(+/-30)	269
Bloom	9-May(+/-6)	7-May	350(+/-47)	336
Petal fall	18-May(+/-6)	13-May	454(+/-48)	440
Fruit set	23-May(+/-8)	17-May	536(+/-58)	529



**scaffolds**

Dept. of Entomology  
NYS Agricultural Exp. Sta.  
Barton Laboratory  
Geneva, NY 14456-0462

**UPCOMING PEST EVENTS**

	<u>43°F</u>	<u>50°F</u>
Current DD accumulations (Geneva 1/1-9/7):	3115	2073
(Geneva 1/1-9/7/2003):	3041	2048
(Geneva "Normal"):	3153	2207
(Geneva 9/13 Predicted):	3256	2172

**Coming Events:****Ranges:**

Oriental fruit moth 3rd flight subsidies	2962-3381	2000-2288
Lesser appleworm 2nd flight subsidies	2883-3467	1973-2387
Redbanded leafroller 3rd flight subsidies	3124-3436	2142-2422
Peachtree borer flight subsidies	2523-3191	1708-2232
San Jose scale 2nd flight subsidies	2639-3349	1785-2371
Apple maggot flight subsidies	2772-3374	1908-2368
Codling moth 2nd flight subsidies	2859-3583	1944-2536
Lesser peachtree borer flight subsidies	2984-3434	2011-2425
Obliquebanded leafroller 2nd flight subsidies	2947-3467	2022-2438

**INSECT TRAP CATCHES**  
**(Number/Trap/Day)**
**Geneva, NY****Highland, NY**

	<u>8/23</u>	<u>8/30</u>	<u>9/7</u>		<u>8/16</u>	<u>8/23</u>
Redbanded leafroller	0.1*	0.4	0.5	Redbanded leafroller	0.6	1.0
Spotted tentiform leafminer	10.8	16.8	9.1	Spotted tentiform leafminer	15.9	8.5
Oriental fruit moth	0.4	0.1	0.3	Oriental fruit moth	0.4	1.8
Lesser appleworm	0.3	0.1	0.1	Codling moth	0.1	0.1
Codling moth	0.1	0.0	0.1	Lesser appleworm	1.9	3.1
San Jose scale	0.0	0.0	0.0	Obliquebanded leafroller	0.0	0.0
Obliquebanded leafroller	0.5	1.1	0.2	Sparganothis fruitworm	0.4	0.4
American plum borer	0.9	0.6	0.2	Tufted apple bud moth	0.0	0.0
Lesser peachtree borer	0.6	0.4	0.1	Variegated leafroller	0.1	0.0
Peachtree borer	0.9	0.0	0.0	Apple maggot	0.7	0.5
Apple maggot	0.6	0.0	0.1			

\* first catch

NOTE: Every effort has been made to provide correct, complete and up-to-date pesticide recommendations. Nevertheless, changes in pesticide regulations occur constantly, and human errors are possible. These recommendations are not a substitute for pesticide labelling. Please read the label before applying any pesticide.

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