VECTOR SURVEILLANCE SUMMARY SHEET

WEEK: 4

Culiseta melanura Monitor

June 20 - 26, 2005

Coastal Resting Boxes						Inland Resting Boxes					
Sites	**Mean From Previous Years**	**No. Per Box For This Collection**	**Total Collected to Date**	**Total Pools Submitted to Date**	**EEE Isolations To Date**	**Sites**	**Mean From Previous Years**	**No. Per Box For This Collection**	**Total Collected to Date**	**Total Pools Submitted to Date**	**EEE Isolations To Date**
Green Bank (Burlington Co.)	**1.6**	**1.7**	**153**	**12**	**0**	**Waterford (Camden Co.)**	**2.2**	**1.0**	**72**	**6**	**0**
Corbin City (Atlantic Co.).	**1.2**	**2.0**	**127**	**12**	**0**	**Centerton (Salem Co.)**	**2.1**	**0.4**	**31**	**9**	**0**
Dennisville (Cape May Co.)	**2.8**	**22.5**	**1,746**	**41**	**0**	**Turkey Swamp (Monmouth Co.)**	**0.2**	**1.3**	**71**	**14**	**0**

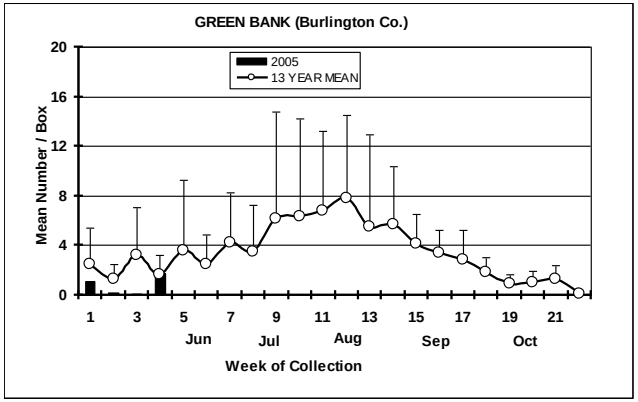
Collections submitted to PHEL for West Nile Virus testing

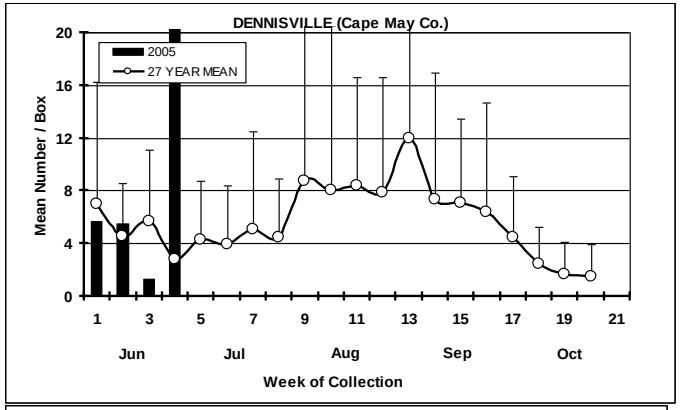
Species	***Cx. pip***	***Cx. rest***	***Cx. sal***	***Cx. spp.***	***Cs. mel***	***Ae. vex***	***Oc. cana***	***Oc. triv***	***Oc. tris***	***Oc. soll.***	***Oc. jap***	***Ae. albo***	***Other***	**TOTALS**
No. Pools	**0**	**0**	**0**	**88**	**94**	**3**	**1**	**0**	**0**	**0**	**12**	**1**	**9**	**208**
Total Specimens	**0**	**0**	**0**	**3,441**	**2,240**	**28**	**1**	**0**	**0**	**0**	**48**	**1**	**53**	**5,812**
No. Positive Pools	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

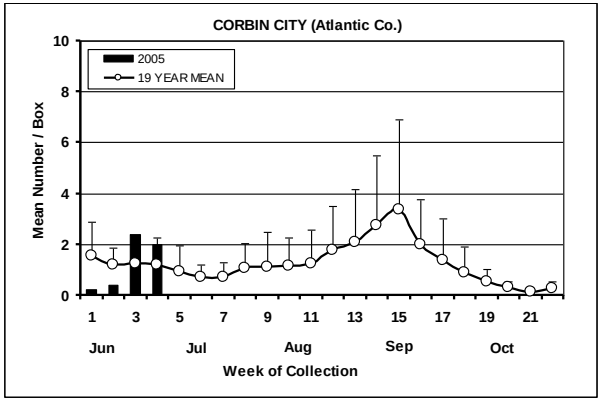
Remarks: The potential for EEE amplification this season changed markedly over the past 7 days**.** Week 4 resting box collections at Dennisville yielded 22.5 *Cs. melanura* per box, nearly 10 times higher than the 27 yr. mean. A smaller influx of newly emerged mosquitoes was evident at the Corbin City site last week, an atypical event at this time of year. The mosquitoes from both atypical collections probably came from an overwintering generation of larvae that were held back by the lower than normal spring temperatures New Jersey experienced this year. It is also possible that large numbers of *Cs. melanura* eggs boats were deposited late in the season last year resulting in larger than normal numbers of larvae overwintering in early instars. In either case, an influx of nullipars this late in June places large numbers of extremely efficient amplification vectors in direct contact with juvenile birds that are fledging in numbers at this time of year. The scenario favors amplification of virus in local bird populations if low level EEE is present in the adult bird population. Reports from Florida indicate that a severe EEE epizootic is occurring in that state with record numbers of equine cases this year. It is too early to make predictions for the northeast but bridge vectors should be monitored closely over the next month or two. WNV testing will be accelerated beginning July 1. Most of the WNV testing, to date, has come from resting box submissions.

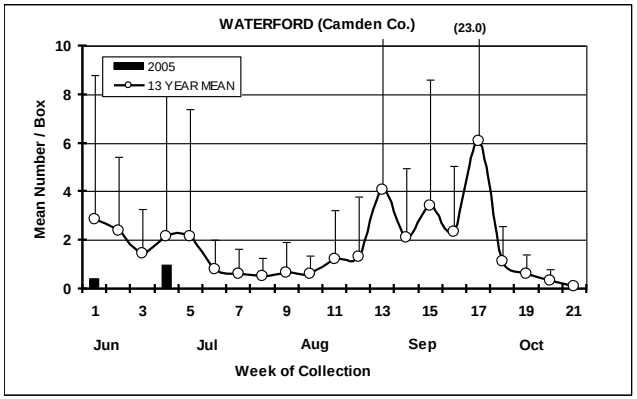
New Jersey Agricultural Experiment Station Publication No. PT-08-40500-04-05
Supported by State funds and funding by the NJ State Mosquito Control Commission.
Summary Prepared by: Wayne J. Crans, Rutgers University

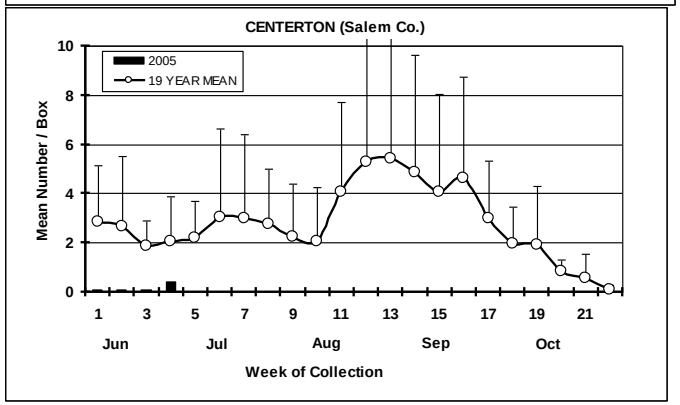
Culiseta melanura Population Graphs

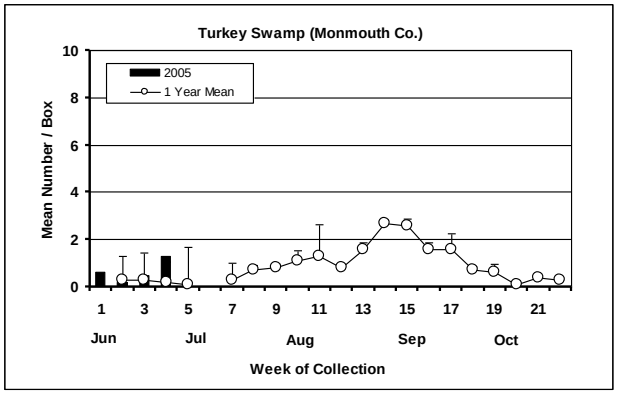












Both Dennisville and Corbin City show rising populations in June this year. This suggests that newly emerged adults are being added to the population at a time when numbers of mosquitoes are normally diminishing. *Cs. melanura* is bivoltine at our latitude with the first wave of adults appearing sometime in May. After the initial influx, the number of adult mosquitoes drops off steadily until the second emergence occurs in July or early August. The large error bars associated with the late season population peak show that appearance of the second generation varies widely from one year to the next. Potential for EEE amplification in local birds is greatest when the population increase occurs in June, July or early August. The cycle is usually aborted by cool weather if the second generation appears later in the season. The atypical cycle that is beginning to emerge in this year's data set suggests that the first generation of adults (rather than the second) might contribute to amplification of EEE in 2005. It is also possible that hot dry July weather will increase mortality in the newly emerged adult mosquitoes and minimize size of the surviving parous population. Population patterns over the next several weeks will reveal which scenario will be followed.

Mosquito Species Submitted for West Nile Virus Testing through June 24, 2005

Species	Pools	Mosquitoes	Positives
Ae. vexans	3	28	
An. punctipennis	3	10	
An. quadrimaculatus	1	1	
Cq. perturbans	4	41	
Cs. melanura	94	2240	
Cx. mix	88	3441	
Oc. albopictus	1	1	
Oc. canadensis	1	1	
Oc. grossbecki	1	1	
Oc. japonicus	12	48	
Grand Total	**208**	**5812**	**0**

Mosquito Submissions by County through June 24, 2005

County	Species	Pools	Mosquitoes	Positives
Atlantic		**12**	**127**	**0**
	Cs. melanura	12	127	
Burlington		**22**	**200**	**0**
	Cs. melanura	12	153	
	Cx. mix	2	21	
	Oc. japonicus	1	1	
	An. punctipennis	2	6	
	Cq. perturbans	1	5	
	Ae. vexans	1	11	
	Oc. grossbecki	1	1	
	Oc. canadensis	1	1	
	An. quadrimaculatus	1	1	
Camden		**16**	**288**	**0**
	Cs. melanura	6	72	
	Cx. mix	6	203	
	Oc. japonicus	3	12	
	Oc. albopictus	1	1	
Cape May		**41**	**1786**	**0**
	Cs. melanura	41	1786	
Hudson		**12**	**120**	**0**
	Cx. mix	12	120	
Middlesex		**48**	**1918**	**0**
	Cx. mix	44	1902	
	Oc. japonicus	4	16	

Monmouth		**14**	**71**	**0**
	Cs. melanura	14	71	
Morris		**9**	**103**	**0**
	Cx. mix	4	78	
	Oc. japonicus	2	4	
	Cq. perturbans	1	4	
	Ae. vexans	2	17	
Salem		**9**	**31**	**0**
	Cs. melanura	9	31	
Somerset		**3**	**114**	**0**
	Cx. mix	3	114	
Warren		**22**	**1054**	**0**
	Cx. mix	17	1003	
	Oc. japonicus	2	15	
	An. punctipennis	1	4	
	Cq. perturbans	2	32	
Grand Total		**208**	**5812**	**0**