

2011 Annual Report

Mosquito Surveillance

Michael Morganti, Mosquito Control Specialist

A total of 9 gravid traps were run on a substantially continual basis this year. At three of the gravid sites, Burden, Mary Sue and Red Oak, we also ran CDC/BL traps in an attempt to sample a broader population spectrum. WNV activity in the submitted pools was considerably reduced from prior years, with only seven positives reported back to us from the LSU Arbovirus Laboratory. All but one of the positive results obtained were from gravid trap collections of *Cx. quinquefasciatus*. There was a single positive result reported from a pool of *Ae. vexans* collected in a CO₂ baited CDC/BL trap. There were no virus isolates detected for SLE, or EEE for the year.

There were a total of 663 mosquito pools submitted to LSU for testing. This pool total represents a total of 31,475 mosquitoes, with 25 species identified. A detail of all collections follows this report.

New Jersey Light Trap (NJLT) collections were continued for all of 2011. The NJLT Annual Total Report is included with this report, as an attachment, to detail the number and distribution of nuisance mosquitoes sampled for the year.

This summer, we cooperated in a project to evaluate the effectiveness of several configurations of passive/updraft mosquito traps with Mike Becker. Mr. Becker is a Research Associate in the Entomology Department at LSU, under Dr. Lane Foil. The trap used was designed by Dr. Scott Ritchie, a medical entomologist at the Tropical Public Health Unit, Queensland Health, in Cairns, Australia. A passive mosquito trap is one that is not dependent upon an external power source to power a fan and/or light. Instead, it uses CO₂ to lure the mosquito into a chamber from which it is unable to escape. The benefit of such a trap would not only be its ease of use in remote or hard to access areas, but the incorporation of a novel approach to virus isolation within the mosquito population sampled. Inside the trap, the mosquitoes are allowed to feed on a nutrient-soaked (sugar or honey) nucleic preservation card. The cards are later analyzed for excreted virus using real-time reverse transcription-PCR. Dye, which is also placed on the cards, marks the captured mosquitoes that fed and will serve to help identify the potential virus carriers. Viral RNA is preserved for at least seven days on the cards, allowing for long term placement of the traps and continuous collection of data documenting virus presence in the mosquito populations. Early results have yielded some success. The trap has demonstrated that it can be somewhat effective in trapping mosquitoes that are attracted to CO₂, and variations in the attractant use and methodologies may increase its effectiveness in the future. We may continue this project in the New Year if additional data is warranted.

Respectfully submitted,

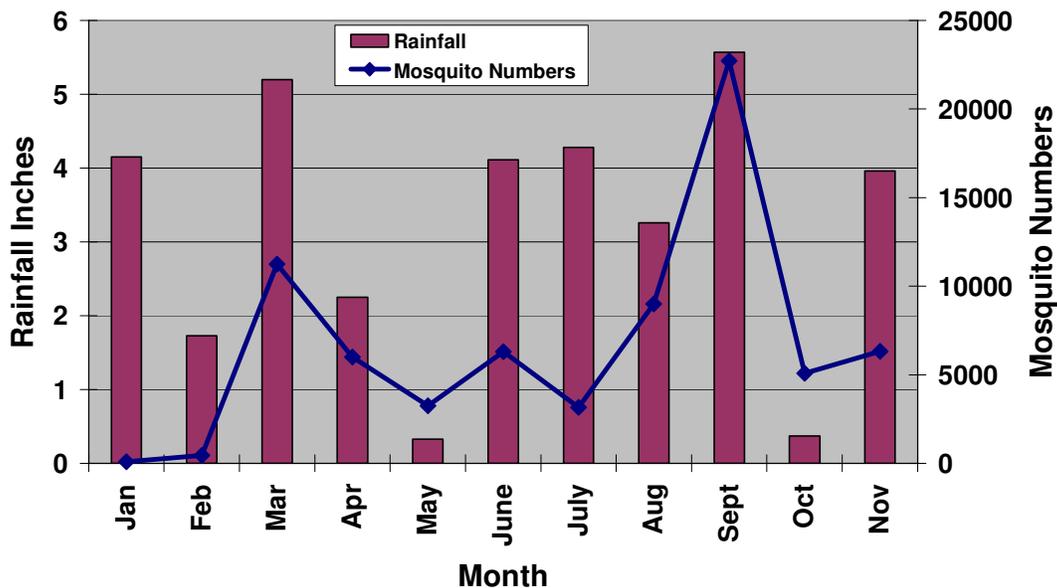


Michael Morganti
Mosquito Control Specialist

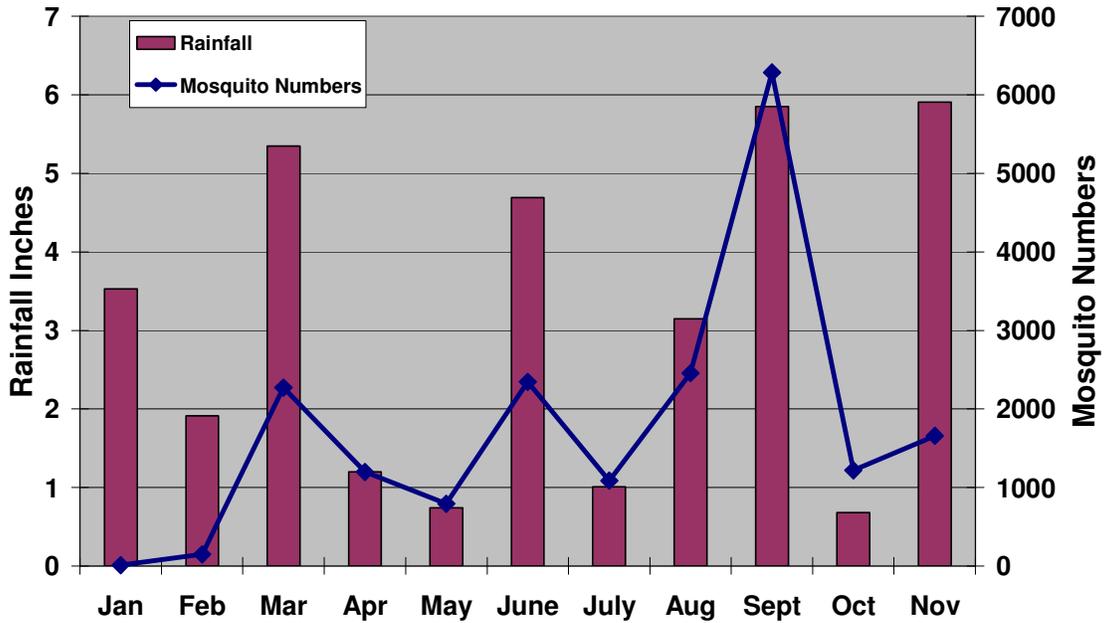
MOSQUITO SURVEILLANCE EBR PARISH 2011

The following charts show the mosquito numbers and rainfall amounts associated with the New Jersey Light Trap surveillance. The first chart shows the combined data for all three New Jersey trap routes (North, Southeast and Southwest). The large number of mosquitoes in March and September were primarily *Aedes vexans* and there were greater numbers in the Southeast route relative to the other two routes during March. Summer rains are typically sporadic and the rainfall amounts in July illustrate this pattern.

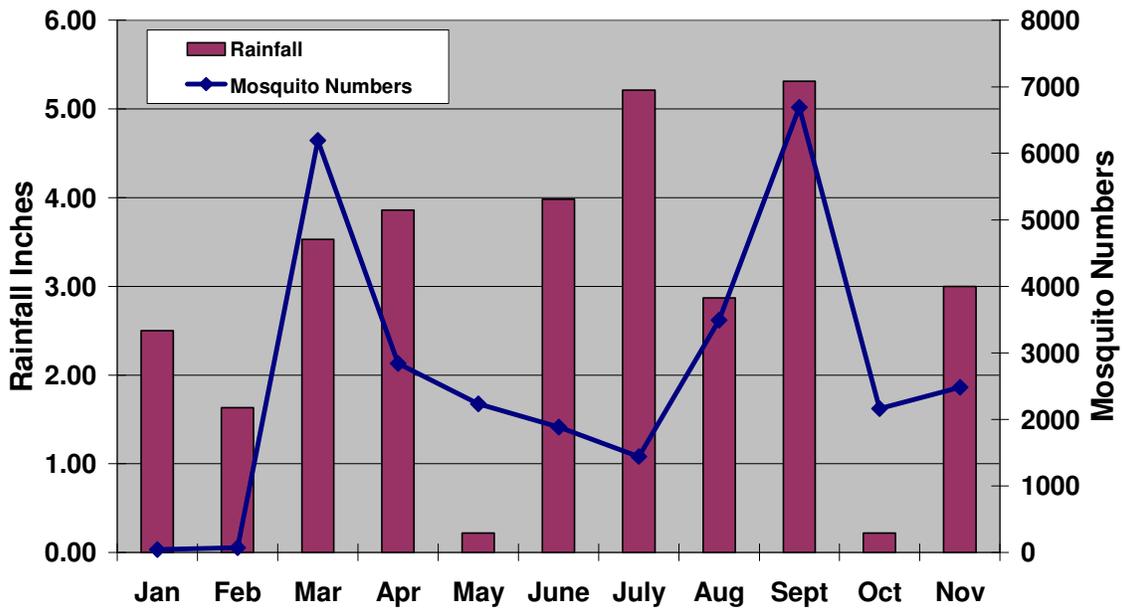
Rainfall and Total Mosquito Numbers from New Jersey Light Traps EBR Parish 2011



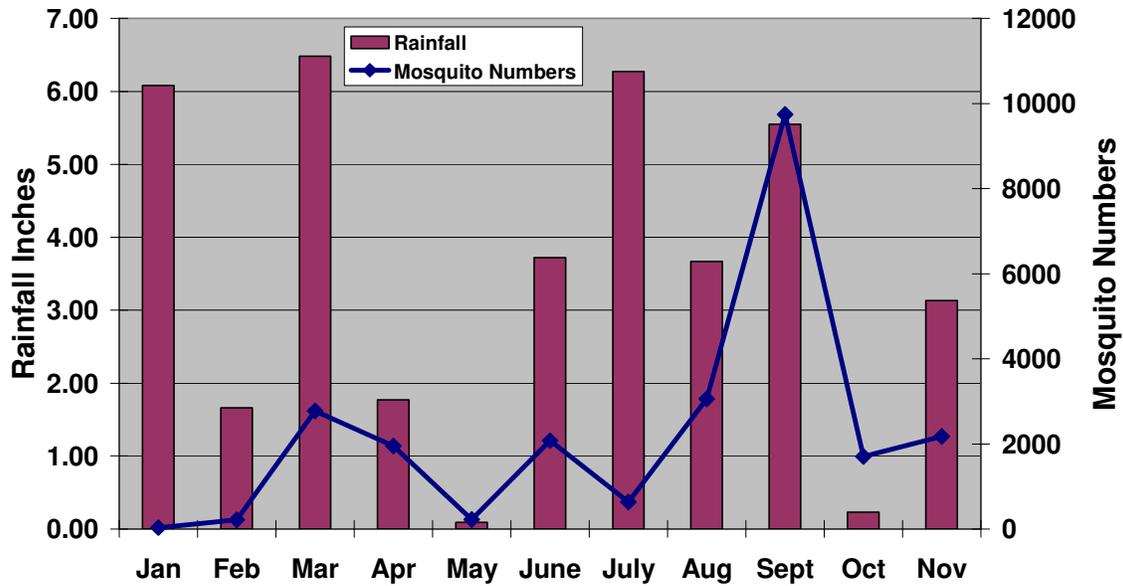
Rainfall and Total Mosquito Numbers from North Route New Jersey Light Traps EBR Parish 2011



Rainfall and Total Mosquito Numbers from Southeast Route New Jersey Traps EBR Parish 2011



Rainfall and Total Mosquito Numbers from Southwest Route New Jersey Light Traps EBR Parish 2011



This table summarizes the gravid trap collections for 2011.

CDC Wk.	No. of Traps that Week	Cx. Quinq	Ae. Albo	No. of Positives	Total No. of Mosquitoes Collected	Total No. Submitt
Week 1	22	119	0	0	119	
Week 2	24	0	0	0	0	
Week 3	11	25	0	0	25	
Week 4	19	16	0	0	16	
Week 5	10	0	0	0	0	
Week 6	10	0	0	0	0	
Week 7	17	148	0	0	148	
Week 8	16	69	1	0	70	
Week 9	25	128	0	0	133	
Week 10	24	80	0	0	80	
Week 11	25	129	0	0	137	
Week 12	24	738	2	0	756	
Week 13	24	172	3	0	185	
Week	24	268	3	0	299	

14						
Week 15	24	1196	3	0	1203	
Week 16	25	2337	2	0	2341	
Week 17	25	1872	3	0	1876	
Week 18	25	1214	2	0	1216	
Week 19	25	4714	0	0	4714	
Week 20	24	5069	14	0	5086	
Week 21	25	5553	3	0	5556	
Week 22	24	1619	6	0	1626	
Week 23	23	3067	12	0	3079	
Week 24	23	4579	23	0	4603	
Week 25	25	1098	7	0	1105	
Week 26	25	2176	18	0	2194	
Week 27	25	1052	6	0	1058	
Week 28	25	4323	29	0	4357	
Week 29	25	1407	37	0	1444	
Week 30	25	1968	47	1	2016	
Week 31	25	2515	155	0	2675	
Week 32	25	2025	72	0	2098	
Week 33	25	2721	98	5	2824	
Week 34	25	3044	50	0	3098	
Week 35	25	2076	61	0	2138	
Week 36	25	434	23	0	458	
Week 37	25	1445	24	0	1490	
Week 38	23	1217	22	0	1371	

Week 39	25	986	2	0	995
Week 40	25	413	18	0	439
Week 41	25	900	4	0	913
Week 42	24	566	5	0	576
Week 43	24	625	6	0	635
Week 44	24	620	13	0	640
Week 45	24	49	0	0	54
Week 46	24	150	4	0	155
Week 47	24	606	0	1	606
Week 48	0	0	0	0	0
Week 49	23	68	0	0	68
Week 50	24	111	1	0	113
Week 51	24	141	1	0	142
Week 52	24	127	0		128
Total	22.6	65975	780	7	67058

Mike Morganti
Larry Hudson, Jr.

Mosquito Control Specialists