

**Final Arbovirus Surveillance Report
MMWR Week Nov 5th-Nov 9th, 2019**



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Week 45 Summary

- 45 mosquito pools* have been tested in NTRL from week 45
 - Year-to-date NTRL has tested a total of 5009 mosquito pools
 - 0 mosquito pools tested positive for WNV this week:

 - There have been 0 human cases of SLE, or Zika but 1 imported case of CHIK and 3 imported cases of Dengue in 2019.
 - There has been 1 human case of West Nile disease
 - Average number of mosquitoes/trap include:
 - *Culex quinquefasciatus*: 29.9
 - *Aedes aegypti*: 0.1
 - *Aedes albopictus*: 0.0
- NTRL= North Texas Regional Lab WNV= West Nile virus; CHIKV= Chikungunya virus; DENV= Dengue virus; SLEV St. Louis encephalitis virus
* May encompass counties outside of Tarrant County ** Non-NTRL results

Tarrant County Region WNV Positive Year to Date Summary

There have been a total of # positive in 2019.

Colleyville (1) Euless (1) Fort Worth*(8) Keller (2) Unincorporated (1)

* May encompass counties outside of Tarrant County

Table 1. MLE⁽¹⁾ and VI⁽²⁾ for County Quadrants, Week 44 and 45

	County Quadrant	# gravid traps	Ave F <i>Culex quinq</i>	Positive pools	MLE (Lower-Upper Limit)	VI
Week 44	Northeast	31	42.5	1.0	1.93 (0.11-9.57)	0.053
	Northwest	13	15.2	0.0	0.00 (0.00-7.74)	0.000
	Southeast	15	30.0	0.0	0.00 (0.00-7.36)	0.000
	Southwest	15	13.8	0.0	0.00 (0.00-8.71)	0.000
Week 45	Northeast	18	28.8	0.0	0.00 (0.00-53.54)	0.000
	Northwest	9	23.3	0.0	0.00 (0.00-14.49)	0.000
	Southeast	13	24.2	0.0	0.00 (0.00-8.15)	0.000
	Southwest	11	2.1	0.0	0.00 (0.00-8.34)	0.000

Data source: Tarrant County Public Health

1. MLE= Maximum Likelihood Estimate or the estimate of the mosquito infection rate per mosquito species. 2. VI= Vector Index which is a measure of infectivity accounting for vector species composition, vector species population density, and proportion of vector population infected with WNV

Averages, MLE, and limits will be given for species with identified infection rates only and only for the latest two week. MLE, Lower and Upper Limits are based on a 95% confidence interval. All data in this table is based on collection date.

Calculated using a Maximum Likelihood Estimation (MLE). Biggerstaff, Brad J. PooledInRate, Version 4.0: a Microsoft® Office Excel® Add-In to compute prevalence estimates from pooled samples. Centers for Disease Control and Prevention, Fort Collins, CO, U.S.A., 2009



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Cumulative Data for the Tarrant County Region, Weeks 42-45

Week	Oct 13-Oct 19	Oct 20-Oct 26	Oct 27-Nov 2	Nov 3-Nov 9	YTD
MMWR Week	42	43	44	45	
Total number of gravid traps set in Tarrant Region	177	154	90	53	5177
Average number of <i>Culex quinquefasciatus</i> per gravid trap	21.2	13.3	38.9	25.9	38.1
Number of mosquito pools tested ¹	186	163	76	45	5009
Number of positive mosquito pools (NTRL; non-NTRL) ¹	1;0	2;0	1;0	0;0	13;0
Confirmed WNV human cases (WNF; WNND) ²	0;0	0;0	0;0	0;0	1;0
WNV infection rate per 1,000 <i>Culex quinquefasciatus</i> ³	0.35	1.22	0.57	0.00	
Weekly vector index ⁴	0.011	0.026	0.028	0.000	
Total BG Sentinel traps set in Tarrant Region	34	22	12	12	1053
Average number of female <i>Aedes aegypti</i> per BG trap	1.1	0.6	0.4	0.1	2.1
Average number of female <i>Aedes albopictus</i> per BG trap	0.4	0.2	0.3	0.0	2.3

¹ Based on mosquito collection date NTRL = North Texas Regional Laboratory, non-NTRL includes Tarrant County only

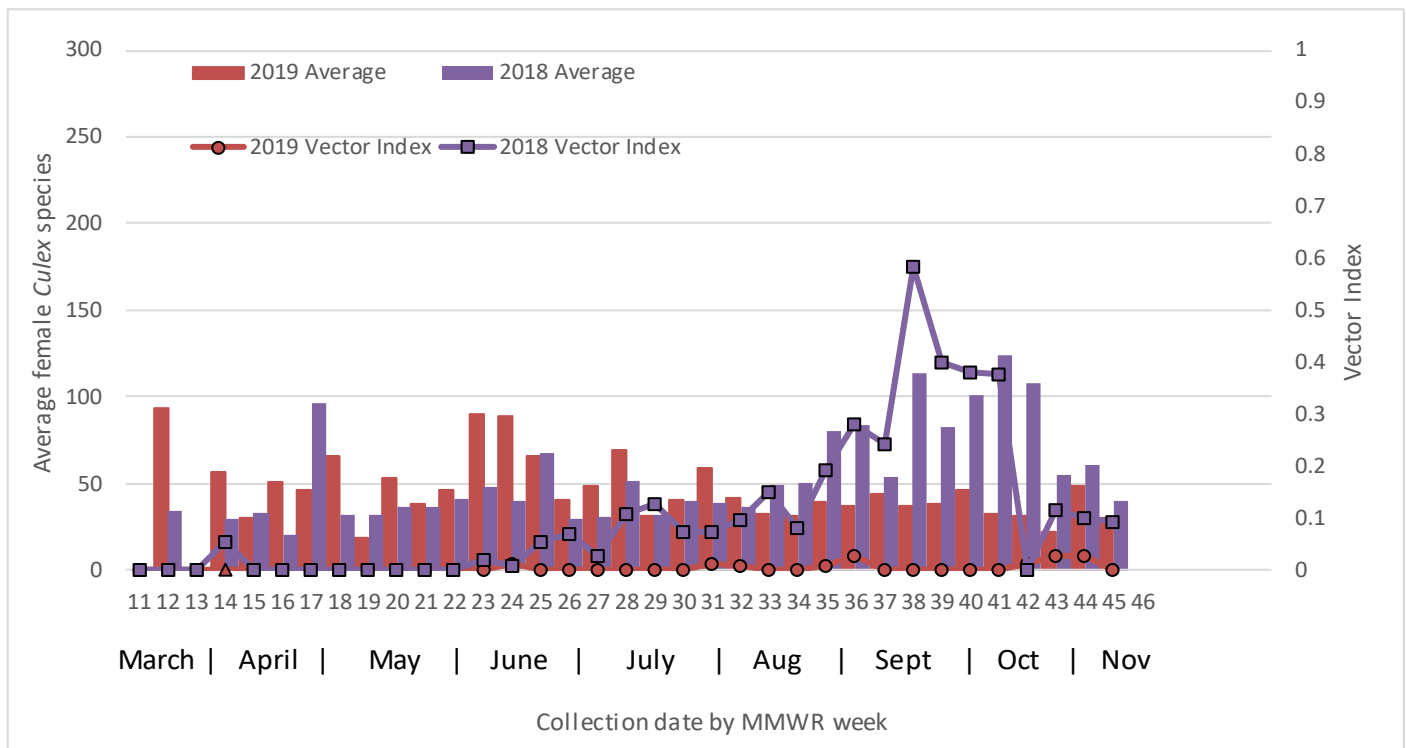
² Based on onset of illness date for cases reported to Tarrant County Public Health; WNF=West Nile Fever; WNND = West Nile Neuroinvasive Disease

³ Calculated using a Maximum Likelihood Estimation (MLE). Biggerstaff, Brad J. PooledInfRate, Version 4.0: a Microsoft® Office Excel® Add-In to compute prevalence estimates from pooled samples. Centers for Disease Control and Prevention, Fort Collins, CO, U.S.A., 2009

⁴ Vector Index is a measure of infectivity accounting for vector species composition, vector species population density, and proportion of vector population infected with WNV

Note: Infection rate and vector index calculations may not include positive pools from Non-NTRL laboratories; Data subject to change due to on-going case investigations, mosquito collection, and testing

Figure 1. Average Number of Female *Culex* Species Per Trap and Vector Index by Collection Date, Tarrant County, 2018-2019



Data Source: Tarrant County Public Health



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Figure 2. Percentage of Mosquito Pools Positive for WNV by Collection Date, Tarrant County, 2018-2019

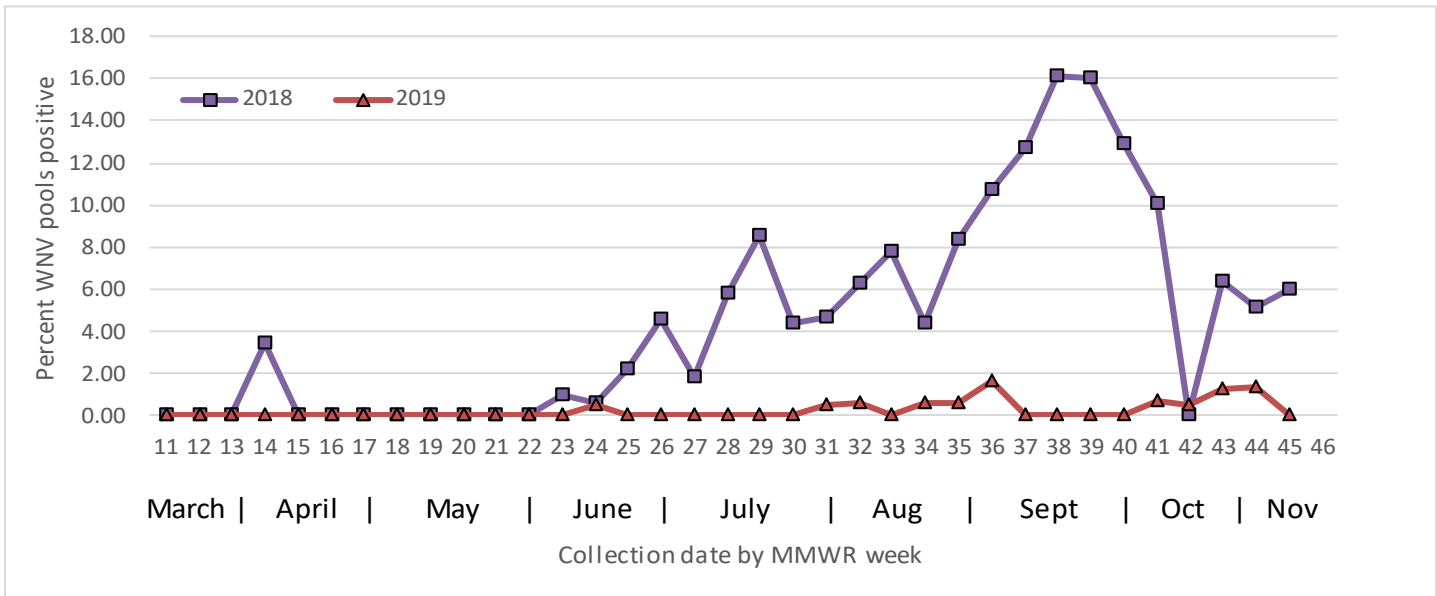


Table 3. North Texas Arbovirus Season Activity as Reported by Texas DSHS on Nov 5th, 2019

North Texas Counties	WNV			CHIKV		DENV		SLEV		Zika	
	Positive Mosquito Pools	Human cases		Positive Mosquito Pools	Human Cases	Positive Mosquito Pools	Human Cases	Positive Mosquito Pools	Human Cases	Positive Mosquito Pools	Human Cases
Collin	0	0 WNF; 0 WNND		0	0	0	2	0	0	0	0
Dallas	35	0 WNF; 1 WNND		0	1	0	9	0	0	0	0
Denton	4	0 WNF; 0 WNND		0	0	0	0	0	0	0	0
Johnson	0	0 WNF; 0 WNND		0	0	0	0	0	0	0	0
Non-Tarrant North Texas	39	0	1	0	1	0	11	0	0	0	0
All Texas Counties	128	7	22	0	8	0	41	9	0	0	1

**All reported CHIKV, DENV, & Zika human cases are travel-related
WNV- West Nile virus; WNF- West Nile fever; WNND- West Nile neuroinvasive disease; CHIKV- Chikungunya virus;
DENV- Dengue virus; SLEV- St. Louis encephalitis virus*

For Additional Information Please Visit The Links Below:

Department of State Health Services:

- [Arbovirus Activity Reports](#)
- [Texas Zika](#)

Tarrant County educational videos and documents:

- [Eliminating Mosquito Breeding Sites](#)
- [Barrier Treatments for Mosquitoes](#)
- [Mosquitoes Love Water](#)
- [Mosquito Prevention Tool Kit](#)

Tarrant County web pages:

- [Be Mosquito Free](#)
- [Zika](#)
- [Vector Control](#)

Environmental Protection Agency:

- [Insect Repellent Information](#)

Center for Disease Control and Prevention: