



Arbovirus Final Surveillance Report MMWR Week Nov 8-Nov 14, 2020

Week 46 Summary

- 80 mosquito pools* have been tested in DC/DSHS from week 46
 - Year-to-date DC/DSHS has tested a total of 4782 mosquito pools
- 1 mosquito pools tested positive for WNV this week:
 - Crowley (1)
- There have been 0 human cases of SLE, Zika, CHIK or Dengue in 2020.
 - There have been 44 human cases of West Nile disease. 9 cases resulted in death
- Average number of mosquitoes/trap include:
 - *Culex* spp: 79.8
 - *Aedes aegypti*: 0.3
 - *Aedes albopictus*: 0.1

DC/DSHS= Dallas County Laboratory Response Network and Department of State Health Services Arbovirus Lab
WNV= West Nile virus; CHIKV= chikungunya virus; DENV= dengue virus; SLEV St. Louis encephalitis virus * May encompass counties outside of Tarrant County

Tarrant County Region WNV Positive Year to Date Summary

There have been a total of 626 positive in 2020.

Arlington (72) Bedford (7) Benbrook (4) Burleson *(9) Colleyville (35) Crowley (4) DFW Airport*(2) Edgecliff Village (2) Euless (28) Fort Worth* (135) Grand Prairie* (24) Grapevine (47) Haltom City (6) Haslet (3) Hurst (42) Keller (38) Kennedale (16) Mansfield* (13) North Richland Hills (49) Pantego (11) Richland Hills (3) River Oaks (6) Southlake (24) Unincorporated (35) Watauga (1) Westover Hills (3) White Settlement (7)

* May encompass counties outside of Tarrant County

Table 1. MLE⁽¹⁾ and VI⁽²⁾ for County Quadrants, Week 45 and 46

	County Quadrant	# gravid traps	Ave F <i>Culex</i> spp	Positive pools	MLE (Lower-Upper Limit)	VI
Week 45	Northeast	36	26.5	0.0	0.00 (0.00-5.46)	0.000
	Northwest	14	75.3	0.0	0.00 (0.00-7.04)	0.000
	Southeast	21	42.9	0.0	0.00 (0.00-5.85)	0.000
	Southwest	15	27.3	0.0	0.00 (0.00-8.51)	0.000
Week 46	Northeast	37	39.4	0.0	0.00 (0.00-3.62)	0.000
	Northwest	10	145.3	0.0	0.00 (0.00-7.08)	0.000
	Southeast	20	114.8	0.0	0.00 (0.00-5.61)	0.209
	Southwest	15	90.9	1.0	2.30 (0.14-11.49)	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



BE MOSQUITO FREE
 PREVENT. PROTECT. TAKE CONTROL.

Cumulative Data for the Tarrant County Region, Weeks 43-46

Week	Oct 18- Oct 24	Oct 25- Oct 31	Nov 1- Nov 7	Nov 8-Nov 14	YTD
MMWR Week	43	44	45	46	
Total number of gravid traps set in Tarrant Region	199	106	92	86	5767
Average number of <i>Culex</i> spp per gravid trap	48.7	10.6	36.3	77.6	45.9
Number of mosquito pools tested ¹ (DC/DSHS; non-DC/DSHS)	178;21	45;0	84;0	80;0	4782;640
Number of positive mosquito pools (DC/DSHS; non-DC/DSHS) ¹	5;2	1;0	0;0	1;0	600;25
Confirmed WNV human cases (WNF; WNND) ²	0;0	0;0	0;1	0;0	7;37
WNV infection rate per 1,000 <i>Culex</i> spp ³	1.05	1.41	0.00	0.40	
Weekly vector index ⁴	0.055	0.017	0.000	0.032	
Total BG Sentinel traps set in Tarrant Region	23	14	17	13	802
Average number of female <i>Aedes aegypti</i> per BG trap	4.3	0.1	0.3	0.3	3.9
Average number of female <i>Aedes albopictus</i> per BG trap	0.7	0.0	0.1	0.1	1.7

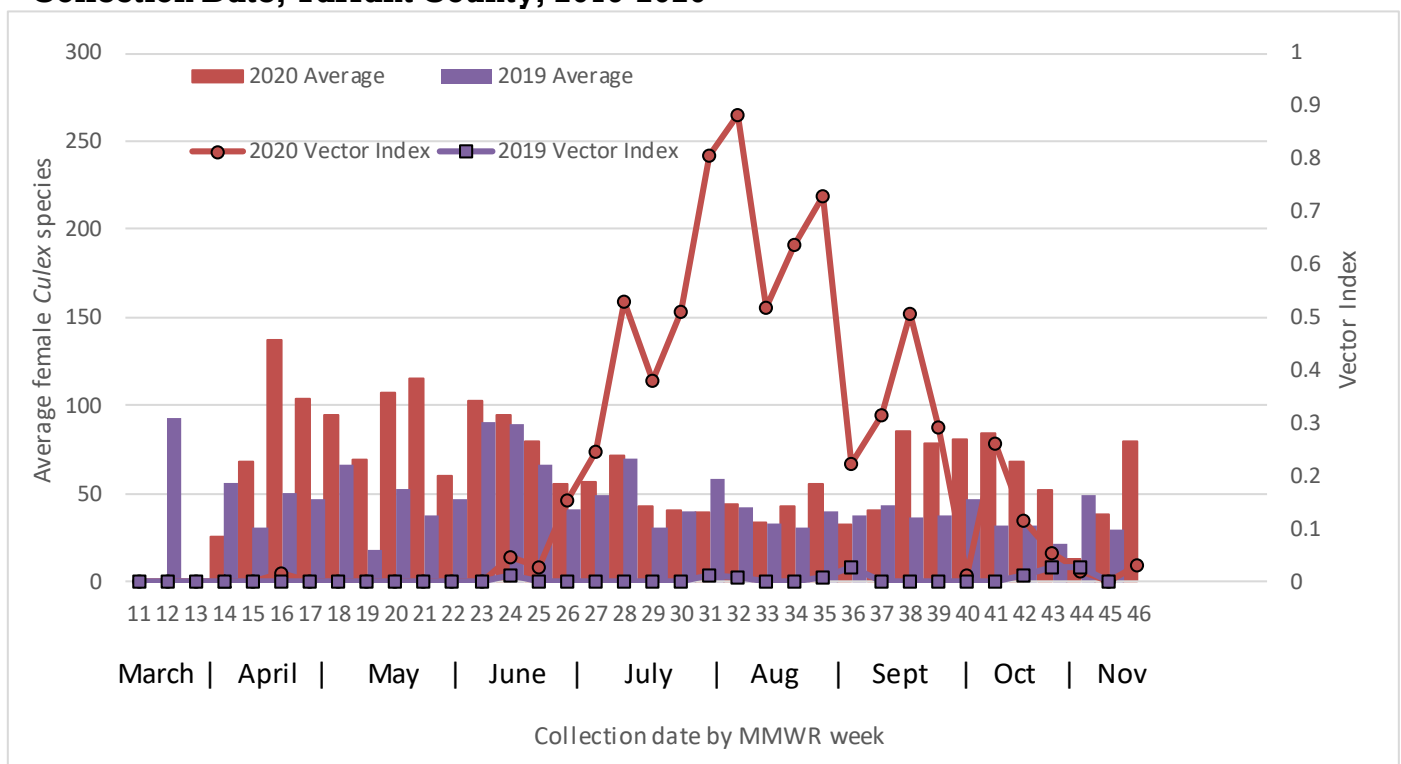
1 Based on mosquito collection date; DC/DSHS = Dallas County Laboratory Response Network and Department of State Health Services Arboviral Lab

2 Based on onset of illness date for cases reported to Tarrant County Public Health; WNF=West Nile Fever; WNND = West Nile Neuroinvasive Disease; data may be incomplete due to complications in reporting from COVID-19

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 *Culex* spp includes pools of both *Cx restuans* and *Cx quinquefasciatus*

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 now includes pools from outside laboratories; Data subject to change due to on-going case investigations, mosquito

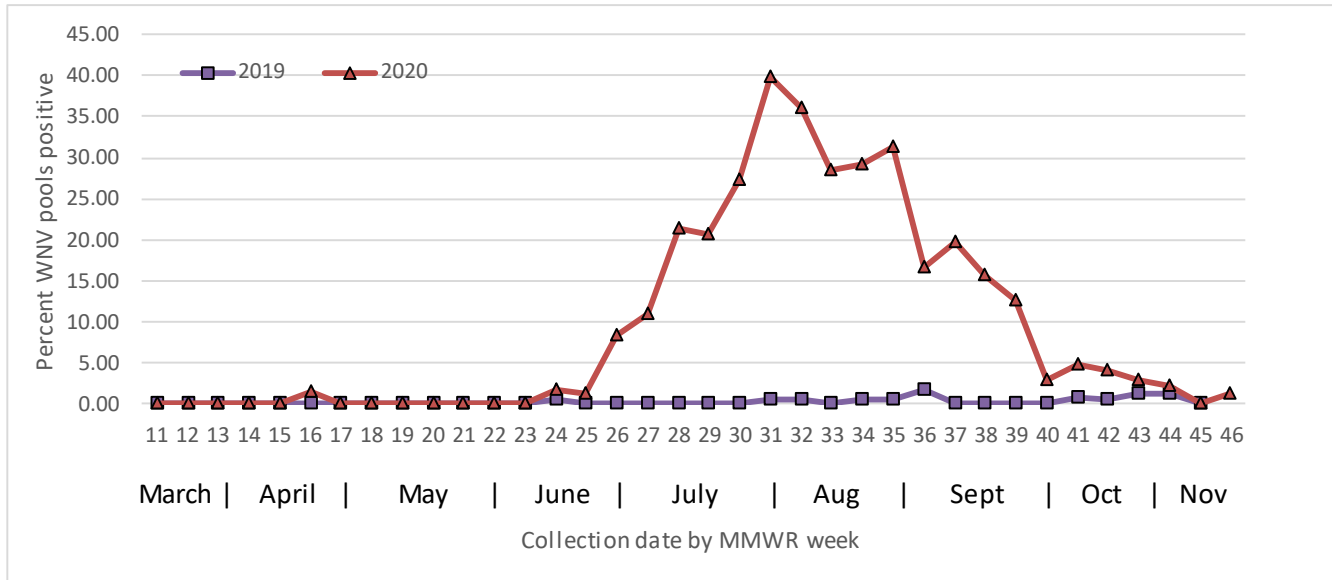
Figure 1. Average Number of Female *Culex* Species Per Trap and Vector Index by Collection Date, Tarrant County, 2019-2020





BE MOSQUITO FREE
PREVENT. PROTECT. TAKE CONTROL.

Figure 2. Percentage of Mosquito Pools Positive for WNV by Collection Date, Tarrant County, 2019-2020



Data Source: Tarrant County Public Health

Table 3. North Texas Arbovirus Activity as Reported by Texas DSHS on November 17, 2020

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	53	1 WNF; 3 WNND	0	0	0	1	0	0	0	0
Dallas	478	5 WNF; 11 WNND	0	0	0	0	0	0	0	0
Denton	53	0 WNF; 5 WNND	0	0	0	0	0	0	0	0
Johnson	11	0 WNF; 0 WNND	0	0	0	0	0	0	0	0
Non-Tarrant North Texas	595	6	19	0	0	1	0	0	0	0
All Texas Counties	1385	8	50	0	2	0	21	16	0	0

*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: