

A FOURTEEN CITY/COUNTY
STATISTICAL COMPARISON OF
CONFIRMED WEST NILE VIRUS CASES
FOR 2002 AND 2003 IN CITIES/COUNTIES
THAT SPRAY ADULTICIDES COMPARED
TO THOSE THAT DON'T SPRAY

This comparative analysis was undertaken by:
Rachel Sumner for BURNT
P.O. Box 128555
Nashville, TN 37212
Contact number: (615) 646-3220
rachelsumner@excite.com

SOURCES

The information in this comparative analysis was researched by phone and on the internet.

Rachael Sumner's analysis of cases of WNV in spray and no-spray cities is awesome. It's the kind of gritty work, HARD work as I know well, that really moves things along. My hat off to you, Rachael, thanks for the inspiration.

--

Patty Clary, Director
Californians for Alternatives to Toxics
315 P Street
Eureka, CA 95501
707-445-5100
patty@a...
<http://www.alternatives2toxics.org>

The information in this booklet is Part II of a report on the same topic we released on June 8, 2004. It includes additional research to support our argument that the West Nile virus disease burden does not warrant spraying. We have included new, more comprehensive statistical data of seven cities that spray compared to seven that don't. **No significant difference in West Nile virus cases exists.** You will find other documentation and studies listed in the table of contents.

We request that City Leaders, the media, the Health Board and Nashville citizens apply pressure and demand Health Department officials to discontinue non-emergency spraying and better establish what constitutes an emergency with the assistance of experts in the field of entomology. In addition, before any emergency spraying takes place, we request that the media, Health Board, City Leaders and Nashville citizens apply pressure and demand Health Department officials establish:

- * better notification policies.
- * better and more meaningful monitoring procedures with full disclosure.
- * buffer zones, which take drift into account for those who have opted out.
- * improved precautions and information regarding adverse effects and what one should do if those effects are experienced.

Sincerely,

Rachel Sumner
217 Silo Court, Nashville, TN 37221
646-3220, rachelsumner@e...

Representing the opinions of the No Spray Coalition: BURNT/No Spray Nashville, EarthMatters Tennessee, BioControlNetwork, Nashville Greenlands, Foundation for Global Sustainability, plus over 500 Davidson County residents who have signed petitions requesting the Health Department cease unwarranted insecticide spraying and focus on less costly, safer, more effective forms of mosquito control.

Our mission statement is also endorsed by these organizations:
Sierra Club, Alliance for Informed Mosquito Management, Beyond Pesticides, National Center for Environmental Health Strategies, TN and Mid-TN Sierra Club
BURNT/No Spray Nashville, www.nospraynashville.org
616-327-8515, P.O. Box 128555, Nashville, TN 37212-2 -

FOURTEEN CITY/COUNTY STATISTICAL COMPARISON

We are looking at the human cases of West Nile virus in areas that spray versus those that don't spray to see if there is any significant difference to help determine if the risks and expenses of spraying are worthwhile. Populations based on 2000 Census. West Nile virus numbers are confirmed cases from state, city, CDC reports and phone calls. Information was often double checked with a 2nd reference.

SPRAY

1.) Spray=Dallas, Dallas County, TX, population 2,218,899 Human Cases Total per 100K
WNV 2002 25 1.23
WNV 2003 51 2.3

2.) Spray=Nashville, Davidson County, TN, population 569,891 Human Cases Total per 100K
WNV 2002 1 0.17
WNV 2003 1 0.17

3.) Spray=Memphis, Shelby County, TN, population 897,472.
In 2002, 71% of the state's West Nile virus cases were in Shelby County many were in a small area in downtown (this info by Ms. Kristy Gottfried). 87.5% of the cases were in Western Tennessee.
Human Cases Total per 100K
WNV 2002 40 4.46
WNV 2003 10 1.11

4.) Spray?ltimore County, MD, population 754,292 Human Cases Total per 100K
WNV 2002 1 0.13
WNV 2003 16 2.12

5.) Spray=Savannah, Chatham County, GA, population 232,048 Human Cases Total per 100K
WNV 2002 0 0
WNV 2003 9 3.88

6.) Spray=Columbus, Franklin County, OH, population 1,068,978 Human Cases
Total per 100K
WNV 2002 9 0.84
WNV 2003 4 0.37

7.) Spray=Baltimore City, MD, population 651,154 In 2004, Baltimore City
made the decision to discontinue spraying
for mosquitoes.
Human Cases Total per 100K
WNV 2002 5 0.77
WNV 2003 11 1.69

AVERAGE West Nile Cases per 100K=1.37

NO SPRAY

1.) No Spray City=Ft. Worth, Tarrant County, TX, population 1,446,219
Human Cases Total per 100K
WNV 2002 5 0.35
WNV 2003 22 1.52

2. No Spray=Williamson County, TN, population 126,638
Human Cases Total per 100K
WNV 2002 0 0
WNV 2003 1 0.79

3.) No Spray=Rutherford, County, TN, population 182,023
Human Cases Total per 100K
WNV 2002 1 0.54
WNV 2003 1 0.54

4.) No Spray=Sebastian County, AR, population 115,071
Human Cases Total per 100K
WNV 2002 1 0.87
WNV 2003 0 0

5.) No Spray=Montgomery County, MD, population 873,341
Human Cases Total per 100K
WNV 2002 7 0.8
WNV 2003 9 1.03

6.) No Spray=Washington, DC, population 572,059
When I called said, "Spraying does trigger asthma attacks and can trigger
allergy attacks."
Human Cases Total per 100K
WNV 2002 34 5.94
WNV 2003 3 0.52

7.) No Spray=DeKalb County, GA population 665,865
Human Cases Total per 100K
WNV 2002 4 0.6
WNV 2003 1 0.15

AVERAGE West Nile Cases per 100K=0.97

CONCLUSION: The statistics show that there is no significant difference in

the cases of West Nile virus in cities/counties that spray compared to those that don't spray. Therefore, the risks and the costs of spraying do not outweigh the benefits. There are no significant benefits for cities that spray. For the analysis, I first wanted to make sure that the years within each treatment were not influencing the data. For example, if in 2002 there were more WNV cases for spraying this would pick it up. Which was good that we see that year (trt), read year within treatment, is not significant. We do have to consider year a source of variation and we can average over the two years.

NOTE: This test controls the Type I comparison wise error rate, not the experiment wise error rate.

Alpha 0.05

Error Degrees of Freedom 26

Error Mean Square 2.081773

Critical Value of t 2.05553

Least Significant Difference 1.121

Means with the same letter are not significantly different.

t Grouping Mean N trt

A 1.3743 14 1

A

A 0.9750 14 2

The GLM Procedure

Dependent Variable: confirmed WNV cases

Contrast	DF	Contrast	SS	Mean Square	F Value	Pr > F
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Spray vs No Spray	1	1.11600357	1.11600357	0.54	0.4706
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I then ran the program again and included a contrast statement to compare the two treatments.

THE RESULTS: The difference in West Nile Virus cases for the two treatments (Spray vs. No Spray) are statistically insignificant, which is what we got on the previous page as well.