

***CHATHAM
COUNTY
MOSQUITO
CONTROL:
PCR OVERVIEW***

TYLER FOLLMAN



**CHATHAM COUNTY
MOSQUITO
CONTROL**

ADMINISTRATIVE OFFICES

Entomology Lab Technician

- **1 year at Chatham County!**
- **New position for the department**
- **Mosquito ID, data management, blood draws on sentinel chickens, public outreach...**
- **Disease surveillance via PCR!**



DISEASE SURVEILLANCE AT CHATHAM COUNTY

5 Steps:

- 1. Trap mosquitoes**
- 2. Identify and sort mosquitoes**
- 3. Test mosquito pools**
- 4. Share results**
- 5. Let the bosses decide what to do!**



WHY DISEASE SURVEILLANCE IS IMPORTANT FOR CHATHAM COUNTY

- **Prioritizing high-risk areas**
- **Adjusting spray thresholds**
- **Keeping the public safe and informed**
- **Knowing what species are vectors**
- **Estimating prevalence of virus**
- **Monitoring effectiveness of program**



DISEASE SURVEILLANCE AT CHATHAM COUNTY

- **Mosquito pool: group of mosquitoes of the same species**

2 ways of testing mosquito pools:

- **In-house testing**
- **Sending samples to UGA for testing**



SENDING POOLS VS. IN-HOUSE TESTING

Pros of sending pools:

- **Less work!**
- **Wider range of viruses can be tested for**
- **Less lab equipment needed**

Cons of sending pools:

- **Limited number of pools per year**
- **Unreliable timeline**
- **Mix-ups with results**
- **More expensive per sample**



IN-HOUSE PCR PROS

- **Quick results, same day testing**
- **Identify and monitor problem areas**
- **Reliable in a pinch**
- **Allows testing of more species**



2024 WEST NILE NUMBERS SO FAR

	In-house Pools	UGA Pools	Total
# of Pools Tested	1,892	1,415	3,307
# of Mosquitoes Tested	70,922	29,528	100,450
# of Positive Pools	93	122	215
# of Positive Sites	22	19	23
# of Positive sites found first	10	13	---
# of Species Tested	13	9	---

As of 10/11/24

IN-HOUSE PCR TESTING THROUGH THE YEARS

	2022	2023	2024
# of Pools Tested	990	851	1,892
# of Mosquitoes Tested	37,692	27,419	70,922

As of 10/11/24

IN-HOUSE PCR CONS

- **Up-front cost of equipment**
- **Availability and delivery of supplies**
- **Space needed**
- **Equipment maintenance**
- **Limited disease reagents**
- **Interpreting results**



FINAL THOUGHTS AND GOING FORWARD

- **Important to paint as complete of a picture as possible by testing in-house and sending pools!**
- **Someone to “double check” your work and verify positive sites**
- **Standardizing our thresholds for interpreting in-house results**
- **In-house testing of chicken blood!**

Thank you!

Tyler Follman

912-724-9375

tfollman@chathamcounty.org

