**Methods**

***Field Trials***

We deployed paired tacklebox gravid traps (Bioquip, Valencia, CA) at 3 separate locations for six weeks in Cullowhee, NC starting on June 15th, 2015 until July 23rd, 2015. Gravid traps were baited with either a white oak leaf infusion (n = 3) or a hay infusion (n = 3). White oak leaves were gathered from Western Carolina University while hay was obtained from a local feed supply store. White oak leaf infusions were created by grinding XXg of dried white oak leaves per liter of water and aging for 3 days in a 5 gallon bucket. Similarly, hay infusions were created by adding XXg of hay per liter of water and XXg of yeast then aging for 3 days in a 5 gallon bucket. Each gravid trap infusion type was paired and placed 3 feet apart. Gravid trap positions were rotated biweekly and during which all mosquitoes were collected. Additionally, grass and white oak leaf infusions were exchanged biweekly during mosquito collections and gravid trap position rotations. All mosquitoes were immediately transported to the WCU Vectorborne Infectious Disease Laboratory. All mosquito specimens were frozen and identified to species with Harrison et al. (2016) identification key on cold chain, then stored at -20oC. . All male mosquito species collected during this study can be correctly identified based on characters listed in Harrison et al. (2016). Additionally, female mosquitoes were scored for present or absence of retained eggs and bloodmeals.

***Statistical Analysis***

We investigated the effects of different infusions for the three most abundant species: *Aedes japonicus*, *Aedes triseriatus*, and *Culex restuans*. We modeled the probability that an individual mosquito would be attracted to hay or oak leaf infusions over *T* time units as a Poisson process where the rate was determined as the sum of all sites for each infusion type by mosquito species. Since the experimental design was balanced, i.e., an infusion type at each site, we treated each site as independent and site-specific effects or weather were not taken into account. We implemented the methods for testing significant differences between two Poisson rates outlined in Gu *et al.* (2008) in Python 3.9.4 with the Scipy (Virtanen *et al*. 2020) and Numpy packages (Harris *et al*. 2020). Briefly, we implemented a one-sided Poisson rates

All data and Python code is available on GitHub (https://github.com/cbsither/WCU\_Gravid\_Trap\_Study\_2015.git)

**Results**

We collected 485 total female (n = 482) and male (n = 3) mosquitoes over during 12 trap sessions at 3 sites with 2 treatments per site. Yielding a total of 3,456 trap hours. Out of the 482 female mosquitoes, 385 were gravid (~79.4%) and no mosquitoes possessed retained bloodmeals. Table 1 summarizes the trap statistics by mosquito species and infusion type.

We randomly

The probability of collecting a gravid *Aedes japonicus*, *Aedes triseriatus*, and *Culex restuans* in oak leaf or hay infusions intendent or dependent of sample size are shown in table 2.

**References**

Harris, C. R., Millman, K. J., Van Der Walt, S. J., Gommers, R., Virtanen, P., Cournapeau, D., ... & Oliphant, T. E. (2020). Array programming with NumPy. *Nature*, *585*(7825), 357-362.

Virtanen, P., Gommers, R., Oliphant, T. E., Haberland, M., Reddy, T., Cournapeau, D., ... & Van Mulbregt, P. (2020). SciPy 1.0: fundamental algorithms for scientific computing in Python. *Nature methods*, *17*(3), 261-272.

Gu, K., Ng, H. K. T., Tang, M. L., & Schucany, W. R. (2008). Testing the ratio of two poisson

rates. *Biometrical Journal: Journal of Mathematical Methods in Biosciences*, *50*(2), 283-298.

Harrison, B. A., Byrd, B. D., Sither, C. B., & Whitt, P. B. (2016). *The mosquitoes of the Mid-Atlantic region: an identification guide*. Cullowhee, NC: Western Carolina University.

Hoaglin, D. C., & Tukey, J. W. (1985). Checking the shape of discrete distributions. *Exploring Data*

*Tables, Trends and Shapes*, 345-416.

Pearson, K. (1900). X. On the criterion that a given system of deviations from the probable in the case of

a correlated system of variables is such that it can be reasonably supposed to have arisen from

random sampling. *The London, Edinburgh, and Dublin Philosophical Magazine and Journal of*

*Science*, *50*(302), 157-175.

Team, R. C. (2013). R: A language and environment for statistical computing.

Reiter, P. (1983). A portable battery-powered trap for collecting gravid Culex mosquitoes. *Mosquito*

*News*, *43*(4), 496-498.

Trexler, J. D., Apperson, C. S., & Schal, C. (1998). Laboratory and field evaluations of oviposition

responses of Aedes albopictus and Aedes triseriatus (Diptera: Culicidae) to oak leaf

infusions. *Journal of Medical Entomology*, *35*(6), 967-976.