A Fateful Month

100 years ago
the flu attacked
State College
Spanish influenza made its way to NC State College 100 years ago and brought campus life to a halt. Illustration© by Janice Kun, i2iart.com.

CARMICHAEL GYM RENDERING COURTESY OF NC STATE WELLNESS AND RECREATION; SPHERES PHOTOGRAPH COURTESY OF AMAZON
Bug Duds

Researchers have discovered roach resistance to bug bombs and their “incendiary” claims.

Considering a cockroach can live a week without its head — really, you can look it up — you may wonder how well “bug bombs” fare against these nasty pests. A team of NC State researchers led by Zachary DeVries ’17 PhD has the answer.

As part of his dissertation, DeVries studied the impact of these popular do-it-yourself products, which the industry calls “total release foggers,” on German cockroaches, the most common kind of indoor cockroaches. The results of the tests — after setting off foggers in infested apartments — are good news for cockroaches. “These products are completely ineffective at reducing [cockroach] populations,” says DeVries, 29, now a post-doctoral researcher at NC State.

By further examining foggers’ impact on two different populations of caged cockroaches, the study also found that the insects have developed resistance over time. The foggers killed nearly 100 percent of caged cockroaches that had been reared in laboratories for decades and hadn’t ever been exposed to pesticides. But the mortality rate for the caged cockroaches — collected from apartments by vacuum-wielding researchers — ranged from 10 percent to 38 percent, depending on the product used.

DeVries and his team also discovered that, even when used as directed, foggers leave behind a significant amount of pesticide residue.

In other words, don’t try this at home. **DAVID RANII**

**LAB NOTES**

Not So Funny

A new study suggests video memes, despite their satirical or comical intent, can perpetuate negative views of African-American culture. Shalina Omar, a graduate student in linguistics, studied user comments on four YouTube memes. She found that those comments trivialized African-American English and vilified the speakers for not conforming to standard English. “[What I’ve found,” Omar says, “is that people are often not just laughing at the situation or circumstance — they are laughing at individuals because of who those individuals are or how they speak.”

**Parental Guidance**

An NC State researcher has found that parents putting money in their adult children’s wallets proves advantageous to their kids’ professional performance. Anna Manzoni, associate professor of sociology, analyzed data on more than 7,500 American adults between the ages of 18 and 28. She found that individuals who received direct financial support — money — reached higher levels of professional success. She also found that individuals who had received indirect assistance, such as being allowed to continue living at home, did not perform as well in their professional lives. “This highlights one way that social inequality is carried forward across generations,” Manzoni says. “Most families want to support their kids, but not all families are able to give money to their children as they enter adulthood.”

**State’s Rock Star**

Nestled among the breweries and restaurants of a reclaimed warehouse district south of downtown Asheville, N.C., is an NC State outpost that predates its hip neighbors by decades. For more than 70 years, the Minerals Research Laboratory has sought to help the state leverage its store of valuable minerals and educate its citizens about them.

The lab began in 1946 as a partnership between the state of North Carolina and the Tennessee Valley Authority, and it’s now part of NC State’s College of Engineering. Most of the lab’s work is done for a fee on behalf of private clients or the state. A current project is focused on refining processes for extracting lithium, which is used in lightweight batteries and electric cars and is found in abundance in the King’s Mountain area outside of Charlotte, N.C. Another revolves around high-quality quartz, also prevalent in North Carolina, which is used in computer chips.

Such minerals can be important economic drivers; the U.S. Geological Survey estimated the value of North Carolina’s nonfuel mineral production industry at $846 million in 2013, with more than 700 mines statewide. “These mines can provide jobs in some of the most economically depressed areas of the state,” says Robert Mensah-Biney, the lab’s director.

The Minerals Research Laboratory also works to lessen environmental harm, such as developing ways to repurpose the coal ash in the wake of the Dan River spill in 2014. And the lab has an educational mission, providing kits of North Carolina rocks to schoolchildren across the state. **MARTI MAGUIRE**