

Containing the threat

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Located on the property of Southern Indiana Purdue Agricultural Center (SIPAC) (see previous article) is a discreet white building originally erected in 1969. The structure may be small in size, but its importance is immeasurable. It is called the Heeke Animal Disease Diagnostic Laboratory (HEEKE), and inside, a team of five scientists have one goal — to maintain the safety of Indiana's food supply.

Originally designed to specialize in diagnosing commercial chickens and turkeys, the lab now tests nearly any animal. Office manager Denise Riley explains, "We are a full service lab, so in other words we do anything, and I do mean anything. Of course the majority of our submissions are birds — turkeys and chickens. Farm animals, cows, pigs, horses, cats, dogs. The only thing we would not take in would be monkeys, because they're too close to humans. We do not have all the necessary facilities to safely examine those."

The lab has capacity in the following six areas: necropsy, bacteriology, avian serology (study of blood serum), virology, parasitology and histopathology (study of tissue). The facility also houses a massive incinerator for effective and safe disposal.

Many diseases have been diagnosed/

discovered in Indiana wildlife and livestock since the lab's opening, including the first case of dactylaria in Indiana (1970), turkey coronavirus enteritis (1994), epizootic hemorrhagic disease, rabbit hemorrhagic disease and "Q fever."

But perhaps most local residents remember the lab's work during the winter of 2016, when HEEKE staff quickly diagnosed a high path strain of avian influenza (H7N8) in local Indiana turkeys.

Laboratory technician Audrey Songer recalls the day.

"A client had high mortality in a poultry flock and brought us some dead birds for examination and tracheal swabs for immediate AI testing," Songer begins. "We used a quick antigen capture test for AI (takes 15 minutes for a result once the test is started) that gave us a positive result. I checked on the test several minutes before it was due to be over, and noticed a positive band already forming."

Together, Songer and the technician running the antigen capture confirmed Songer's observation. "The feeling was immediate excitement," she continues, "instantly followed by worry for the producer who was going to have to deal with this outbreak if it was a true positive. I also had a feeling of curiosity/apprehension, since I was facing the first

HEEKE Animal Disease Diagnostic Laboratory



HEEKE laboratory technician Audrey Songer swabs the feces of baby turkeys. The samples will be tested for salmonella.

— photos by Casey Uebelhor

potential outbreak I would be involved in."

Purdue's main lab for disease control, The Animal Disease Diagnostic Laboratory, is located on Purdue University's West Lafayette Campus. From Dubois, the drive to West Lafayette takes between three and four hours. Nonetheless, Songer and fellow technicians gathered samples from the diseased birds and placed the samples in a special viral transport. "PCR confirmation can take a few hours," explains Songer of the necessary confirmation testing accomplished in West Lafayette, "so that day was a little tense to say the least."

In the meantime, HEEKE staff prepared orders for restock and confirmed that the necessary materials and equipment were on hand, "in case we were in fact dealing with an outbreak," tells Songer.

Which, of course, they were.

Songer reports that the West Lafayette lab "had really good turnaround time," results were received quickly and surrounding community producers and local health officials worked quickly to contain the outbreak.

"This was my first time experiencing an avian influenza outbreak," says Songer, "and I was really impressed by the lines of communication, the effort and time put in by everyone, and the overall organization of the team working to contain the threat. The

interesting point to me was how dedicated, cooperative, and concerned everyone who had poultry was during this time. People really came together and understood the consequences of this disease. A lot of the credit for containing this outbreak goes to the Board of Animal Health (BOAH) and to the state vet. They held several planning meetings and made sure we were ready for such an event."

Current staff at HEEKE includes pathologist Dr. Grant Burcham; office manager Denise Riley; laboratory technician Margaret Gehlhausen; laboratory technician Audrey Songer and laboratory technician Travis Haag.

HEEKE operates Monday through Friday (excepting holidays) from 8:00 a.m. to 5:00 p.m. After hours and weekend submissions are accepted at the discretion of the on-call diagnostician or pathologist at each laboratory. The lab is located at 11367 E. Purdue Farm Road, Dubois. For more information or to report animal issues, please call 812-678-3401.

All records and diagnostic work done at HEEKE is subject to strict safety and privacy regulation. In the case of a legally reportable disease, the State Veterinary office is advised. In all other cases, "the only person that we are permitted to release information to is the owner or the submitter," says Riley.



Denise Riley, office manager at HEEKE, displays a tissue sample that will later be examined by technicians for abnormalities.