Department of Animal Science

New Poultry Diagnostic Unit Opens at UT Veterinary Medical Center to Support Tennessee Poultry Industry and Backyard Flock Keepers

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Avian influenza continues to decimate commercial and backyard poultry flocks across the United States. As of March 14, 2025, since the start of the highly pathogenic avian influenza (HPAI) outbreak on February 8, 2022, 166.4 million birds have been affected. HPAI has been detected in a total of 1,644 flocks in all 50 states and the territory of Puerto Rico. Of those, 771 have been commercial flocks, and 873 have been backyard flocks. Of the 166.4 million birds lost, roughly 100 million have been table egg layers that produce eggs for the grocery store. About 52 million of these 100 million table egg layers were lost in just five short months between October 2024 and February 2025. These losses recently prompted the USDA to predict that egg prices will increase 41.1 percent in 2025, double an earlier projection from January 2025. High egg prices are causing many individuals to consider getting their own backyard chickens to save on egg prices. However, backyard chickens will not provide the monetary savings you may be hoping for. There are many good reasons to keep a flock of backyard chickens, but saving money is not one of them. Backyard chickens come with their own set of expenses and problems you may not know of. Although, if you are committed to doing this, let's do it right.

First, check with your municipality to make sure you can have chickens and, if so, how many and what sex are allowed. Many municipalities do not allow roosters. You must then buy pre-sexed birds from a reputable National Poultry Improvement Plan (NPIP) source, a coop and outside run (which can easily cost several hundred to thousands of dollars), feed (an adult bird needs roughly ¼ pound of high-quality, well balanced feed each day as bugs and worms are not enough), and you must protect the birds from both aerial and ground predators. In addition, chickens are social creatures and require the companionship of other chickens. Therefore, if you decide to get chickens, plan on a minimum of four to six birds to keep them happy and well socialized to maximize their output. Do not get just one or two. Once you have your chickens and their requirements met, you will still have to protect them from the same avian influenza virus that has already killed more than 166 million other domestic poultry over the last three years. Fortunately, there is now some additional assistance thanks to the University of Tennessee College of Veterinary Medicine (UTCVM).

***Figure 1**. Without adequate biosecurity, commercial poultry flocks are at risk of avian influenza infection.*

***Figure 2**. Backyard chickens that often have outdoor access may be at increased risk of avian influenza infection.*

VIP Unit

As indicated above, commercial poultry flocks (Figure 1) and backyard chickens (Figure 2) are both at risk of avian influenza infection. As such, biosecurity is critical to keep both large and small flocks safe. To assist the commercial poultry industry and backyard flock keepers across Tennessee, the UTCVM Veterinary Medical Center is thrilled to announce the opening of a new Poultry Diagnostic Unit at the University of Tennessee, which will be called the "VIP (Virology/Immunology Poultry) Unit." This expansion in test offerings represents a significant advancement in UTCVM's commitment to enhancing poultry health and biosecurity within our community and beyond. This new diagnostic unit will provide comprehensive diagnostic services, including advanced testing for various avian diseases, pathogen identification and epidemiological studies. By utilizing cutting-edge technologies and innovative research methods, the unit aims to support poultry producers with accurate and timely diagnoses, enabling effective disease management and prevention strategies. A dedicated team of experts at the unit is committed to fostering collaboration with local backyard poultry keepers, veterinarians and industry stakeholders, working together towards maintaining healthy poultry populations, ensuring food safety and safeguarding public health.

To bring top-of-the-line poultry diagnostics to eastern Tennessee and beyond, the VIP Unit has three major objectives to accomplish soon. Firstly, the VIP Unit is undergoing the process of receiving NPIP certification. The process is voluntary and will allow the Unit to provide approved *Mycoplasma*, *Salmonella* and avian influenza testing platforms to any NPIP approved flock. The goal is to complete all NPIP requirements by 2026. This will highlight the unit's commitment to improving biosecurity, poultry welfare and producer outcomes.

As a critical part of this endeavor, a second objective is to complete ISO 17025 accreditation, a globally recognized standard of testing and calibration of laboratories. Achieving this certification will underscore the unit's dedication to maintaining the highest quality standards in diagnostic testing for the VIP Unit and the Virology/Immunology Laboratory at UTCVM. This accreditation is expected to be completed in 2026.

Lastly, once ISO 17025 accreditation has been achieved, to provide avian influenza molecular diagnostics to stakeholders, the VIP Unit will be entering the National Animal Health Laboratory Network (NAHLN). The NAHLN is part of a nationwide strategy that enhances the nation's early detection of, response to and recovery from animal health emergencies. It is a partnership of more than 60 federal, state and university-associated animal health laboratories distributed throughout the United States and is capable of testing large numbers of samples for specific disease agents originating from food animals.

Only laboratories within NAHLN are approved to conduct avian influenza PCR diagnostics on domestic poultry. This partnership ensures access to cutting-edge diagnostics and rapid, accurate detection of avian influenza, crucial for effective disease management and containment. By aligning with NAHLN standards, the VIP Unit can provide reliable data that supports public health initiatives, enhances biosecurity measures within the poultry industry and ultimately helps protect both animal and human health. This integration will strengthen the unit's commitment to delivering timely and precise diagnostic services and foster trust and confidence among our community and industry partners. The goal is to achieve this objective in 2026.

Diagnostic services

You are welcome to be a part of the bright future at the VIP Unit, Virology/Immunology Diagnostic Lab, and diagnostic lab services as a whole at UTCVM. A list of initial test offerings are included below, and in the new submission form and updated testing manuals:

- Mycoplasma *gallisepticum*, *meleagridis,* and *synoviae* ELISAs
- Mycoplasma *gallisepticum* and *synoviae* (MG/MS) qPCR
- Salmonella multispecies spp. qPCR
- Salmonella pullorum Plate Test
- Avian Metapneumovirus (aMPV) types A, B, and C ELISA
- Lymphoproliferative disease virus PCR
- Infectious laryngotracheitis (ILT) Antibody ELISA
- Avian Leukosis Virus (ALV) p27 Antigen ELISA
- Avian Sexing, Psittacine Blood PCR

Welcome assistance

As increasing numbers of American households continue to flock to backyard chickens, keeping these birds healthy and disease-free becomes a major challenge as the ongoing avian influenza outbreak continues to decimate commercial and backyard flocks across the country. The new VIP Unit at UTCVM is a welcome tool that the commercial poultry industry and backyard flock keepers now have in their toolbox. With record high egg prices and no end in sight to the avian influenza outbreak, poultry flocks need all the help possible to remain safe as we enter the critical spring waterfowl migration season. If you find your flock in need of medical assistance,

particularly if you are in the eastern Tennessee area, reach out to the new VIP Unit at the UTCVM by emailing the lab at virologyimmunology@utk.edu or the V/I Director Jacquline Risalvato, PhD, DVM, DACVM-Virology directly at jrisalva@utk.edu. For the most up-to-date test listings, lab forms, pricing, submission guidelines and shipping instructions visit vetmed.tennessee.edu/vmc/dls or call 865-974-5880. Samples should be shipped to:

UTCVM Immunology/Virology Laboratory
2407 River Drive, Room A239
Knoxville, TN 37996-4542

The sample submission form can be found at the link below:

vetmed.tennessee.edu/wp-content/uploads/sites/4/DLS_Virology_Avian-Poultry.pdf

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