New avian influenza sampling method saves money

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Credit: Stephen Ausmus

A number of poultry industry groups are using a less costly method to collect avian influenza virus samples, thanks to U.S. Department of Agriculture (USDA) scientists.

Avian influenza is a foreign disease that infects poultry and other bird species. Viruses identified as highly pathogenic cause severe disease, killing more than 90 percent of infected birds. Low pathogenic viruses

are not as severe, but can cause sickness in birds as well as financial losses.

At the Agricultural Research Service's (ARS) Southeast Poultry Research Laboratory (SEPRL) in Athens, Ga., scientists conduct studies not only to identify various avian influenza virus strains, but also to determine their origin and whether current tests and vaccines are effective against them. In addition, the scientists investigate the best methods for collecting virus samples from poultry for testing.

In the United States, all meat chickens and turkeys must be tested for avian influenza before processing. Sample collection is an important component of this process.

A certain number of swab samples, taken from inside the birds' mouths, are needed per flock to get a reasonable virus sample, according to microbiologist Erica Spackman, who works in SEPRL's Exotic and Emerging Avian Viral Diseases Research Unit. The current method used to determine if virus is present works well, but requires placing only one to five swab samples in a tube.

Spackman found that improvements could be made by switching the type of swab used and increasing the number or swabs in each tube. As many as 11 swab samples can be pooled together in a single tube without inhibiting or affecting the sensitivity of the test used to detect avian influenza virus. In addition, Spackman demonstrated that this method can be used to collect Newcastle disease virus samples. The process reduces the amount of tubes needed and, more importantly, the number of individual tests that are run, which decreases the cost to poultry producers.

This research, which was published in *BioMed Central Veterinary Research* in 2013, supports the USDA's priority of promoting

international food security.

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