

# Highly Pathogenic Avian Influenza in SD

**BROOKINGS, S.D.** - This week, the South Dakota State University Animal Disease Research and Diagnostic Laboratory detected highly pathogenic avian influenza virus in samples submitted from a turkey farm in Beadle County.

Higher than normal death loss in one of four barns on the premises prompted the caretakers to seek diagnostic assistance, explained Dr. Russ Daly, SDSU Extension Veterinarian, State Public Health Veterinarian & SDSU Associate Professor.

"Highly pathogenic avian influenza (HPAI) outbreaks have occurred throughout the U.S. this spring, affecting small backyard poultry flocks, as well as large commercial barns," Daly said.

He explained that these outbreaks occurred along three different migratory bird flyways (Pacific, Central, and Mississippi). The South Dakota occurrence is the second to be identified in the Central flyway.

"Influenza viruses are encountered every year by people and a variety of animals," Daly said. "For the most part, these 'flu' viruses stick to one species: human influenza viruses spread among people, avian influenza viruses (such as these particular HPAI viruses) spread among birds, and so on. Occasionally, influenza viruses normally found in one species will infect other species. For example, certain swine influenza viruses have occasionally infected people, and certain avian influenza viruses, notably the H5N1 virus in Asia, occasionally infect people as well."

Below, Daly responds to frequently asked questions in regards to the Highly pathogenic avian influenza (HPAI) virus.

**Q: What is happening with the affected farm?**

**A:** State and federal animal health officials are responding to the outbreak according to long-standing protocols. Infected farms are placed under quarantine, meaning that no birds can leave or enter the farm. Remaining live birds are humanely euthanized and disposed of on the premise. The

building and grounds are thoroughly cleaned and disinfected and sit idle for a period of time.

**Q: How will this outbreak affect neighboring farms?**

**A:** State and federal response plans establish a 10 kilometer (approximately 6 miles) "control" zone, as well as a 20 kilometer "surveillance" zone around the infected farm. All poultry flocks in the control zone will be sampled by animal health officials and tested for avian influenza. All poultry flocks in the surveillance zone will be contacted by animal health officials to determine if any signs of illness or unexpected death losses have been noticed.

**Q: What does this avian influenza virus do to these birds?**

**A:** That this virus is termed "highly pathogenic" is no mistake. These strains affect birds so quickly that clinical signs are usually not noticed. The first signs noticed by flock owners are an unexpected number of dead birds. Weakness, difficulty breathing, and purple swelling of the comb and wattles are signs that may be observed prior to death.

**Q: How do these domestic birds get infected by HPAI?**

**A:** Birds infected with

influenza discharge the virus through their droppings or nasal/respiratory fluids. Susceptible birds ingest or inhale the virus when they encounter those fluids. Most experts assume that the source of these HPAI viruses is migratory waterfowl traveling through the areas.

It's relatively easy to picture how a free-roaming backyard poultry flock could come in contact with migratory geese and ducks. However, modern poultry production features tight, environmentally controlled barns that typically exclude outside birds and limit human traffic as well. Wild birds congregating around air inlets, or people walking through areas that wild birds have frequented and then entering poultry barns are potential routes of transmission. Sampling of wild birds in the vicinity of outbreaks has not demonstrated a clear source or transmission route for these infections.

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# Army Cutworms Spotted in South Dakota Winter Wheat

**BROOKINGS, S.D.** - Army cutworms have been spotted feeding on winter wheat seedlings in fields located southwest of Wall.

"The early spring and warm temperatures helped the greening of winter wheat fields all over South Dakota also favoring the insect's development," said Anitha Chirumamilla, SDSU Extension Entomology Field Specialist.

Chirumamilla explained that fields planted early last fall could have higher chances of army cutworm infestation as lots of growth before dormancy attracts adult moths that lay their eggs in the soil.

"Army cutworm, *Euxoa auxiliaris* is a very common species of cutworms attacking wheat in South Dakota," she said.

The larvae are greyish in color with pale markings and a light stripe on their backs. Adult moths lay eggs in the soil during fall season and overwinter as larvae.

With the onset of spring, the larvae resume their development by feeding on the seedlings. Full grown larvae can be 2-inches long. "Damage is caused by larvae feeding on the leaves. Most of the damage occurs during evening hours as the larvae are sensitive to light and hide in the soil near the plants during the day," Chirumamilla said.

Larvae can be seen during daytime on cloudy days.

**Scout wheat alfalfa fields for army cutworm**

Larvae can move in masses resembling an army to nearby vegetation in search of food. "First-year alfalfa is also highly vulnerable to damage by army cutworms," she said.

Chirumamilla encouraged growers to scout their fields for army cutworm larvae by digging the soil around the plants.

In healthy plant stands, an insecticide treatment is recommended at four or more



larvae per square foot, but when the stand is thin, and plants are stressed, the threshold is much lower at two or more larvae per square foot.

"Areas where cutworms have been spotted were well over the action threshold and spraying is critical to avoid serious damage," Chirumamilla said.

Several organophosphate and pyrethroid insecticides are registered for cutworm control in wheat. Information about insecticides labeled for army cutworm management and recommended dosages are available in the 2015 South Dakota Wheat Pest Management Guide found at [iGrow.org/up/resources/03-3033-2014.pdf](http://iGrow.org/up/resources/03-3033-2014.pdf).

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