

BIOSECURITY FOR ON-FARM PATHOGEN CONTROL IN POULTRY

Manpreet Singh, Professor and Extension Specialist
manpreet@uga.edu

Harshavardhan Thippareddi, John Bekkers Professor
harsha.thippareddi@uga.edu

Human campylobacteriosis and salmonellosis are two of the most commonly reported gastrointestinal infections worldwide and poultry meat has been identified as the main source of infection. Controlling pathogen colonies of public health concern such as *Salmonella* and *Campylobacter* in poultry flocks on the farm is critical for a successful overall food safety program. Biosecurity on the farm can contribute significantly to reducing the potential for *Salmonella* and *Campylobacter* colonization in broilers.

“Biosecurity” refers to procedures used to prevent the introduction and spread of disease-causing microorganisms in poultry flocks.

ON-FARM SOURCES

- Wildlife
- Insects
- Rodents
- Water
- Fomites (surfaces)
- Hatchery/bird movement
- Feed
- Humans
- Vehicles
- Litter

PREHARVEST CONTROL STRATEGIES

- Biosecurity and hygiene
- Vaccination and genetic selection
- Feed supplements (competitive exclusion products)
- Organic acids (in withdrawal water)

PATHOGEN TRANSMISSION IN POULTRY FLOCKS

Vertical transmission usually includes the internal contamination of the egg in the reproductive tract of the hen before shell deposition. This is considered a significant risk for *Salmonella* transmission, but this risk is rare for *Campylobacter* transmission, as there is no evidence of this occurring in poultry.

Horizontal transmission usually involves the transmission of pathogens after the chicks are placed on the farm for rearing (including bird-to-bird spread).

RECOMMENDATIONS FOR EFFECTIVE BIOSECURITY STRATEGIES

Restrict unnecessary human traffic in the poultry houses and provide protective coverings such as boots, coveralls, and headgear to visitors and other necessary farm personnel.

Maintaining dry litter conditions (less than 30% moisture) will help to keep the number of microorganisms low.

Do not allow pets or other animals within poultry houses and implement robust pest control programs.

For situations where internal testing programs suggest a high pathogen prevalence, contact your poultry company veterinarian or contact a poultry veterinarian within the Georgia Poultry Laboratory Network.

For more detailed information of biosecurity strategies refer to UGA Extension Bulletin 1306, “Biosecurity Basics for Poultry Growers.”



UNIVERSITY OF GEORGIA
EXTENSION

extension.uga.edu

Circular 1195

April 2020

Published by the University of Georgia in cooperation with Fort Valley State University, the U.S. Department of Agriculture, and counties of the state. For more information, contact your local UGA Cooperative Extension office. The University of Georgia College of Agricultural and Environmental Sciences (working cooperatively with Fort Valley State University, the U.S. Department of Agriculture, and the counties of Georgia) offers its educational programs, assistance, and materials to all people without regard to race, color, religion, sex, national origin, disability, gender identity, sexual orientation or protected veteran status and is an Equal Opportunity, Affirmative Action organization.