

Poultry Facility Biosecurity

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Disease outbreaks cost poultry producers and related industries millions of dollars a year in lost revenue. To minimize these losses, disease-prevention methods must be followed, including practices controlling disease-causing organisms (pathogens) and their vectors. Such disease-control measures are collectively termed biosecurity.

Biosecurity is a set of practices that limit the spread of disease-causing organisms. When teamed with disinfection and sanitation procedures, biosecurity practices can eradicate or reduce pathogens to noninfectious levels. Such preventive measures as vaccination and serologic monitoring also help ensure good flock health.

Inadequate biosecurity can contribute to industrywide epidemics of highly pathogenic or exotic disease, resulting in quarantine and possible condemnation of flocks. An infection by a nonvirulent organism within a facility can be just as devastating economically, reducing production over the life of the facility without overt signs of disease. Once contaminated with pathogens, poultry facilities are extremely difficult and expensive to clean, sanitize and disinfect.

Facility location and design

Optimally, facilities should be located at least 1 to 2 miles from other commercial or private poultry facilities. Although existing facilities cannot be moved, new facilities should be built away from waterways used by migratory waterfowl. Locate new facilities as far as possible from roads handling high volumes of poultry vehicles such as feed trucks or live-haul vehicles. Poultry facilities also need adequate amounts of potable water. In addition, wastes must be treated in a timely, approved method.

On-premise roads and walkways should be built of all-weather materials to reduce the transportation of organic materials on tires and shoes. Design features should include a one-way traffic system for all poultry facilities. The system should route personnel, vehicles and poultry from youngest birds to oldest birds, from "clean" areas to "dirty" areas and from individual poultry houses to common-use employee areas. This prevents contaminants within facilities from circulating into other production stages.

Sources of diseases in poultry facilities

- ◆ Diseases may be introduced by people — employees, service representatives, truck drivers, vaccination crews, veterinarians, etc.
- ◆ They may be transferred via new poultry — chicks, pullets, breeding males, semen, etc.
- ◆ They may arise from previously contaminated and improperly cleaned premises or equipment.
- ◆ They may be introduced by vectors — rodents, wild birds, insects, wind, water, etc.

Following are guidelines for developing standard operating procedures for each potential disease source. These guidelines should be thoroughly understood and practiced by all poultry producers and affiliated personnel.

Human traffic

To prevent people from bringing disease into a poultry operation, restrict access to poultry facilities. Keep out all unauthorized personnel and minimize the time that necessary outside personnel spend in or around the facilities.

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Control all vehicle traffic on the premises. If practical, keep a log and periodically review all vehicle, equipment and personnel movement on and off the premises. This information may connect disease problems to a possible source and aid in correcting biosecurity failures.

Necessary access vehicles — feed and chick trucks and vehicles for veterinarians, service representatives and government inspection officials — should be cleaned and disinfected before entering a premise. Best is to provide an unattached building at the premise entrance to decontaminate all personnel and equipment

entering the facility. High-pressure washing with detergent and spraying of vehicle tires with disinfectant will decrease or eliminate most pathogens.

Traffic patterns for visitors should start with the youngest poultry and progress according to age. Clean clothing and footwear should be provided for everyone entering the facilities.

To reduce transmission of pathogens via personnel, employees should not own backyard flocks, pet birds or exotic fowl.

ment to noninfectious levels. An “all in/all out” policy helps prevent disease transmission from older birds to new birds by creating breaks for cleaning and disinfection. Although “all in/all out” practices maximize sanitation effectiveness, they are not always economically feasible. Therefore, poultry producers must customize plans for cleaning and disinfection to reduce pathogens to minimum levels.

Facilities and equipment should be cleaned from top to bottom, inside to out and with the natural drain of effluent water to prevent recontamination of cleaned facilities. Be sure to clean all equipment of organic matter (which reduces the effectiveness of disinfectants), then apply disinfectant. Many commercially available disinfectants labeled for poultry farm use are on the market. Follow product label recommendations and use only approved disinfectants and procedures.

Vectors

Efforts to minimize vectors can significantly reduce disease transmission and corresponding economic losses. Vectors include rodents, wild birds, insects and internal and external parasites, which can bring pathogens to poultry facilities. Pathogens may be transferred via fomites such as fecal material (including wild birds’ feces, feathers or dust) and by wind, water or in feed.

Effective rodent and wild-bird control programs should be developed. Rodents consume and contaminate feed and spread numerous diseases. They may also destroy eggs, chicks, poults, equipment and structures. Wild birds can be excluded from the premises by covering all vents and openings with a narrow-mesh wire screen. Insects and parasites can be controlled with preventive programs and proper use of insecticides and medications.

For more information on rodent control, request publication L-1351, *Rodent Control on Poultry Farms*, from the Texas Agricultural Extension Service.

Biosecurity is a crucial component of good management practices. An effective biosecurity plan should be flexible and open to new technology as it develops or becomes necessary. Poultry producers who implement a biosecurity plan to control pathogens and their vectors will reduce economic losses caused by diseases.



Infected poultry

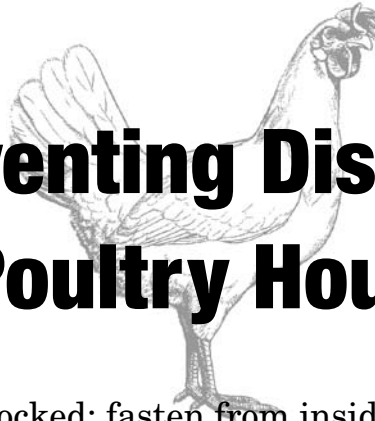
Precautions are needed to reduce the spread of disease from one facility to another. Producers should buy poultry from disease-free sources. For disease-tracking purposes, farms approved by the National Poultry Improvement Plan must maintain records of poultry sold and their final destination. When buying eggs or chicks, inspect records to verify that they are from disease-free sources and have had appropriate vaccinations for the area.

Poultry diseases can be spread from infected birds by egg transmission (transovarian) or from bird to bird. Transmission of pathogens via the egg includes transovarian transmission (hen to egg) and eggshell-to-embryo contamination during incubation and hatching. Chicks at the hatchery can also be contaminated after hatching. Bird-to-bird transmission of disease may result from direct contact with an infected bird or through indirect contact with fomites such as feed, fecal material or wind-borne pathogens.

Contaminated facilities

Effective cleaning and disinfection measures can substantially decrease disease transmission by reducing pathogens in the environ-

Preventing Disease in Poultry Houses



- ◆ Keep poultry houses locked; fasten from inside while inside.
 - ◆ When caring for flocks, the resident flock manager should keep clothing (including shoes, boots, hat and gloves) separate from those worn off the farm.
 - ◆ Flock manager and other caretakers should not visit any other poultry flocks.
 - ◆ Do not allow visitors in or near the poultry houses.
 - ◆ After caring for the flock, change clothes completely and wash hands and arms before leaving premises.
 - ◆ Essential visitors such as owners, meter readers, service personnel, fuel and feed delivery drivers, and poultry catchers and haulers must wear protective outer clothing, including boots and headgear, before being allowed near the flocks.
 - ◆ Monitor vehicles entering premises for poultry pickup or delivery, feed delivery, fuel delivery, etc., to determine if they have been scrubbed down and the undercarriage and tires spray-disinfected before entering.
 - ◆ Clean and disinfect all coops, crates and other poultry containers or equipment before and after use.
 - ◆ Sick or dying birds should be sent to a state laboratory for diagnosis. Commercial growers should contact their flock supervisor.
 - ◆ Dispose of dead birds properly by burial or incineration.
 - ◆ People handling wild game (especially waterfowl) must change clothes completely and bathe before entering poultry premises.
 - ◆ Keep “restricted” signs posted at drive entrances.
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Como Prevenir Enfermedad en Gallineros



- ◆ Mantenga cerrados los gallineros o el corral, ciérrelos por dentro cuando esté adentro.
 - ◆ El residente encargado de la bandada debe vestir diferente ropa a la que viste cuando no esté en la granja (incluyendo zapatos, botas, sombrero y guantes) cuando cuida a la parvada.
 - ◆ El encargado de la paravada y otros cuidadores no deben entrar a los corrales de otras parvada de aves.
 - ◆ No permita que visitantes entren ni se acerquen a los gallineros o a los corrales.
 - ◆ Después de cuidar a la parvada, cámbiese de ropa completamente y lávese las manos y los brazos antes de salir del local.
 - ◆ Los visitantes necesarios tales como los dueños, los repartidores de combustible y de pienso, el lector del contador de la luz, el personal que recoge y transporta aves y el personal de servicio deben vestir ropa protectora externa incluyendo botas y sombrero.
 - ◆ Controle los vehículos que entran al local para recoger o entregar aves, entregar pienso, entregar combustible y lo demás. Asegúrese que hayan sido lavados y que el chasis y las llantas hayan sido rociadas con desinfectante antes de entrar.
 - ◆ Todos los gallineros, las cajas y otros contenedores o equipo para aves deben ser limpiados y desinfectados antes y después de su uso.
 - ◆ Las aves enfermas or moribundas deben ser enviadas a un laboratorio estatal para ser diagnosticadas. Los avicultores comerciales deben comunicarse con sus encargados de parvada.
 - ◆ Las aves muertas deben ser eliminadas debidamente mediante entierro o incineración.
 - ◆ Las personas encargadas de cuidar fauna silvestre (especialmente aves acuáticas) deben cambiarse de ropa completamente y bañarse antes de entrar al local donde estén las aves.
 - ◆ Mantenga letreros de “zona prohibida” en las entradas.
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