

NPIP Biosecurity Principles
Dale C. Lauer, DVM
Minnesota Board of Animal Health
Minnesota Poultry Testing Laboratory
Willmar, MN
dale.lauer@state.mn.us

The 2015 Highly Pathogenic Avian Influenza (HPAI) outbreak in Minnesota and other Midwestern states required poultry producers, companies and animal health officials to work together to eliminate this devastating virus. We can all certainly agree that it was an event we never want to experience again! Analysis of the 2015 event and epidemiologic studies indicated that in Minnesota and other states there was a mix of individual, point source introductions to a farm and farm-to-farm spread of the H5N2 HPAI virus. The poultry industry as a whole is responsible to ensure that systems are in place to prevent those initial introductions of HPAI and subsequent spread. Expectations for preventing or reducing future introductions require increased biosecurity measures from those used prior to the outbreak in most operations.

To prevent an HPAI outbreak, it is the producer's responsibility to keep their flock from becoming infected, focusing on what they can control on their farm. Effective biosecurity involves a mix of structural and operational components. Structural biosecurity is built into the physical construction and maintenance of a facility. Operational biosecurity involves management practices, including implementation of and compliance with daily operating processes also known as standard operating procedures (SOPs) designed to prevent an HPAI virus introduction.

Based on 2014-2015 HPAI experiences and epidemiological studies by the USDA, after multiple point source introductions, there were multiple pathways for HPAI virus transmission. These pathways included workers/visitors who enter poultry buildings and had contact with poultry, shared equipment and shared crews, entry of wild birds into barns, disposal of dead birds and other biosecurity breaches. The USDA APHIS National Veterinary Services Laboratory (NVSL), USDA Agricultural Research Service Southeast Poultry Research Laboratory (SEPR), and the Influenza Division of the Centers for Disease Control and Prevention (CDC) analysis also suggested that both common source exposures and independent introductions were contributing to the spread of the H5N2 in the United States¹. These risk factors should be the highest priority for improved biosecurity as part of an enhanced operational site-specific biosecurity plan.

To standardize biosecurity practices and expectations, the United States Department of Agriculture, Animal and Plant Health Inspection Service (USDA-APHIS) on February 9, 2016, published an Interim HPAI Indemnity Rule: "Conditions for Payment of Highly Pathogenic Avian Influenza Indemnity Claims." This rule clarified an existing policy for the payment of indemnity of eggs and provides a formula for the split of indemnity between poultry/egg owners and parties which the owners enter into contracts with to raise or care for the eggs or poultry. The rule also requires large² owners and contractors to certify that at the time of detection of HPAI in their facilities, they had in place and were following a biosecurity plan that would prevent the spread of avian influenza. All sectors of the poultry industry recognized the need to

incorporate basic biosecurity principles into an existing program and the program that was most practical was the National Poultry Improvement Plan (NPIP). As they were being discussed, the biosecurity principles were developed as minimum management practices that all producers should be able to follow.

After the interim HPAI Indemnity Rule went into effect, the General Conference Committee (GCC) of the NPIP worked on a set of poultry biosecurity principles to be added to the NPIP Program Standards. At the September 2016 NPIP Biennial Conference a 14 Point Biosecurity Principles document was proposed and passed unanimously by NPIP Biennial Conference Delegates representing all the poultry commodities across the country. The intent of these basic disease prevention principles is to standardize biosecurity practices within the NPIP and have minimum management practices that any poultry operation should follow to prevent disease introduction. Each premises should have a site specific plan that includes but is not limited to these biosecurity principles.

Soon after the 2016 NPIP Biennial Conference the NPIP Program Standards were approved by USDA and submitted for public comment in the Federal Register. No comments were received. As a result, the final Program Standards notice was published on May 5, 2017 and became effective July 5, 2017. Included in this notice were the 14 Biosecurity Principles which are now part of the NPIP Program Standards and are being implemented at the state level by the Official State Agencies (OSA) of the NPIP. The 14 Biosecurity Principles follow:

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| (1) Biosecurity Responsibility | (2) Training |
| (3) Line of Separation (LOS) | (4) Perimeter Buffer Area (PBA) |
| (5) Personnel | (6) Wild Birds, Rodents and Insects |
| (7) Equipment and Vehicles | (8) Mortality Disposal |
| (9) Manure and Litter Management | (10) Replacement Poultry |
| (11) Water Supplies | (12) Feed and Replacement Litter |
| (13) Reporting of Elevated Morbidity and Mortality | (14) Auditing |

With the Biosecurity Principles now in effect, the expectation is that producers will put together a written biosecurity plan for their operation. The first step in the development of a biosecurity plan is to identify the Biosecurity Coordinator. The Biosecurity Coordinator is responsible for the development, implementation, maintenance and ongoing effectiveness of the biosecurity program. Depending on the type and size of poultry operation, the Biosecurity Coordinator's responsibility could be at the farm, production site, production complex, or company level. The Biosecurity Coordinator should be knowledgeable in the principles of biosecurity so that along with the personnel and caretakers on the farms and production sites, are responsible for the implementation of the biosecurity program. The Biosecurity Coordinator should review the biosecurity program at least once during each calendar year and make revisions as necessary.

The biosecurity plan should include training materials that cover both farm site-specific procedures as well as premises-wide and/or company-wide procedures as appropriate. All poultry owners and caretakers that regularly enter the perimeter buffer area (PBA) must

complete this training at least once per calendar year and document it. New poultry caretakers should be trained at hire. With a Biosecurity Coordinator identified, the development of a biosecurity plan will have a different format and organization depending upon the producer, complex or company. It is important to keep in mind that an effective biosecurity plan requires vigilance, compliance and simplicity. Biosecurity steps must be performed every day and become routine. A verification system to ensure that biosecurity procedures are being followed can be helpful as an additional compliance step.

There are many resources that can assist in the development of an effective biosecurity plan. These resources include:

- Your veterinarian
- University of Minnesota Extension
- NPIP Website
- Your Official State Agency (OSA).

Links to many of these resources can be found on the Minnesota Board of Animal Health's website under NPIP Biosecurity Principles: <https://www.bah.state.mn.us/npip-biosecurity-principles/>

The 14th Biosecurity Principle, "Auditing" is under the direction of each NPIP Official State Agency (OSA). The OSA is responsible for overseeing the biosecurity audit process and providing an audit summary to USDA-APHIS-VS-NPIP. The NPIP Biosecurity Audits are intended to be paper audits with no site visits. Knowing your OSA and how they will carry out the audit process in your state is important to ensure a satisfactory biosecurity audit.

¹ Final Report for the 2014–2015 Outbreak of Highly Pathogenic Avian Influenza (HPAI) in the United States Revised August 11, 2016 - https://www.aphis.usda.gov/animal_health/emergency_management/downloads/hpai/2015-hpai-final-report.pdf

² Large is defined by the Interim HPAI Indemnity Rule as annual production levels per premises greater than: 75,000 for table-egg layers; 25,000 for upland game bird and waterfowl; 100,000 for broilers; 30,000 for turkeys