

COLORADO AVIAN HEALTH PROGRAM NATIONAL POULTRY IMPROVEMENT PLAN LARIMER COUNTY

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PROJECT OVERVIEW

Disease Surveillance and Food Safety: Access to safe and nutritious food is a basic and implicit component of a healthy population. Food safety encompasses a long list of essential processes, including on-site production, processing, distribution, storage, selection, preparation, and consumption.¹ Backyard poultry flocks can be a consolidation of most or all of these processes. Due to this unique trait and their public accessibility, backyard flocks are particularly risky locations for the introduction of disease into the food supply.

NPIP History: Pullorum-typhoid disease devastated the United States poultry industry in the early 1900s. The National Poultry Improvement Plan (NPIP) was created to ensure this event did not repeat.² NPIP is a voluntary surveillance program created by industry, academia, and government partners in 1935.

Education: The efforts aimed at ensuring a safe food supply also create opportunities to support community health education.¹ Each live bird event attended this summer involved community education. At NPIP flocks and county fairs, informal information sharing was successful at raising awareness and instructing flock owners on disease prevention techniques. At a poultry show, the team was able to deliver a formal presentation on biosecurity and disease prevention to 4-H students and their families.

Regional Leadership: CSU is spearheading the Western Small Flock Collaborative. This program supports small flock owners across Wyoming, Colorado, and New Mexico with information on biosecurity, flock care, and poultry diseases.³

FIELD TESTING KIT



CERTIFYING A NPIP FLOCK

Before departing for a NPIP flock, the team packed clean scrub tops, bibs, hats, socks, and boots for each team member. Materials and supplies for field testing of a typical NPIP flock include, but are not limited to: swabs, media, inoculating loops, 23-gauge needles, gauze, alcohol and reservoir, P-T field testing plate, and P-T antigen. Following pre-flock biosecurity procedures, all supplies were sealed and placed in bins for transport to the flock.

The team worked in pairs, with one person holding the bird and the other performing testing. The OP swab was collected by rolling the swab under the bird's tongue and along their choanal slit. The swab was then swirled in the media tube and rolled along the interior edges of the tube to remove excess fluid. The holding team member then shifted the bird into a belly-to-belly hold with the bird on its side. The other team member flipped the bird's wing out and placed a drop of antigen onto the testing plate to prepare for the P-T test. The team member pricked the brachial vein, collected a loop of blood, and mixed this blood with the antigen on the testing plate. The team member holding the bird then applied pressure with gauze to stop the bleeding.

Following testing, the team interviewed the owner and inspected their flock premises to assess the application of biosafety and biosecurity principles, animal welfare status, and documentation of interstate bird transport.

Upon completion of testing and inspection, the team gathered all materials and exited the property. Following post-flock biosecurity protocols, the team doffed all protective equipment and placed clothing and boots in dedicated bags in the trunk of the vehicle. Team members sanitized all field supplies before placing them in the trunk and thoroughly cleaned supplies upon return to the laboratory.



Oropharyngeal Swab



P-T Sample Collection

COMMUNITY IMPACT

The lack of knowledge and inconsistent biosecurity practices observed during this surveillance program highlight an opportunity for educational outreach in Colorado. Mass recalls and food safety issues can have a profound impact on rural communities with fewer access points to safe food. Food sources like backyard poultry flocks are critical to the food security of these regions.

Surveillance programs can serve as educational access points for producers, children, families, and the general public. Together, we can create a culture of accountability among backyard flock owners to prevent disease and maintain a safe and secure food supply for Coloradoans living in rural communities.

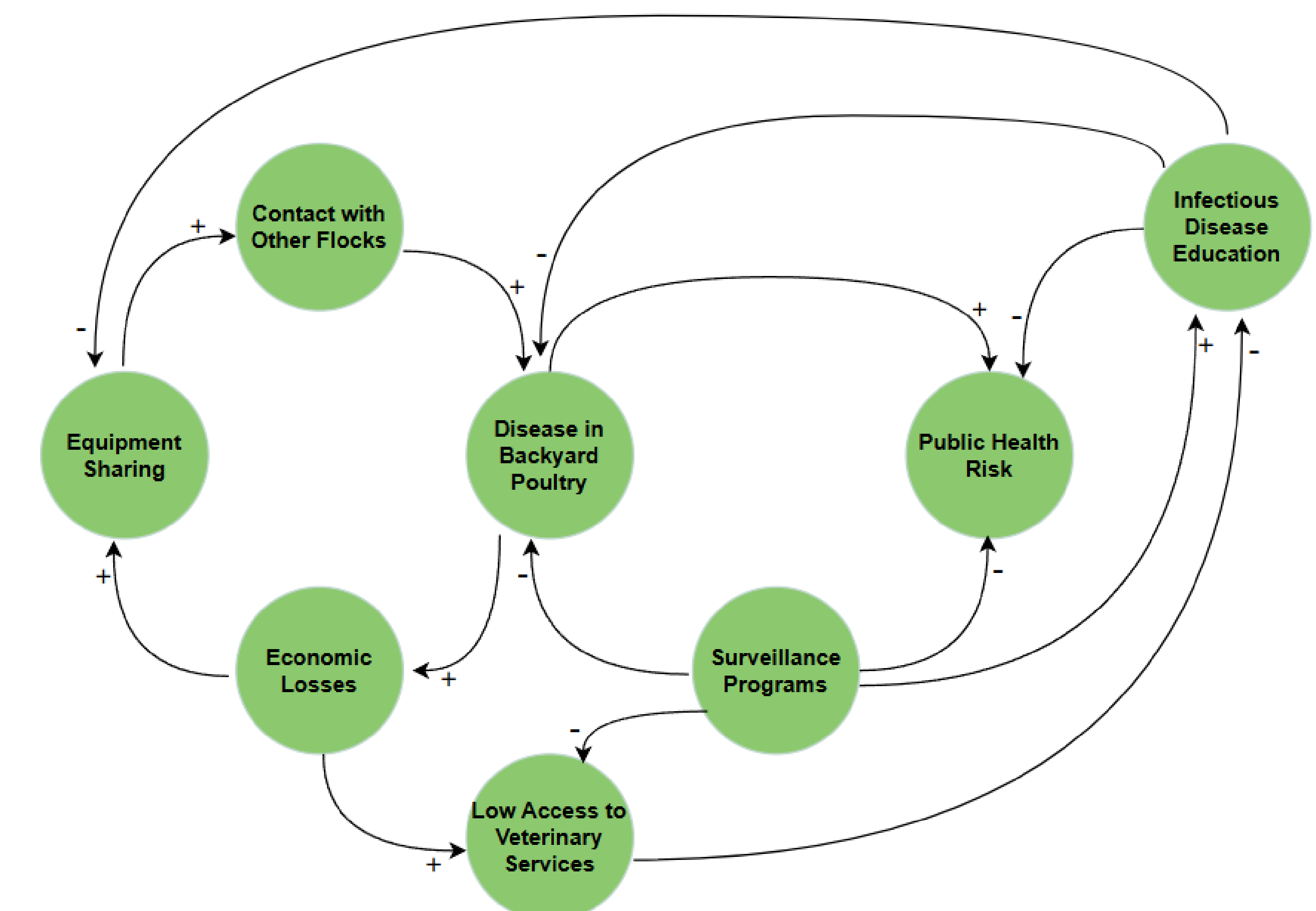


Biosecurity & Disease Prevention Education



Community Strengthening at NPIP Flock

STAKEHOLDER RELATIONSHIPS



¹ United States Department of Agriculture. (2025, July). Food Safety. National Institute of Food and Agriculture.

² Schat, K. A., Nagaraja, K. V., & Saif, Y. M. (2021). Pullorum Disease: Evolution of the Eradication Strategy. Avian diseases, 65(2), 227-236.

³ healthybirds.info