

# Big Red Biosecurity Program: A Comprehensive Educational Biosecurity Program for Nebraska Poultry That Explores the Use of Unmanned Aircraft Systems (Drone) Technology

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# Goal:

- To develop and implement a poultry focused biosecurity education, training and auditing program to increase the understanding and use of biosecurity practices for the purpose of protecting poultry populations in Nebraska from respiratory illness and other catastrophic diseases, and to explore the use of Unmanned Aircraft Systems (drone technology) for biosurveillance and enhanced biosecurity.

# Poultry in Nebraska

- Unprecedented growth in past 2-3 years
  - Costco / LPP → 100 million broilers by 2020
    - Processing plant, feed elevator and hatchery
    - Replacement pullets, breeders and broileres
  - Hybrid Turkey → Grandparent / parent hatchery in Beatrice, NE
    - Flocks in NE, KS, SD
    - Building commercial hatchery in SD
  - Hendrix – Genetics → Grandparent / parent hatchery in Grand Island, NE
    - Laying chickens
    - Flocks in NE
  - Tecumseh Poultry (Smart Chicken)
    - Increased production
    - Recently acquired by Tyson Foods

# Objectives

- *Objective 1:* Develop a branded biosecurity program recognized for quality and integrity that contains educational modules specific to biosecurity practices related to poultry operations and appropriate for all personnel involved in the poultry industry. Increase understanding of best practices and how to integrate them.
- *Objective 2:* Develop an on-site biosecurity auditing program that combines traditional approaches for gathering information with the use of Unmanned Aircraft Systems (drone) and associated technology to comprehensively surveil property and environs for potential biosecurity risks.
- *Objective 3:* Implement the Big Red Biosecurity Program through the University of Nebraska–Lincoln (UNL) extension network and other avenues that will allow integration with Nebraska’s poultry industry, and explore options and methods for program sustainability.

# Accomplishments

- Objectives 1 & 2
- On your browser type: [bigredbiosecurity.unl.edu](http://bigredbiosecurity.unl.edu)

PREPARE. PREVENT. PROTECT.

## **BIG RED BIOSECURITY PROGRAM**

FOR POULTRY



# Products and Outputs from Accomplishments

- Reynolds, Donald L. Oral presentation. Developing and Evaluating a Biosecurity Plan. Nebraska Poultry Industries Annual Meeting. February 21-22, 2018. Columbus, NE.
- Reynolds, Donald L. Wayne Woldt and Marcia Oetjen. The Big Red Biosecurity Program. Oral presentation with abstract. 69th North Central Avian Disease Conference, Minneapolis, MN. March 12-13, 2018.
- Reynolds, Donald L. Wayne Woldt and Marcia Oetjen. The Big Red Biosecurity Program for Poultry Develops Drone Technology for Biosurveillance. Poster presentation. American Association of Avian Pathologists / American Veterinary Medical Association annual convention meeting. Denver, CO. July 13 – 17, 2018.
- Woldt, Wayne E., Ph.D.,P.E., Reynolds, Donald L. DVM, Ph.D., Oetjen, M., and Bhatti, S. Unmanned Aircraft Systems for Enhanced Biosecurity Through Aerial Surveillance. Oral paper presentation. Session title: Biosecurity for Animal Facilities. Annual International Meeting of the American Society of Agricultural and Biological Engineers, Detroit, MI – July 29-Aug 3, 2018.
- Habanineza, Algarde Jefferson and Donald L. Reynolds. Big Red Biosecurity Program. Poster presentation. To be presented at the College of Agriculture and Natural Resource's Undergraduate Scholars Program. August 17, 2018.

# Work planned for next year:

- Objectives 1 & 2
  - Are mostly done, will do some follow-up work
  - Update and improve information
  - Place sample biosecurity manuals available with templates and examples on the web
  - Finish up drone best management practices protocols

# Work planned for next year:

- Objective 3 – Will focus on “getting the message out”
  - Translate the Big Red Biosecurity Program for Poultry (website) into Spanish
    - This includes the online video tutorials and slide sets
    - We will also have a Spanish translated assessment (i.e., test) for obtaining the biosecurity training certificate of completion
  - Conduct in-state workshops and webinars on poultry biosecurity
    - We will utilize the Nebraska Poultry Industries (NPI) organization to coordinate some of these activities
    - We will give webinars through our extension service
  - Develop promotional material that will be distributed at meetings, conferences and other organized events and through our extension networks.
    - We will target the NPI annual meeting (they have agreed to help us)
    - We will also target agricultural events in the state such as the state and county fairs and other extension activities in which we hope to get the message out to small flock producers



Thanks for your attention!