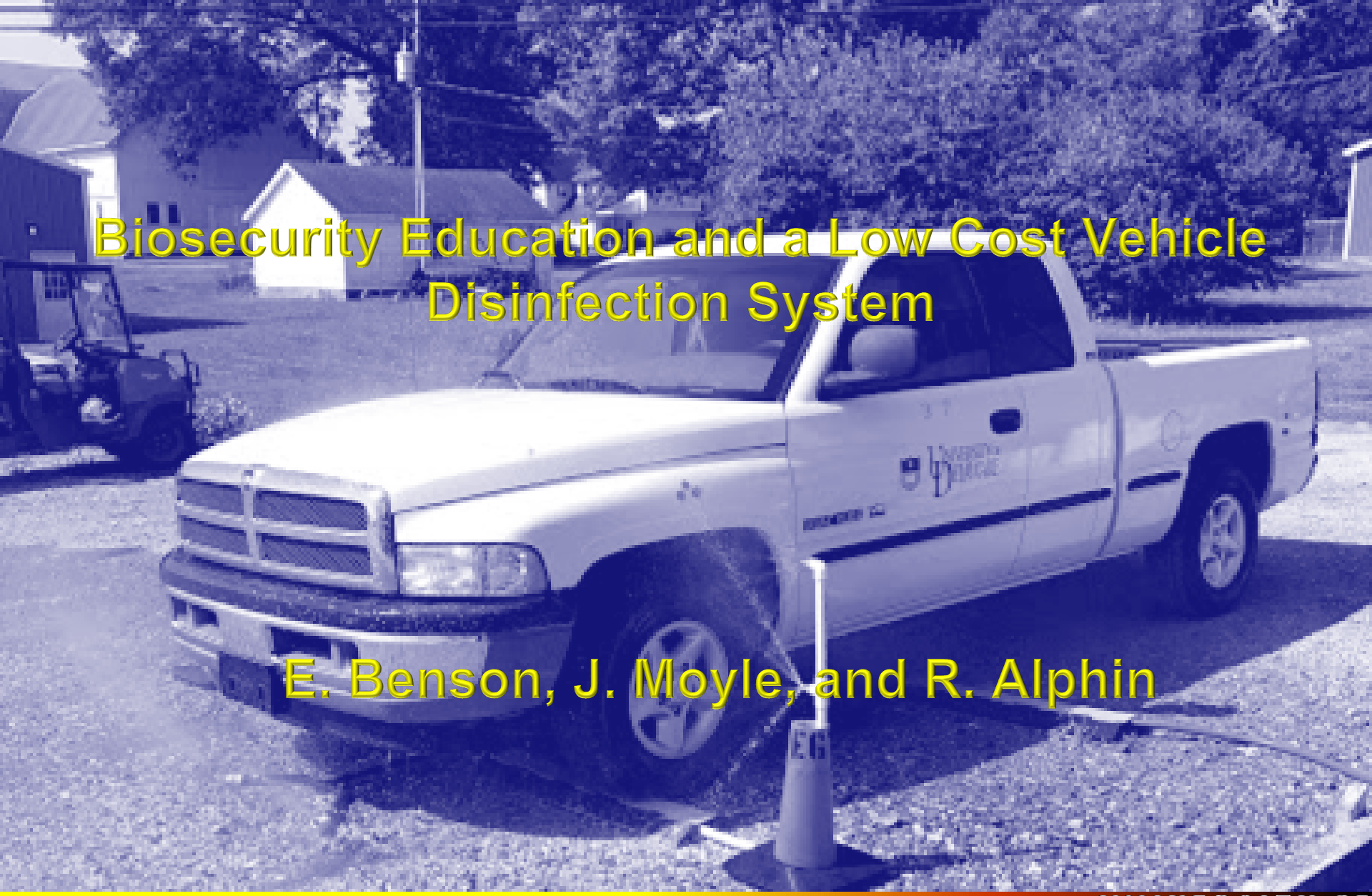
Biosecurity Education and a Low Cost Vehicle Disinfection System

E. Benson, J. Moyle, and R. Alphin



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Solutions in your community

- Major objectives
  - Low cost vehicle disinfection system
  - Local and regional biosecurity training

- Human activity was one of the key contributors to the spread of Avian Influenza during the 2015 outbreak
- Cleaning and disinfection (C & D) elements deploy on site only during discrete stages of the response

- C & D primarily oriented towards response personnel, not owner/grower
- Crews tend to use liquid spray directed at the outside of the vehicle
- Previous research has noted the limitations of most liquid sprays

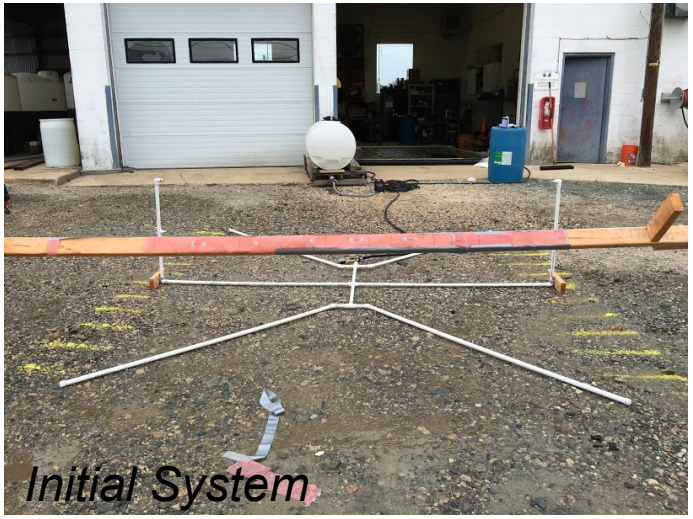
Typical C & D during the 2015 HPAIV outbreak.

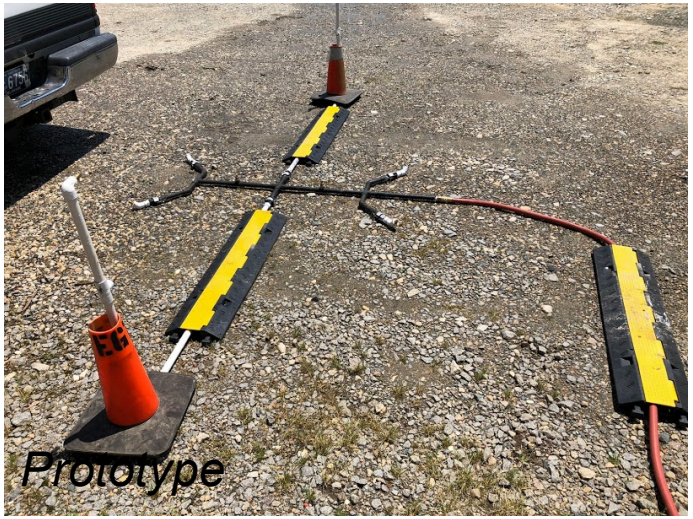
- Purpose built C & D systems relatively uncommon in the larger industry
- Modestly expensive


Drive through tire wash


Purpose built wash station

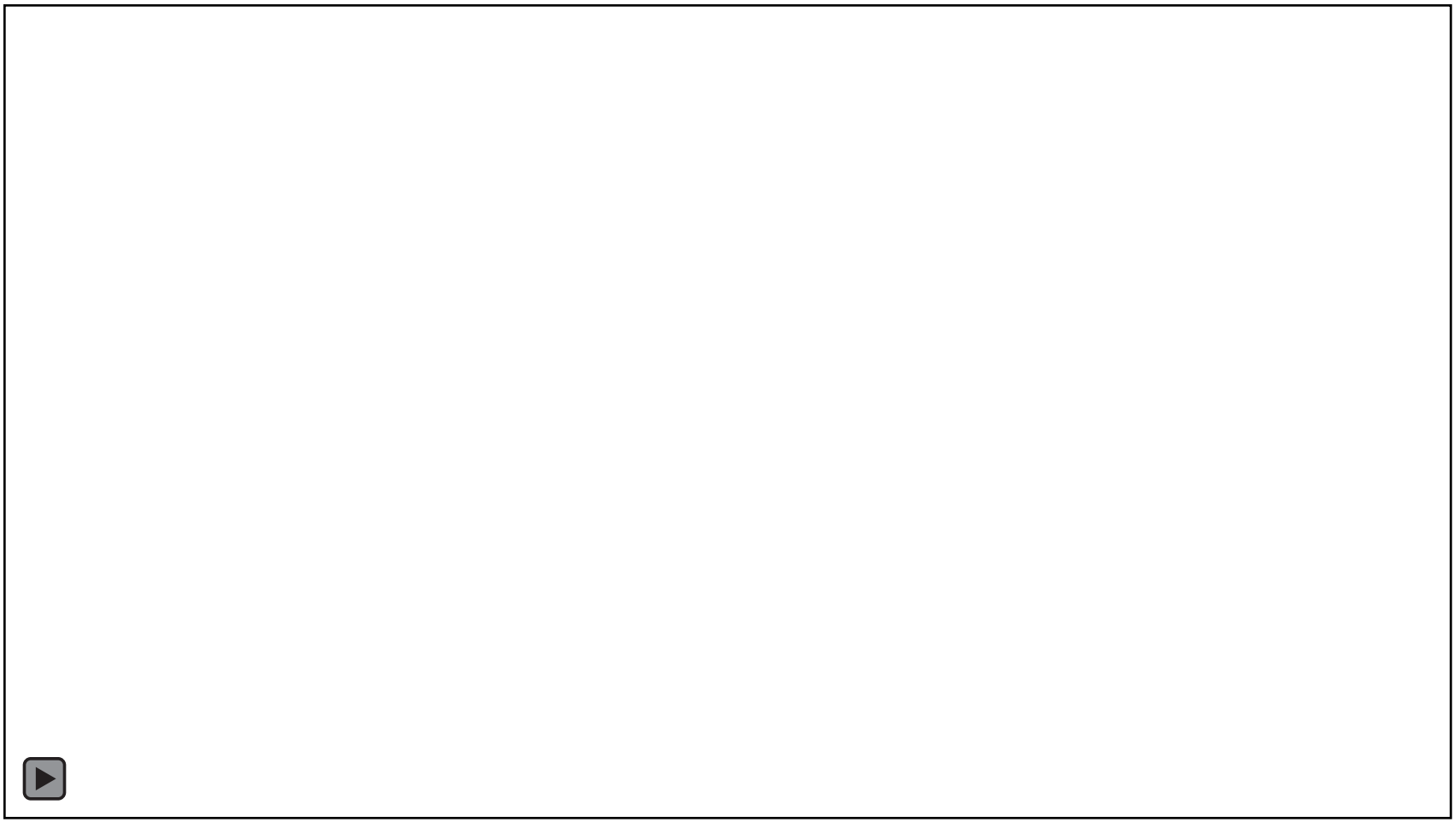
- Need for a lower cost vehicle wash station that could be built by growers for growers
  - Initiated project in 2016 to develop open source system
  - System improved in Spring 2018





- System design also included a containment system and biochar inactivation mechanism
- Total cost: $250

Low cost system with containment



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Low Cost Vehicle Disinfection

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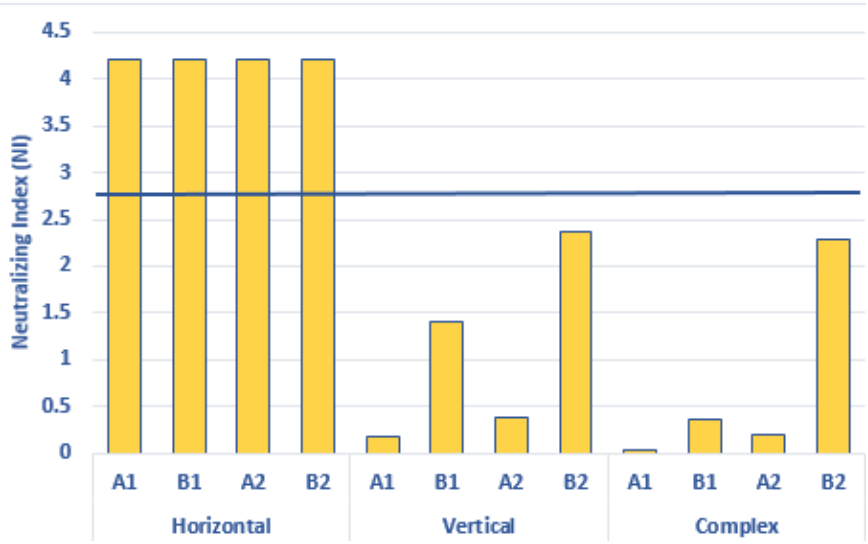
Solutions in your community

- Overall team goals have been for biosecurity
- For 2018, goals included
  - Two outreach field demonstrations (PRD)
  - Verification of efficacy (HATCH)
  - Development of user guide and user video (USDA)

- System demonstrated
  - Poultry Growers Field Day in Milford, Delaware (n= 400)
  - Regional ventilation shut down demonstration in Salisbury, NC (n = 25)
  - Ongoing discussions about fielding additional systems

- Coupon test approach used
  - Coupons inoculated with LaSota NDV
  - Three types of locations (horizontal, vertical, complex)
  - 1 minute application time, 10 minute contact time
- Two treatments
  - Detergent (Simple Green)
  - Peroxygen Disinfectant (Virkon S)

- Coupons pooled and processed
  - Serial dilution and inoculation into 9 – 11 d old SPF eggs
  - Candled daily for for 5 d
- Achieved ~ 100 fold reduction with detergent

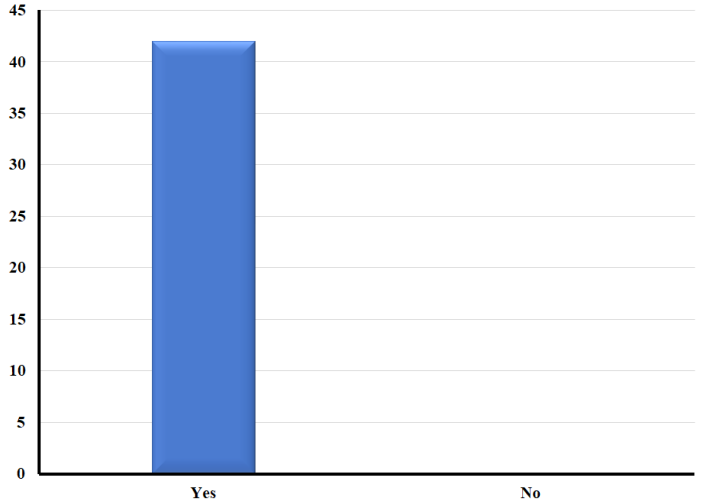


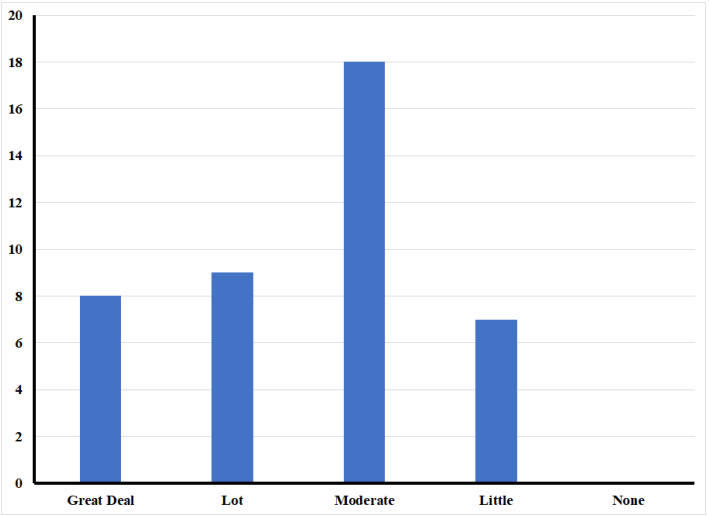
Regional Workshops

- Local and regional biosecurity training programs
  - About 1/3 growers attended one of the sessions
  - Delaware Agriculture Week
  - Poultry Growers Field Day
  - Poultry Growers Discussion Group

- Project sponsors the Poultry session
  - Ag Week provides nutrient management credits and remains popular (n = 250)
- Sessions included:
  - Ventilation for Bird Health
  - Managing Risks for Necrotic Enteritis and Respiratory Disease in Broilers
  - Farm Management for Disease Prevention

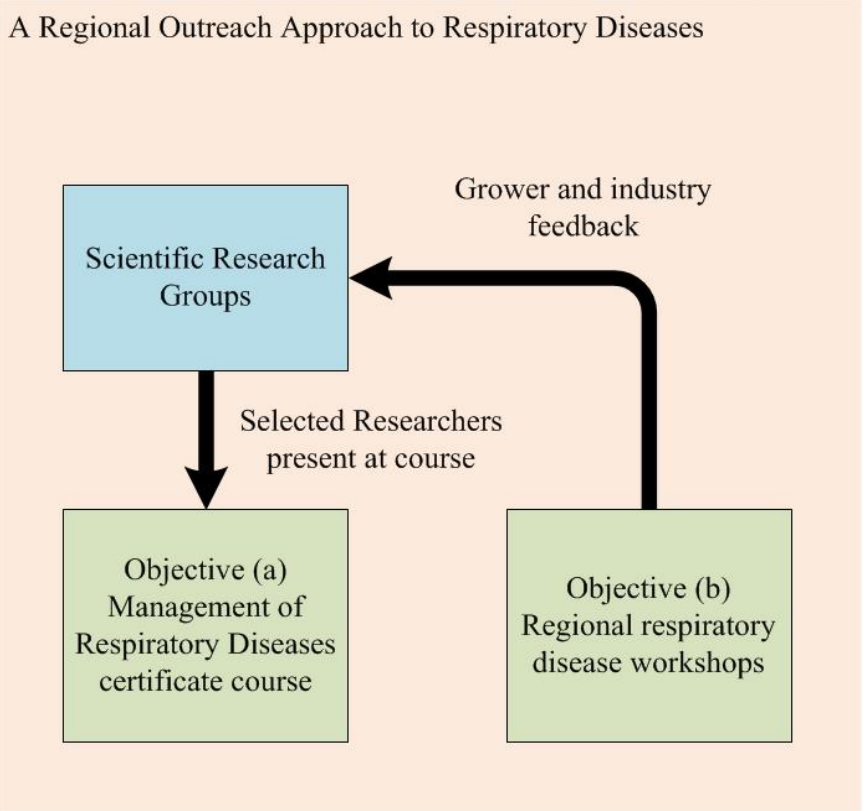
- Topics included
  - Current Disease Challenges
  - Circulation Fans and Variable Speed Tunnel Fans…Improving Bird Health and Reducing Power Costs
- Reached participants from 8 counties





Year 5

- Project designed to provide regional and local respiratory disease workshops
- Feed forward and feed back approach
  - Linking grower and industry needs
  - Scientific research groups from CAP project



- We will need you!
- The original goals of the project were to tie back the scientific projects within the PRD with the outreach goals
- 2019 will be a chance to bring it home

Any Questions?

- Dr. Eric Benson
  Professor
  242 Townsend Hall
  531 South College Avenue
  Newark DE 19716-2140
  (302) 275-2131
  ebenson@udel.edu