

Taking a transdisciplinary approach reveals new insights for protecting food animal health

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Objective

Food animal diseases of socio-economic importance have implications for food security, perceived food safety, and marketing of animals or animal products. Accordingly, we investigated the human behavioral dimensions of preventing, detecting, and responding to new, emerging, and foreign pests and diseases of livestock to generate effective strategies for industry stakeholders to apply with the goal of sustaining a productive, profitable, and secure food animal sector.



The Animal Disease Biosecurity Coordinated Agricultural Project (ADBCAP) is a multi-institutional collaboration supported by the USDA National Institute of Food and Agriculture.

Integrating social science, human decision-making, economic and animal health perspectives for the prevention, recognition and control of emerging or foreign agricultural pests and diseases.

Methods

Experts in adult and youth education, agricultural economics, animal science, communication, curriculum development, anthropology, ecology, public policy, and veterinary medicine conducted a transdisciplinary, five-year project with research and outreach components. This work was supported by the USDA National Institute of Food and Agriculture, under award number 2015-69004-23273. A variety of analytical approaches were applied to data gathered through surveys, interviews, workshops, and digital experiments. Stakeholder input guided the development of digital experiments, models, and online educational resources.

Results

We have published in journals in several fields including *Frontiers in Veterinary Science*, *Journal of Agricultural Science*, *Journal of Applied Communications*, *Journal of Artificial Societies and Social Simulations*, *Journal of Risk Research*, *PLOS ONE*, and *Transboundary and Emerging Diseases*. We held a project symposium and workshop for biosecurity stakeholders in College Park, Maryland in May 2019. Recordings of presentations are posted on our project website at agbiosecurityproject.org. A website with materials tailored for biosecurity stakeholders is available at healthyagriculture.org.

Project Overview

The Animal Disease Biosecurity Coordinated Agricultural Project is a multi-disciplinary, multi-institutional project funded by USDA NIFA. The project team, which includes experts in animal science and veterinary medicine, agricultural economics, public policy, adult education and risk communication, is using multiple approaches to understand the human behavioral dimensions of animal disease spread. The goal is to identify ways to enhance biosecurity strategies and practices to reduce the impact of incursions of new, emerging, or foreign pests or diseases of dairy, beef, and swine.

Conclusions

Transdisciplinary perspectives of collaborators led to innovative approaches and improved interpretation of findings. As stated by team member Tim Sellnow, "We would not consider engaging in a project of this nature without a transdisciplinary team."

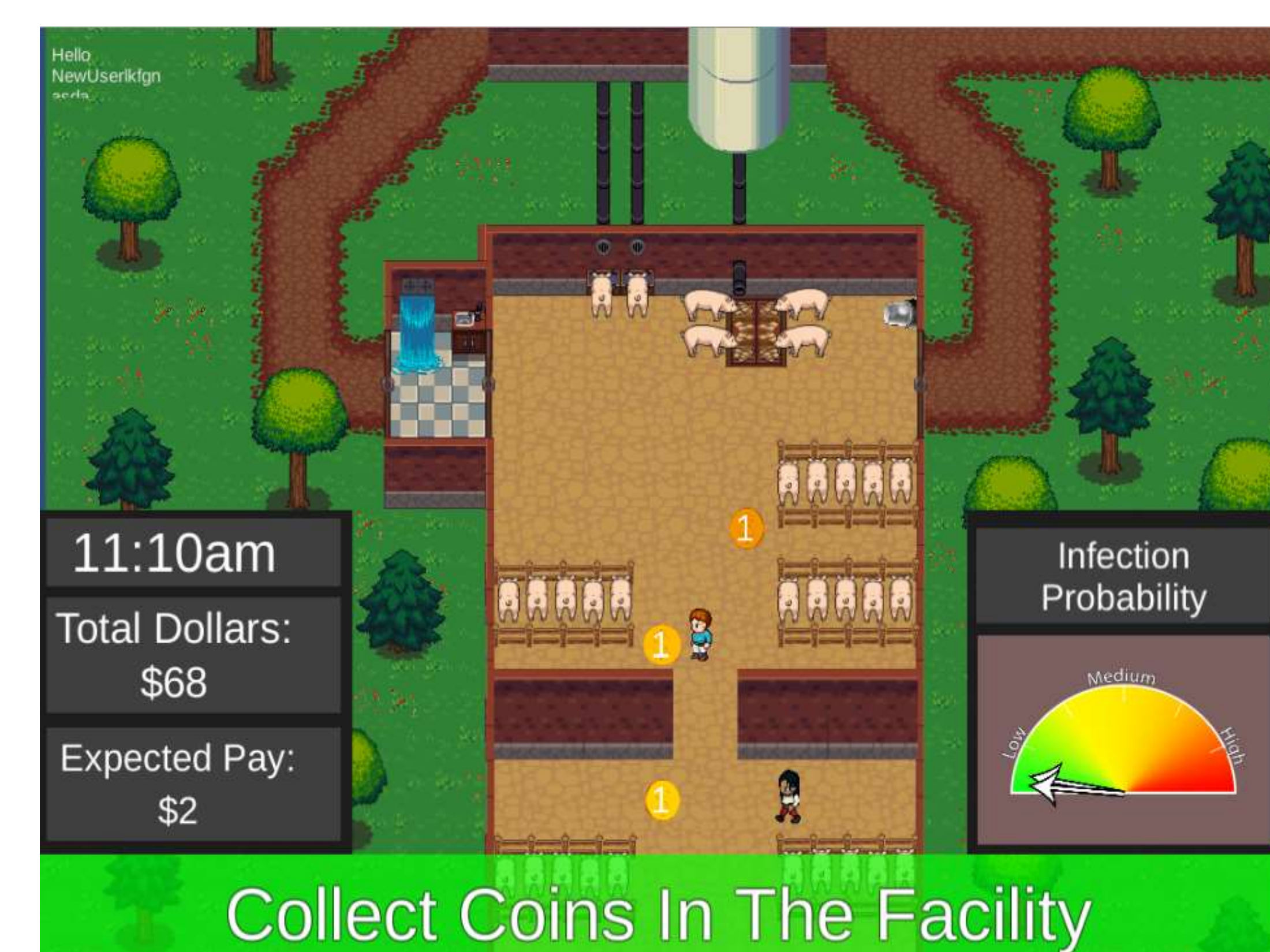


Figure 1. Screenshot of compliance game.