

Utah Agritourism: Operator Attitudes and Behaviors Toward Zoonotic Disease

Cody Zesiger^[1], Kerry Rood^[1], David Wilson^[1], Katelyn Hepworth^[1], Andree' Walker-Bravo^[1], Dean Miner^[1], Dallin Peterson^[2], Kenny Davis^[3], and Melanie Stock^[1]. [1]Utah State University [2]Utah Department of Agriculture and Foods [3]Utah department of Health
cody.zesiger@usu.edu ddpeterson@utah.gov krdavis@utah.gov

Introduction

Shiga toxin-producing *E. coli*, or STEC, causes severe health complications in humans. As a zoonotic disease, STEC is transmitted from animals to humans.

Between 2014-18, 603 cases of STEC infection were reported in Utah, 28% of patients reported animal exposure.

Utah cases significantly increased in October 2018, and were associated with animal exhibits at agritourism events, such as corn mazes and pumpkin patches.

The number of Utah agritourism businesses and animal exhibitors are increasing but are not generally regulated. This demographic is relatively unknown to the State or USU Extension.

Aim

1. Identify where agritourism located in Utah and when visitation occurs.
2. Identify animal species present at agritourism events.
3. Identify how agritourism visitors interact with the animals.
4. Identify what zoonotic disease hazards are present at agritourism events.
5. Identify agritourism educational and outreach needs/ preferences.
6. Make improvement recommendations for agritourism operators.

Methods

A 37-question electronic survey was created and distributed for 64 days. It was publicized by social media, agricultural extension list serves, and several media announcements.

We excluded respondents that did not have animals or agritourism events or did not answer the survey. Of the 174 attempts, 19% (31) were included in our sample.

Results

Respondents

Respondents (31) were from 13 Utah counties and 1 Idaho county, see Figure 1.

Visitors by Quarter

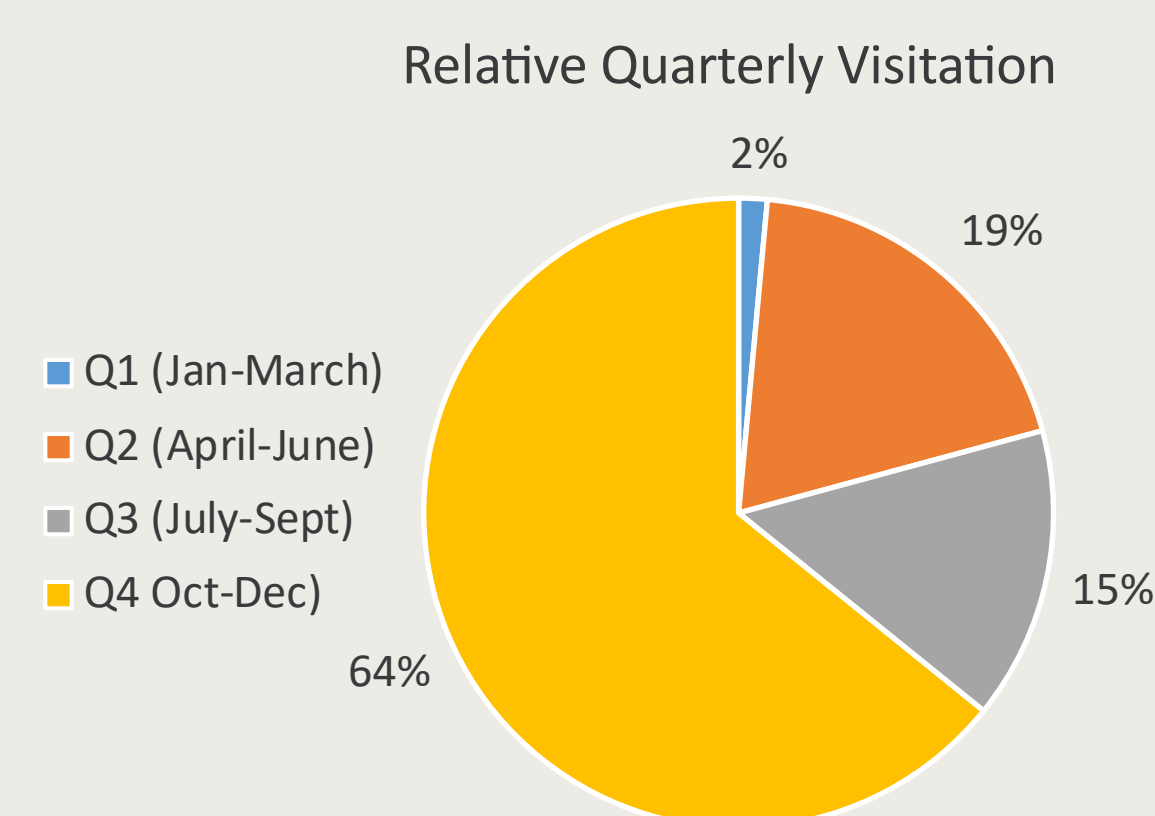
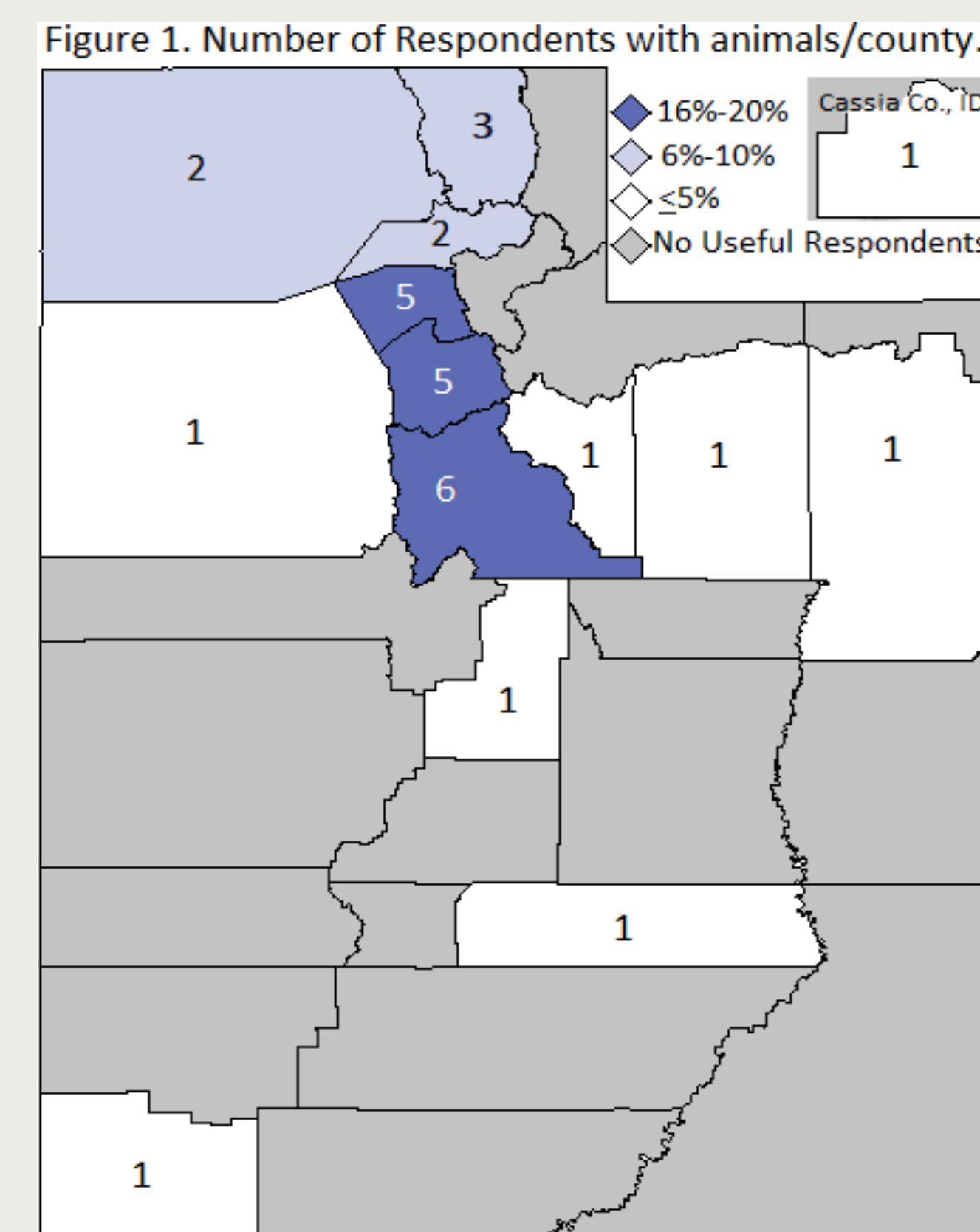


Figure 2. Relative annual visitation (Total = 245,060) by quarter.



Direct Animal Contact

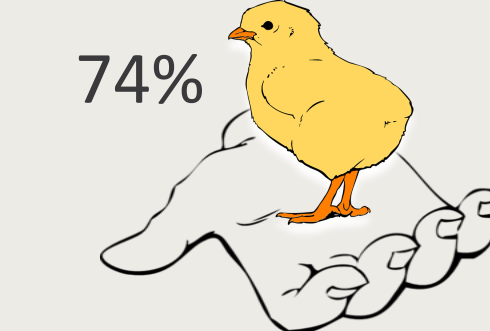


Figure 3. 74% (23) allowed petting of all animals.

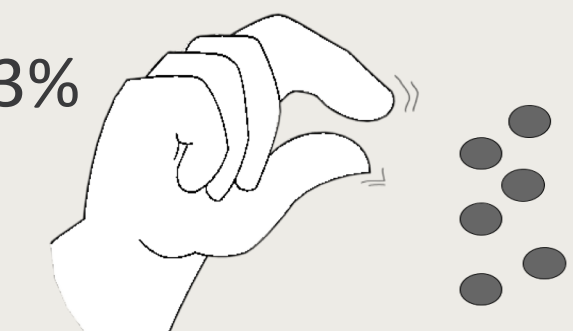
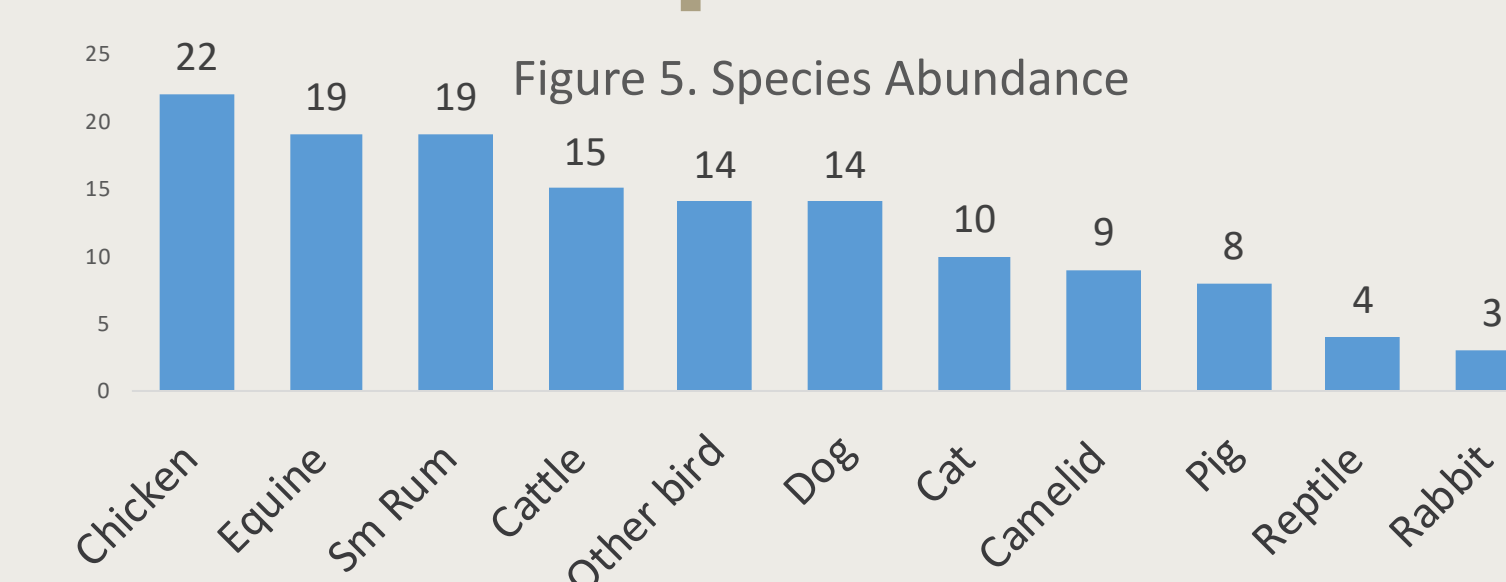


Figure 4. 63% (20) allowed feeding of some animals.

One respondent wrote: "We find that a select few try to get [too] close to [or pet] the mouth of the dangerous animals (crocodiles, snapping turtles etc)."

Animal Species



42% (13) had chickens, equine, and small ruminants. Pigs were associated with having many species on same premise.

Verbal or Written Instructions

Figure 6. Verbal Instructions for Hand Washing

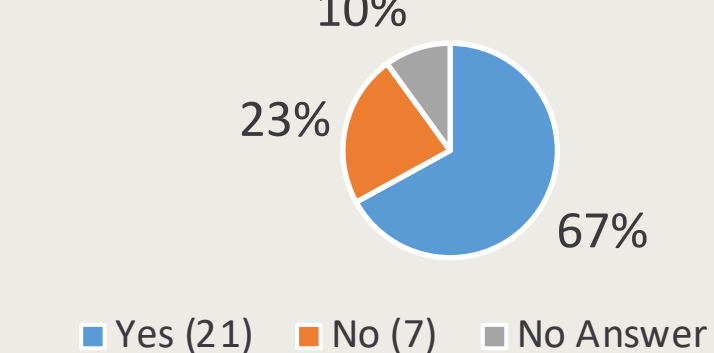
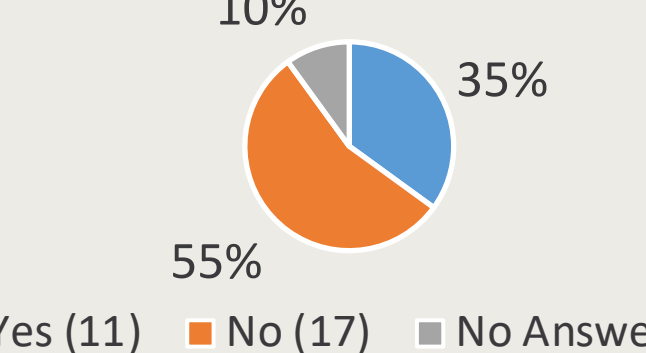


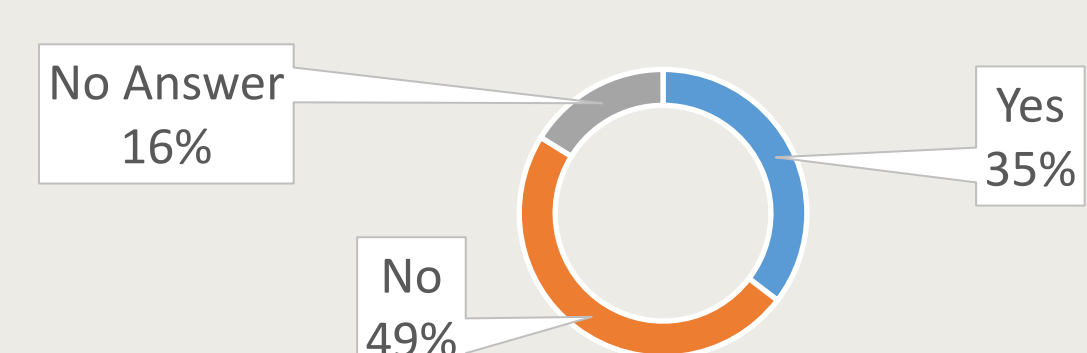
Figure 7. Written Hand Instructions



All 31 operations selected the same answers for disease information (verbal and written) as their answers for washing hands (Figures 6 & 7).

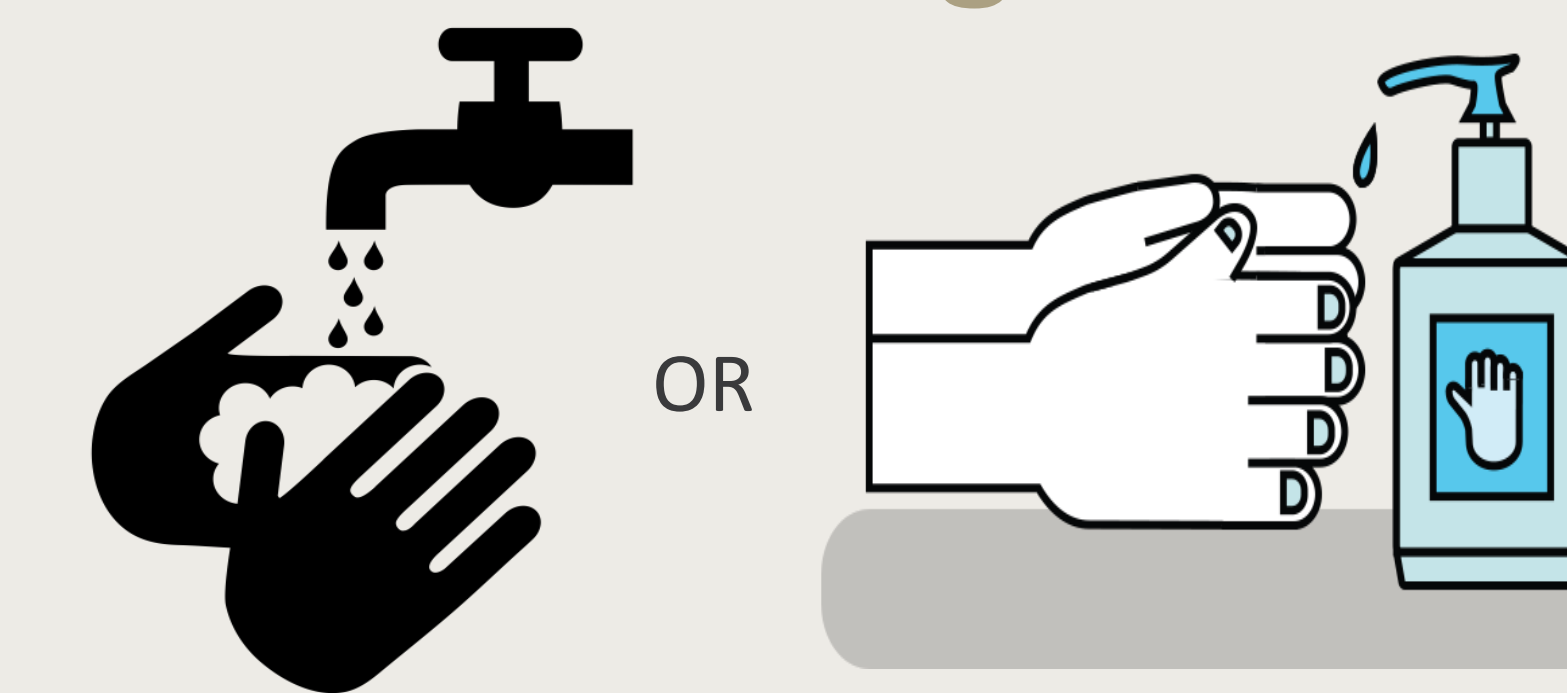
Eating on the Premises

Figure 8. Respondents that allow eating in animal areas.



35% (11) allowed eating in animal areas, 49% (15) didn't allow eating in animal areas, and 16% (5) did not answer (Figure 8).

Handwashing and/or Sanitizer



74% (23) had hand washing and/or hand sanitizer.

13% (4) didn't have hand washing or hand sanitizer.

13% (4) didn't answer.

Education and Outreach

Figure 9. Respondents with prior knowledge of the Compendium of Measures to Prevent Disease Associated with Animals in Public Settings (JAVMA)

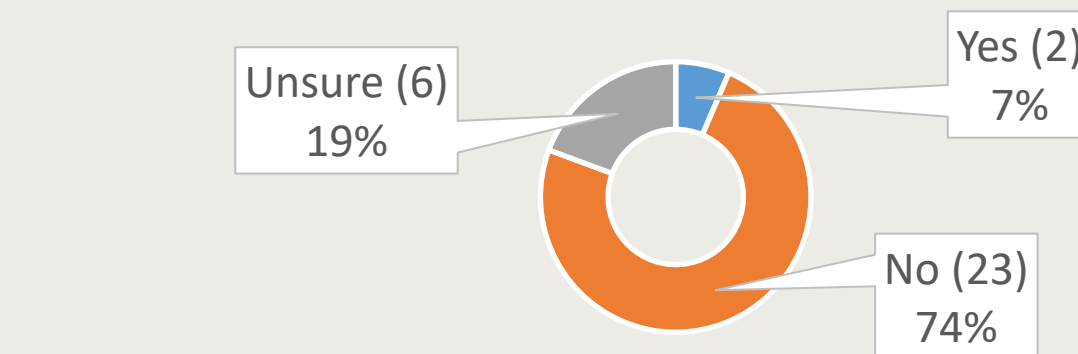


Figure 11. Information Delivery Preference

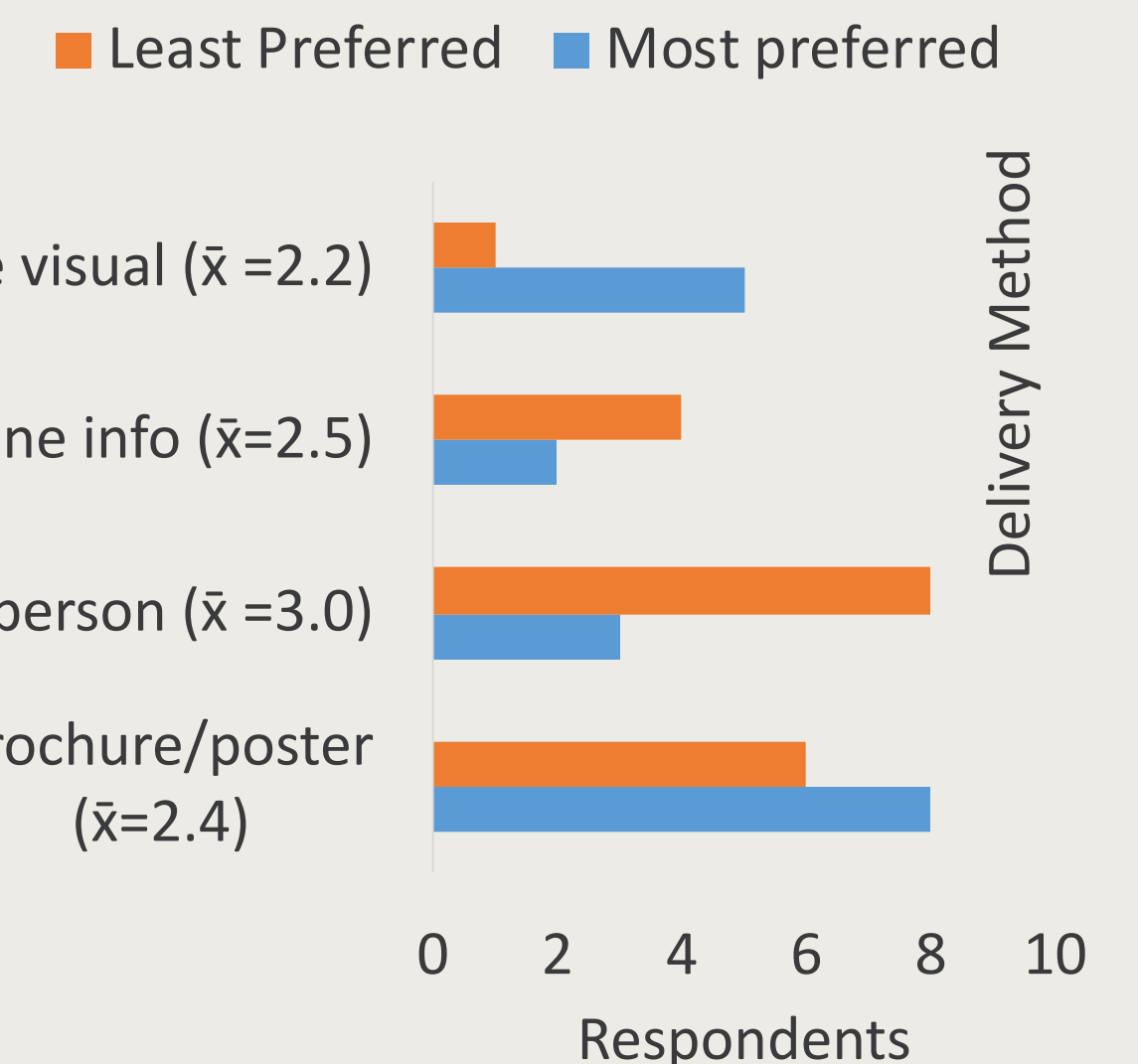
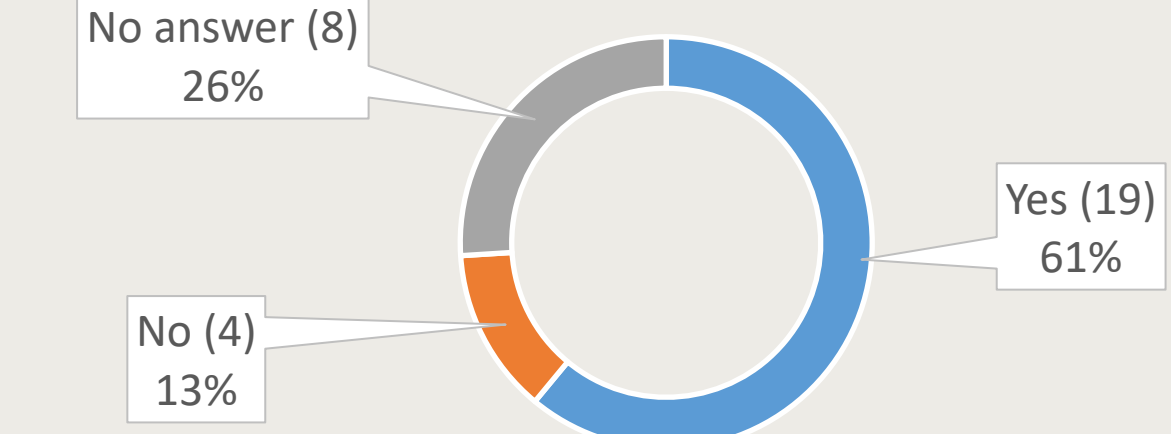


Figure 10. Respondents Interested in Learning More



Conclusions

The risk for *E. coli* infection increases with animal contact (direct contact, through feces, or contaminated food and/or surfaces). Good hand hygiene is always recommended after leaving an animal area, especially before eating.

Results indicate several improvements for agritourism operators to decrease the risk of *E. coli* infection. We recommend that agritourism event operators:

- Provide verbal and written instructions for hand washing and zoonotic disease information upon exiting animal areas.
- Hand washing and/or hand sanitizing areas.
- Do not allow eating or serving of food/drink in animal areas.
- Minimize patron exposure to manure by removal from public areas.

Education for agritourism operators is also needed. Many operators indicated interest in education and a lack of knowledge regarding JAVMA. We recommend online content (e.g. videos, factsheets) and printed materials over in-person workshops.