

Appendix D NC1029 Accomplishments Report

Project Number: NC1029

Project Title: Applied Animal Behavior and Welfare

Period Covered: 10/1/2019 to 9/30/2020

Date of Report: 11/16/2020

Annual Meeting Date: 09/14/2020

Participants: Cassandra Tucker, Chair, University of California-Davis; Shawna Weimer, Secretary, University of Maryland; Jennifer Van Os, University of Wisconsin-Madison; Jeryl Jones, Clemson University; Marcia Endres, University of Minnesota; Courtney Diagle, Texas A&M University; Maja Makagon, University of California-Davis; Gerard Cramer, University of Minnesota; Sarah Adcock, University of Wisconsin-Madison; Emily Miller-Cushon, University of Florida; Kristina Horback, University of California-Davis; Joao Coasta, University of Kentucky; Dianna Bourassa, Auburn University; Leonie Jacobs, Virginia Tech; Janice Siegford, Michigan State University; Janice Swanson, Michigan State University; Monique Udell, Oregon State University; Marisa Erasmus, Purdue University; Candice Croney, Purdue University

Brief Summary of Minutes of Annual Meeting

- Welcome, agenda review, NIFA announcements: There were 21-22 participants from 14 universities. Meeting goals were announced, which were updates on NIFA administration and all members, to identify topics and collaborations for the renewal and to revisit the 2 group objectives for the upcoming renewal.
- Administrative Update: Ernie Minton provided an administrative update on the research priorities in agriculture in the next 5 years, shared the book “Science Breakthroughs to Advance Food and Agricultural Research by 2030”, explained the importance of sustainability and sustainable intensification in agriculture. Mark Mirando provided an administrative update of NIH personnel and funding. NIH is currently staffed at 50%, some non-critical functions are cancelled but critical functions have continued and the 2-3 month delays are now running ahead of schedule compared to last year. Deb Hamernik rejoined NIFA as the Director, Division of Animal Systems. Mark informed the group that the budget line for organic animal agriculture funding has increased this year and will increase next year.
- Station reports: Group members provided summaries of NC1029-pertinent research they have conducted in the past year as well as announcements on new facilities, faculty members, and hiring positions.
- A sign up sheet for members to add their name, species, and subtopic for each of the objective areas they are interested in collaboration over the next 5 years.
- A sign up sheet for members to add the organizations they hold technical positions related to animal welfare.
- Follow-up meetings were scheduled for the renewal writing committee meeting.

Accomplishments

For Objective 1, novel indicators of animal welfare, NC1029 generated new knowledge about how cattle use brushes and poultry use aviary systems. Both are relevant because there is growing interest in environmental enrichments like brushes and non-cage housing systems for laying hens. For Objective 2, generating new information to inform animal welfare assessment programs, NC1029 generated practical, farmer accessible information about humane euthanasia for large poultry.

Activities

UC Davis and University of Florida worked together to gain new knowledge about how to measure the way cattle use brushes, a key environmental enrichment. MSU and Clemson generated new knowledge about how laying hens behave in aviary systems. AU and VT generated new knowledge and farmer accessible techniques for humane euthanasia of large poultry.

Outputs: see Publications

Publications, NC1029 members are **bolded**

Ali, A. B. A., M. J. Toscano, and **J. M. Siegford**. 2019. Later exposure to perches and nests reduces individual hens' occupancy of vertical space in an aviary and increases force of falls at night. *Poult. Sci.* 98:6251-6262. <https://doi.org/10.3382/ps/pez506>

Ali, A. B. A., D. L. M. Campbell, D. M. Karcher, and **J. M. Siegford**. 2019. Daytime occupancy of resources and flooring types by 4 laying hen strains in a commercial style aviary. *J. Vet. Behav.* 31:59-66. <https://doi.org/10.1016/j.jveb.2019.03.010>

Ali, A. B. A., D. L. M. Campbell, D. M. Karcher, and **J. M. Siegford**. 2019. Nighttime roosting substrate type and height among four strains of laying hens in an aviary system. *Poult. Sci.* 98:1935-1946. <https://doi.org/10.3382/ps/pey574>

Horvath, K. C., R. L. Toaff-Rosenstein, **C. B. Tucker**, and **E. K. Miller-Cushon**. 2020. Measuring behavior patterns and evaluating time-sampling methodology to characterize brush use in weaned beef cattle. *J. Dairy Sci.* <https://doi.org/10.3168/jds.2020-18419>

Jacobs, L., **D.V. Bourassa**, C.E. Harris, and R.J. Buhr. 2019. Euthanasia: Manual versus mechanical cervical dislocation for broilers. *Animals* 9:47. <https://doi.org/10.3390/ani9020047>