Scientific Training Programs for Undergraduate and Graduate Students: Exposure to Fundamental Science. Jessica D. Starkey¹, Charles W. Starkey¹, ¹Auburn University

Abstract: Training students in animal science can be difficult to achieve in a comprehensive manner. It is a multidisciplinary field where many different areas are necessary to successfully prepare students at multiple levels for the multiple employment opportunities they can choose from as they near graduation and enter the workforce. The approach we have taken with our teaching program is one where students are trained in both experiential animal husbandry techniques as well as areas of fundamental sciences such as cellular and molecular biology. A farm to fork systems approach is being taken to demonstrate the varied areas of study available and aid students in finding their niche. Students first spend time acquiring practical and hands-on experience in animal husbandry, animal food manufacturing, and meat processing and food science research. Most of the projects that students participate in while acquiring animal husbandry skills involve several collections of various types of samples over the animal rearing period for cell isolation and in vitro culture, proteomics, cell-labeling technologies, cryohistology, immunofluorescence staining, and digital microscopy. Our research program focuses primarily on the influence of management and nutrition on the development of the local intestinal immune system, development and growth of the intestine and skeletal muscle and how those interact to impact the overall growth and health of livestock. Exposing students to some of the different types of analyses conducted in research involving fundamental science allows them to gain skills required to determine the mechanisms behind the more applied research results they obtain. Integrating applied and fundamental science in a research setting helps prepare students for several different avenues of employment upon completion of the program. The overall success of this training program has been demonstrated over the last 5 years based on student and employer feedback.

Keywords: scientific training program, swine and poultry, teaching

Investigating Inclusiveness within the Department of Animal Science. Kelsi Carlson¹, Jennifer M. Bundy¹, Anna K. Johnson¹, Scott Smalley¹, Michael J. Martin¹, ¹Iowa State University

Abstract: Diversity, equity, and inclusion (DEI) have become important topics for discussion in Animal Science Departments across the nation. The need for DEI-awareness programming has increased as student populations become more diverse. Therefore, the objective of this work was to understand how included students felt in the Department of Animal Science. A survey instrument using Qualtrics was developed and distributed to 1,047 undergraduate and graduate students. A total of 436 participants completed at least a portion of the survey (response rate = 41.6%). Information will be presented descriptively. Approximately 56%, 29%, and 15% of participants came from rural, suburban, and urban areas, respectively. Additionally, 36% reported having no previous livestock experience. Participants were asked to rank their perceived level of inclusion in different facets of the department when starting in the major. Approximately 11%, 14%, and 13% felt that they were not included in class, with peers, and with faculty, respectively, when starting their degree program. Conversely, 24%, 22% and 26% felt very included in class, with peers, and with faculty, respectively, upon entering the major. Juniors, seniors, and graduates were asked to rank their level of inclusion in the same three areas after being in the department for at least two years. Only 2%, 10%, and 5% of these students reported feeling not included in class, with peers, and with faculty, respectively. Roughly 39%, 34%, and 39% of experienced students felt very included in class, with peers, and with faculty, respectively. Although inclusion feelings improved in mature students, there is still concern some students still do not feel that they belonged. Further analysis is needed to identify student attributes that do not feel included throughout the degree program and to identify tools that could help improve inclusion.

Keywords: diversity, equity, inclusion