

Graduate Student Feedback Related to Diversity, Equity, Inclusion and Belonging in the Department of Animal Science

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Summary and Implications

The Department of Animal Science at Iowa State University is dedicated to supporting students from various backgrounds and identities. The objective of this study was to obtain comprehensive feedback from graduate students housed in the Department of Animal Science regarding their Diversity, Equity, Inclusion and Belonging (DEI-B) opinions. A 20-question Qualtrics survey was deployed fall 2023. Results will be presented descriptively. Total of 32 graduate students completed a 20-question survey (39.5% response). The majority of graduate students felt included in animal science topics, with peers and faculty at the start and after two years within the department. In addition, the majority of graduate students felt they were treated the same both in- and outside of class by peers and, felt accepted and valued by their peers. When asked about department initiatives that would help with inclusiveness, graduate students reflected as follows; 59% suggested providing spaces where graduate students could relax and/or work together, 41% suggested including artifacts around the department that depicted diversity within Animal Scientists, 59% wanted a structured and formal mentoring program, where incoming graduate students with less experience could be paired up with graduate students with prior livestock exposure and, 52% indicated a need of increased opportunities for graduate students to explore university farms to garner hands on livestock experience. These insights are crucial for shaping future opportunities and enhancing the overall graduate student DEI-B experience.

Introduction

The Department of Animal Science is an academic hub for a diverse array of animal science (AN S) and inter-departmental majors. This diversity has facilitated extensive collaborations for the exchanging of ideas and visions. Within these academic pursuits, graduate students

are an integral component. The “graduate” student within the Department has been changing with currently 68% identifying as female and 56% as non-resident or international. In addition, 1 in 10 identify as multicultural. Graduate students entering into an animal science degree with either academic knowledge and/or livestock experience gaps may experience negative feelings related to Belonging and Inclusion. In addition, their cultural background may result in them struggling with Diversity and Equity challenges. Efforts have been made to understand Diversity, Equity, Inclusion and Belonging (DEI-B) at the undergraduate level within the Department of Animal Science at Iowa State University. Key findings included some undergraduate students indicating they were behind in their introductory AN S courses because they did not come from an agriculture background. Others expressed their desire for more hands-on livestock experiences and identified the need for more diverse guest lecturers who share varying agricultural views and backgrounds. However, the Animal Science graduate students’ opinions on DEI-B have not been collected.

Therefore, the objective of this study was to obtain comprehensive feedback from graduate students housed in the Department of Animal Science regarding their DEI-B opinions.

Materials and Methods

This study was reviewed and approved as exempted research by Iowa State University Institutional Review Board (IRB: 22-002) for Human Subjects Research and complied with CFR 45 Part 46.

Graduate student population: A total of 81 Animal Science and Inter-departmental graduate students were enrolled.

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Survey tool: The survey consisted of 20-questions administered in Qualtrics (Provo, UT) and was disseminated via email fall 2023. The initial eight questions sought details on academic rank, ethnicity, gender, first generation status, commuter status, nationality, hometown and, academic majors. These questions were “*choose what best describes you*”. The next three questions inquired about their primary species of interest and, previous livestock and companion animal experience that included the following choices: “*yes at home*”, “*yes from a job*” and “*none until I joined the AN S department*”. The next six questions addressed how included they felt in the first- and after two years in the department, rated how students were being treated in and outside of class by their peers, and with faculty including professors, advisors and teaching assistants. Students were asked to reply using a scale: 1=not included at all; 2=not usually included; 3=moderately included; 4=usually included; 5=very included. One question addressed their preparedness to enter the workforce using a 1 to 5 scale; 1=not prepared at all; 2=slightly prepared; 3=moderately prepared; 4=well prepared; 5=very prepared. The last two open ended questions addressed what initiatives the department could take to help with inclusiveness and other changes that could be implemented. All results will be presented descriptively.

Results

A total of 32 graduate students, accounting (39.5% response rate), completed at least one section of the survey. The majority of graduate students were enrolled in a Ph.D. program and were a U.S. citizen. The majority identified as white, female and were not first generation. Almost 60% noted their hometown as rural. A diverse range of academic majors was listed, with the largest group pursuing a major in Animal Science (Table 1).

The majority of graduate students’ primary species of interest was swine, followed by beef with the other species evenly represented (Figure 1).

When graduate students were asked to rank their livestock experience before joining the Department of Animal Science, 18 (56%) selected “*yes at home*”, 16 (50%) selected “*yes from a job*” and 7 (22%) selected “*none until I joined the Department of Animal Science*”. Similarly, when inquired about their companion animal experience prior to joining the department, 20 (63%) selected “*yes at home*”, 8 (25%) selected “*yes from a job*” and 9 (28%) selected “*none until I joined the Department of Animal Science*”.

Table 1. Fall 2023 graduate demographics (N = 32).

	N	%
Academic rank		
Masters	11	34
Ph.D.	21	66
Ethnicity		
Asian	3	9
Black	1	3
Hispanic	1	3
White	26	81
Chose not to answer	1	3
Gender		
Female	24	75
Male	7	22
Non-Binary	1	3
First generation		
Yes	9	28
No	22	69
Chose not to answer	1	3
Commuter status		
Yes	5	16
No	27	84
Nationality		
U.S. Citizen	26	81
Non U.S. Citizen	5	16
Prefer not to indicate	1	3
Hometown		
Rural	19	59
Suburban	7	22
Urban	6	19
Academic major		
Animal Breeding and Genetics	3	9
Animal Physiology	1	3
Animal Science	16	50
Meat Science	2	6
Interdepartmental Major	10	31

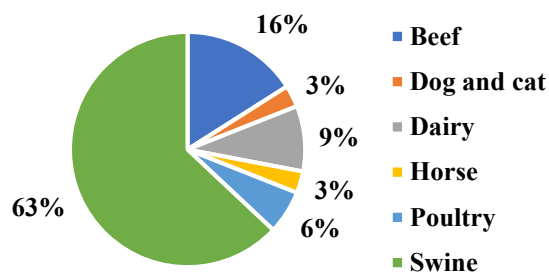


Figure 1. Primary species of interest (%) for graduate students in the Department of Animal Science (N = 32).

At the start of their graduate program, the majority of graduate students felt moderately to very included when considering animal science topics and with related peer and faculty activities. After two years, graduate students still felt included, but more students selected “*very included*” for all the aforementioned categories (Table 2).

A total of 16 students noted “*some students receive tailored assistance according to their previous animal science exposure*” with 19 selecting “*most students are treated the same regardless of their previous animal science experience*” by faculty both in and outside class (Table 3).

When asked how graduate students felt about inclusion with their peers, 12 (41%) selected “*most students are accepted and valued by peers*” both in and outside of class but almost one third of graduate students selected “*some students are accepted by peers*” outside of class (Table 4).

When asked about their preparedness to enter the workforce based on their experiences in the Department of Animal Science 25 (89%) students felt between “*moderately prepared*” and “*very prepared*” with an average score of 3.75.

When asked about department initiatives that would help with inclusiveness four themes were identified:

- ✓ 59% suggested providing spaces where graduate students could relax and/or work together.
- ✓ 41% suggested including artifacts around the department that depicts diversity within Animal Scientists.
- ✓ 59% wanted a structured and formal mentoring program, where incoming graduate students with less experience could be paired up with graduate students with prior livestock exposure.
- ✓ 52% indicated the need for increased opportunities for graduate students to explore university farms to garner hands on livestock experience.

Other suggestions included “*hold minority graduate student social events*”, “*more activities to bring faculty and graduate students together*,” “*course work catered towards students with no prior livestock exposure*” and “*lack of diverse faculty within the department so minority students may lack role models*”.

Discussion

The response rate was moderate to good compared to other reported surveys. The majority of graduate students identified as female which differs from the historical gender balance for the Department of Animal Science. This change maybe driven by improved and equitable access to education for all genders and that current students have role models within their family with parents who have also pursued a graduate degree.

With Iowa being the number one state for finishing pigs, it was not surprising to see that the majority of graduate students were completing their graduate work in this specie. Such concentrated swine efforts are exciting for

(a) advancing knowledge and expertise and, (b) training the future leaders. Iowa is also the number one state for laying hens, and although fewer graduate students are seeking a graduate degree using the bird as a research model, this finding may be explained by fewer faculty having expertise in this area.

Against this backdrop of agricultural significance in Iowa, the majority of graduate students indicated having prior livestock experience either at home or from a job and selected “*rural*” for their hometown. This geographical location would likely provided them with greater direct exposure to agricultural experiences and in-turn may predispose them to pursue advanced degrees in Animal Science.

An area that needs attention are for graduate students indicating they do not feel included in the first two years or after 2 years in the department and, by their peers outside of class. The “*why*” was not explored in this survey and is an area for further investigation along with a more granular approach to differentiate interactions with professors, advisors, and teaching assistants. However, hypothesis related to the “*why*” they feel excluded may relate to feeling underconfident in class participation or feeling as an “*outsider*” related to country origin, country vs. city and or language barriers. When considering exclusion with their peers, clique formation or social groups based on interests, backgrounds, or personalities along with when activities are organized may contribute to these concerns. Finally, graduate students identified four themes to improve inclusiveness and it is suggested that these be considered by the DEI-B committee, administration and faculty.

In conclusion, by actively addressing shortcomings, the department can work towards fostering a more inclusive and supportive community for all graduate students.

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Table 2. Level of Inclusion rated by respondents when starting in the Department of Animal Science; N = 29 for two years and N =26 for after two years. No. (%).

Question	Ranking Scale				
	Not included at all	Not usually included	Moderately included	Usually included	Very included
Topics and Discussions in Animal Science					
Two Years	0 (0)	3 (10)	7 (24)	16 (55)	3 (10)
After Two Years	0 (0)	3 (12)	2 (8)	14 (54)	7 (27)
With Peers in Animal Science related activities					
Two Years	1 (3)	6 (21)	8 (28)	10 (34)	4 (14)
After Two Years	2 (8)	1 (4)	5 (19)	10 (38)	8 (31)
With Faculty (includes Professors, Advisors, and Teaching Assistants)					
Two Years	0 (0)	4 (14)	11 (38)	9 (31)	5 (9)
After Two Years	0 (0)	1 (4)	7 (27)	11 (42)	7 (27)

Table 3. Perception of graduate student treatment by faculty in the Department of Animal Science; N = 29. No. (%).

Survey Option	In Classes by faculty	Outside of class by faculty
All students are treated the same with no modification based on their previous animal science experience.	3 (10)	2 (7)
Most students are treated the same regardless of their previous animal science experience.	12 (41)	7 (24)
This has not been an observed issue	7 (24)	10 (34)
Some students receive tailored assistance according to their previous animal science exposure	7 (24)	9 (21)
Every student gets tailored assistance based on their specific previous animal science experience.	0	1 (3)

Table 4. Perception of graduate student treatment by their peers in the Department of Animal Science; N = 29. No. (%).

Survey Option	In classes by peers	Outside of class by peers ¹
No students are accepted by peers	0	0
Some students are accepted by peers	4 (14)	9 (31)
This has not been an observed issue	6 (21)	5 (17)
Most students are accepted and valued by peers	12 (41)	12 (41)
All students are accepted and valued by peers	7 (24)	3 (10)

¹ in Student Organizations, Social activities, etc.