Increasing Student Comfortability in a Livestock Handling, Safety, and Welfare Course

Jennifer Bundy*
Anna Johnson
Jodi Sterle
Gregory Krahn
Background Information

- Undergraduate students have limited livestock handling experience when they start college
  - Experienced students may not be competent in multiple species
  - Urban students may lack experience with all food animals
Background Information

Incoming Animal Science Students, Fall 2017 (N = 330)

- Companion Animals: 38%
- Beef Cattle: 17%
- Dairy Cattle: 7%
- Equine: 14%
- Swine: 9%
- Exotic (Zoo) Animals: 10%
- Other: 5%
New Course Development

Animal Science 190X (2 credits)
Animal Handling, Safety, and Well-Being

• Course Objectives:

  The aim of this course is to understand the importance of the farm animal-human interaction and to demonstrate basic handling skills

  ➢ Upon completion of this course, students should be able to:
    • Exhibit an understanding of farm animal perceptions
    • Demonstrate factual, scientific, and theoretical knowledge of farm animal-human interactions
    • Safely handle and move healthy farm animals
    • Demonstrate proper techniques and methods when handling sick and injured farm animals
ANS 190X Course Design

**Lecture**
One 2-hour session (weekly)
- Biosecurity
- Species Perception
- Species 101
- Transportation
- Compromised Animals

**Handling Laboratory**
One 3-hour session (weekly)
- Beef Cattle
- Swine
- Dairy Cattle
- Sheep
- Poultry
- Equine
Data Collection

Pre-Course Measures
- Demographics and Pre-Course Survey
  - Student background
  - Experience/Comfort Level
- Pre-Course Exam
  - 50 multiple choice questions
  - Basic specie and handling information
- Pre-Course Laboratory Practical
  - Assessing basic animal handling techniques

Post-Course Measures
- Post-Course Survey
  - Experience/Comfort Level
  - Feelings about the course
- Post-Course Exam
  - 50 multiple choice questions
  - Basic specie and handling information
- Post-Course Laboratory Practical
  - Assessing basic animal handling techniques

Overall Course Grade
# Student Demographics

Data Collected During Pre-Course Survey (N=132)

<table>
<thead>
<tr>
<th>Students enrolled in ANS 190: Fall 2015 – Spring 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
</tr>
<tr>
<td>Males 30</td>
</tr>
<tr>
<td>Females 102</td>
</tr>
<tr>
<td><strong>Entry Type</strong></td>
</tr>
<tr>
<td>Direct from High School 104</td>
</tr>
<tr>
<td>Transfer Students 26</td>
</tr>
<tr>
<td><strong>Student-Reported Background</strong></td>
</tr>
<tr>
<td>Farm (Livestock or Crop) 50</td>
</tr>
<tr>
<td>Small Town (&lt;100,000) 37</td>
</tr>
<tr>
<td>Urban (&gt;100,000) 34</td>
</tr>
<tr>
<td>Other 11</td>
</tr>
<tr>
<td><strong>Residency</strong></td>
</tr>
<tr>
<td>Iowa resident 89</td>
</tr>
<tr>
<td>Out-of-state 43</td>
</tr>
<tr>
<td><strong>Agriculture Involvement</strong></td>
</tr>
<tr>
<td>4H or FFA (Yes) 73</td>
</tr>
<tr>
<td>High School Livestock Judging (Yes) 33</td>
</tr>
<tr>
<td>Collegiate Judging (Yes) 7</td>
</tr>
</tbody>
</table>

IOWA STATE UNIVERSITY
Student Feedback
Data Collected During Pre-Course Survey (N=132)

Have you handled the following species (more than just merely touching or petting)?

<table>
<thead>
<tr>
<th>Species</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equine</td>
<td>68%</td>
<td>32%</td>
</tr>
<tr>
<td>Swine</td>
<td>57%</td>
<td>43%</td>
</tr>
<tr>
<td>Beef Cattle</td>
<td>48%</td>
<td>52%</td>
</tr>
<tr>
<td>Dairy Cattle</td>
<td>27%</td>
<td>73%</td>
</tr>
<tr>
<td>Sheep</td>
<td>43%</td>
<td>57%</td>
</tr>
<tr>
<td>Poultry</td>
<td>30%</td>
<td>70%</td>
</tr>
</tbody>
</table>

How experienced do you feel handling each species of livestock (putting on halter, leading the animal, etc.)?

Self-Reported Experience Level

![Graph showing the percentage of students' self-reported experience level for handling different species of livestock. The graph includes categories for None, Low, Moderate, and High experience.](image)
Student Feedback
Data Collected During Pre-Course Survey (N = 132) and During Post Course Survey (N = 115)
Student Feedback
Data Collected During Post Course Survey (N = 115 and N = 71)

<table>
<thead>
<tr>
<th>All Semesters N = 115</th>
</tr>
</thead>
<tbody>
<tr>
<td>The hands-on approach is beneficial in reinforcing material learned in lecture</td>
</tr>
<tr>
<td>This course has made me aware of the importance of proper livestock handling</td>
</tr>
<tr>
<td>This course has made me aware of how to properly handle livestock</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Later Semesters N = 71</th>
</tr>
</thead>
<tbody>
<tr>
<td>The course has prepared me to correctly handle and recognize compromised animals</td>
</tr>
<tr>
<td>I am more likely to voluntarily interact with livestock inside or outside of the classroom</td>
</tr>
</tbody>
</table>

Disagree Neutral Agree

0 10 20 30 40 50 60 70 80 90 100
Conclusions

- ANS 190 was effective at increasing comfortability of all livestock species
  - Largest improvement in dairy cattle (35% increase)
  - Roughly 33% of students are still not comfortable with poultry
- Students are more likely to recognize compromised animals
- Students are more likely to interact with livestock in an internship setting

ANS 190X is successful at achieving the course objectives
Implications

• Should ANS 190X be a required course for incoming students?
  • Do we have the resources to support ANS 190X as a required course?
  • Could students test-out of ANS 190X?

Further Research

• Quantitative analysis to determine success factors (in progress)
• Follow-up survey to determine if ANS 190X played a role in choices made by the student (internships, career path, etc.)
Thank you!

Jennifer Bundy
jmbundy@iastate.edu