

Abstract
#143

CULTIVATING ADVOCACY SKILLS AND CONTENT KNOWLEDGE: AN EVALUATION OF A COURSE PROJECT

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NC STATE

**College of Agriculture
and Life Sciences**



NACTA 2016

Agriculture in the headlines...

Fecal matter found in every sample of ground beef, study finds

Your ground beef is probably contaminated by bacteria, fecal matter, study finds

Almost All Ground Beef Has Fecal Contamination
STUDY CLEARLY LINKS COLORED BURGERS, COPPER'S SUE

Would you like fecal matter with that? There's nasty stuff in your burger

Consumer Reports finds fecal matter in beef

ALL GROUND BEEF IN THE US IS CONTAMINATED WITH FECAL MATTER, ACCORDING TO CONSUMER REPORTS



2. The beef we use is all NC sourced and pasture raised. Pasture raised means no added hormones and no antibiotics are in our beef. Our cows are raised in pastures on grass. We work closely with Farmhand Foods of Durham to bring farmers into our beef source network. The farmers sign a code of ethics to make certain the beef you eat meets our quality standards. Pasture raised beef costs about three times what conventional corn-fed, hormone added beef costs, but we are committed to flavor and to your health. Pasture raised beef is higher in omega 3 and 6 fatty acids, lower in bad cholesterol and much higher in cancer fighting Linoleic acid with more minerals, more vitamins and less saturated fat. It's practically diet food.

GRAIN-FED BEEF
ANIMALS LIVE IN CROWDED, INHUMANE & UNSANITARY CONDITIONS
ADDED STEROIDS, HORMONES & ANTIBIOTICS FOR QUICKER GROWTH
HIGHER IN CALORIES, FAT & CHOLESTEROL
LACK NUTRIENTS & VITAMINS THAT SUPPORT AN ACTIVE LIFE-STYLE
GRASS-FED BEEF
ANIMALS RAISED IN A NATURAL, HUMANE ENVIRONMENT
HAVE NO ADDED STEROIDS, HORMONES OR ANTIBIOTICS
LOWER IN CALORIES, FAT & CHOLESTEROL
HIGHER AMOUNTS OF KEY NUTRIENTS THAT FIGHT DISEASE & AID IN HEALTH

#EatForThePlanet
onegreenplanet.org/eatfortheplanet

 <p>23% Global freshwater supplies used to grow livestock feed.</p>	 <p>14.5%* Global greenhouse gas emissions produced by livestock.</p>	 <p>33% Global arable land devoted to livestock feed.</p>	 <p>45% Global land occupied by the livestock system.</p>
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Introduction


- Anti-agriculture messages and misinformation are commonplace in the media and among society.
- The role of agricultural universities...
 - Educate students using sound science.
 - Provide students production livestock experience.
 - Prepare students to serve as positive voices of agriculture.
- Therefore the *Ambassadors of Beef* assignment was created to provide students with the opportunity to learn and communicate about food animal production.


Option 1: Posters & Advocacy



Feedlot Finishing

Three-Tier & Intensive Feedlot





Feedlot Basics

- Feedlot calves enter at 3 months of age and average 500 lbs. live weight at arrival
- Feedlot calves have gain rates of 50-125 lbs/day
- Will gain an average of 2.5 to 4 lbs. per day
- Cattle enter the feedlot around 8 to 20 months of age weighing 1,000 to 1,400 pounds
- 25 million head are finished on average per year

Nutrition

- Started on a high-moisture diet usually containing some whole grains, silage, or hay
- Then diets slowly transition to 75-85% concentrate that include grains and grain by-products
- Grains include corn, wheat, oats, and other cereal grains providing the cattle with lots of energy
- Grain by-products used in the ration include soybean meal/hulls, corn gluten, brewers grains, and distillers grains to name a few

Health Basics


- Cattle are vaccinated upon or prior to entrance into the feedlot
- Cattle are dewormed as needed to protect them against parasites

Top 4 Feedlot States

1. Texas - 2.44 million
2. Nebraska - 2.27 million
3. Kansas - 2.02 million
4. Colorado - 1.93 million

Relevance

• <https://www.ncsu.edu/ncsu/extension/extension-education/extension-education-articles/2018/04/2018-04-26-feedlot-finishing/>




FORAGES

WHAT ARE FORAGES?

Forages are whole plants or parts of plants that are used as feed for ruminants. They are high in fiber and provide essential nutrients for the rumen.

WARM SEASON GRASSES

Also known as C4 grasses, warm season grasses grow best in the southern United States. They are high in protein and digestible.

CYANUSIEN GRASSES

Also known as C3 grasses, cyanusien grasses grow best in the northern United States. They are high in fiber and digestible.

LEGUMES

Also known as C3 grasses, legumes are high in protein and digestible.

FORAGE QUALITY

Moisture	Cellulose	Starch	Fiber	Water Soluble Carbohydrates
High	Low	High	Low	High
Low	High	Low	High	Low

GLAZING SYSTEMS


Glazing systems are used to improve the quality of forages. They involve the use of enzymes and other additives to break down the cell walls of the forage.

PROBLEMS WITH USING GRAZING BEEF CATTLE

1. Grazing beef cattle are often used as a means of disposing of forage. This can be a problem because the cattle may not eat all of the forage, leading to waste.
2. Grazing beef cattle may also be used as a means of improving the quality of forage. This can be a problem because the cattle may not eat all of the forage, leading to waste.

NC STATE UNIVERSITY

Ear Tags



Frequently Asked Questions

What is an ear tag?

An ear tag is a small metal or plastic tag that is attached to a cow's ear. It is used to identify the cow and to record information about the cow's health and production.

Why are ear tags important?

Ear tags are important because they allow farmers to keep track of their cows and to make decisions about their care and production. They also help to prevent the spread of disease.

How are ear tags used?

Ear tags are used to identify cows and to record information about their health and production. They are also used to track the movement of cows and to prevent the spread of disease.

When are ear tags used?

Ear tags are used at all stages of a cow's life, from birth to death. They are used to identify cows and to record information about their health and production.

When are ear tags used?

Ear tags are used at all stages of a cow's life, from birth to death. They are used to identify cows and to record information about their health and production.

ASK US HOW WE DO OUR TAGS AT NC STATE'S BEEF UNIT!

Phone: 704-757-2100 ext. 2100



Option 2: Seminar Presentation



Assessment: Year 1

- Pre-Assessment: Due Week 8
 - Submitted a 1 page personal statement on perceived preparation to advocate for the beef industry.
 - Generated a list of anticipated questions from the general public.
 - Identified topics perceived as potentially difficult to answer.

Potential Questions	Frequency	Topics of Concern	Frequency
How much antibiotics or hormones are in meat?	14	Effects of vaccinations, implants, antibiotics on meat	9
What do cattle eat/how much?	11	Topics related to animal welfare	4
What is the cow's name?	8	Dealing with political questions	4
What is the difference between conventional and organic/grass-fed?	5	Nutritional requirements of different groups of cattle	3
Why are there so many breeds of beef cattle?	5	Relating to children	3
What is the difference between beef and dairy cattle?	5	Difference between conventional and organic/grass-fed beef	3

Assessment: Year 1

- Post-Assessment: Due Week 14
 - Submitted a 1 page personal statement on perceived to advocate for the beef industry.
 - Included a list of questions asked by the general public.

Topics of questions asked	Frequency
Age of cow/calf	23
Name of cow/calf	9
Diet for cattle	8
Cuts of meat drawn on an animal	7
Age of cattle at slaughter	7
Gender of cattle	7
Ability to milk/ difference between beef and dairy cattle	7

Student reflections

- Lack of “**meaningful questions**”
- People are “**unfamiliar with agriculture**”
- Better **able to relate to and answer adult** questions as opposed to kids
- Need training on dealing with **controversial topics or industry misconceptions**
- “**Better experience**” and “**more fun**” than expected it to be

Assessment: Year 2

- Two Pre-Assessments: 1st Due Week 2, 2nd Due Week 12
 - Submitted a 1 page personal statement on perceived preparation to advocate for the beef industry.
 - Rated expected frequency of questions on 10-15 pre-identified topics.
 - Rated perceived confidence of ability to answer questions on the 10-15 topics.
 - Included answers to questions on Pre-Assessment 2.
 - Generated 5 additional topics/questions.

ANS 402 Beef Laboratory SP 2018

Name: _____ Laboratory: T1116 or T1156

Have additional days pre-assessment?

Based on your current knowledge, experience, and confidence about the beef industry and the local educational unit, rate the following topics on the following expected frequency of questions on the 10-15 topics and the confidence of your ability to answer questions on the 10-15 topics.

Topic/Pre-assessment	Expected frequency of questions on the 10-15 topics	Confidence of your ability to answer questions on the 10-15 topics
Production of beef cattle		
Marketing of beef cattle		
Genetics of beef cattle		
Health of beef cattle		
Management of beef cattle		
Other		

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Management of beef cattle		
Other		

Assessment: Year 2

◦ Student Reflection Pre-Assessment 1

- “**I would not feel comfortable trying to advocate** for it [beef industry], with the little information that I know.”
- “To be honest, **I do not think I will be able to advocate for the beef industry at all.** I honestly do not have an interest in food animal industries, and I have no previous beef cattle experiences.”
- “Some **areas I am not comfortable speaking about at this time** include: aging cattle, estimating weight, reproductive aspects, and processing of cattle for meat.”
- “I believe that **I can be a great advocate for the beef industry today after I get more training.**...I know that I still have a lot to learn about the beef industry”

◦ Student Reflection Pre-Assessment 2

- “I feel like after taking this class **I can properly advocate beef** and give the beef industry a better representation.”
- “Over-all I feel **like I am better equipped to advocate for the industry** than I was starting out, but one should never stop learning about something they care about.”
- “I asked my friends if they had any questions about the beef industry, and I knew most of the answers. **I was excited I could actually answer them.**”
- “I hope to use **facts and my experiences to share with consumers** **how** the beef industry contributes safe and wholesome beef, while being environmentally friendly, efficient, and top care for animals.”

Assessment: Year 2

- Post Assessment: Due Week 14
 - Submitted a 1 page personal statement on perceived to advocate for the beef industry.
 - Rated frequency of questions received on 10 pre-identified topics
 - Rated perceived confidence of ability to answer questions on the 10 topics.
 - Included an additional 5 topics/questions that were asked by the public.

amc 000 beef Laboratory SF 2006

Name: _____ Laboratory: TUES of THURS

Form Animal Day: Post Assessment

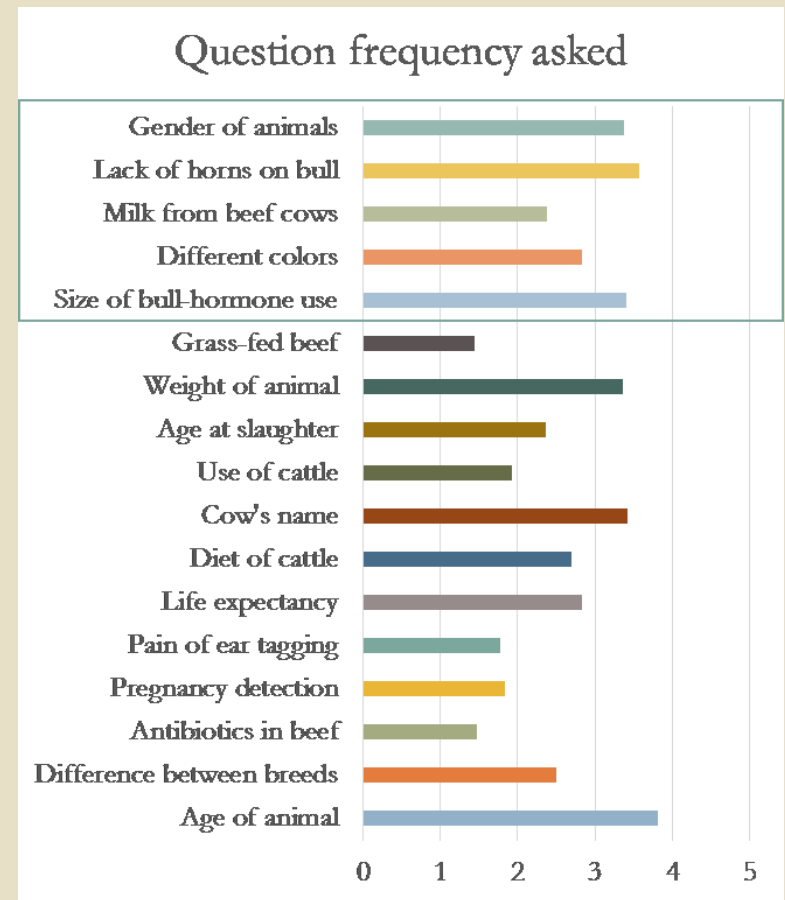
Record on your personal experience at the recent beef show and/or beef show during your animal show, rate the following topics on a 5-1 scale for the two variables provided. Circle other questions or topics or list in last paragraph of this form as asked in your own words.

Topic or question that was asked	How frequently did you get questions on this topic? (Rate frequency based on number of questions received on the topic) 5 = rare at all, 1 = frequently	How confident of you are about answering questions about this topic? (Rate confidence based on number of questions received on the topic) 5 = rare at all, 1 = confident / confident
How do you know what's safe to eat?		
What are the signs of stress or disease in beef cattle?		
Are there any benefits to beef? (Compare other meats)		
How do producers know if their cattle are pregnant?		
Does it hurt the calf to remove a horn tag?		
How long do beef cattle live?		
What do beef cattle eat?		
What is the use of beef frames?		
What do beef cattle use for?		
How do we make sure they go to slaughter?		
How much does the carcass cost? (After all costs?)		
Is ground beef (lean) really from beef, cow, lamb, or other meat?		

Assessment: Year 2

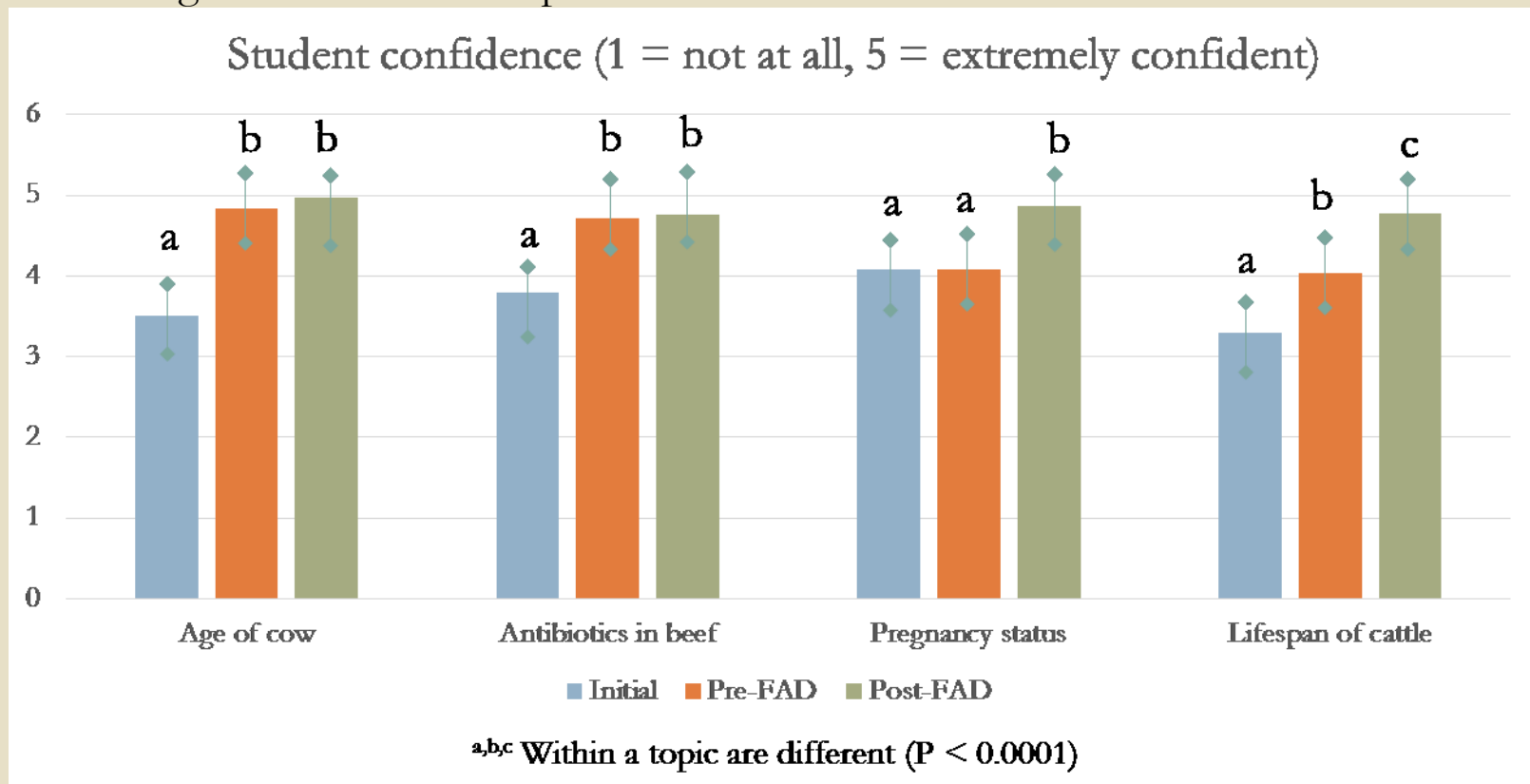
○ Student reflection Post-Assessment

- “I saw a lot of ‘**oh, I get it now**’ looks on adult participants as I explained hormones in food using M&M’s”
- “**I felt more prepared than ever** to be out there among the public answering questions of young children, wondering parents, and other experienced producers.”
- “**I advocated the beef industry well** and was able to answer everyone’s questions... an **it was an honor for me** to be able to advocate for an industry that I only started to know about this semester.”
- “It was much less intimidating than I imagined it to be. **I was able to answer [questions] honestly and with confidence.**”
- “It **really surprised me** how many people were seeing animals ‘close-up’ for the first time in their lives.”



Assessment: Year 2

- The use of 3 assessments demonstrated progression of student learning throughout semester as topics were covered.



Conclusions

- A service learning project which engages students in advocacy in a management course can...
 - Help increase student confidence in interacting with the public about agricultural topics.
 - Promote student learning of key course concepts.
 - Prepare future advocates for agriculture.
 - Reinforce the importance of disseminating scientifically accurate information.
 - Expose some perceptions about agriculture held by the general public.
 - Encourage the development of communication and presentation skills when interacting with audiences of all ages.

Application in Other Disciplines

- **A similar project could be integrated in a variety of courses!**
 - What are some hot button issues or topics that are important for your students to learn/communicate about?
 - What venues/audiences should your students be prepared for in the present and future?
 - What are some communication/presentation skills your students should develop and refine?
 - Some advice from our experience:
 - Help students identify potential questions and practice their responses prior to their educational activity.
 - Discuss some potential scenarios that could arise and different approaches for response.
 - Props or resources available will direct questions and topics.
 - Provide quality control of accuracy through supervision.

Thank You!



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