

# Why Students are Choosing (or Not) Careers in Food and Agriculture

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# What's the Issue?



# Focus Groups

- 4 focus groups held in early 2016
  - Indianapolis, IN
  - Des Moines, IA (x2)
  - Davis, CA
- Participants in high school to early career

# Focus Groups

- 4 focus groups
  - 2 groups work or study in food and ag (“converted”)
  - 2 groups do not (“unconverted”)
- Questions on:
  - Meaning of “food and agriculture”
  - Knowledge and perceptions of STEM jobs in food and agriculture
  - Influences and information sources for majors and career areas

# Analysis Methods

- Qualitative coding
  - A way of dividing and organizing information so main points can be identified and summarized
- Take responses to a question or group of related questions
- Collect responses on related topics
- Further disaggregate responses based on differences
- Summarize each grouping and subgroup

# Question 1

What comes to your mind when you hear “food and agriculture”?

- Main topic groupings:
  - Agricultural production and processing
  - Consumers
  - Personal connection
  - Political and social aspects

# Question 1

- Agricultural production and processing
  - Farmers and production
  - Whole food system
  - Technology and research
  - Energy
- Consumers
  - Ignorance and disconnection
  - Communication of agriculture
- Personal connection
- Political and social aspects of agriculture
  - Future population
  - Nationalism and food security
  - Hunger and nutrition
  - Tradition and culture



# Question 1 Conclusions

- Most focus on the two ends of the food and agriculture system
  - Agricultural production (i.e., farmers and farming)
  - Consumers
  - *“One of the big things that I think of, when I first hear food and agriculture, I think of farming. I think that's a lot of our generation today. As soon as they hear food and agriculture, they think of farming.”*—converted
  - *“I do think a lot about the consumer and about the farmers”*—converted



# Question 1 Conclusions

- Little mention of intermediaries or supporting industries
- Farming background does not necessarily increase entry to food and ag jobs
  - *“All the way through college it was always there. You live a couple blocks from a corn field even if you are in town. It wasn't till I had a practice interview at Pioneer. I thought I could get a job in ag.”*—converted

## Question 2

What do you know about STEM jobs in the area of food and agriculture, and what are your perceptions about those jobs?

- Main topic groupings:
  - Lack of information or knowledge about food and ag jobs
  - Perceived qualities of food and ag jobs
    - Good jobs
    - Hard or difficult jobs
    - Drawbacks
  - Opportunity

# Question 2 Conclusions

- Lack of timely information about food and ag jobs a big problem for both groups
  - Lack of knowledge about what kinds of jobs are available and how those can fit with their existing interests
  - *“I think a lot of students don't know that the major they're in can actually contribute to agriculture and food.”*—converted
  - *“When I graduated, then I found, ‘OK, my friend is in mechanical engineer, working for Pioneer, doing really well. Oh, I didn't know that. I could have taken that path.’”*—unconverted

# Question 2 Conclusions

- Unconverted participants tended to have negative perceptions of food and ag jobs
  - Focus on ag production jobs
  - Expect them to be dirty and require hard physical labor
    - *“I specifically think of farming, and feeding cows and pigs. Just the nerve and the grime that comes with it.”—unconverted*
    - *“My perception is, yeah. Hard work, dirty. I go back to...one of my first jobs was detasseling corn for Pioneer. I think about how much work that really was.”—unconverted*

# Question 2 Conclusions

- Converted participants recognized the diversity of job opportunities in food and ag
- Unconverted participants tended to focus on technology and policy as areas of opportunity in food and agriculture

# Questions 3-6 & 8

How do you choose your career and where do you get your information?

- Main topic groupings
  - Influences
    - People
    - Experience
  - Facilitators
    - Places
    - Internet

# Questions 3-6 & 8

## People

- Family influence explicitly and implicitly
  - Parents have range of influence
    - *“I said I wanted to be an ecologist, and study animals. I was prompted by my parents, ‘Well, not a lot of jobs, not a lot of opportunity in ecology.’ They pointed me towards environmental engineering.”*
    - *“We looked right at our parents. What did your parents do? If I look around at most of my friends, Andy, architect, architect. I was going to go into the medical field. My parents were in the medical field. I look at a lot of my friends are at John Deere. Their parents work at John Deere. It's just the way it went.”*
  - Siblings and extended family influence by example



# Questions 3-6 & 8

## People

- Peers a source of information and exposure to new things
  - *“I asked a lot of friends that I had, that graduated a year or two before, that were doing something similar. Maybe they were doing something different to think about something I wasn't maybe taking into account. A lot of times we listen more to our peers than we do to people older than us. Whether we want to admit it or not, we take their advice a lot more seriously sometimes, because they're the same stage in life that we're at. I think that peer-to-peer interaction is really important for this.”*

# Questions 3-6 & 8

## People

- Teachers, Professors and Mentors
  - Important sources of information
  - *“Several of my teachers have talked to me about what kind of jobs I'm interested in, what majors I'm interested in. They've been able to help me pick what I want to do.”*
  - *“As a grad student, most of my friends are also grad students. We normally look to our major advisor for information about career choices and education pathways.”*

# Questions 3-6 & 8

## People

- Networks/Networking
  - Tie the different types of people together
  - For information and jobs
  - Stress on in-person interactions

# Questions 3-6 & 8

## People

- Networks/Networking
  - *“I think the most effective tool is picking up the phone or getting on the website, finding and email, and contacting someone directly. Talking to them, getting their feedback is beyond helpful in a lot of aspects. That's why we spend a lot of time going to field days, conferences, seminars, and networking because you can build that repertoire with people and call them up when you have questions.”*

# Questions 3-6 & 8

## Experience

- An important influence in decision-making about majors and careers
- Direct experiences like classes, jobs/internships etc.
- Less tangible experiences expressed as wants, desires, values and like/dislikes

# Questions 3-6 & 8

## Experience

- *“No matter how many people you talk to, no matter how many places you go for information, and no matter how much information you gather, you will never understand what you really want to do until you actually experience it and see if it's for you or not.”*

# Questions 3-6 & 8

## Places

- Classes, programs and schools
  - Exposure to new things often through required classes or program structure
- Career centers
  - Mentioned as a source of information about jobs/internships but not majors
- Career fairs
  - Companies need to list the right set of majors



# Questions 3-6 & 8

## Internet

- Accessing information
  - Split between mentioning specific sites and “googling”
  - Finding contact info for networking purposes
- Social media
  - Facebook—general interests and news, social and professional groups
  - Twitter—source of general information and news
  - LinkedIn—professional network, jobs, recruiting

# Questions 3-6 & 8

## Conclusions

- People and experience are the real influences
- Also internal goals and values
- Internet is a tool
  - Can facilitate connections with people and opportunities for experiences
  - Source of information and exposure to new things

# Overall Conclusions

- There is an information gap
  - Between popular perception and reality re what is food and ag
  - Between education and industry re jobs

# Overall Conclusions

- Need to get info on food and ag jobs to the people that students look to for information
  - Parents
  - Teachers/professors and schools
  - Role for internet based marketing but may be limited
    - Can increase exposure but questionable as to how effective it can be without additional experience or interaction with relevant people

# Overall Conclusions

- Need to connect job qualities with existing interests and goals/values
  - “Like working with people?”
  - “Like chemistry?”
  - “Want to solve tough problems?”
  - “Want to make a good living?”
- **EXPERIENCE is key!!!!**
  - Includes meeting and talking with people

Thank you!  
Questions?