From Cow to Cup

Dr. Colleen Brady, PhD
Kristyna Oates, MS
Purdue University, College of Agriculture
SPECA

- Secondary Education, Two-Year Postsecondary Education, and Agriculture in the K-12 Classroom Challenge Grants Program (SPECA)
  - Need for individuals with agriculture/STEM skillset
- Online, eLearning lessons for high school students
  - Opportunity for students to explore careers in the dairy industry and apply STEM principles
  - Incorporated into a classroom or used as a homework assignment
  - Used as a unit or stand-alone lessons
From Cow to Cup: Exploring Critical Thinking and Workforce Preparation Skills through an Interactive Look at the Dairy Industry

<table>
<thead>
<tr>
<th>Workforce Preparation</th>
<th>Critical Thinking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dairy Farm Manager</td>
<td>Breeding/Gestation</td>
</tr>
<tr>
<td>Lactation Physiologist</td>
<td>How its done, component pricing, temperature loss in tankers, how far does milk go from a dairy.</td>
</tr>
<tr>
<td>Reproduction Specialist</td>
<td>305 day lactation period, drying off, peak amount of milk, breed differences in milk components, mastitis and how its treated, vacuum milker system.</td>
</tr>
<tr>
<td>Dairy Nutritionist</td>
<td>Product Production</td>
</tr>
<tr>
<td>Animal Welfare/Behavior Specialist</td>
<td>Pasteurization, FairLife milk (component separation), bottling plants and labeling. Where do the bull calves go? Where do the cows go when they are past production age?</td>
</tr>
<tr>
<td>Agricultural Engineer</td>
<td>Retailing of Agricultural Products</td>
</tr>
<tr>
<td>Dairy Food Manufacturing Worker</td>
<td></td>
</tr>
<tr>
<td>Food Handling Specialist</td>
<td></td>
</tr>
<tr>
<td>USDA Inspector</td>
<td></td>
</tr>
<tr>
<td>Human Nutritionist</td>
<td></td>
</tr>
<tr>
<td>Epidemiologist (Milk borne)</td>
<td></td>
</tr>
<tr>
<td>Milk Promotion</td>
<td></td>
</tr>
</tbody>
</table>

Consumer perceptions, willingness to pay (organic), labeling, taste and nutritive value, lactose intolerance, impact of media on milk purchasing behavior.
Explanation of Content

- Eight lessons total, 4 for each section, 1 for each topic area
- Articulate Storyline
- Lesson Framework
  - William Horton’s eLearning By Design
    - Absorb, Do, Connect, Assess
  - John Keller’s ARCS Model of Motivation
    - Attention, Relevance, Confidence, Satisfaction
- Aligned to standards (IN)
  - Animal sciences, food science, advanced life sciences, agribusiness management, introduction to ANR
Data and Findings

- Completion of modules increased knowledge and understanding of the Dairy industry (refer to handout for details)
- Prior knowledge of the industry was not required
Demonstration

- Interactive Elements
- Questions incorporated throughout lesson
- Quiz at the end of each lesson
- Multiple mediums for content (videos, text, etc.)
- Outside resources
Your Turn!

Select at least one lesson and complete it (30 minutes). Please let us know if you have any questions or comments.
Access This Resource
Questions?

Thank you!