



## Course Outcome Summary

### Course Information: **Milk to Market**

**Description:** This class focuses on the 43.4 billion dollar Dairy Industry in Wisconsin. We look at the dairy industry from top to bottom. We learn dairy breeds, dairy judging, dairy nutrition, lactation, milk components, dairy products, and reproduction.

**Instruction Level:** Eighth Grade

**Total Credits:** .25 credits

### Course Standards:

#### Common Career and Technical Core:

1. Communicate and collaborate with others to accomplish tasks and develop solutions to problems and opportunities.
2. Identify and apply employability skills.
3. Assess benefits and challenges of working in diverse settings and on diverse teams.
4. Apply leadership skills in real-world, family, community and business and industry applications.

#### ACT Reading and Writing Standards:

1. Show a basic understanding of the persuasive purpose of the task by taking a position on the issue in the prompt.
2. Maintain a focus on the general topic in the prompt throughout the essay
3. Provide a simple organizational structure by logically grouping some ideas
4. Present an underdeveloped introduction and conclusion
5. Locate and interpret minor or subtly stated details in somewhat challenging passages
6. Locate important details in more challenging passages
7. Draw subtle logical conclusions in somewhat challenging passages
8. Paraphrase some statements as they are used in more challenging passages
9. Understand point of view in somewhat challenging passages

**Prerequisites:** None

**Textbooks:** None

### Unit

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1. Dairy Breeds
2. Dairy Judging
3. Dairy Digestion
4. Lactation
5. Milk Components

- 6. Dairy Product
- 7. Reproduction

## Unit Outlines

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### 1. Dairy Breeds

#### State AFNR Standards:

- Evaluate the development and implications of animal origin, domestication, and distribution.
- Select animals for specific purposes and maximum performance based on anatomy and physiology.

#### Essential Questions:

- Why is it important to have various breeds of animals?

#### Essential Knowledge:

- Students will be able to identify the six major breeds of dairy cattle.
- Students will be able state the various breed (physical and production) characteristics of each of the six major dairy breeds.

### 2. Dairy Judging

#### State AFNR Standards:

- Apply principles of comparative anatomy & physiology to uses within various animal systems.
- Select animals for specific purposes and maximum performance based on anatomy and physiology.

#### Essential Question:

- Why is important to be able to evaluate a given set items against a quality criteria and/or standard?

#### Essential Knowledge:

- Students will be able to use the Unified Dairy Score Card to accurately judge a class of mature dairy cattle.
- Students will be able to write a notes sheet based on their evaluation of the Unified Dairy Score Card.
- Students will be able to write and read Oral Reasons.

### 3. Dairy Digestion

#### State AFNR Standards:

- Apply principles of comparative anatomy & physiology to uses within various animal systems.

- Select animals for specific purposes and maximum performance based on anatomy and physiology.

**Essential Questions:**

- How do invaluable human foods get turned into high value/quality human foods?

**Essential Knowledge:**

- Students will be able identify the parts & function of the ruminant digestive system.
- Students will be able to state how essential nutrients get into the blood stream and become available for use by the animal.

#### **4. Lactation**

**State AFNR Standards:**

- Apply principles of comparative anatomy & physiology to uses within various animal systems.
- Select animals for specific purposes and maximum performance based on anatomy and physiology.

**Essential Questions:**

- How does the food, and nutrients derived from it, convert into milk within the body?

**Essential Knowledge:**

- Students will be able identify the parts and function of the mammary system.
- Students will be able to explain how milk is made inside the body.
- Students will be able explain how the milk precursors enter the blood system.

#### **5. Milk Components**

**State AFNR Standards:**

- Identify where food is produced and why it is processed.
- Identify and explain environmental and safety concerns about food supply.
- Outline procedures to eliminate possible contamination hazards associated with food products and processing.
- Use harvesting selection and inspection techniques to obtain quality food products for processing.

**Essential Question:**

- How do we convert raw food ingredients into foods we consume on a day-to-day basis?

**Essential Knowledge:**

- Students will be able to identify the components of milk.
- Students will be able to list dairy products that are made with the various components of milk.
- Students will be able to explain the nutritional value of milk.

## 6. Reproduction

### State AFNR Standards:

- Evaluate the male and females reproductive systems in selecting animals.
- Evaluate animals for breeding readiness and soundness.
- Explain the advantages of using genetically superior animals in the production of animals and animal products.
- Discuss the uses and advantages and disadvantages of natural breeding and artificial insemination.
- Apply safety and sanitation procedure in the handling process and storage of food products.
- Apply principle of science to food processing to provide a safe, wholesome, and nutritious food supply.
- Evaluate, grade, and classify processed food products.
- Process, preserve, package, and present food and food products for sale and distribution.
- Select animals for specific purposes and maximum performance based on anatomy and physiology.

### Essential Question:

- Why is reproduction a critical component in our National food supply chain?

### Essential Knowledge:

- Students will be able to identify the parts and function of the reproductive system for both males and females.
- Students will be able to differentiate between fertilization, conception, and pregnancy.
- Students will be able to identify basic abnormalities of sperm cells.
- Students will be able to list the major hormones that regulate the reproductive system.