



From Milk to Market

Created: 11/2025 by the National FFA Organization

Description of Lesson: *In this lesson, students will explore how an FFA chapter turned a dairy goat SAE into a successful school-based enterprise by processing and selling by-products from their goats.*

Student Learning Objectives:

After completing these activities, students will ...

- 1. Analyze a successful school-based enterprise.
- 2. Investigate multiple by-products of goat milk, including food and non-food options.
- 3. Develop a business pitch and marketing poster for a goat milk product.

Suggested Grade Level:

Grades 9 and 10 (This lesson is written so instructors can scale up or down based on class needs.)

Suggested Time: 60 minutes (*Time requirements may vary based upon student understanding and class schedule.)

Resources/References:

- 1. Video: "Goat Facility SAE," <https://vimeo.com/showcase/11832322?video=1108210299>

Related Resources:

- 1. SAE for All School-Based Enterprise resources, <https://FFA.box.com/s/fj9uxsi4nr1x2dltzdume9z83ilp8ist>

Equipment and Supplies Needed:

- 1. A copy of the "From Milk to Market" worksheet for each student
- 2. Internet access to play the video in real time or embed it in a PowerPoint ahead of time

Vocabulary:

- 1. Animal agriculture
- 2. By-product
- 3. Marketing
- 4. Product pitch
- 5. SAE

Cross-Curricular Connections:

English/Language Arts
Research the different goat milk by-products.
Practice persuasive writing by developing a product pitch and marketing poster.

Student Activity Sheets:

Direct access to student activity sheets without lesson plan or answer key for easy upload to a learning management system or printing for classwork.

<https://ffa.box.com/s/1cw187q9s4j435vqsg5nxtostrijtaf7e> (Word)

<https://ffa.box.com/s/52sm5isw2ex12z2mry6m5qed2p8ewcsm> (PDF)

<https://docs.google.com/document/d/1qXZ-GsTSwe4SZGogfWKOP9LbVmcN4rHTCridV0nqac/copy> (Google)

These Activities Are Aligned to the Following Standards:

FFA Precept

- FFA.PL-A.Action A1. Work independently and in groups to get things done.
- FFA.PL-A.Action A3. Plan effectively.
- FFA.PL-A.Action A4. Identify and use resources.
- FFA.PL-C.Vision C1. Contemplate the future.
- FFA.PL-C.Vision C2. Conceptualize ideas.
- FFA.PL-F.Continuous Improvement F1. Implement a leadership and personal growth plan.
- FFA.PL-F.Continuous Improvement F5. Acquire new knowledge.
- FFA.PG-I.Professional Growth I1. Plan and implement professional goals and priorities.
- FFA.PG-J.Mental Growth J1. Think critically.
- FFA.PG-J.Mental Growth J2. Think creatively.
- FFA.PG-J.Mental Growth J3. Practice sound decision-making.
- FFA.CS-N.Decision Making N1. Demonstrate the decision-making process.

Common Core – Reading: Informational Text

- CCSS.ELA-LITERACY.RI.9-10.1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
- CCSS.ELA-LITERACY.RI.9-10.4. Determine the meaning of words and phrases as they are used in a text, including figurative, connotative and technical meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language of a court opinion differs from that of a newspaper).
- CCSS.ELA-LITERACY.RI.9-10.7. Analyze various accounts of a subject told in different mediums (e.g., a person's life story in both print and multimedia), determining which details are emphasized in each account.

Common Core – Writing

- CCSS.ELA-LITERACY.W.9-10.1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
- CCSS.ELA-LITERACY.W.9-10.2. Write informative/explanatory texts to examine and convey complex ideas, concepts and information clearly and accurately through the effective selection, organization and analysis of content.
- CCSS.ELA-LITERACY.W.9-10.4. Produce clear and coherent writing in which the development, organization and style are appropriate to task, purpose and audience.
- CCSS.ELA-LITERACY.W.9-10.7. Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
- CCSS.ELA-LITERACY.W.9-10.8. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
- CCSS.ELA-LITERACY.W.9-12.9. Draw evidence from literary or informational texts to support analysis, reflection and research.

Next Generation Science

- Practice 3: Planning and Carrying Out Investigations. Plan an investigation or test a design individually and collaboratively to produce data to serve as the basis for evidence as part of building and revising models, supporting explanations for phenomena or testing solutions to problems.
- Practice 6: Constructing Explanations and Designing Solutions. Apply scientific reasoning, theory and/or models to link evidence to the claims to assess the extent to which the reasoning and data support the explanation or conclusion.

AFNR Career Ready Practices

- CRP.06. Demonstrate creativity and innovation.
- CRP.07. Employ valid and reliable research strategies.

- CRP.08. Utilize critical thinking to make sense of problems and persevere in solving them

Partnership for 21st Century Skills

- Information Literacy
- Initiative and Self-Direction
- Think Creatively

Lesson Plan:

1. **Bell Ringer:** Your school is adding animals to the campus that can be used for a school-based SAE. What species do you hope it is? What is one by-product from that species that your school could sell?
2. **Introduction:** *Many of the products we eat and use in our daily lives come from animal agriculture. Middle and high school agriculture programs are the perfect opportunity for students to learn how to raise animals, process their by-products and sell them to benefit the program. Today, we're going to learn about a high school agriculture program that raises dairy goats and then creates and sells a by-product.*
3. **Activity:** Each student needs a copy of the worksheet "From Milk to Market."
 - a. **Part 1:** Direct students to view the [video](#). Have them complete Part 1 as they watch the video. You can choose to show the video to the entire class or have students view it individually on their own devices.
 - b. **Part 2:** Students will research the different by-products from dairy goat milk and how those products are created.
 - c. **Part 3:** Students will imagine their agriculture program is raising a herd of dairy goats and will choose one product from Part 2 to develop a marketing plan for.
4. **Follow-up:** Students can share their marketing plans with a partner to compare and contrast their ideas.
5. **Optional – Extended Learning Opportunities (Not factored into time requirement):**
 - a. Have students explore and apply for a [National FFA SAE grant](#) to help fund their own SAE.
6. **Exit Ticket:** What product made from goat milk surprised you the most? Why?

Name: _____

From Milk to Market

Aligned to the following standards: FFA.PL-A1; FFA.PL-A3; FFA.PL-A4; FFA.PL-C1; FFA.PL-C2; FFA.PL-F1; FFA.PL-F5; FFA.PG-I1; FFA.PG-J1; FFA.PG-J2; FFA.PG-J3; FFA.CS-N1; CCSS.ELA-RI.9-10.1; CCSS.ELA-RI.9-10.4; CCSS.ELA-RI.9-10.7; CCSS.ELA-W.9-10.1; CCSS.ELA-W.9-10.2; CCSS.ELA-W.9-10.4; CCSS.ELA-W.9-10.7; CCSS.ELA-W.9-10.8; CCSS.ELA-W.9-12.9; CRP.06; CRP.07; CRP.08

Part 1

Directions:

Answer the questions below as you watch the video “Dairy Goat Facility SAE,” available at <https://vimeo.com/showcase/11832322?video=1108210299>.

1. Describe the school-based enterprise highlighted in the video in two or three sentences.

2. What state are the students in the video from? Draw a star on the map.

3. Who is the dairy goat facility at the school open to?

4. What is the dairy goat herd used for in agriculture class?

5. What role does the livestock committee play?

6. What would happen if this committee didn't exist?

7. What has this SAE taught Paisley?

8. List the daily tasks and responsibilities these students have, and write how that task/responsibility will help them in the future.

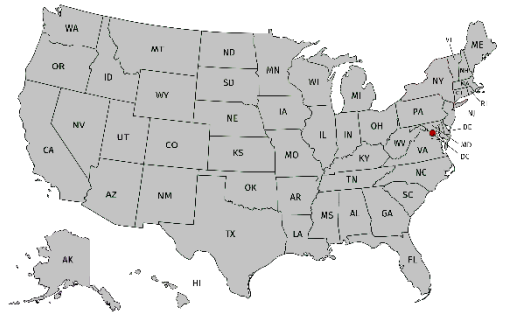
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Name: _____

9. What product do students create from goat milk?

10. Check all of the tasks that they use the white board to track:

Vaccinations	Milking	Kidding	Dehorning	Weight
Grooming	Hoof Trims	Deworming	Feeding	Pen Cleaning

11. Why does Savannah think students should join FFA?

12. What does Paisley say about the bonds she's made in FFA?

13. Why is Cheyenne proud to be in agriculture and FFA?

Name: _____

Part 2

Directions:

Let's dive deeper into the by-products that can be processed from goat milk. Research the by-products to complete the chart, then answer the questions.

Pre-Thinking

- 1. What dairy products do you normally see in your grocery store that are made from cow's milk?
- 2. Do you think some of those products can be made with goat's milk? Why or why not?

Inquiry Chart – Goat Milk Products

Goat Milk Product	How Is It Made?	Common Use	Interesting Fact
Yogurt/Kefir			
Cheese			
Butter			
Ice Cream			
Caramel (Cajeta)			
Soap			
Lotion			

Name: _____

Reflect

3. Which product surprised you most that can be made from goat milk? Why?
4. Goat milk is naturally homogenized (fat globules are smaller). How might this affect the flavor, texture or processing of products?
5. Animal by-products are not just used for consumption, as you learned by researching goat soap and goat milk. What are some other non-food by-products from animals that you can think of? List three.
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6. Select a product from the chart above. Create a flow chart that shows the steps in the production process. Include a step title, image and very short description of each step in your own words.

Name: _____

Part 3

Directions:

Congrats! Thanks to an FFA grant, your agriculture program now has 20 dairy goats. You've already learned that goat milk can be turned into a variety of products. Now, your FFA chapter wants to choose one product to make and sell as a fundraiser at the local farmers market.

Your Task:

1. Choose one goat milk product from Part 2 (food or non-food).
2. Explain why your chapter should make this product.
3. Address each of these points in your pitch:
 - a. Cost and ease of production (Can high school students realistically make it?)
 - b. Storage and shelf life (Will it keep well until it's sold?)
 - c. Target audience appeal (Will students, parents and community members want to buy it?)
 - d. Marketing ideas (Create a catchy name, slogan and packaging idea for your product.)

Brainstorm your ideas here:

Name: _____

Write your product pitch in a short paragraph (five to eight sentences) below.

Create a marketing poster for your product including the following criteria from the rubric:

Criteria	Score
Creativity and Design – The poster is eye catching, unique and creative; it also enhances the message.	____/5
Product Information – The poster clearly explains what the product is, how it’s made and why it’s valuable, and the poster is persuasive.	____/5
Name and Slogan – The poster shows a catchy and memorable product name and slogan that directly relates to the product.	____/5
Organization and Effort – The poster is neat, well-organized, shows excellent effort and is ready for the public.	____/5
	Total: ____/20

Name: _____

Key: From Milk to Market

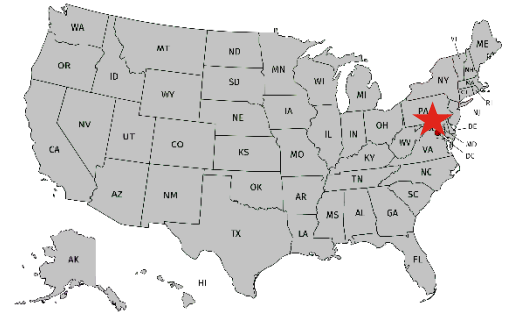
Aligned to the following standards: FFA.PL-A1; FFA.PL-A3; FFA.PL-A4; FFA.PL-C1; FFA.PL-C2; FFA.PL-F1; FFA.PL-F5; FFA.PG-I1; FFA.PG-J1; FFA.PG-J2; FFA.PG-J3; FFA.CS-N1; CCSS.ELA-RI.9-10.1; CCSS.ELA-RI.9-10.4; CCSS.ELA-RI.9-10.7; CCSS.ELA-W.9-10.1; CCSS.ELA-W.9-10.2; CCSS.ELA-W.9-10.4; CCSS.ELA-W.9-10.7; CCSS.ELA-W.9-10.8; CCSS.ELA-W.9-12.9; CRP.06; CRP.07; CRP.08

Part 1

Directions:

Answer the questions below as you watch the video “Dairy Goat Facility SAE,” available at <https://vimeo.com/showcase/11832322?video=1108210299>.

- Describe the school-based enterprise highlighted in the video in two or three sentences.
Agriculture students run a dairy goat SAE at their school where they care for the goats, milk them and then process the milk into soap. They package and sell the soap, which keeps them connected to the community.
- What state are the students in the video from? Draw a star on the map.
North Carolina
- Who is the dairy goat facility at the school open to?
All kids enrolled in their school's agriculture program, specifically animal science students.
- What is the dairy goat herd used for in agriculture class?
They are used for breeding, milking and learning.
- What role does the livestock committee play?
They work after school, on weekends and during holidays to care for the herd.
- What would happen if this committee didn't exist?
Answers will vary.
- What has this SAE taught Paisley?
She has learned how to manage a barn and take better care of goats.
- List the daily tasks and responsibilities these students have, and write how that task/responsibility will help them in the future.
 - Feed and water the goats – Answers will vary.
 - Milk the goats – Answers will vary.
 - Feed babies their bottles – Answers will vary.
 - Clean the barn – Answers will vary.



Name: _____

9. What product do students create from goat milk?

They make soap.

10. Check all of the tasks that they use the white board to track:

Vaccinations	Milking	Kidding	Dehorning	Weight
Grooming	Hoof Trims	Deworming	Feeding	Pen Cleaning

11. Why does Savannah think students should join FFA?

Because there are so many opportunities such as traveling to events and competitions and learning more about agriculture

12. What does Paisley say about the bonds she's made in FFA?

Competitions have helped make bonds with other classmates.

13. Why is Cheyenne proud to be in agriculture and FFA?

She has seen the positive difference that agriculture can make on different types of people.

Name: _____

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Pre-Thinking

1. What dairy products do you normally see in your grocery store that are made from cow's milk?

Answers will vary.

2. Do you think some of those products can be made with goat's milk? Why or why not?

Answers will vary.

Inquiry Chart – Goat Milk Products

Goat Milk Product	How Is It Made?	Common Use	Interesting Fact
Yogurt/Kefir	By fermenting milk with kefir grains	Drinkable yogurt, over cereal, in oatmeal, in smoothies, with fresh fruit	Answers will vary.
Cheese	By adding bacterial cultures and rennet to goat's milk to form curds, which are then drained in cheesecloth	In salads or appetizers and desserts	Answers will vary.
Butter	Let the milk sit in the refrigerator for several days so cream will rise, skim cream off and churn in a jar until solid, strain the liquid out.	As a direct substitute for cow's milk butter, so toast, cooking, baking, sauteing, etc.	Answers will vary.
Ice Cream	Preparing custard base (heating goat milk with sugar and a thickener) then chilling mixture and churning it in a mixer until soft serve consistency is reached	Used for desserts, is easier to digest than cow's milk ice cream	Answers will vary.
Caramel (Cajeta)	Slowly simmering goat milk, sugar and a flavor until it thickens, darkens, and caramelizes to a rich brown color	Used in desserts and beverages and as a filling or topping	Answers will vary.
Soap	Melt the pre-made goat milk soap base, add color and fragrance, pour into a mold and allow to harden.	Personal cleansing as a gentle body wash, face wash, shampoo and shaving cream.	Answers will vary.
Lotion	Heating and emulsifying water, milk and oils, cooling them and then adding preservatives and fragrances.	Used for its rich moisturizing properties and the ability to soothe inflamed skin conditions like eczema and psoriasis, also has anti-aging benefits	Answers will vary.

Name: _____

Reflect

3. Which product surprised you most that can be made from goat milk? Why?

Answers will vary.

4. Goat milk is naturally homogenized (fat globules are smaller). How might this affect the flavor, texture or processing of products?

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6. Select a product from the chart above. Create a flow chart that shows the steps in the production process. Include a step title, image and very short description of each step in your own words.

Answers will vary.

Name: _____

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Name: _____

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	Total: ____/20