



**SREB/*High Schools That Work***

***Enhanced CT***

**Project Title: Organic! It's What's for Dinner.**

**Essential Question:** How can organic products be produced in a cost effective way?

**Technical Content Standards:**

1. Analyze historic and current trends impacting animal systems industry.
2. Utilize best-practice protocols based upon animal behaviors for animal husbandry and welfare.
3. Design and provide proper animal nutrition to achieve desired outcomes for performance, development, reproduction and/or economic production.

## **Writing the Project Description**

**Step One: Project Description:**

**You are** an animal nutritionist that works for a feed yard that cares for Angus beef cattle.

**You are faced with** unsatisfied customers, who want a healthier, more organic meat.

**You must** determine what is considered to be organic and formulate a feed ration that meets the animal's nutritional needs while meeting customer wants and being "cost friendly." As animals are fed your ration, you will make observations, collect data, and analyze any change to the ration in order to make the best product.

**Technical:**

You will design and provide proper animal nutrition to achieve desired outcomes for performance, development, reproduction and/or economic production.

**Research, Read and Write:**

You will read and research the regulations and standards of organic feed as well as the different feeds that are given to animals to build body conformation in beef cattle. You will then formulate a feed based on your findings. When the feed is formulated, you will then test the feed to ensure all nutritional needs of the cattle have been met while adhering to established standards for organic-labeled feed. Once you achieve the optimum feed formulation, you will create a marketing plan targeting ranchers who desire organic feed for their livestock.

**Once you have decided upon a course of action, you will** make a formal presentation to a group of ranchers who are interested in moving to an organic feed for their cattle.

## **Step Two: Project Description in the Four-Paragraph Model**

In today's beef industry, producers are faced with organic wants as today's society is moving toward a healthier lifestyle. An animal nutritionist must consider the health of the production animal whether it is in the beef industry or in the dairy industry. Animal nutritionists now have to come up with cost effective feeds that meet the organic label standards. The animal nutritionist must be knowledgeable in the digestive process of the animal (in this case beef cows), nutritional requirements to meet the needs of the animal, and what the animal must be fed in order to obtain the best product (meat). The animal nutritionist will use animal genetics, anatomy of the animal in terms of digestion, ratios in feed and nutritional value to develop a product that is cost effective.

How can organic products be produced in a cost effective way? After researching trade journals, USDA regulations and standards, as well as product research articles on organic feed for beef cattle and participating in enabling learning activities intended to assist you in researching, conducting and analyzing optimum organic feed production that meets government regulations and standards while being cost effective to local ranchers, write a marketing plan in which you relate how you arrived at the optimum organic feed requirements and the benefits of this product for local ranchers. Support your discussion with evidence from your research and from conclusions you draw from participation in enabling learning activities.

You will also research the different feeds that are given to animals to build body conformation in beef cattle. You will research the regulations that come with the organic label and what is considered "organic feed". You will then formulate a feed based on their findings. When the feed is then formulated you will then test the feed and make sure you have met all nutritional needs of the cattle they are feeding and the feed formulation you developed must also fit the regulations set for organic labeled feed. When your feed meets both standards you will then get information about the cattle that were "fed" the feed you created. From the information you receive you must analyze the data and see where improvements to the formulation need to be made. This occurs a lot in the production animal industry. You then must go back to their formulation and fix whatever needs to be fixed in order to satisfy the consumer and the producer. When you have your final product, you will come up with different ways to market your product. You must then sell your product to a local rancher that is looking into raising organic beef. As you are selling the product you must be aware that the feed needs to be cost effective and something a rancher can feed to his herd without losing money.

After creating a cost effective feed ration that meets the needs of all parties involved, you must market your product to a local feed store manager and a rancher. You will develop a label that would be found on the feed sack as well as the nutritional facts for your feed. After you have developed a presentable label you have to ensure that you label it as organic. Your job is then to sell your feed and to promote an organic lifestyle. You will bring facts into your presentation from your research or that you found when you analyzed your data in creating the optimum organic feed. It is important that you provide a cost analysis to potential buyers. The "end game" is to have a satisfied customer that can use the product but isn't losing money on a feed investment. Once you have decided upon a course of action, you will make a formal presentation to a group of ranchers who are interested in moving to an organic feed for their cattle.

## **Other Content Standards**

### **Literacy:**

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.9-10.8 Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning.

CCSS.ELA-Literacy.RI.9-10.10 read and comprehend literary nonfiction at the high end of the grades 9-10 text complexity band independently and proficiently.

CCSS.ELA-Literacy.W.9-10.1b Develop claim(s) and counterclaims fairly, supplying evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level and concerns.

CCSS.ELA-Literacy.W.9-10.6 Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.

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.9-10.9 Draw evidence from literary or informational texts to support analysis, reflection, and research.

### **Science:**

Analyze data taken from different feed samples and be able to make changes to the formulation that will make the best feed ration with the best outcome and is cost effective.

### **Math:**

CCSS.Math.Practice.MP3 Construct viable arguments and critique the reasoning of others.

CCSS.Math.Practice.MP4 Model with mathematics.

CCSS.Math.Practice.MP5 Use appropriate tools strategically.

CCSS.Math.Practice.MP6 Attend to precision

## **Workforce Readiness Standards**

- Act as a responsible and contributing citizen and employee.
- Apply appropriate academic and technical skills.
- Communicate clearly and effectively and with reason.
- Consider the environmental, social and economic impacts of decisions.
- Demonstrate creativity and innovation.
- Employ valid and reliable research strategies.
- Utilize critical thinking to make sense of problems and persevere in solving them.
- Model integrity, ethical leadership and effective management.
- Use technology to enhance productivity.
- Work productively in teams while using cultural global competence.