

impact

University of Idaho Extension programs that are making a difference in Idaho.

Youth learn about beef production during agriculture week educational sessions

AT A GLANCE

In a county with more cows than people, it is important for youth to gain an understanding of beef production practices.

The Situation

Lemhi County is rural with a total population of 8,027 (2019 statistics). The largest town in the county, Salmon, has a population of 3,096. While the top agricultural commodity in Lemhi County is beef cattle and calves, not all county residents are involved in beef production and not all county youth are raised on ranches.

In 2008, the Lemhi County Extension Advisory committee requested that youth in the county be provided with information on where their food comes from.

Our Response

The University of Idaho Extension, Lemhi County office team that includes two Extension educators, a 4-H assistant and an office manager, started developing an educational program for 2009. The program was designed to raise awareness in youth as to where their food comes from and how integral agriculture is to their lives. Each year the program grew to include more grades and more schools. The goal was to develop a sustainable, repeatable program for each grade.

The first program for fifth graders in the Salmon School District included agriculture in a Snickers™



Student extract DNA from strawberries as part of the genetics workshop. Photo by Charli Williams.

bar, agriculture web (activity showing how agriculture industry segments are connected) and beef production.

In 2013, the idea was launched to take the students on a field trip to University of Idaho Nancy M. Cummings Research, Education and Extension Center (U of I NMCREEC) so they could see cattle and experience learning outside of the classroom. A grant was submitted to the Idaho Beef Council for the cost of busses, bus drivers, port-a-potties and workshop supplies. A team of UI Extension educators, specialists, staff and volunteers were put together to present workshops. The grant was received, and the first beef field day was held in March of 2014.

The goals of the beef field day included:

- Providing youth with an understanding of how ranchers care for their cattle
- Allowing youth to see what cows eat and how they digest their feed
- Offering youth an opportunity to see how science and technology are involved in beef production

With these goals in mind, five interactive workshops were developed. The first workshop was developed to help youth understand how a rancher takes care of newborn calves. A calf made from denim (Levi) was constructed and youth were able to deliver Levi, give him injections and tag him for identification purposes.

In the second workshop, youth learned about DNA, basic genetics and how these technologies are used in the beef industry. The students were shown what a chromosome is and how it is constructed, the number of chromosomes a cow has and were able to extract DNA from strawberries.

The third workshop focused on the four-compartment stomach of the cow. Students watched a video of the cow's digestive system, were able to touch and examine a preserved rumen, and saw how the four stomach compartments are connected and how they function.

What a cow eats and its nutritional requirements were highlighted in the fourth workshop. Youth learned that a cow needs a balanced diet just like humans. They mixed a ration using beef sticks, wheat thins, goldfish crackers, M&M's™ and string cheese.

The fifth workshop introduced students to technology that is utilized at the U of I NMCREEC to track what and how much each individual animal eats. Students visited the GrowSafe feeding facility and chose what they thought was the best heifer. They were then able to see the feed intake and efficiency data for the animal they chose.

FOR MORE INFORMATION

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Program Outcomes

Due to COVID-19 in 2020, the fifth graders did not get to have their traditional beef field day. Instead, the beef field day was offered to both fifth- and sixth-grade students in the Salmon School District. The COVID-19 restrictions did not allow the students to travel for a field trip, but presenters could come to the school and present outside. Therefore, the team took the field day to the school. Pre- and post-quizzes were developed and administered to determine how much knowledge the students gained as a result of the educational sessions/presentations. The quizzes were administered by their teachers in the classrooms before and after the event, and the results of the quizzes are presented in Table 1. As indicated in Table 1, the post-quiz scores increased by 28.94 percentage points for fifth graders and 26.33 percentage points for sixth graders. These changes represent a 62.48% and 48.09% increase in quiz scores for the fifth and sixth graders, respectively.

Table 1: Results of 2021 beef field day pre- and post-quizzes

	Pre-quiz score range	Post-quiz score range	Pre-quiz score average	Post-quiz score average	% Increase (pre- to post-quiz)
Fifth grade	25 to 75	33.5 to 100	46.32	75.26	62.48%
Sixth grade	31.1 to 81.3	31 to 93.8	54.75	81.08	48.09%

The Future

It is anticipated that students in 2022 will be able to participate in the traditional beef field day and travel to the UI NMCREEC. The agriculture week committee is also looking at options to offer this field trip to outlying schools.