Educators use BOLSTER SCIENCE,

Situation:

Recent research findings show that American students ages 7-18 have alarmingly low test scores in science and technology. As a result of these findings, the National 4-H Program set a national goal of increasing educational opportunities in the areas of Science, Engineering, and Technology (SET), giving American youth the interest, background, and skills as they enter adulthood to excel in science- and technology-based careers.

Niobrara County extension educators worked with UW Extension specialists, volunteer leaders, school teachers, and 4-H junior leaders to plan and implement SET programming opportunities based upon traditional and non-traditional projects, activities, and events.

Throughout the summer of 2012, the Converse, Natrona, and Niobrara Area nutrition and food safety educator, with 30 volunteer leaders, taught 64 youth a variety of science experiments as they learned food preservation techniques and skills at Family and Consumer Science Activity Days. Members learned the science involved in preparing jalapeno jelly and making it solidify, using fresh fruit and vegetables, to make peach salsa, and can chocolate raspberry sundae sauce. In addition, they made

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4-H activities to ENGINEERING, TECHNOLOGY KNOWLEDGE

eight different types of candies and studied the science involved between soft, hard, and chewy candies.

Science was introduced to animal science members through Youth Quality Assurance (YQA) programs – teaching youth how to better care for their livestock to attain a higher quality product for consumers. In 2012, the Niobrara County 4-H educator conducted 11 YQA workshops in four different counties reaching 46 adult producers and 141 youth. Youth learned the importance of proper nutrition, housing, identification, handling, carcass quality, health care and withdrawal times, and recordkeeping. Level IV and Level V workshops were added to YQA programming. Level IV teaches youth the difference in the anatomy and physiology of ruminant and non-ruminant animals. This program also taught the chemical composition of nutrients and how they impact animals differently depending upon their anatomy. This training taught how nutrients affect the health and gaining ability of livestock and how that can be used to balance rations and improve health of a livestock herd. This program was offered to Niobrara County youth and adult producers.

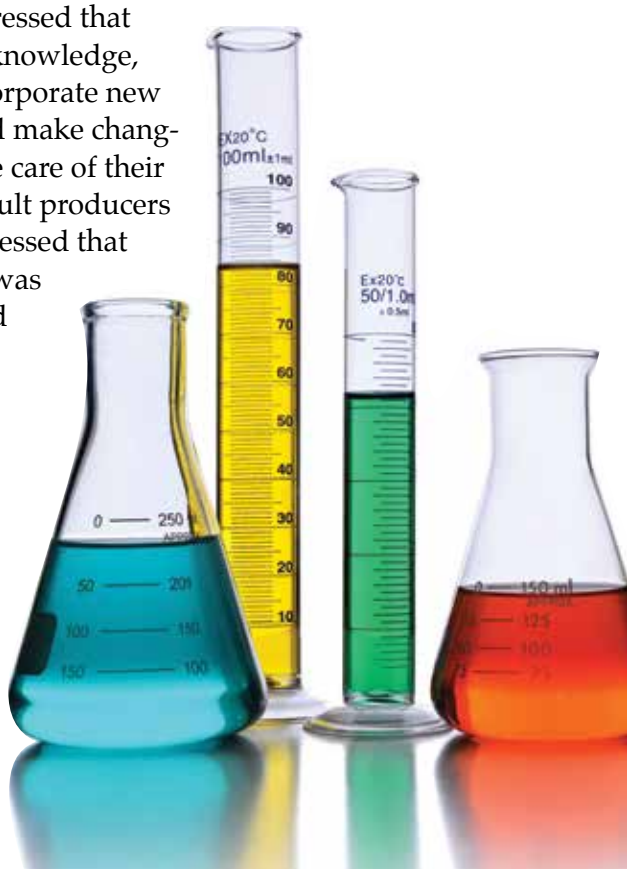
Level V gave in-depth and detailed information on ultrasound technology. After the workshop, participants were taught how ultrasound information is used to calculate quality and yield grades of beef, pork, and lamb. Participants performed the calculations and saw how the different yield and quality grades affected price in the market place. This program was offered to 12 youth and adults in Niobrara County.

Impacts:

Approximately 200 individuals from Converse, Natrona, Niobrara, and Weston counties received training in SET from programming offered by Niobrara County extension educators. Evaluations demonstrate that members, leaders, and parents are more aware of science and technology available to them through the 4-H program.

YQA participants learned how nutrition and health care programs can affect their animals. They have also learned how these practices affect their marketing decisions and the product they raise for the consumers.

YQA evaluations varied in ranking from 8.5 to 9.5 on a scale of 1 (not helpful) to 10 (very helpful) depending upon the level taught and the county where the program was taught. However, evaluations indicated that members gained the most from activities that incorporated the PowerPoint material. The majority expressed that they gained knowledge, they will incorporate new practices, and make changes to improve care of their livestock. Adult producers verbally expressed that the material was beneficial and pertinent.



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