

CONTEMPORARY ISSUES

74 Food animal product safety: a youth education program. D. L. Nelson*, J. R. Busboom, J. A. Newman, J. H. Hiller, and V. N. Hillers, *Washington State University, Pullman.*

The US food supply is regarded as one of the safest in the world. However, the E. Coli 0157:H7 outbreak in 1993 not only pointed out the imperfection of our food safety system, but created a large window of opportunity to teach food animal product safety. These food safety issues can be addressed in youth education. The objective of the project was to help youth develop an awareness and understanding of food safety issues, and how youth can develop community service activities to increase food safety awareness. Youth in the 4-H program have gained an understanding of the needs of American society through education. This can also be the case in a food animal product safety education program. The University of California SERIES science education model was used as the curriculum model. The SERIES goal is to increase the quantity and quality of science experiences available to youth. SERIES develops a clear understanding in youth of how science relates to their daily lives. The target audience of this project was the 21,500 4-H youth involved in livestock and foods and nutrition projects in Washington and Oregon. Curriculum materials are designed for 3rd-5th grade youth; teens are trained to be teachers of the youth; and, adult volunteers are trained to be coaches for the teens. In conclusion, evaluation data received from youth, teens, and adults indicate that all are excited about being involved in "hands-on" science activities. On a 3-point scale, 60% of the 55 4th and 5th graders completing evaluations indicated they really liked the curriculum, and 33% thought the curriculum was OK. At this time approximately 250 adults and teens have been trained to use the curriculum. Evaluation of the curriculum will be on-going for at least another year to determine usefulness and effectiveness.

Key Words: Youth, SERIES, Food safety

75 Calculating Break-Even Prices for Market Livestock Projects. C. Bell* and Miller, *Ohio State University Extension, Caldwell, OH.*

The objective of market livestock projects is to teach participating youth the responsibility that comes with caring for a project animal, to learn about the particular animal species and proper animal husbandry practices, to raise the project animal and the economics needed to identify the associated costs and returns to calculate profit or loss. Over time, the focus of many youth livestock projects has shifted to winning the Junior Fair Livestock Show regardless of the cost of the animal, forgetting or ignoring the economics of potential profit and/or loss. In most cases, the high prices paid for grand champion animals has made winning synonymous with profit and is translated into ever-higher prices being paid for project animals. A relevant question is "How can Extension educators teach youth and their parents how to calculate and easily assess the possibility of making a profit, or at least breaking even, before buying their feeder pig, lamb or steer calf?" A simple economic budgeting procedure is used to show how the purchase price of the animal affects the break-even point a sale time. This information is incorporated into break-even charts for market hogs, lambs and steers, in a hands-on, three dimensional exhibit that allows youth and their parents to see how purchase prices for project animals affect the sale price needed to break-even. This educational process also helps the youth and parents to decide on the profit potential and how much they are willing to risk. The economic budgeting process is one that can be easily replicated with site-specific variables to generate break-even prices for a given location. Fact sheets have also been developed with break-even tables to demonstrate the same concept and are used in conjunction with the exhibit. The three-dimensional, interactive display, along with the associated fact sheets, are based on educational principles of 4-H youth development, farm management and animal science.

Key Words: Youth development, Economics, Market livestock

76 Gee whiz in agriculture: using agriculture to introduce basic sciences and math skills to youth via satellite. K. K. Ragland-Gray*, C. H. Wood, and C. G. Craycraft, *University of Kentucky, Lexington.*

In 1993, a series of three, half-hour satellite programs targeting fourth and fifth graders, titled *Gee Whiz in Agriculture*, was created by the UK College of Agriculture, the Cooperative Extension Service, Kentucky State University, UK Television, and Kentucky Educational Television. Each program featured a single agricultural topic, but focused on the basic sciences and math skills used in the practical application of the subject matter. For example, "How do you grow a fish sandwich?" introduced students to aquaculture, horticulture, and ecology using fish production, hydroponic lettuce production, and a closed hydroponics system as practical examples. Each program was accompanied by teacher guides and student activity sheets for teachers to use as wrap-around materials in the classroom. Following the program broadcast, a live, 30-minute call-in segment allowed students to call-in questions and receive answers from program experts on the air. A USDA Telecommunications Grant and partnering with AG*SAT (now A*DEC) allowed the series to expand to six programs and to reach students nationwide in 1994. The series has aired to hundreds of thousands of youngsters each spring since and has been delivered via videotape, school networks, public television stations, and KU-band, C-band, and digital satellite to all 50 states, Canada, and the US territories. A World-Wide Web homepage has been added to support registrations, provide program information, and allow ready e-mail access to program experts for questions. The programs have been marketed nationally to pay production costs. These funds have partially paid for satellite transponder time each year and allowed reinvestment in the series in 1997 for the creation of three new programs. This model can be used by any extension entity to disseminate educational information to a broad audience through an effective medium, while supporting its own costs and generating funds for delivery and expansion.

Key Words: Education, Science, Satellite

77 Livestock and poultry youth weekend brings young people to campus. M. L. Wahlberg* and P. J. Clauer, *Virginia Polytechnic Institute and State University, Blacksburg.*

The Department of Animal and Poultry Sciences conducted its first Livestock & Poultry Youth Weekend in December of 1995. The purpose of this event is to provide youth an exposure to in-depth information on topics related to livestock and poultry production. An additional objective is to utilize the faculty and the classrooms that are used in the teaching program offered to the undergraduates in the department. The program began with supper on Friday, followed by 1 1/2 hours of general sessions. For Saturday's breakfast the participants made their own omelets, and a mixture of concurrent and general sessions were held throughout the day, ending at approximately 3:45 pm. Based on the success of the 1995 event, a similar program was conducted in 1996. In total 262 people attended the two events held. In the two years combined, 31 different presentations were made by 19 different faculty from the departments of Animal & Poultry Sciences, Food Science & Technology, and Dairy Science. In addition, the Block & Bridle Club members prepared and served a meal and also made two excellent presentations. Results of the evaluations by participants were very gratifying. Completed evaluations indicated that 90% of the participants considered the weekend to be good or excellent.

Key Words: Youth, Four-H

78 Exposing urban children and teachers to animal agriculture. J. A. Moore, *North Carolina State University, Raleigh.*

"Farm Animal Days" is a 3-day event held at one of North Carolina State University's (NCSU's) Field Laboratories in Raleigh, and it is designed to expose urban children (as well as their teachers and parents) to the importance of animal agriculture. Visitors are allowed to see and touch pigs, goats, sheep, dairy calves, rabbits, and chicks. They also see horses and beef cattle, and can see an ongoing demonstration of cow milking as well as a once-daily demonstration of sheep shearing. Adults are given an informative handout with information explaining animal terminology and the importance of animal agriculture to our state. The North Carolina Farm Bureau provides educational coloring books to the children, which allows children to continue learning about agriculture when they return to their homes, and it also exposes parents to important concepts and facts. Farm Animal Days is one of the few positive exposures to farm animals that urban people receive in our area, for most information (especially about animal waste) is presented in a very negative manner by the media. Farm Animal Days began in 1984, and in the past 4 years marketing (flyers, posting on a local Internet newsgroup, announcements in the local paper) and word-of-mouth have increased attendance with the number of visitors being 4948, 6591, 8432, and 8626 for the years 1993-1996, respectively ($R^2 = 0.92$). Adults comprise 26.9% of the visitors (1753, 2169, and 2450 for the years 1994-1996), and the number of educational handouts distributed to adults has risen each year (700, 1087, 1457, and 2138 for the years 1993-1996; $R^2 = 0.98$). In summary, Farm Animal Days is a highly successful educational and public-relations event that portrays the university and animal agriculture in a very positive manner to the general public.

Key Words: Animal Agriculture, Education, Public relations

79 Animal science as the thematic focus for integrated math/science instruction in an urban setting. L. S. Jones, *The Ohio State University, Columbus.*

With growing recognition of the need to consider broadening the scope of agricultural education, it is helpful to share strategies for the presentation of the Animal Sciences to new and different audiences. An original desire to teach Animal Science to urban minority students in a variety of outreach scenarios prompted the development of curricula that have grown to have application in the larger context of systemic educational reform. This presentation will highlight research demonstrating the educational efficacy of Animal Science lessons in nontraditional settings. The findings include several projects with inner city students as well as recent applications in the professional development of school teachers learning new ways to approach the teaching of mathematics and science. Animal Science themes are the context for the development of lessons involving the integration of mathematics and science. Various hands-on activities emphasizing mathematical process skills are directly linked to lessons including a great deal of science content knowledge. Math concepts involving numbers, measurement, algebra, geometry, and data analysis are included depending on the age of the students. Science information covering subject areas such as physics, chemistry, biology, and engineering enhance the breadth of student knowledge. The success of these innovations provides the incentive for the development of other new avenues for outreach. While we have traditionally directed our efforts toward people from rural backgrounds, the numbers of such students have declined dramatically and we need to orient our teaching to different clients. This is a way to address our awareness that increasing the level of agricultural literacy in other sections of the national population would be beneficial both for the educational value and possibility of enhancing diversity in our professional ranks by stimulating the interest of people who would not usually receive exposure to the Animal Sciences

Key Words: Youth, Minority, Teaching

80 Electronic field trips to agricultural enterprises. C. H. Wood^{1*}, K. Ragland-Gray¹, and L. Hobson², ¹*University of Kentucky, Lexington* and ²*Kentucky Educational Television, Lexington.*

Youth who live in towns, cities, and suburbs, whose experience with agriculture might consist of watching the Kentucky Derby on television or driving past cattle grazing on pasture land, might be very curious to learn what life is like on one of those farms. In the spring of 1996, Kentucky Educational Television (KET) and the University of Kentucky College of Agriculture joined forces to take agriculture in to the classroom of young people in grades K-12. The goals of the program were to expose young people to real, Central Kentucky farms that had a variety of enterprises; to show them the types of jobs and careers associated with this type of farming and describe the training and education needed for each; to demonstrate several of the sciences and skills used; to describe the importance of farming to Kentucky and the nation; and to connect students and teachers with other resources they could use to learn more about agriculture. These goals were to be achieved by creating a one-hour, live satellite remote program from Margaux Farms, a World-Wide Web page about the program with information and links to other resources, a packet of written materials for all registered classrooms, and a second one-hour, live satellite program from the KET Studios featuring live, on-the-air questions from students across the state and answers from program experts. The first electronic field trip was delivered to 550 registered classrooms and approximately 16,500 viewing students. The one-hour, live call-in follow-up program aired on May 14 to the same audience. The field trip was aired on open broadcast for another potential 10,000 viewing households. "An Electronic Field Trip to a Horse Farm" is the most watched field trip in the KET series. KET sends monitors to classrooms registered to watch their programs and the response the monitors brought back about this field trip was exceptionally positive.

Key Words: Youth, Electronic Field Trip, Agriculture