



Meat Science

Prime Cuts

Meat Science at Texas A&M University is an interdisciplinary group focusing on food safety, quality, nutrition and value.

A quarterly publication

Spring | 2010

Kerth joins Texas A&M meat science faculty



COLLEGE STATION - Dr. Chris Kerth joined the Department of Animal Science on May 17, 2010 as an associate professor of meat science/muscle biology.

Kerth will teach undergraduate and graduate level courses in the meats area including a course on statistical quality control and analyses in food manufacturing.

His research interests will focus primarily on the animal nutritional, management, and genetic factors that impact the sensory and quality traits of meat. His work includes everything from consumer

acceptability to color quality and oxidative stability to fatty acid composition of beef, pork, lamb and goat.

Prior to joining Texas A&M University, Kerth worked as an associate professor in the Animal Sciences department at Auburn University. Kerth graduated with a bachelor's degree in animal science and industry from Kansas State University, and both a master's and doctoral degree in animal science with an emphasis in meat science from Texas Tech University.

USDA names Margaret Hardin to national committee

COLLEGE STATION - Dr. Margaret Hardin has been appointed to the U.S. Department of Agriculture's National Advisory Committee on Microbiological Criteria for Foods.

The appointment was made by U.S. Secretary of Agriculture Tom Vilsack.

The committee provides science-based food safety advice to the USDA.

Hardin is an associate professor of food microbiology in the meat science section of the Department of Animal Science.

Before joining the Texas A&M faculty, she was director of food safety with Sara Lee Foods, director of food safety with Smithfield, and director of food safety and quality assurance with Boar's Head.

Hardin is one of nine new members to the committee, who, along with 10 returning members, serve as scientific experts from disciplines related to health and food safety issues. Eleven additional experts will be appointed later this year to form the full 30-member committee.

"The NACMCF, established in 1988, provides scientific advice on public health issues relative to the safety and wholesomeness of the U.S. food supply," according to a USDA news release. "The committee also assists in the development of microbiological crite-

ria and reviews and evaluates epidemiological and risk assessment data as well as methodologies for assessing microbiological hazards."

The committee serves the U.S. Departments of Agriculture (Food Safety and Inspection Service), Department of Health and Human Services (Food and Drug Administration and Centers for Disease Control and Prevention), Department of Commerce (National Marine Fisheries Service), and Department of Defense (Veterinary Service Activity).

The Secretary of Agriculture appoints committee members following consultation with the Secretary of Health and Human Services. Appointees are from academia, industry and government. Committee members serve a two-year term.

Hardin earned a bachelor's degree in animal science from the University of Florida and a bachelor's degree in agricultural education from North Carolina State University. She earned a master's degree in animal science from the University of Georgia and doctorate in food science and technology from Texas A&M.



Department hosts group of Austrian Ministry of Agriculture officials

COLLEGE STATION – The Department of Animal Science hosted a group of Austrian Ministry of Agriculture officials on May 17-19, 2010. The group of 27 included officials associated with beef and pork production and marketing programs, leaders of national and state beef and pork associations, representatives of farmers cooperative groups, meat processors and retailers, as well as magazine editors and university researchers.

The group was primarily interested in learning about American beef production and marketing systems. Department personnel organized a tour beginning at Standard Meat Company in Dallas, with stops at the McGregor Research Center to discuss cow-calf and stocker production and research programs, HEB Foods to

learn about retail marketing, and Graham Land and Cattle Co. in Gonzales to learn about Texas feedlots. Along the way, members of the beef cattle and meat science sections described all aspects of beef cattle production and marketing, including an overview of the HACCP Alliance and safety and quality of beef.

Those participating from the department were Dan Hale, Jeff Savell, Matt Taylor, Jason Sawyer, Kerri Harris and Gary Acuff.

The Austrian Ministry of Agriculture contacted the department directly to request the tour, recognizing the Department of Animal Science as a global leader in outreach, education, and research in beef production.

Osburn guest speaker at Muster ceremony in Iraq's FOB Prosperity

Taste of Aggieland

BAGHDAD, IRAQ – Meat Science Associate Professor Dr. Wes Osburn, currently on duty in Iraq, served as the guest speaker for a Muster ceremony held at FOB Prosperity on April 21, 2010, and also served something extra: a taste of Aggieland.

The Texas Association of Meat Processors sends Dr. Osburn monthly shipments of shelf-stable products to enjoy and share with his troops. This last shipment was from Rosenthal Meat Center and included packages of Texas Aggie Brand Beef Jerky.

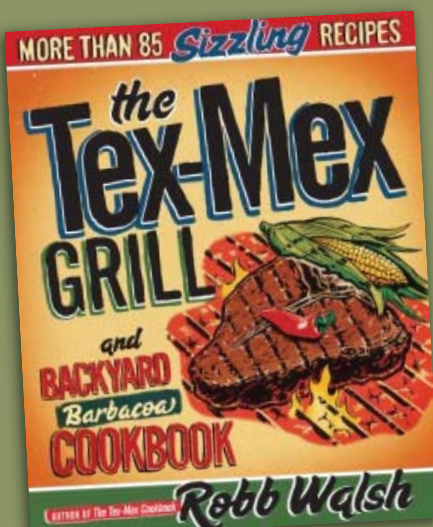
Dr. Osburn was asked to speak at the Muster ceremony after Aggie Football Coach Mike Sherman, who was the scheduled speaker, had to postpone his trip due to the Icelandic volcanic ash. Osburn decided to share his Aggie beef jerky with the Aggie troops at Muster and stated, "they all loved the 'taste of Aggieland'."



Wes Osburn, back, second from left, is stationed at Iraq's FOB Prosperity and served as guest speaker for the group's Aggie Muster Ceremony on April 21, 2010.

Cookbook mentions Beef 101 Course

Robb Walsh, noted Houston food writer and cookbook author, recently released his newest endeavor, "The Tex-Mex Grill and Backyard Barbacoa Cookbook." One chapter is devoted to fajitas and his search for the origin, new meat cuts used to



make this dish and other interesting historical and cultural notes. The feature of this chapter was describing his experience attending Beef 101 and learning about beef. Walsh derived this chapter from an article he wrote for the *Houston Press*, which was nominated for a James Beard Foundation Award this year.

Acuff, Harris: food safety committee

COLLEGE STATION – Dr. Gary Acuff, professor and head of the Department of Animal Science, has been appointed by the National Research Council to chair a 10-member committee that will evaluate food safety requirements of the Federal Purchase Ground Beef Program. Dr. Kerri Harris, associate professor, also has been appointed a member of this committee.

Under the Federal Purchase Ground Beef Program, the USDA purchases and distributes ground beef for federal food and nutrition programs. Suppliers to this program must comply with strict nutritional, food safety and quality requirements.

According to the program website, <http://dels.nas.nas.edu/Study-In-Progress/Evaluation-Food-Safety/DELS-BANR-10-01>, the committee will examine documents that describe the food safety measures required of suppliers of ground beef to the program. The study will also examine how USDA standards, methods and requirements compare to those used in the large purchasing programs of industry leaders.

Acuff's area of expertise is the microbiological quality and safety of foods. He received a master's and doctorate degree in food science and technology from Texas A&M University.

Harris serves as associate professor and director of the Center for Food Safety in the meat science section of the Department of Animal Science, and as president and CEO of the International HACCP Alliance. She received a doctorate degree in nutrition from Texas A&M University.

AgriLife Research, Korean Institute extend partnership for beef studies

By Blair Fannin
AgriLife Communications

COLLEGE STATION – Texas AgriLife Research and the Republic of Korea National Institute of Animal Science have signed an agreement to extend a joint exchange in beef-production research, specifically examining the healthful traits of oleic acid found in Hanwoo cattle.

“We’re extremely pleased to be extending this research partnership that ultimately will have positive outcomes for Texas beef production and for consumers nationally,” said Dr. Craig Nessler, director of Texas AgriLife Research.

The agreement is an extension of an existing research partnership that began more than five years ago, said Dr. Stephen Smith, AgriLife Research meat scientist and lead researcher on the project.

“This agreement will allow us to build on what we’ve already discovered the past five years,” he said. “Specifically, we’ve learned what we can do in marbling and functional foods related to healthy fats. We’ve exchanged information on digestive and production practices that lead to more marbling and healthier marbling. Now, we’d



(Pictured front from left) Dr. Craig Nessler, director of Texas AgriLife Research, and Dr. Sang Cheol Lee, director of the Nutrition and Physiology Division within the National Institute of Animal Science of South Korea, and (front right) Dr. Chang Weon Choi, researcher in animal nutrition and physiology division within the N.I.A.S of South Korea. Also pictured (from left) Dr. Stephen Smith, AgriLife Research meat scientist and lead researcher on the project, and Dr. David Lunt, assistant director with AgriLife Research. (Texas AgriLife Research photo by Jerrold Summerlin)

like to take it a step further and look at the cellular level, what is actually happening. You just don’t get the kind of marbling in South Texas cattle that you do in Hanwoo.”

“We are expecting great things during the next five years (of the agreement),” said Dr. Sang Cheol Lee, director of the Nutrition

and Physiology Division within the National Institute of Animal Science of South Korea. “At the moment, beef production (in Korea) is 30 months to slaughter. We’ve realized 30 months of slaughter time is the reason there are high production costs.”

To view the complete story, go online to <http://agnews.tamu.edu/showstory.php?id=1858>.

Study shows ground beef from grain-fed cattle healthier than grass-fed

By Blair Fannin
AgriLife Communications

COLLEGE STATION – Grass-fed beef may not have as many healthful traits as some perceive, according to results from a recent Texas AgriLife Research study.

Dr. Stephen Smith, an AgriLife Research meat scientist, and a team of researchers have found that contrary to popular perception, ground beef from pasture-fed cattle had no beneficial effects on plasma lipid.

However, high monounsaturated fat ground beef from grain-fed cattle increased HDL cholesterol, increased LDL particle diameters, and decreased insulin, suggesting that ground beef produced by intensive production practices provides “a healthful, high-quality source of protein.”

“We wanted to see from this study if product from pasture-fed and corn-fed cattle had different effects on LDL or HDL

cholesterol,” Smith said. “We looked at the scientific literature and could not find any justifications for the statement that pasture-fed beef is better for you. All we found were rat studies in which they were fed omega-3 fatty acids, so we wanted to know if this applied to beef from grass-fed cattle.”

The study, funded by the National Cattlemen’s Beef Association, used Angus cattle raised at the McGregor AgriLife Research Center. One group of cattle was fed a pasture diet with supplement hay. The steers were kept on pasture until 20 months of age.

A second group of Angus steers was fed the same way a feedlot operator would and kept on a corn-based diet until 16 months of age, then reaching USDA Choice status.

A third group of Angus steers was fed the corn-based diet the longest, until reaching USDA Prime. The fat in cattle that are high in marbling is low in saturated and trans-fats, and higher in monounsaturated

fats.

Beef cuts from the plate and flank taken from all three grades were made into a ground beef product, containing 24 percent fat.

Next, a group of 27 men completed a three-way crossover study. Each group rotated, consuming five 114-gram ground beef patties per week for five weeks from each of the three sets of cattle used in the study.

“There really were no negative effects of feeding ground beef from the pasture-fed cattle,” Smith said. “We did see many positive effects in men that consumed ground beef from corn-fed cattle. The ground beef from the USDA Prime cattle increased HDL cholesterol and LDL particle diameter. Both effects are protective against cardiovascular disease. The Prime ground beef also decreased insulin, so it may have some protective effect against type II diabetes.”

To view the complete story, go online to <http://agnews.tamu.edu/showstory.php?id=1934>.

Smith, Carson complete Undergraduate Research Scholars Program

COLLEGE STATION – Amanda Smith and Carson Ulbrich, both students in the meat science section, completed the Undergraduate Research Scholars Program.

They were both recognized at a reception held May 13, 2010 for completing the year-long program that involved developing a proposal, conducting the research and submitting an undergraduate thesis.

Faculty advisors for Smith were Dr. Jeff Savell and Dr. Kerri Harris, and for Ulbrich, Savell and Dr. Davey Griffin.

Approximately 60 undergraduate students from all TAMU academic colleges and from the Galveston campus completed the requirements for the program.

The Undergraduate Research Scholars Program began in 2006 and enables junior and senior students to actively participate in independent research projects.



Smith receives NMA Scholarship

COLLEGE STATION – Amanda Smith is one of 10 college students nation-wide to receive the National Meat Association Scholarship Foundation scholarship awarded for the 2009-2010 academic school year.

The award was presented at the NMA 64th Annual Conference in February in Indian Wells, Calif.

The NMA Scholarship Foundation is administered by the directors of the organization. These \$2,250 to \$2,500 merit-based awards are presented annually to undergraduate students studying animal/meat/food science and considering a career in the meat industry.

While in California, scholarship recipients assisted the NMA staff in their efforts to put on the annual convention. They networked with many industry leaders and even enjoyed a trip to In and Out Burger, a true West Coast favorite.

Other scholarship recipients were from the University of Nebraska-Lincoln, North Dakota State University, Colorado State University, Texas Tech University, Kansas State University, California State Polytechnic University and Iowa State University.



Amanda Smith, fourth from left, is pictured here with fellow scholarship recipients at the annual NMA Conference held in California.

Former Student News



Huerta is pictured here holding the award and is joined by Rick Watson, second from left.

Huerta accepts packaging award

Diana Huerta, former graduate student of the meat science section, and Rick Watson, marketing director of Cryovac were designated to receive on behalf of Cryovac two of the 2010 22nd Dupont Packaging Innovations Silver Awards.

Huerta was a member of the Cryovac team that developed the Grip and Tear bag which is an easy to open design for fresh and processed meat as well as cheeses. The Cryovac Grip and Tear bag combines the superior shrink, toughness and oxygen barrier properties of a traditional vacuum shrink bag with the addition of an easy-open feature. A user simply grips the package and tears it open. Easily opened by pulling a tab, the bag's knifeless design improves employee safety, reduces the risk of cross-contamination, eliminates mess, and keeps the workspace clean.

(Information provided by the American Meat Science Association newsletter.)

2009 Texas A&M Meat Judging Team ends season with members earning top awards

COLLEGE STATION -- The 2009 Texas A&M Meat Judging Team competed in four major competitions and closed the fall season with several team members earning national meat judging awards.

Team members were Melanie Moore of Meyersville; Jae Ebeling of Plainview; Bryan Weaver of Center Point; and Gatlan Gray of Brock. The team was coached by meat science graduate student Scott Langley of Round Rock.

The A&M team finished in fifth place at the Eastern National Intercollegiate Meat Judging Contest held at Cargill Taylor Beef in Wyalusing, Penn. The team won total placing. Individually, Bryan Weaver placed fifth and Melanie Moore finished ninth.

Next, the team competed at the American Royal hosted by Nebraska Beef in Omaha, Neb. The team finished fifth overall and placed third in reasons. Weaver placed second individually while finished fifth.

At the Cargill Meat Solutions High Plains Contest held at the Cargill Meat Solutions in Plainview, the Aggies finished in fourth place. Moore took first place high individual and Gatlan Gray won first place in the pork judging portion.

The team's final contest was the International Intercollegiate Meat Judging Contest hosted at the Tyson Beef plant in Dakota City, Neb. Melanie Moore was chosen for the 2009 Senior Division Meat Judging All-American First Team and Bryan Weaver was selected for the All-American Second Team. Jae Ebeling was awarded the Rachel Hamilton Spirit Award.



2009 Texas A&M Meat Judging Team: From left, coach Scott Langley, Bryan Weaver, Jae Ebeling, Melanie Moore, Gatlan Gray and team coordinator Dr. Davey Griffin.

2010 Texas A&M Meat Judging Team has busy spring but looking forward to fall

COLLEGE STATION -- The 2010 Texas A&M Meat Judging Team has kept busy this spring practicing and competing in three competitions.

Team members are Clay Eastwood of New Braunfels; Jessica Steger of Del Valle; Bodie Carroll of Cleburne; Henry Hilscher of Shiner; Katie Rauch of Little Hocking, Ohio; Matthew Markwood of Mansfield; Michael Fincher of Franklin; Stephen Lopez of Menard; Aline Theodoro of Dallas; and Katie Fritz of Fredericksburg. The team is coached by meat science graduate students Laura May of Hurricane Mills, Tenn., and Will Wiederhold of Troy. Dr. Davey Griffin is team coordinator.

Contest and results are as follows:

- **National Western, Denver**

Team competition: Fifth overall; total placing - first; beef judging - second; lamb judging - third; specifications - second.

Individual competition: Clay Eastwood, eighth overall; Matthew Markwood, second high overall in alternates contest.

- **Southwestern, Fort Worth**

Team competition: Seventh overall; lamb judging - second; specifications - third.

Individual competition: Henry Hilscher finished 10th high in alternates contest.

- **Houston Livestock Show and Rodeo**

Team competition: Seventh overall; pork judging - first; beef judging - second; lamb judging - second; total placing - second; and reasons - second.

Individual competition: Aline Theodore, beef grading - seventh, overall beef - fifth, total placings - sixth; Clay Eastwood, beef judging - second, lamb judging - third; pork judging - 10th; total placing



The 2010 Texas A&M Meat Judging Team at the National Western competition in Denver, Colo.

- fourth; total reasons - sixth; Katie Rauch, lamb judging - fifth, total placing - fifth; Matthew Markwood, lamb judging - ninth; Bodie Carroll, pork judging - third, total reasons - seventh; Jessica Steger, pork judging - sixth; and Henry Hilscher, specifications - sixth.

The team remains determined and ready for fall competitions even though the spring season did not turn out as they wished. The team is eager for the challenge but look forward to the upcoming International Contest where they hope to become national champions.

MEAT SCIENCE

Workshops ▶ Workshops ▶ Workshops

Center of the Plate Training®

COLLEGE STATION -- Texas AgriLife Extension and the Department of Animal Science hosted the North American Meat Processors' Center of the Plate Training® on May 4-6, 2010 at the Rosenthal Meat Science and Technology Center.

The workshop covers topics such as where meat items originate and how this affects their final use; how value is determined for different meat products and how this is affected by quality parameters; the IMPS/NAMP numbering system, purchase specification options, and standards common to the industry; the importance of standards and how they keep products consistent, wholesome, and fair throughout the market; common defects in meat products that retailers can look for to prevent dissatisfied custom-

This beef seminar was the best training that I have ever gone through as an adult.

--According to survey comments

ers or unpleasant dining experiences; and new menu ideas for the food service industry and new options for retail, according to www.namp.com.

Steve Olson, standards and specifications advisor for NAMP and retired USDA meat marketing specialist, and Dr. Davey Griffin, associate professor and Extension meat specialist, served as primary instructors for the workshop and included



Steve Olson, front left, and Dr. Davey Griffin, far right, demonstrate cutting techniques during the Center of the Plate Training®.

in-depth cutting demonstrations of beef, veal, pork, lamb and chicken.

37 participants attended from 20 organizations including major restaurant groups,

foodservice distributors, retail distributors, the U.S. Army and National Cattlemen's Beef Association. Texas Beef Council and National Pork Board sponsored evening events.

Beef 101

COLLEGE STATION -- Ranchers, retailers, chefs, foodservice distributors, trade association representatives and major food industry company representatives gathered for the May session of Beef 101 in College Station May 18-20.

Beef 101 is a three-day intensive hands-on program designed for anyone who has an interest in expanding their knowledge of the total beef industry. The leading education program for basic information about the beef industry provided in the United

States, Beef 101 requires the cooperation of the Department of Animal Science teaching, research and Extension faculty, staff and graduate students to host the highly visible workshop.

Dr. Davey Griffin, associate professor and Extension

meat specialist, said, "The participants learn a tremendous amount about the various segments of the beef industry and they are always impressed with the department and our students."

Major companies represented include Cargill Meat Solutions, Daymon Worldwide, Golden State Foods, Hormel Foods Corporation, LaBatt Foodservice, National Cattlemen's Beef Association, Outback Steakhouse, Premium Gold Angus Beef, Sweetbay Supermarket, Target Corp., and Tyson Foods.

A second session of Beef 101 was held June 14-16, 2010. For more information, contact Griffin at (979) 845-3935 or by email <dgriff@tamu.edu>.



Paul Maulsby, beef center manager, and Jake Franke, lecturer, conduct a live evaluation to explain how to make a live animal prediction of carcass quality and yield grade.



Miles Guelker, meat science graduate student, left, instructs a Beef 101 participant on how to separate the rib from the chuck.

Pork 101

COLLEGE STATION – The annual Pork 101 Workshop offering hands-on activities in live hog evaluation, pork carcass grading and fabrication, pork processing and sensory was held May 25-27, 2010 at the Rosenthal Meat Science and Technology Center. The class was conducted by faculty, staff and graduate students in the meat science section and other Animal Science faculty. The course instructed 13 participants from major pork companies, retailers and foodservice operators. Pork 101 is coordinated by Dr. Davey Griffin and sponsored by the American Meat Science Association, Elanco and Stork/Townsend.



FFA meat judging events held at TAMU

COLLEGE STATION – The meat science section and the Texas A&M Meat Judging Team hosted three FFA events this spring.

4-H/FFA Meat Judging Clinic

(Rosenthal Meat Science and Technology Center - March 27, 2010.) The day included 13 placing classes, grading cattle and over 100 retail identification cuts from the teams and their coaches to use for practice. Concurrently, meat science faculty, staff and graduate students and meat judging team members conducted mini-clinics to provide basic information on meat judging.



facilitate the number of students involved. The contest included 210 students from the six areas including Area III, VI, VII, VIII, IX and X.

Area qualifying FFA Career Development Event for meat evaluation

(Texas A&M University - April 10, 2010) Six of the 10 FFA areas held their area qualifying CDE here at TAMU. The contest is conducted twice to facilitate the number of students involved. The contest included 210 students from the six areas including Area III, VI, VII, VIII, IX and X.

In all contests, the TAMU Meat Judging Team along with coaches Will Wiederhold and Laura May, Rosenthal Center Manager Ray Riley and Meat Judging Team Faculty Coordinator Davey Griffin worked the day before to prepare the exhibits and the Rosenthal Center and provided official placings and reasons as well as served as group leaders during the contests. Special thank you to the Rosenthal Center staff for all they did to help provide product and handle the exhibits after the contests.

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News in Brief

Presentation on Ethiopia Experience – Jeff Savell presented a seminar for the Borlaug Institute on May 5, 2010 on his work in Ethiopia. The title of his seminar was “Helping Ethiopia Export Meat,” and he presented information and photos from his three trips to Ethiopia as part of the Ethiopian Sanitary-Phytosanitary and Livestock and Meat Marketing Project, which is funded by USAID.

College Honors Workshop – Jeff Savell was one of the presenters at the College of Agriculture and Life Sciences workshop on Honors Program held on April 16, 2010. The initiative from the college is to increase the number of honors offerings for students, and the audience included department heads, associate department heads for instruction, undergraduate advisors and counselors from each department.

Savell has taught ANSC 307 Meats - Honors since 1986, which was one of the first honors classes to be taught in the college and was the first honors class to be taught in the Department of Animal Science. His discussion centered on the different requirements/expectations for a honors class compared to a regular class.

Publications

Lorenzen, C. L., C. R. Calkins, M. D. Green, R. K. Miller, J. B. Morgan, and B. E. Wasser. 2010. Efficacy of performing Warner-Bratzler and slice shear force on the same beef steak following rapid cooking. *Meat Sci.* 85: 792-794.

Lawrence. T. E., N. A. Elam, M. F. Miller, J. C. Brooks, G. G. Hilton, D. L. VanOverbeke, F. K. McKeith, J. Killefer, T. H. Montgomery, D. M. Allen, D. B. Griffin, R. J. Delmore, W. T. Nicholas, M. N. Streeter, D. A. Yates, and J. P. Hutcheson. 2010. Predicting red meat yields in carcasses from beef-type and calf-fed Holstein steers using the United States Department of Agriculture calculated yield grade. *J. Animal Sci.* 88: 2139-2143.

Dr. Jeff Savell
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Texas 4-H Roundup



Rylee Wilkerson from Canton, Texas, *center*, won first place in the Meat Science Demonstration Contest at the Texas 4-H Roundup held the week of June 7, 2010 in College Station. Wilkerson is pictured here with, *from left*, meat science students Amanda Smith and Laura May, Tommy Phillips, Van Zandt County Extension Agent 4-H and Youth Development, and meat science student Melanie Moore. Smith, May and Moore served as contest judges and Dr. Davey Griffin was superintendent. In other events, Dr. Dale Hale served as superintendent for the Meat Judging and Evaluation contest.

Upcoming Events

Date	Event	Contact
2010		
Sept. 15-17	SMA Introductory HACCP Course College Station, TX	Tiffany Mooney 979-862-3643
Oct. 15-16	NMA/TAMU Introductory HACCP Oakland, CA	Tiffany Mooney 979-862-3643
Nov. 5-6	SMA/NMA/TAMU Beyond Basics Course College Station, TX	Tiffany Mooney 979-862-3643
Dec. 8-9	SMA Introductory HACCP Course College Station, TX	Tiffany Mooney 979-862-3643
Dec. 9-11	Beef 101 Course College Station, TX	Davey Griffin 979-845-3935
2011		
May 4-6	NAMP/Texas AgriLife Extension, Center of the Plate	Ann Wells 800-368-3043

To receive an electronic copy of Prime Cuts, please send an email to <primecuts@tamu.edu>. To update your address, please contact Tiffany Mooney at 979-862-3643.