

Goat Newsletter

Cooperative Extension Program Langston University

The Newsletter of the E (Kika) de la Garza American Institute for Goat Research

Spring 2004

From the Director's Desk



Dr. Tilahun Sahlu

This time of year the weather seems to vary quite dramatically from day to day, though perhaps this relates to the intermittent very cold periods we previously thought, and now again wish, were over. Nonetheless, overall we are in the winter/spring transition period. This is a time for goat producers marked by shifting priorities and tasks as well. And our program also continues to change, both on shortand long-term bases. For example, we recently completed preparations and submitted proposals to the program that has been of greatest importance to the Institute, the USDA 1890 Institution Capacity Building Grant Program. In addition, in February

we interviewed candidates for two faculty positions and are hopeful of adding scientists who will bring new innovative aspects to the program. Another exciting happening is progress on the new building on campus where many of the Institute functions will be moved.

For comments a bit more specific to research, Dr. Thomas Ngwa of the Institute of Agricultural Research for Development in Cameroon joined the Institute in February to work on the project "Nutrient Requirements of Goats: Composition of Tissue Loss and Gain." Ngwa's first experiment will soon commence. One trial of a different project that was recently completed dealt with effects of the number of Boer crossbred wethers on feeding behavior and growth with an automated feeding system. This system permits group housing with one feeder per pen. One animal is allowed to consume feed at a given time, with the amount of feed consumed and body weight recorded automatically.

eight, ten, and twelve wethers per pen or feeder were tested, and eight and ten wethers appeared advantageous compared with twelve wethers and to a lesser extent relative to six. A second experiment with this system has just been initiated, which involves a comparison with the Calan gate feeding system and different diets.

On the international front. the E (Kika) de la Garza American Institute for Goat Research is participating in an Oklahoma Higher Education Partnership led by the University of Oklahoma with Oklahoma State University, Langston University and Cameron University to revitalize the higher education system in Iraq. The effort is part of USAID's Higher Education and Development initiatives in Iraq. The Institute's role focuses on small ruminant research and updating the skills of Iraqi scientists in research and laboratory methodologies. A main activity conducted by Langston University will be a training program for Iraqi scientists,



Goat Newsletter is published quarterly by the Cooperative Extension Service of the E (Kika) de la Garza American Institute for Goat Research, Langston University, Langston, Oklahoma.

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> Newsletter Editor Dr. Terry A. Gipson

The Cooperative Extension Program at Langston University, provides educational programs to individuals regardless of race, color, national origin, religion, sex, age, disability or status as a veteran. Issued in furtherance of Extension work, Act of September 29, 1977, in cooperation with the U.S. Department of Agriculture.

part of which will be held in conjunction with the activities of the Middle East Regional Cooperative Program grant with institutions in Egypt, Jordan, Israel, and the Palestinian Authority. Langton University will also assist in revitalizing an animal science laboratory at a participating Iraqi university.

Spring is the time when we finalize preparations for our annual Goat Field Day, which will be held on Saturday, April 24, 2004 at the Langston University Goat Farm with registration beginning at 8:00 a.m. This year's theme will be *Controlling Unwanted Vegetation Using Goats*. This year, our featured speakers will be Ms. Kathy Voth and our own Dr. Steve Hart.

For the past six years, Kathy Voth has worked for the Bureau of Land Management and Utah State University on a demonstration research project to use goats for fire and weed control. Kathy has developed several resource materials on this subject including a handbook on CD entitled "Goats! for Firesafe Homes in Wildland Areas", and a website with additional material. Dr. Steve Hart has been at the forefront of an USDA Sustainable Agriculture Research and Education grant that Langston University received and has nearly completed. The primary objective of the project is to increase appropriate employment of goats in sustainable vegetation management in grazing lands of the south-central US, with particular emphasis on Native American Nation tribal lands or lands of tribal members. To this end, we have been working with the Caddo Nation, Cherokee Nation, Choctaw Nation, Greater Seminole Nation, Osage Nation, and Sac and Fox Nation.

The Goat Field Day will also have practical afternoon sessions as well. There will be two youth programs in the morning and two in the afternoon. For the younger youth, there will be a craft project and games to play during the morning and afternoon. Older youth and interested adults will be able to participate in a full-day clipping, fitting, and showing workshop.

For complete details of this year's field day, see page 3.

On page 7 of the newsletter, you will find a tentative schedule of this year's extension activities. This year's activities include the annual Goat Field Day, meat buck performance test, sustainable internal parasite control workshops, and artificial insemination workshops. Reserve your place today for the individual workshops.

Make plans today to attend the Goat Field Day



2004 Goat Field Day: Controlling Unwanted Vegetation

Our annual Goat Field Day will be held on Saturday, April 24, 2004 at the Langston University Goat Farm with registration beginning at 8:00 a.m. This year's theme will be Controlling Unwanted Vegetation Using Goats. This year, our featured speakers will be Ms. Kathy Voth and our own Dr. Steve Hart.



Kathy Voth and friends

For the past six years, Kathy Voth has worked for the Bureau of Land Management and Utah State University on a demonstration research project to use goats for fire and weed

control. Her interest in this sprang from her involvement in the 1994 Storm King fire, where 14 firefighters died, and her desire to find a safer way to protect homes and lives. Her research project included managing a herd of 130 goats, measuring goat impacts on vegetation, and putting together solutions for fencing, watering, and managing animals so that livestock producers and land managers could easily and successfully use this tool.

Kathy is adjunct faculty at Utah State University, teaching an internship program to prepare students to work for natural resource management agencies and organizations. She is now working with Utah State University to develop a network to provide training for those interested in teaching livestock to eat a wider variety of foods to control weeds and improve biodiversity. She is also coordinating a pilot project with the Grant-Kohrs Ranch National Historic Site to use cows to control Canada thistle, leafy spurge, and spotted knapweed.

Kathy has developed several resource materials for vegetation management, including the website http://www.livestockforlandscapes.com. Livestock for Landscapes is a resource for infor-

mation on management techniques, training opportunities, and suggestions for how communities and livestock producers can work together to create sustainable, economically viable communities and landscapes.

In addition to the website, Kathy has developed a handbook entitled "Goats! for Firesafe Homes in Wildland Areas". This CD handbook and other resource information will be on sale at the Goat Field Day.



Kathy's handbook on CD, which will be on sale at the field day.

Dr. Steve Hart has the field day. been at the forefront of

an USDA Sustainable Agriculture Research and Education (SARE) grant that Langston University received in 2001 and has nearly completed. The primary objective of the project is to increase appropriate employment of goats in sustainable vegetation management in grazing lands of the south-central US, with particular emphasis on Native American Nation tribal lands or lands of tribal members. To this end, we have been working with the Caddo Nation, Cherokee Nation, Choctaw Nation, Greater Seminole Nation, Osage Nation, and Sac and Fox Nation. Steve's presentation will focus on the results of this project.

In the afternoon session, participants will break into small-group workshops. There will be a total of thirteen workshops; however, participants will only have time enough to attend three.

Afternoon workshops include:

- Continued FireSafe session with Kathy Voth,
- Continued SARE session with Steve Hart,
- Basic Goat Husbandry I hoof trimming, farm management calendar, disbudding, etc. with Jerry Hayes,
- Basic Goat Husbandry II pregnancy diagnosis, injection sites, dewormers and other ap-

- proved drugs with Dr. Lionel Dawson,
- Tanning Goat Hides demonstration of basic goat hide tanning techniques with Roger Merkel,
- Oklahoma Milk Regulations basic regulatory knowledge for dairy producers with Frank Harris of Oklahoma Department of Agriculture,
- Dairy Products Overview discussion on goat dairy products with Steve Zeng,
- Nutrient Requirement Web Calculators calculation of energy and protein and feed intake requirements using our new Internet-based calculation system with Art Goetsch,
- Simulation Goat Production Modeling overview of computer simulation program for meat, dairy or fiber goat production with Mario Villaquiran,
- DHI Training supervisor/tester training for dairy goat producers including scale certification with Langston staff,
- USDA Government Programs overview of USDA Natural Resource Conservation Service's work with goats and its cost-sharing program with Dr. Mark Moseley and Mr. Dwight Guy Of USDA-NRCS,
- General Youth Activities fun activities for younger youth with Sheila Stevenson, and
- Fitting and Showing for Youth and Adults full day workshop with Kay Garrett.

Ms. Sheila Stevenson, Jeff Wilson, Ms. Candice Howell, the LU Collegiate 4-H Club, the LU Rodeo Team, Langston Fire Et Police Departments, Guthrie Police Department, and other volunteers will host a full day of activities for youth ages 5-12. This will allow the parents and older teens to enjoy the workshops knowing that their little ones are in a fun and safe environment. Some activities will include: goat education (i.e., goat petting area Et goat bingo); Risk Watch Injury Prevention (i.e. water safety, fire/burn prevention); fishing derby; and many other activities

Other youth and interested adults will be able to participate in a full-day clipping, fitting, and showing workshop conducted by Ms. Kay Garrett of the Oklahoma Meat Goat Association. Participants will have the opportunity to have hands-on practice of clipping and fitting a goat and then show it before a judge in the show ring.

You can bring your own lunch and picnic on the grounds or you can pre-register for a lunch of barbecued goat, beans, potato salad, refreshments, and goat milk ice cream. Cost of the lunch is only \$7.00 per person.



Again, this year we will have a cheesemaking workshop. This year the workshop will be conducted by our Dairy Foods Technologist, Dr. Steve Zeng. This year the full-day cheese workshop will be on Friday, April 23, 2004, the day before the Goat Field Day. This workshop will provide participants with a unique, hands-on experience of making cheese. Registration for the cheesemaking workshop is \$20 and is limited to the first 15 participants who have pre-registered. You must pre-register by calling Dr. Zeng at 405-466-3836 ext 226.

Registration for the Goat Field Day is FREE but there is a \$7.00 per person charge for the optional barbecued goat lunch. Please make plans to attend the Goat Field Day now.

For information regarding the 2004 Goat Field Day, contact Dr. Terry Gipson at (405)466-3836 or at tgipson@luresesext.edu or http://www2.luresext.edu/goats/library/fd2004.html.



GOAT FIELD DAY

Saturday, April 24, 2004 - 8:00 am Langston University Goat Farm

Registration for the Goat Field Day is FREE

For more information call (405) 466-3836 or register on-line at http://www2.luresext.edu/goats/library/fd2004.html

Bring your own lunch or you can Pre-Register for Lunch (BBQ goat, beans, potato salad, refreshment, and goat ice cream; only \$7)

INSTRUCTIONS FOR PRE-REGISTRATION (one form per person):

- 1.- Write your name, address, and telephone number below. Indicate if you will be registering for lunch.
- 2.- Select afternoon workshops from each time period to attend from the schedule on the back of this form.
- 3.- Within time period, indicate your first, second, and third afternoon workshop preference.
- 4.- Write a check payable to "RESEARCH SALES" for the amount, if registering for lunch.
- 5.- Mail this form and the check as soon as possible.

PRE-REGISTRATION F	ORM
NAME:	TELEPHONE: ()
ADDRESS:	-
ZIP:	
Registration for Goat Field Day is FREE; however, there is a lunch.	fee for lunch. You may bring your own
Adults (\$7.00 each) Children (12 and under)	Make checks payable to: Research Sales
(\$3.00 each)	Please mail this form and check to:
TOTAL	Agric. Res. and Ext. Prog. Langston University P.O. Box 730 Langston, OK 73050

ATTN: FIELD DAY

2004 Goat Field Day Registration

	_	Please select one morning session:
Session	11:45 а.т.	G Adult General session
Morning	9:00 - 11:	G Youth Workshop #1: General Youth Activities - Ms. Stevenson (All Day)* G Youth Workshop #2: Fitting and Showing - Ms. Garrett (All Day)
2	6	*(Please complete Youth Registration also)

		Please Select		
	1:00 - 2:00 p.m.	a Workshop		
		for this ses-		
		sion and Enter		
		the Workshop	Afternoon Workshop Choices:	
		number here:	1. Continued FireSafe from morning	
			2. Continued SARE from morning,	
	1		3. Basic Goat Husbandry I ^a ,	
S	2:15 - 3:15 p.m.	Please Select	4. Basic Goat Husbandry II b,	
Afternoon Sessions		a Workshop for this ses- sion and Enter the Workshop number here:	5. Tanning Goat Hides,	
			6. Oklahoma Milk Regulations,	
			7. Dairy Products Overview,	
			8. Nutrient Requirement Web Calculators,	
			9. Simulation Goat Production Modeling,	
			10. DHI Training,	
	3:30 - 4:30 p.m.	Please Select	11. US Government Programs,	
		a Workshop for this ses-	12. General Youth Activities, and	
		sion and Enter	13. Fitting and Showing for Youth and Adults	
		the Workshop		
		number here:		
	- (
	3:30			
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In compliance with the ADA Act, participants with special needs can be reasonably accommodated by contacting Dr. Terry Gipson (405) 466-3836, at least five business days prior to the Goat Field Day.

^aBasic Goat Husbandry I - hoof trimming, farm management calendar, disbudding, etc.

^bBasic Goat Husbandry II - pregnancy diagnosis, injection sites, dewormers and other approved drugs



Cooperative Extension Program

Langston University, P.O. Box 1260, Langston, OK 73050



Phone: (405) 466-3836 Fax: (405) 466-3138

Dear Goat Field Day Participants:

This letter is to invite you to bring your children (ages 5-12) to enjoy a day full of Fun, Food, & Excitement during the Goat Field Day, Saturday, April 24, 2004. The Cooperative Extension Program will be hosting a "4-H Fun Tent". Highlights of the day will include: Risk Watch Training (an injury prevention curriculum) Sponsored by the NFPA (National Fire Prevention Association) & Lowe's Home Improvement (water safety, bicycle safety, and seat belt safety are some of the areas that will be covered); Goat Education (goat petting area, goat bingo, etc.); and many other activities (fishing derby, face painting, etc.).

Please find on the reverse of this letter a participant registration form (feel free to make as many copies as necessary). Fill out one per child and return them with your Goat Field Day registration form so that we may make adequate preparation for the participating youth. Other forms may be needed during your on-site check in. We are excited to have this opportunity to make a positive investment in the lives of our youth.

If you have any questions or concerns, please contact Sheila Stevenson, @ 466-3836 x267 or Dr. Terry Gipson @ 466-3836 x231.

Sincerely,

Sheila Stevenson

Cooperative Extension



Cooperative Extension 4-h youth Development



"Goat Field Day-4-H Fun Tent"

Registration Form		
Name:	Age: Sex: (F) (M) DOB:	
Address:	City/Town: Race:	
Phone:	Pager/cell:	
Please Note any Health Problems that the	e Youth has:	
Emerg	ency & Pickup Information	
Person responsible for picking up the youth	Cell Phone:	
Emergency Contact Name:	Relationship to participant:	
Waiver, Rel	ease and Indemnity Agreement	
Extension Program "Goat Field Day – 4-H the Cooperative Extension Program at Lang of action, or suit of any kind of nature whats damages caused by negligence, known and	to participate in the Cocun Tent" the undersigned hereby releases and forever don University from all claims, demands, damages, action oever, and particularly on account of all wrongful death, in unknown, both to person and property by the program passevelop from an accident which occurred while participation.	ischarges is, causes njuries or articipant,
The undersigned acknowledges reading the agreement.	above and is fully aware of the legal consequences of signature of the legal consequences of signature and is fully aware of the legal consequences of signature and is fully aware of the legal consequences of signature and is fully aware of the legal consequences of signature and is fully aware of the legal consequences of signature and is fully aware of the legal consequences of signature and is fully aware of the legal consequences of signature and is fully aware of the legal consequences of signature and is fully aware of the legal consequences of signature and is fully aware of the legal consequences of signature and is fully aware of the legal consequences of signature and is fully aware of the legal consequences.	gning this
Dated this day of	2004.	
Parent or Legal Guardian's Name (Please Print)	Sheila Stevenson, Coordinator Cooperative Extension Representative's Name (Plea	ase Print)
Parent or Legal Guardian's Signature	Cooperative Extension Representative's Signature	

Research Spotlight

Abstracted by A. Goetsch

Domiati Cheesemaking.

Twenty lactating Alpine goats were randomly allocated to four groups to investigate effects of different nutritional management treatments on fatty acid profiles in goat milk and Domiati cheese at different stages of lactation. Pooled milk from each group was collected twice monthly for cheese making. Cheese was sampled fresh and at 1 and 2 months of pickling in whey. Caproic, caprilic, and capric acids in goat milk averaged 1.9, 5.5, and 25.1 µg/g of fat, respectively, and accounted for 13.3% of total fatty acids. Total unsaturated fatty acids represented 28.9% of total fatty acids. In Domiati cheese, caproic, caprilic, and capric acids were 4.2, 7.4, and 31.4 µg/g of fat, respectively, and accounted for 11.2% of total fatty acids. Total unsaturated fatty acids represented 26.8% of total fatty acids. Fatty acid composition of both milk and cheese was affected by feeding treatment and stage of lactation. All fatty acids of milk and cheese were lower when goats grazed without concentrate supplementation compared with grazing and different levels of supplemental concentrate or feeding of a total mixed diet in confinement, except for linolenic and stearic acids in goat milk and linolenic acid in cheese. Concentrations of caproic, caprilic, capric, palmitic, myristic, and oleic acids fluctuated throughout lactation, with the highest values at the mid-point. These results suggest that grazing without supplemental concentrate during mid-lactation could result in improved quality and nutritionally healthy goat milk and cheeses.

Soryal, K. A., S. S. Zeng, B. R. Min, S. P. Hart, and K. Tesfai. 2003. Fatty acid profiles of goat milk and Domiati cheese as affected by pasture feeding and stage of lactation. Journal of Food Lipids 10:219-236.

Meat Production.

In order to accurately estimate nutrient requirements of livestock, it is desirable to know the composition of tissue gained or lost. Much less

information on body composition of goats is available relative to that for other ruminant species such as cattle and sheep. The cost and labor associated with harvest and the determination of chemical composition of the whole body or carcass and noncarcass components are high. Furthermore, such measures are terminal, necessitating assumptions of similar composition of other animals at later times in serial slaughter experiments. Therefore, there is need for simple, inexpensive, and non-terminal means of assessing body composition of goats. In this regard, growing Spanish wethers and doelings consumed ad libitum diets differing in quality continuously for 18 weeks or with an increase in quality after 9 weeks. Urea space (US), shrunk body weight (SBW), and chemical composition of the whole body were determined at the beginning, middle, and end of the experiment. In addition, at the beginning of the experiment the same determinations were made with two yearling Boer × Spanish doelings that had consumed a high quality diet ad libitum for 12 weeks. SBW accounted for most variation in body composition of growing goats of this experiment. Nonetheless, small improvements in explained variability resulted from inclusion of US in equations for water and fat. Equations yielding best prediction of body composition of weaned goats were: water (kg) = $1.274 + (0.1546 \times US, kg) + (0.5782 \times SBW, kg)$ $- (0.0043 \times SBW2, kg);$ fat (kg) = -0.921 - $(0.1520 \times US, kg) + (0.1564 \times SBW, kg) +$ $(0.0064 \times SBW2, kg)$; protein (% water) = $34.696 - (0.1175 \times \text{predicted water, \%})$; and ash (% water) = $0.0448 \times \text{predicted water}$, %. However, utility of such equations at present may primarily be for within experiment treatment comparisons or for assessing changes in composition.

Wuliji, T., A. L. Goetsch, R. Puchala, T. Sahlu, R. C. Merkel, G. Detweiler, S. Soto-Navarro, J. Luo, and T. Shenkoru. 2003. Relationships between body composition and shrunk body weight and urea space in growing goats. Journal of Applied Animal Research 23:1-24.

2004 Goat Activities

Buck Performance Test

Are your Boer and(or) Boercross bucks fast growing? Are they efficient in converting feed into meat? You can answer these questions by enrolling your buck(s) in the eighth annual meat buck performance test conducted by the Goat Extension Program in collaboration with the Oklahoma Meat Goat Association. The buck test will start on May 8, 2004 and is open to bucks born between December 1, 2003 and March 31, 2004. Complete details of the 2004 buck performance test are available on our web site at www2.luresext.edu/extension/

For information regarding the 2004 buck performance test, contact Dr. Terry Gipson at (405)466-3836 or tgipson@luresesext.edu.

Controlling Internal Parasite Workshops

Are internal parasites a major problem for you? Want to know more about controlling internal parasites in your goat herd? We will be conducting three workshops on controlling internal parasites this summer. The first workshop will be held at Langston University on Saturday, May 8, the second work-

shop will be held in Tahlequah, OK on Saturday, May 15, and the third will be held in Ada, OK on Saturday, May 22.

Participants will learn about parasite life cycles, dewormers, and alternative treatments, and will experience a hands-on training session on how to conduct fecal egg counts. Registration for each workshop is limited to 16 participants and the registration fee is \$10 per person. Included in the cost of registration are handouts and lunch. The special slide (McMaster counting chamber) for doing fecal egg counts is available for \$15 each.

For information regarding the internal parasite workshops, contact Dr. Steve Hart at (405)466-3836 or shart@luresext.edu.

Artificial Insemination Workshops

The Goat Extension Program will be conducting two artificial insemination workshops this fall. The first will be at Langston University on Saturday, September 6, 2004 and the second will be at the Cherokee County Fairgrounds in Tahlequah, OK on Saturday,

October 11, 2004. Both workshops will present basic anatomy and physiology of goats, estrus detection and synchronization in goats, and semen handling. Participants will have the opportunity to practice with fresh reproductive tracts and with live ani-

mals.

Registration for each workshop is limited to 20 participants and the registration fee is \$30 per person. Included in the cost of registration are handouts and lunch.

For information regarding the AI workshops, contact Dr. Terry Gipson at (405)466-3836 or tgipson@luresext.edu.

Tentative Year 2004 Activities

In 2004, The E (Kika) de la Garza American Institute for Goat Research will sponsor several extension/education activities. Due to the hands-on nature of the Cheesemaking, Sustainable Internal Parasite Control, and Artificial Insemination workshops the number of participants will be limited. Registration forms for individual workshops are available upon request. *Reserve your place today*.

If you are interested in receiving future information regarding these events, please check the appropriate box in the form below and return. In compliance with the ADA Act, participants with special needs can be reasonably accommodated by contacting Dr. Terry A. Gipson (405) 466-3836, at least five business days prior to the scheduled event.

N.B. Dates are	e subject to change and workshops may be cancelled due to insufficient enrollment.
	(Cut along line and mail form)
	FORM TO REQUEST INFORMATION ABOUT FUTURE EVENTS
NAME:	TELEPHONE:
ADDRESS:	
	7ID·

Date	Activity	
April 24, 2004	GOAT FIELD DAY	
May 8, 2004	Meat Buck Performance Test	
May 8, 2004	Sustainable Internal Parasite Control for Small Ruminants (Langston)	
May 15, 2004	Sustainable Internal Parasite Control for Small Ruminants (Tahlequah)	
May 22, 2004	Sustainable Internal Parasite Control for Small Ruminants (Ada)	
September 11, 2004	Demonstration Clinic: Artificial Insemination for Goats (Langston)	
September25, 2004	Demonstration Clinic: Artificial Insemination for Goats (Langston)	
October 9, 2004	Demonstration Clinic: Artificial Insemination for Goats (Tahlequah)	

Please mail this form to:

Dr. Terry A. Gipson Agricultural Research and Extension Program Langston University P.O. Box 730 Langston, OK 73050

ATTN: YEAR 2004 EVENTS

Most workshop registration forms are available on the Internet at:

http://www2.luresext.edu/goats/extension/workshops_field_day.htm

GOAT FIELD DAY registration is also available online at:

http://www2.luresext.edu/goats/library/fd2004.html

Noteworthy News

In December, Dr. **Tilahun Sahlu** traveled to Ethiopia as part of the ongoing collaborative project.

In January, Dr. Steve Hart traveled to Gainesville, FL to attend the The Practical Tools and Solutions for Sustaining Family Farms Conference hosted by the Southern Sustainable Agriculture Workers Group Conference.

In January, Dr. **Berhan Tamir** returned to Alemaya University and Dr. **Aberra**

Melasse returned to Awassa College of Agriculture both in Ethiopia after their research stays at Langston University. Dr. Melasse also spent time at Fort Valley State University in GA.

In February, Dr. **Terry Gipson** traveled with Dr. **Tom Terrill** of Fort Valley
State University to Alemaya
University and Awassa College of Agriculture in Ethiopia to conduct training
workshops as part of the ongoing collaborative relation-

ship among these four universities.

In February, Drs. Ryszard Puchala, Art Goetsch, Steve Hart, and Mr. Getachew Animut presented research findings at the Southern Section of the American Society of Animal Science meetings in Tulsa. As part of the Southern Section meetings, Langston University hosted the Small Ruminant Information Exchange Group on campus.



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