



# Goat Newsletter

Cooperative Extension Program  
Langston University

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

Spring 1999

## From the Director's Desk

Photo #1

*Dr. Tilahun Sahlu*

We have been very busy this past quarter with numerous research and extension activities. The animal phase of a number of experiments has recently been completed. Samples are now being analyzed in the laboratory and the data are being statistically analyzed. In the future, we will report on these findings. In addition, it is at this time of the year that we prepare project proposals for submission to agencies, seeking their support in the continuation and enhancement of our research and extension program. In this regard, we have just received notification of external support for two new projects.

We are busily making arrangements for our annual Goat Field Day, which will be held on

Saturday, April 24, 1999. This year, we have invited Dr. **Tom Craig** from Texas A&M University to speak on sustainable control measures for internal parasites and on the increase in anthelmintic resistance and Dr. **S. Mobini** from Fort Valley State University to speak on infectious diseases and general herd health management. Our own Dr. **Terry Gipson** will speak on the demand for goat products, US immigration trends and how the two are related. In addition, we have numerous afternoon workshops ranging from herd health measures to cheesemaking to tanning of goat hides. Page 5 of the newsletter provides more information about the Goat Field Day and the afternoon workshops. A preregistration form is enclosed in this newsletter for your convenience. *Please make plans to attend the Goat Field Day now.*

Plans are also underway for our third annual Meat Buck Performance Test sponsored jointly with the Oklahoma Meat Goat Association (see page 7 for more information).

Two new Visiting Scholars

have recently joined us (see page 8). In addition to the new Visiting Scholars, Ms. **Rowena Joemat** has recently begun an M.S. program in the Department of Animal Science at Oklahoma State University. Rowena is a native of South Africa and was awarded a USDA /ARS Fellowship. She will do her coursework at OSU and her research at Langston.

Drs. **Ryszard Puchala, Jun Luo and Steve Hart** and graduate student Mr. **T. Shenkoru** attended the American Society of Animal Science Southern section meetings held at Memphis, Tennessee, in early February and presented research findings.

Dr. **Arthur Goetsch** has been awarded a USDA Scientific Cooperation Program Short-Term Visit grant, entitled "South African Boer Goat Research and Production Systems". Dr. Goetsch will spend three weeks touring research and extension institutes and production units involved in Boer goat production throughout South Africa in late October and early November.



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

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*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.*

## Meet the Faculty & Staff

Photo #2

*Dr. Irene Brown-Crowder*

Irene Brown was born in Berks County, Pennsylvania and was raised on a small farm. Dr. Brown was very active in FFA and 4-H as a youth. She showed markets lambs, market hogs and dairy goats. Her first dairy goat was a Nubian and then she owned and showed Saanens. She received a B.S. in Animal Husbandry from Delaware Valley College of Science and Agriculture in Doylestown, Pennsylvania. At Delaware Valley College, Dr. Brown was very active in Block and Bridle. She was the first woman president of the Delaware Valley College's Block and Bridle club, and was the outstanding Block and Bridle member in 1985. Dr. Brown received an M.S. in Animal Science from Northwest Missouri State University, and a Ph.D. in Dairy Science from the University of Missouri-Columbia.

After receiving her doctorate, Dr. Brown worked

for Young's Nutrition Service, a subsidiary of Cargill Inc., as their Feed Management Representative in five counties in central Maryland.

In 1993, Dr. Brown-Crowder left Young's Nutrition Service to become an Assistant Research Professor at Langston University. Initially, Dr. Brown-Crowder's appointment was 100% research and she conducted nutritional studies on early-lactation goats. With ever increasing extension responsibilities, Dr. Brown-Crowder has been moved to 100% extension. Her major extension thrusts are dairy goats and nutrition. Dr. Brown-Crowder has spoken at local, state, regional, national and international conferences.

In cooperation with other E (Kika) de la Garza Institute for Goat Research personnel, Dr. Brown-Crowder was instrumental in the establishment and maintenance of the nation's first DHI laboratory that uses goat's milk standards to analyze goat milk. In 1995, Dr. Brown-Crowder initiated an educational program to train Langston DHIA testers.

Dr. Brown-Crowder is married and has one daughter. In her leisure time, she enjoys reading and gardening.

*Dr. Irene Brown-Crowder can be reached at (405) 466-3836, ext. 26 or at [ibcrowder@mail.luresext.edu](mailto:ibcrowder@mail.luresext.edu).*

# Into Africa: Ethiopia

by R. Merkel

In the last Goat Newsletter it was announced that GIGR had been awarded a USAID-funded grant through the Association Liaison Office for University Cooperation in Development to conduct a collaborative research and development program with the Awassa College of Agriculture (ACA) located south of Addis Ababa in Awasa, Ethiopia.

This project includes: 1) a development program where goats and appropriate technology are extended to women farmers; 2) collaborative research conducted at GIGR and ACA; and 3) visits to GIGR by ACA scientists for research and training. Activities conducted to date include: an initial survey given to 130 farmers to gain in-depth information concerning the role of goats on the farm and in family nutrition; the selection of 20 women as project participants; planting of 5 acres of Rhodes grass at ACA to be used in extension and research; preparations to obtain seeds of multipurpose legume trees for

distribution during the next rainy season; and the purchase of 50 indigenous does which were bred with Anglo-Nubian bucks to provide animals for the project.

The first visiting scientist from ACA, Dr. Girma Abebe, will arrive at GIGR in May 1999. During his stay, Dr. Abebe will conduct research and participate in other

GIGR activities. In December 1998, Dr. Tilahun Sahlu visited ACA for monitoring and evaluation of the project. During his stay, Dr. Sahlu met with ACA faculty and students. Dr. Sahlu also visited farmers in the project site who shared with him the importance of goats in their farming systems.

Langston University and GIGR are proud to undertake international activities and to have the opportunity to aid in the development of other nations. This grant is an important means for GIGR to learn more about world goat production systems and the constraints faced by other nations' farmers. Often the problems faced by foreign producers, i.e. nutrition or health, are similar to those faced by producers in the US.

Through working with foreign institutions to solve such production problems, important lessons and knowledge are gained that can be used to improve goat production in the United States.

*For information regarding these projects in Ethiopia, contact Dr. T. Sahlu at (405)466-3836.*



**E**thiopia, a country in eastern Africa, east of Sudan, west of Somalia, and north of Kenya. The total area is 437,600 sq mi. Addis Ababa is the capital and largest city. More than half the country consists of a high plateau. Rivers and deep valleys cut through the plateau, which is split by the Great Rift Valley. Ethiopia has a population of 57,098,762. About 80 percent of the people live on the heavily populated plateau and engage in subsistence agriculture.

*Source: Microsoft Encarta  
<http://encarta.msn.com>*

# Research Spotlight

*Abstracted by A. Goetsch*

**Mohair and Cashmere Production.** Angora goats in the US annually produce a fleece weighing 3.6 to 8.1 kg, compared with 0.5 to 1.4 kg of total fiber from down- or cashmere-producing goats of similar live weight. A thorough understanding of factors responsible for this difference in fiber production may permit further advances in mohair and cashmere production through improved selection methods or physiological manipulations. High fiber production by Angoras relative to cashmere goats is in part attributable to less seasonality in activity of secondary follicles that produce mohair (and cashmere in other goats), an increased number and size of secondary follicles, and increased fiber output by each follicle. Feed intake (relative to metabolic body weight, which relates directly to energy required for body weight maintenance) and efficiencies of feed digestion are similar between Angora and cashmere goats, although Angoras retain more nitrogen and excrete less urea nitrogen in urine relative to intake of nitrogen or crude protein. Angoras appear to partition more nutrients away from muscle and to growth of fiber than occurs in cashmere goats. However, high mohair production may be accompanied by some undesirable

metabolic conditions that should be considered in management practices, such as a lessened ability to synthesize glucose, potential leading to low blood glucose concentrations.

*Litherland, A. J. and T. Sahl. 1996. A review of factors leading to high fleece production in Angora compared to down-producing goats. Sheep & Goat Research Journal 12:99-104.*



## **Dry and Lactating Does.**

Energy requirements of animals are affected by production state, such as lactating versus dry. Effects of lactation on energy requirements of goats as suggested by the National Research Council (i.e., NRC) are currently based on only four publications between 1938 and 1979. Energy requirements are studied by measuring feed intake and total heat production, which is the sum of energy used to maintain the animal and that produced in metabolism for growth, milk production, or greater than normal activity. Total heat production can be quantified by a number of approaches, although most have limited application in practical production settings, particularly grazing. The carbon dioxide (CO<sub>2</sub>) entry rate technique has been developed, especially for grazing settings, as an indirect

measure or index of CO<sub>2</sub> production in the body, which can be used to estimate heat production. However, very little information exists regarding the advantages and disadvantages of different body fluids that may be sampled in this method. Likewise, several equations have been published over the years to predict heat production from the CO<sub>2</sub> entry rate in small ruminants. In this experiment, the entry rate of CO<sub>2</sub> derived from use of continuous collection of saliva was less variable than that determined from urine, serum, or breath samples, indicating that saliva was most suitable. The entry rate of CO<sub>2</sub> was 34% greater for lactating does than for dry does, reflecting greater feed intake and milk production by lactating does. Energy requirements derived from the different equations tested differed considerably, suggesting that the choice of equation warrants careful consideration and that further research is necessary to identify most appropriate equations for particular experimental or production conditions.

*Herselman, M. J., T. Sahl, S. P. Hart, and A. L. Goetsch. 1998. Energy expenditure by dry and lactating Alpine does estimated by entry rate of carbon dioxide. Journal of Animal Science 81:2469-2474.*

# Goat Field Day

Our annual Goat Field Day will be held on Saturday, April 24, 1999 at the Langston University Goat Farm with registration beginning at 8:00 a.m. This year's mini-theme will *Herd Health*. In the morning



general session, Drs. Marvin Burns and Tilahun Sahlu of Langston University will welcome field day participants and give a goat research update. Dr. Tom Craig, Professor of Veterinary Pathobiology, from Texas A&M University will speak on anthelmintics, sustainable control

measures for internal parasites and on the increase in anthelmintic resistance. Dr. S. Mobini, Professor of Veterinary Science and Research/Extension Veterinarian, from Fort Valley State University will speak on infectious diseases, vaccinations and general herd health management. Dr. Terry Gipson of Langston University will speak on the demand for goat products, US immigration trends and how the two are related.

For lunch, you can bring your own lunch and picnic on the grounds or you can pre-register for a lunch of goat sausage, beans, bread, potato salad, refreshments and goat ice cream. Cost of the lunch is only \$6 per person.

In the afternoon we will break into small-group workshops. There will be a total of nine workshops;

however you will be able to select only one or two workshops to attend. Choice of workshops include: 1) goat feta cheesemaking, 2) goat nutrition for dairy and meat production, 3) using fecal egg counts as a management tool, 4) proper injection sites and vaccination schedules, 5) farm budgeting and recordkeeping, 6) tanning of goat hides, 7) DHIA training, 8) somatic cell count and drug residue update and 9) essential management tips for newcomers. Each workshop will last for 1 hour and 20 minutes. After the last workshop and for those that are interested, there will be a one-hour tour of the Langston University Goat Farm starting at 4:30 p.m.

A youth program is also scheduled. In the morning youth session, Dr. Irene Brown-Crowder will demonstrate fitting and showing dairy and meat goats. There will be opportunities for youth to have a hands-on experience during this workshop. Mr. Tim McKinney will conduct the afternoon youth session.

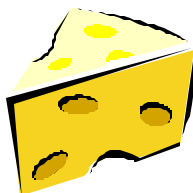
**Registration to the Goat Field Day is FREE** but there is a \$6/person charge for the goat sausage lunch. Please make plans to attend the Goat Field Day now. A preregistration form is enclosed in this newsletter for your convenience.

*For information regarding the Goat Field Day, contact Dr. Terry Gipson at (405)466-3836 or [tgipson@luresext.edu](mailto:tgipson@luresext.edu)*

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## Goat Cheese Making Workshop

Our annual Cheesemaking Workshop for dairy goat producers will be held at Langston University from 8:30 am to 4:30 p.m. on Saturday, May 29, 1999. This workshop is designed for those who want to use excess goat milk for cheese making at home. Participants will learn the basics of goat milk cheesemaking, including soft cheese, mozzarella, garlic and chive cheeses,



yogurt, etc. Of course, products made in the workshop will be tasted and judged by the participants. A detailed announcement can be obtained in April upon request.

*For information regarding the cheese workshop, return form on page 7 or contact Dr. Steve Zeng at (405)466-3836 or [szeng@luresext.edu](mailto:szeng@luresext.edu)*

# Goat Management Tips

**Kiddin' Around** by *S. Hart and M. Cameron.*

One important preparation for kidding is visiting with another goat owner in your area before kidding so that if you (or they) have problems at kidding or need some colostrum, you have someone to call on. Fortunately kidding problems are not common in properly fed goats that were the proper size at breeding. However, they do occur and like a Boy Scout, you should always be prepared. The greatest problem in kidding and bonding is human disruption. Watch, but don't interfere. The doe in labor will first isolate herself from the herd, the udder will fill with milk and look shiny, she will get up and sit down, look back at her tail area, be sunken at the sides of tailhead and be tail up. She will arch her back and cock her tail for a few seconds every few minutes, and will empty her bladder and rectum before starting the second stage of labor which is delivery. When the doe has been in the first stage, uneasy for 24 hours and nothing has happened, she needs assistance—call your nearest experienced goat person if you don't know what to do. If the doe has been straining for more than two hours, and hasn't delivered, she needs assistance. The kid may not be in proper position for delivery. If you are not experienced, get someone who is to help. Following delivery, dip the navel in 7% tincture of iodine to prevent infection.

Colostrum is very important for kid survival. Colostrum is the first milk produced by the doe and contains antibodies that prevent various infectious diseases. This is important because the immune system of a newborn kid is not functional until 2-4 weeks after birth. The only immunity kids have to fight infectious diseases during this time is from the antibodies they obtain from colostrum. Normally, the kid(s) will nurse the doe shortly after birth and get the colostrum. It is a general recommendation that does be given their annual booster shot for overeating and tetanus (and/or caseous lymphadenitis) about 4 weeks before kidding so that more antibodies against these diseases will be in the

colostrum.

If there are problems such as the doe dying at birth or the doe doesn't have any milk, you need to give three 4 to 6 oz feedings of colostrum to the kid within 24 hours of birth, the sooner, the better. You can 'steal' colostrum from another doe that has recently kidded. Sometimes, another producer may be able to help provide some colostrum from a doe that has recently kidded. If you can't get goat colostrum, cow colostrum is better than no colostrum. Colostrum can be frozen and stored until used. It can be frozen in an ice cube tray and the appropriate number of cubes for a kid placed in a plastic bag and stored in your freezer. Dairy producers often pasteurize colostrum at 135°F for 30 minutes in a double boiler to prevent the transmission of caprine arthritis-encephalitis. Generally this disease is not present in meat goats or Angoras.

You should try to avoid artificial rearing of kids if at all possible because of the labor and expense involved. After the kid has colostrum, it may be resourceful enough to steal enough milk from lactating does. It should be watched carefully and may need supplemental milk. If you want to artificially rear kids, a calf milk replacer may be used successfully. Regular cow milk, even from the store will do in a pinch. When artificially rearing kids sanitation of the bottle and pen is of utmost importance to prevent scours. Kids have to be hand trained to take a bottle and should be gradually worked up over the first week to a pint of milk twice a week until they are weaned. This will reduce costs and digestive upsets. A good calf starter and the highest quality of hay (small amounts) should be provided beginning at a week of age. Kids will learn to eat from other kids if they are penned together. Kids may be weaned at 8 wks or 20 lbs body weight or when consuming 2 oz of starter feed.

*For more information, contact Dr. Steve Hart at [shart@mail.luresext.edu](mailto:shart@mail.luresext.edu), Ms. Maxine Cameron at [mrcamr@aol.com](mailto:mrcamr@aol.com) or call (405)466-3836.*

# 1999 OKLAHOMA MEAT BUCK PERFORMANCE TEST

May 22 - August 14, 1999

Sponsored by



Oklahoma Meat Goat  
Association

Contact:  
Mr. Eddie Harrison  
OMGA President  
Rt. 3, Box 249B  
Pauls Valley, OK 73075  
(405) 867-4147



Langston University

## 1999 Activities

If you are interested in receiving future information regarding these events, please check the appropriate box in the form below and mail it as soon as possible. **If you sent in the request form in the last newsletter, you do not need to send in another one.** If you desire a free copy of the Proceedings of the 1998 Goat Field Day, please check the appropriate box on the form below and return to Langston University. ***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.***

*(E Cut along line and mail form)*

### FORM TO REQUEST INFORMATION ABOUT FUTURE EVENTS

NAME: \_\_\_\_\_

TELEPHONE: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

ZIP: \_\_\_\_\_

Date	Activity	T
To be announced	Dairy Goat Nutrition Workshop for Dairy Goat Farm Managers	
April 24, 1999	GOAT FIELD DAY	
May 15, 1999	Meat Buck Performance Test	
May 29, 1999	Goat Cheese Making Workshop	
Sept. 4, 1999	Demonstration Clinic: Artificial Insemination for Goats	

**Please mail this form to:**

Agricultural Research  
and Extension Program  
Langston University  
P.O. Box 730  
Langston, OK 73050

ATTN: '99 EVENTS

9 Please send me the **Proceedings of the 1998 Goat Field Day.**

# Noteworthy News

Dr. **E. Nelson Escobar**, Extension Goat Specialist, is on a one-year leave at the USDA Small Farm Program in Washington, D.C. The goal of the small farms program is to improve the income levels and economic viability of small farm enterprises in partnership with the land-grant university system, public and private sectors, by encouraging research, extension, and education programs that meet the needs of small farmers and ranchers.

Drs. **Amey Adams** and **Tumen Wuliji** recently joined the E (Kika) de la Garza Institute for Goat Research faculty as visiting

scholars. Dr. **Adams** is working on a project entitled "Nutrient Requirements of Goats: An Update and Reevaluation".

The project is to review and evaluate recent research in goat nutrition in order to update the Nutrient Requirements of Goats, last published by the National Research Council in 1981. Dr. Adams recently received her Ph. D. in Animal Nutrition /Reproduction from the University of Florida. Dr. **Wuliji** is working on a project entitled "Seasonal Manipulations to Improve Cashmere and Meat Returns in Goats". This project is to manipulate seasonal reproduction and fiber growth pat-

terns to develop a profitable system with out-of-season production of meat kids as well as to improve cashmere production in dams by delaying fiber growth cessation. Before joining the Institute, Dr. Wuliji was a research scientist, wool & fiber science project leader and manager of wool metrology laboratory at the Agresearch Invermay Agricultural Research Centre, New Zealand

Dr. **Tilahun Sahlu**, Director, recently traveled to Awassa College of Agriculture in Ethiopia for a joint research and development project. (see full report on page 3).



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