Goat Newsletter

Cooperative Extension Program
Langston University

The Newsletter of the E (Kika) de la Garza American Institute for Goat Research *Summer 2012*

From the Director's Desk

The Times They Are a-Changin' as Bob Dylan said in his 1964 hit song; however, the song that we are singing here in Oklahoma seems to be a rendition of last year's song, and that is the Drought Is Here Once Again. The drought and heat plaguing much of the middle of the United States has crept its way back into Oklahoma. In 2011, Oklahoma set the US record for the highest monthly average temperature at 89 degrees. In fact, several areas of the state recorded 43 consecutive days exceeding 100 degrees. Several farm ponds completely dried up in the withering heat. Many livestock producers were forced to liquidate their herds because they had no pastures and could not afford to feed hay, which had to be trucked in from states far to the north. However, in the first four months of 2012, the rains were plentiful and we were back to a normal year. Since then the heavens have dried up and the heat has been turned up a degree or two. We are not complaining. Although it is now hot and dry, 2011 was worse. Last year, the drought and heat were centered in Oklahoma and Texas but this year both are more widespread throughout the central United States. I know that I am not telling you anything new.

What bothers me is that some experts claim that the country's current drought may be on par with the great droughts of the 1930s and 1950s and that the outlook for short-term relief is bleak. Predictions call for drought to persist or intensify over much of the United States, including Oklahoma, throughout the summer and maybe even into the fall.

More importantly for animal agriculture, if the drought and heat continue as long-term effects, then the impacts will be devastating. In a recent USA Today newspaper article, it was predicated that the heat and drought wreaking havoc on much of the United States will soon hit the supermarkets: It reported that cheese and milk prices will rise first and corn and meat will probably not be far behind. High temperatures equate to less milk production. In addition, feed prices have sky-rocketed in the past few years [Thanks to the subsidies for ethanol but I'll not go there]. A Wisconsin dairy farmer told a USA Today reporter that "I`m looking at a corn crop that`s 75% and 100% gone. If I have to go into the market and buy that corn, it will take me between two and three years to recover." So it's too hot and too dry to grow corn and it's too expensive to buy. Dairy farmers are feeling the proverbial financial pinch.

Several of our Langston University scientists just returned from the annual joint meetings of the American Society of Animal Science and the American Dairy Science Association. These meetings were appropriately held in Phoenix, AZ and one of the most popular sessions was on meeting the needs of cows under heat stress.

I wonder what the long-

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term impact of the drought will be on animal agriculture, not only in Oklahoma, but also in the entire United States. Beef cattle inventory continues to decline and is predicted to not reach bottom until 2013 or beyond. However, goat numbers seem to be stable and prices have increased to historic highs. From lessons learned from droughts in other parts of the world, goat and sheep numbers rebounded faster than cattle after a drought and seemed to have gained a stronger foothold than before the drought. I am not predicting that goats and sheep will soon replace beef cattle on our nation's farms, but I do wonder as livestock producers restock their herds, if goats and sheep might play a larger role.

An excellent resource for information on the drought can be found at the US Drought Monitor (http://droughtmonitor.unl.edu/monitor.html), which is maintained by the University of Nebraska – Lincoln. If you have been adversely affected by the drought, you may want to visit the web site of UNL's National Drought Mitigation Center (NDMC; http://drought.unl.edu/Home.aspx), which was established to assist peoples and institutions in the development and implementation of measures to reduce vulnerability to drought. NDMC stresses preparedness and risk management rather than crisis management. I especially like their section on "Why Plan for Drought?" because we livestock producers tend not to prepare for droughts.

I know that I have spent this entire Director's Desk chatting about the drought but I am concerned about the future. I am not saying that I believe totally in global warming and that these recent droughts and excessive temperatures are the result of global warming. When I think about global warming, I am reminded of Timothy Egan's book, "The Worst Hard Time," and its depiction of the Dust Bowl years. In the Dust Bowl storms of the 1930s, paint was sandblasted off buildings, trees were crushed under mounds of soil, and cars were routinely stuck in 50-foot dunes. As if that wasn't bad enough, enormous swarms of grasshoppers devoured anything that drought, hail, and tornadoes had spared. To the residents of the Texas and Oklahoma panhandles, SW Kansas, and SE Colorado, "it seemed on many days as if a curtain were being drawn across a vast stage at world's end." Children died of dust pneumonia, and livestock suffocated on dirt, their insides packed with soil. Women hung sheets soaked in kerosene in windows and stuffed cracks with rags in vain to keep out the dust. Nothing worked. Yet, we recovered from that terrible time. In 1935, President Franklin Roosevelt established the Soil Conservation Service, farmers began rotating crops, and land was allowed to lie fallow. Today, if you were to drive across the Cimarron National Grasslands in SW Kansas, you would see a beautiful sight. If you haven't read this book, you should.

Please pray for rain.

Langston Welcomes 16th President

Dr. Kent Smith, Jr. was named the sixteenth President of Langston University by the OSU and A&M Board of Regents on January 19, 2012, and assumed office on June 4, 2012. He also serves as Professor of Education.

Heralded by his contemporaries as a student-focused, deeply committed, dynamic leader, Smith brings with him the experience and potential to take Oklahoma's only historically black institution of higher education to the next level of academic excellence and national preeminence.

Prior to coming to Langston, he served as the Vice President for Student Affairs, Chief Student Affairs Officer and Assistant Professor of Education at Ohio University in Athens, Ohio. He is a former Dean of Students at Auburn University in Alabama, Director of Multicultural Affairs at Case Western Reserve University in Ohio, and Assistant Director of Black Student Services, and Adjunct Professor of Education at Colorado State University. He was also an Adjunct Professor at Cleveland State University.

A Louisiana native, Dr. Smith earned a Bachelor's degree in Secondary Education and a Master's degree in Educational Administration and Supervision from Southern University in Baton Rouge, and a Doctorate in Education and Human Resources Studies, with a concentration in Educational Administration and Student Affairs, from Colorado State in Fort Collins.

He and his wife Tiffany are the parents of three sons – Trey, Tyler and Trent - and daughter Morgan, who is currently enrolled at the University of Louisiana at Lafayette.

A Brief History of Langston University

Because African Americans were not permitted to attend any of the institutions of higher education in Oklahoma Territory, black citizens appeared before the Oklahoma Industrial School and College Commission in July 1892 to petition that Langston have a college. Eventually, Territorial Governor William Gary Renfrow, who had vetoed a civil rights bill that would have disregarded segregation, proposed a reform bill establishing the university. It was founded as a land grant college through the Morrill Act of 1890 and officially established by House Bill 151 on March 12, 1897, as the Colored Agricultural and Normal University. The purpose of the university was to instruct "both male and female Colored persons in the art of teaching various branches which pertain to a common school education and in such higher education as may be deemed advisable, and in the fundamental laws of the United States in the rights and duties of citizens in the ag-

Langston University
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ricultural, mechanical and industrial arts." One stipulation was that the land on which the college would be built would have to be purchased by the citizens. Picnics, auctions, and bake sales were held to raise money, and the land was purchased within a year by black settlers determined to provide higher education for their children.

Presidents of Langston University

Order	*President*	*Tenure*
1.	Inman E. Page	1898-1915
2.	Isaac Berry McCutcheon	1915-1916
3.	John Miller Marquess	1916-1923
4. & 6.	Isaac William Young	1923-1927 & 1931-1935
5.	Zachary T. Hubert	1927-1931
7.	J. W. Sanford	1935-1939
8	Albert Louis Turner	1940
9.	G. Lamar Harrison	1940-1960
10.	William Henri Hale	1960-1969
11.	Williams E. Sims	1969-1974
12.	Thomas E. English	1975-1977
13.	Samuel J. Tucker	1978
14.	Ernest L. Holloway	1979-2005
15.	JoAnn W. Haysbert	2005-2011
16.	Kent J. Smith, Jr.	2012-present

A Brief History of Goat Research at Langston University

The first facilities of the Institute were built in 1985–86 and included many of the buildings at the Main Farm today, such as the lactation and maternity barns, arena, feed mill, and milking parlor. In 1987–88, storage, machinery, dairy processing, metabolism, and surgery facilities were added. During the early period of the Institute's history, the foundation animals were acquired, with Alpines arriving in 1985 and Angoras in 1986. These goats were used in the initial research conducted at the Institute in support of dairy goat and mohair industries. Spanish goats for cashmere research were added in 1990, and in 1991 a small number of Tennessee Stiff Leg goats were introduced. As the Institute grew in stature and reputation, and as research supporting the meat goat industry increased, facilities and animals expanded further. In 1995, a group of Boer goat bucks was obtained for use in crossbreeding. In addition to grading up with Boer in the late 1990s, full-blood Boers were procured in 1999 and 2000.

In 1992, a creamery was established that allows research of goat dairy products. In 1995, a Dairy Herd Improvement Laboratory was established and received certification. In 1998, a modern 10-stanchion computerized milking parlor was installed, which was recently upgraded in early 2011 In addition, in 1999 a grant funded an indirect respiration calorimetry system installed in 2000 at the North Barn. Built in 1995, the South Barn provides an excellent venue for more detailed research into meat goat production. The laboratory facilities of the Institute also have grown over the years. One of the most notable events of the last six years has been moving both laboratory and office facilities to the new Agricultural Research, Education, and Extension Center, which in 2010 was officially named the E. L. Holloway Agricultural Research, Education, and Extension Center in honor of former Langston University President Dr. Ernest L. Holloway's commitment to agriculture.

University of Puerto Rico Collaboration

UPRM students, Ms. Michelle Montes Rivera (left) and Ms. Rebekah Domenech, during their summer internship.

One of our extension projects is to distill our very popular Meat Goat Production Handbook into a low-literacy version available in English and Spanish. Our collaborators on this project are Kentucky State University and the University of Puerto Rico–Mayaguez (UPRM). Kentucky State University has an excellent reputation for producing publications for low-literacy and reduced-literacy audiences. Research scientists and extension specialists are accustomed to speaking and writing in scientific jargon and, sometimes, they do not realize that they are not effectively communicating with their intended audiences, that is, actual and potential goat producers. The University of Puerto Rico–Mayaguez has an excellent reputation as a land-grant university, in addition, to being a Hispanic-serving institution. In Puerto Rico, the language of the home is Spanish; therefore, the vast majority of courses at UPRM are taught in Spanish. This project is truly synergistic as each partner provides an essential project component.

An ancillary outgrowth of the project is the summer internship that recently took place. Two senior, undergraduate UPRM students from the Department of Animal Science spent six-weeks at Langston University to learn more about the practical aspects of goat production. From the moment Ms. Michelle Montes Rivera and Ms. Rebekah Domenech arrived at the research farm, they were immersed in goat husbandry. They learned about feeding, hoof trimming, vaccinating, and deworming. The learned how to body condition score, how to conduct FAMACHA, and the steps necessary for artificial insemination, and many other management techniques. Rebekah and Michelle finished their internship with a presentation on Puerto Rican agriculture and on their internship experience to the faculty and staff of the E (Kika) de la Garza American Institute for Goat Research of Langston University. This coming academic year, Michelle and Rebekah will be well-equipped to assist Dr. John Fernandez van Cleve, our UPRM collaborator, in the Spanish translation of the Meat Goat Production Handbook.

Editor's Note: The low-literacy versions in English and Spanish, as well as the second edition of the Meat Goat Production Handbook are scheduled for release in early 2013.

Faculty and staff of the E (Kika) de la Garza American Institute for Goat Research gathered to wish Godspeed to Michelle and Rebekah.

Research Spotlight

Improving Slaughter Weight.

Yearling sheep from Highland (Arsi-Bale) and Lowland (Black Head Ogaden) areas of Ethiopia were used to determine effects and interactions of animal origin, feeding and lengths of rest and feeding on harvest measures. Ten sheep of each origin were rested for 1, 2 or 3 days after arrival at the abattoir and before slaughter with ad libitum availability of grass hay and water and an overnight fast preceding slaughter. Eighteen to 20 sheep of each origin were fed for 2, 4 or 6 weeks in length with ad libitum grass hay and a concentrate supplement at ½ lb/day per animal. There was an interaction between origin and the effect of feeding period length in average daily gain, with a much greater value for Arsi-Bale at two-week feeding compared with other treatments (0.46, 0.26, 0.28, 0.26, 0.20, and 0.25 lb/day for Arsi-Bale 2-week, Arsi-Bale 4-week, Arsi-Bale 6-week, Black Head Ogaden 2-week, Black Head Ogaden 4-week, and Black Head Ogaden 6-week, respectively). Hot carcass weight increased linearly with increasing length of rest, with a tendency for greater change for Arsi-Bale vs Black Head Ogaden animals and the effect of feeding vs rest (17.8, 18.4, 19.2, 17.4, 18.0, 17.7, 20.0, 18.8, 20.1, 18.0, 17.7, and 18.9 lb for Arsi-Bale 1-day rest, Arsi-Bale 2-day rest, Arsi-Bale 3-day rest, Black Head Ogaden 1-day rest, Black Head Ogaden 2-day rest, Black Head Ogaden 3-day rest, Arsi-Bale 2-week feeding, Arsi-Bale 4-week feeding, Arsi-Bale 6-week feeding, Black Head Ogaden 2-week feeding, Black Head Ogaden 4-week feeding and Black Head Ogaden 6-week feeding, respectively). In conclusion, there is considerable opportunity to increase carcass weight of Arsi-Bale by manipulating periods of rest after arrival at the abattoir and before slaughter longer than 1 day. Moreover, 2 weeks of feeding Arsi-Bale sheep markedly increased carcass weight.

Merera, C., Abebe, G., Sebsibe, A. and Goetsch, A.L. 2010. Effects and interactions of origin of sheep in Ethiopia (Highland vs Lowland areas), feeding and lengths of rest and feeding on harvest measures. J. Appl. Anim. Res., 37: 33–42.

Crossbreeding.

Eighteen Arsi-Bale (local) and 18 Boer × Arsi-Bale (crossbred) male goats, about 10 months of age, were used in a 12-week experiment to investigate potential interactions between genotype and nutritional plane in growth performance, carcass and skin characteristics, and mass of non-carcass components. Grass hay was consumed ad libitum supplemented with 0.33, 0.66, or 1.00 lb/day (dry matter; low, moderate, and high, respectively) of a concentrate mixture (50% wheat bran, 49% noug seed cake, and 1% salt). Initial body weight was 45 and 31 lb for crossbred and local goats, respectively. Hay dry matter intake was greater for crossbred vs. local goats (1.0 and 0.9 lb/day) and similar among concentrate levels (0.9, 1.0, and 1.0 lb/day for high, moderate, and low, respectively). Average daily gain was greater for crossbred than for local goats (0.08 and 0.06 lb/day) and differed among each level of concentrate (0.10, 0.07, and 0.03 lb/day for high, moderate, and low, respectively). Dressing percentage was similar between genotypes (41.1% and 41.1% live body weight for crossbred and local goats, respectively) and greater for high vs. low (43.5% vs. 38.7% live body weight). Carcass weight differed between genotypes (20.3 and 13.7 lb for crossbred and local goats, respectively) and high and low (19.4 and 14.7 lb, respectively). Carcass concentrations of lean and fat were similar between genotypes and concentrate levels. There were few differences between genotypes or concentrate levels in other carcass characteristics such as color and skin properties. In conclusion, growth performance and carcass weight advantages from crossing Boer and Arsi-Bale goats were similar with a low-quality basal grass hay diet regardless of level of supplemental concentrate.

Mohammed, S., M. Urge, G. Animut, K. Awigechew, G. Abebe, and A. L. Goetsch. 2012. Effects of level of concentrate supplementation on growth performance of Arsi-Bale and Boer x Arsi-Bale male goats consuming low-quality hay. Tropical Animal Health and Production 6:1181-1189.

Editor's Note: These research abstracts are a result of the ESGPIP, which was an USAID-funded project for Ethiopia.

2012 Goat Field Day
State of the Goat Industry

The 2012 Goat Field Day was a resounding success with more than 250 participants attending. This year our featured speakers were Dr. Katherine Marshall and Mr. Tom Boyer. Dr. Katherine Marshall, DVM, is an analytical epidemiologist with the USDA/APHIS Veterinary Services Centers for Epidemiology and Animal Health (CEAH) in Fort Collins, Colorado. She has been the minor species commodity specialist with the National Animal Health Monitoring System (NAHMS) since 2000 and was responsible for the NAHMS Sheep 2001, Goat 2009 and Sheep 2011 studies. Mr. Tom Boyer is president of the newly-formed American Goat Federation and is a third generation rancher and sheep man who was born in Coalville, Utah. Our ever-popular goat milk cheesemaking workshop was held and Mr. Neville McNaughton, President of CheezSorce, L.L.C. of Davisville, MO was once again our distinguished Invited Instructor for this year's workshop.

The afternoon break-out workshops included:

- Neglected Biosecurity and Strategic Use - learn about ways to keep your farm and your animals safe.
- Zoonotic Diseases of Importance for Producers - diseases that every producer should know about and tips to identify them.
- American Goat Federation and What it Can Do for the Goat Producer - to learn more about the American Goat Federation, membership services, and the various avenues it promotes goats.
- Internal Parasite Control - sustainable internal parasite control program.
- Basic Herd Health - herd health program including vaccinations, injection sites, and approved drugs.
- Cheesemaking Overview - basics of cheesemaking.
- Goat Farm Budgeting - basics of budgeting and financial recordkeeping.
- Nutrition for Health and Production - calculation of energy, protein and feed intake requirements.
- Goat Reproduction - basics of goat reproduction and techniques and equipment for artificial insemination in goats.
- DHI Training - supervisor/tester training for dairy goat producers including scale certification.
- USDA Government Programs - overview of USDA Natural Resource Conservation Service's work with goats and its cost-sharing program.
- Pack Goats - basic goat training as a pack animal and equipment needs.
- Mortality Composting - basic composting techniques and equipment for disposing of goat mortalities.
- Fitting and Showing Youth Activity - a half-day workshop filled with hands-on practice of clipping, fitting, and showing a goat.

If you could not attend the 2012 Goat Field Day but would like a copy of the proceedings, please email Dr. Terry Gipson at tgipson@langston.edu with your mailing address and he will send you a free copy. Please hurry because copies are limited. Or you can access the complete proceedings at the web site listed below.

http://www2.luresext.edu/goats/library/field.htm

Noteworthy News

►In May, Dr. **Steve Hart** conducted an internal parasite control workshop in Okemah, OK and also at the annual meeting of the Indian Nations Dairy Goat Club.

►In May, Drs. **Steve Hart** and **Zaisen Wang** travelled to Maryland to participate in the annual meeting of American Consortium of Small Ruminant Parasite Control.

►In June, Dr. **Steve Hart** conducted an internal parasite control workshop at Langston University.

►In June, Drs. **Terry Gipson**, **Steve Hart**, **Roger Merkel**, and **Steve Zeng** attended the national conference of the Association of Extension Administrators in Memphis, TN to make presentations on extension activities and to attend workshops.

►In June, Dr. **Terry Gipson** attended the leadership meeting of the Goat Industry Community of Practice for eXtension.org in Memphis, TN.

►In June, Dr. **Steve Hart** travelled to Washington DC to participate on a USDA review panel for Organic Agriculture proposals.

►In June, Dr. **Roger Merkel** presented research results at the annual meeting of the American Leather Chemists Association in Greenville, NC.

►In June, Dr. **Steve Hart** conducted a nose-to-tail management workshop for goat producers in Clinton, Idabel, Jones, and Okemah, OK.

►In July, Drs. **Terry Gipson**, **Art Goetsch**, **Steve Hart**, **Ryszard Puchala**, **Yoko Tsukahara**, and **Zaisen Wang** attended the joint national meetings of the American Society of Animal Science and the American Dairy Science Association in Phoenix, AZ to make research presentations and attend scientific sessions.

►In May, June, and July, Dr. **Roger Merkel** presented Mortality Composting in Woodward, Clinton, and Lawton, respectively, as part of a Composting and Rainwater Harvesting Workshop hosted by Oklahoma State University.

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