



Goat Newsletter

Cooperative Extension Program
Langston University

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

Summer 2014

From the Director's Desk



William Shakespeare once wrote that *the evil that men do lives after them; the good is oft interred with their bones* (Act 3, scene II of *Julius Caesar*).

This adage would not hold true for Dr. Ocleris (Ocee) Simpson, a good friend and mentor of mine. Dr. Simpson passed away Friday, March 14, 2014 in Guthrie, OK. I first met Dr. Simpson at Prairie View A&M University in Texas, where he was Research Director and I was a young research scientist. Dr. Simpson was a visionary and in 1981, he founded the International Dairy Goat Research Center at Prairie View A&M University, shortly after his arrival from

Fort Valley State University in Georgia. In 1984, Dr. Simpson accepted the deanship for Agriculture at Langston University and immediately founded the American Institute for Goat Research. I followed Dr. Simpson to Langston University and have been here ever since; first as research scientist and now as Director of the Goat Institute.

So you see, countless numbers of goat producers have benefited from Dr. Simpson's vision and hard work here at Langston University and also at Prairie View A&M University.

I would like to share a little about Dr. Simpson before moving on to Institute items. Dr. Simpson was born September 10, 1939 in Leon County, Normangee, TX, to Verge and Mary (Murphy) Simpson. Being born into a farming family, Simpson was very active in New Farmers of America in high school. I would like to add a side note, if I might. In 1935 and about seven years after the founding of the Future Farmers of America (FFA), the New Farmers of America was established to serve African-American young

men in southern states where schools were segregated by law. The objectives of both FFA and NFA was to provide young men with vocational, social, and leadership skills in agricultural-related areas.

After high school, Dr. Simpson enrolled in Prairie View A&M University and received his B.S. in 1960. His desire to further his knowledge took him north where he earned a M.S. from Iowa State University and Ph.D. from the University of Nebraska, both in Animal Science.

We, here at Langston University, feel that Dr. Simpson greatest legacy was the creation of the American Institute for Goat Research. An Institution that grew in stature under his leadership and continued to thrive even after his retirement in 1998.

A tribute to Dr. Simpson's extraordinary vision for goat research, extension, and international activities appeared in the June 16, 2014 issue of the Daily Oklahoman, a newspaper based in Oklahoma City. I would direct you to the following link if you would like to read it. (<http://newsok.com/goat-research-program->



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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founders-work-is-continued-at-langston-university/article/4913478).

Now on to Institute news, we have been very busy with our "Sustainable Small Ruminant Production through Selection for Resistance to Internal Parasites" research project. We are now in the second year of the project. Dr. **Yoko Tsukahara**, Visiting Scholar, is coordinating this project. In addition to Dr. **Tsukahara**, Drs. **Terry Gipson**, **Arthur Goetsch**, **Steve Hart**, **Ryszard Puchala**, and **Zaisen Wang** are busy on this project. This summer, team members are again traveling to producer-cooperators' farms and sampling animals.

Due to health or management issues, we have had to reorganize and replace some of last year cooperators. This year, we continue to work with **Michael Hogan** of Moline, KS; **Jason Pelzel** of West Plains, MO; and **Marie Iiams** of Jenkins, MO. New to the project are **Kevin** and **Toni Beatty** of Carl Junction, MO; **Carey Robertson** of Bradford, AR; and Glen Shoulders of Bartlesville, OK. **Beatty** and **Robertson** are Katahdin breeders, **Hogan** is a Kiko breeder, **Iiams** is a Dorper breeder, **Pelzel** is a St. Croix breeder, and **Shoulders** is a Boer breeder. On all cooperator farms, we are collecting FAMACHA scores on all does/ewes and kids/lambs when the kids/lambs are 4 and 8 weeks old. At weaning, approximately at 12 weeks of age, we are collecting FAMACHA scores and conducting fecal egg counts on all animals. In

2013, we selected 18 young bucks/rams from each cooperator for performance testing and an internal parasite artificial challenge at Langston University. On each farm, we then mated the most-resistant males to the most-resistant females. We also had a control line of average resistance males mated to average resistance females. In 2014, we will have the first male progeny from these matings available for testing at Langston University. We will continue this project for another year and in later newsletters, I will keep you appraise as to this year's progeny performance.

Our Tri-Lateral project with Kenya and Malawi will be coming to an end later this year. One of the major impacts emerging from this project is the artificial insemination training using fresh semen. In November 2013, Dr. **Terry Gipson** conducted that training at Egerton University in Kenya and the results have been tremendous. From the initial AI training, the success rate was 62.5%, which is toward the upper limit for AI with frozen semen and which is easily double or triple the rate one might expect from a training course. A subsequent AI event conducted by Egerton personnel yielded a success rate of 87.5%. Clearly, The Egerton University staff has mastered the art of AI using fresh semen. Dr. **Gipson** will repeat this training in Malawi later this summer.

I hope that your pastures stay green and your goats stay cool this summer.

Research Spotlight

Creep Grazing for Kids.

The effects of creep grazing and stocking rate (SR) on forage selection and nutritive value of the diet selected by Spanish does with Boer × Spanish kids and Boer × Spanish does with $\frac{3}{4}$ Boer- $\frac{1}{4}$ Spanish kids were determined using grass/forb pastures. There were four treatments, each replicated, with three stocking rate (SR) treatments and one treatment involving creep grazing. Goats of both types were equally represented in all treatments. Each group of does and kids was allocated to 1-acre pastures divided into four paddocks that were rotationally grazed in two cycles over a total of 76 days. The three SR were 4 does plus 8 kids (L), 6 does plus 12 kids (M), and 8 does plus 16 kids (H) per 1-acre pasture. The creep grazing treatment (C) was at the high SR relative to the pasture area common to the does and kids. In this treatment, however, the kids had access to an additional area of a similar 1-acre pasture sub-divided into four paddocks containing the leguminous tree mimosa planted in rows. A direct observation and simulation method was used to characterize the diet selected by does and kids and obtain representative samples. These samples were evaluated in terms of their nutritive value. There were no significant effects of stocking rate on botanical composition of the diet selected or its nutritive value. Does and kids selected diets of similar botanical composition and nutritive value for the three treatments without a creep area. When kids were in a creep grazing area, 52.8% of their diet consisted of mimosa leaves leading to an improvement in the overall nutritional value of the diet relative to times when in the base grass/forb pasture. It was concluded that stocking rate had no impact on diet selection and the nutritive value of the diet of does or kids when grazing forage of low to medium quality. Kids with access to creep areas including mimosa trees, however, preferentially consumed mimosa leaves, thus improving the nutritive value of their diet.

Yiakoulaki, M.D., A.L. Goetsch, G.D. Detweiler, and T. Sahlu. 2014. Effects of creep grazing and stocking rate on forage selection and nutritive value of the diet for meat goat does and kids on grass/forb pasture. Small Ruminant Research 117:119–123.

Pasture Access and Milk Production.

Many factors affect the nutrition of goats while grazing, and their influences can be assessed with an interactive web-based nutrient-requirement-calculation system to determine the quantity and composition of supplement required for desired levels of performance. Among areas identified as being of special importance to goats in grazing settings are the activity energy cost and lack of methods to predict forage intake. Relatedly, goats can consume diets very different in nutritive value than the average of vegetation available, and there has been insufficient research to accurately predict the quality of the actual diet ingested. Equations to project associative effects between feedstuffs have been proposed but not evaluated. Previous nutritional plane can have a substantial effect on energy requirements, with greater fluctuations in the nutritional plane and maintenance energy need during the year for grazing relative to confinement settings. Likewise, based on some findings with sheep, internal parasitism influences both energy and protein requirements, the effect of which may increase as the problem of anthelmintic resistance worsens. There are many plant secondary metabolites consumed by goats in varying quantities that can affect feed intake, digestion, metabolism, and other physiological conditions, with the nature of changes influencing nutritional conditions most limiting to performance. In summary, special attention should be given in future research to conditions affecting nutrition that differ between grazing and confined goats, although factors important to both grazing and confined animals also should be considered.

Goetsch, A. L. and T. A. Gipson. 2014. Review: Use of a web-based nutrient-requirement-calculation system to assess potential influences of various factors on nutrient needs of goats while grazing. Professional Animal Scientist 30(2):192-214.

[Editor's Note: This review article is based upon our popular web-based nutrient calculators. If you are an iPad user, you have the opportunity to download a stand-alone version of the nutrient calculator from the Apple App Store. Please see page 7 of this newsletter for more details.]

2014 Goat Field Day

Kidding and Kid Management

Our annual Goat Field Day was held on Saturday, April 26, 2014 at the Langston University Goat with more than 375 participants in attendance. This year's theme was Kidding and Kid Management and our featured speakers were Ms. Jan Carlson and Dr. Charlotte Clifford-Rathert.

Ms. Jan Carlson has managed the University of California Davis Goat Facility for the past 14 years, maintaining breeding-teaching-research herds of approximately 140 goats (80 dairy, 40 Boer, and a group of transgenic research goats). She also teaches goat husbandry/animal science classes both in the classroom and at the goat facility.

Ms. Carlson began working with goats in 1979, when she was hired to work on a research project involving a just-discovered goat virus, later named Caprine Arthritis Encephalitis Virus (CAEV). She continued her work as a research associate at Washington State University College of Veterinary Medicine, Department of Microbiology and Pathology, until 1995. From 1995 until 1999 she worked in Texas when the first Boer goats were being imported into the United States, where she programmed numerous embryo transfer groups, showed at the early ABGA National shows and maintained an import quarantine facility in compliance with the USDA Animal Welfare Act.

Ms. Carlson is a member of the American Dairy Goat Association (ADGA) where she serves on a number of committees. She has served as Director on the Board of the American Goat Federation (AGF) since 2012, and is a past Director of the American Boer Goat Association (ABGA). She also is on the Dairy Goat Advisory Committee for DHIA West.

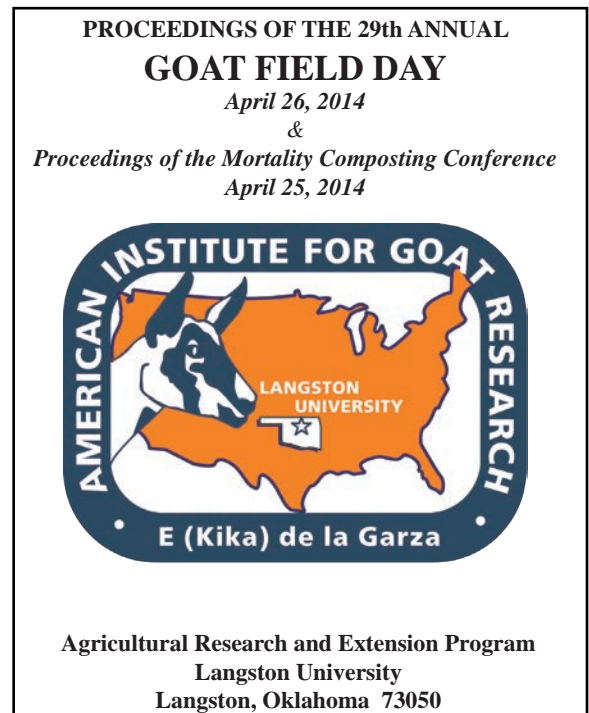
Dr. Charlotte Clifford-Rathert is an Assistant Professor in the College of Agriculture and Natural Sciences, Cooperative Extension and Research of Lincoln University in Jefferson City, Missouri. She serves as the State Small Ruminant Specialist. Her focus involves studying embryonic and fetal losses in goats, vegetation control using goats and sheep, and small ruminant management. Currently her projects are funded by USDA and NRCS. She also contributes to the eXtension Goat Industry Community of Practice Leadership Committee. Her goals are to help promote and maintain a market for today's goat and sheep producers and provide educational answers to health questions that goat and sheep producers may have. She is a contributor to the eXtension Goat Community of Practice (www.extension.org/goats).

Dr. Clifford-Rathert received her Bachelor of Science in Animal Science from the University of Nevada, Reno in 1981. She worked in various fields of Agriculture such as small ruminant management, extension, and research before pursuing a Doctor of Veterinary Medicine from the University of Missouri, Columbia in 1992. She practiced in a mixed animal practice in Central Missouri until joining Lincoln University in November 2007.

In the afternoon session, participants were able to break into small-group workshops. There was a total of fifteen workshops; however, participants had only enough time to attend three.

The afternoon workshops include:

- Goat Kidding: plan for success with Ms. Jan Carlson (1:30 p.m. ONLY).
- Goat Kidding: procedures and obstetrics with Ms. Jan Carlson (2:30 p.m. ONLY).



Field Day cont.

- Goat Kid Raising: the cold milk feeding program and other options with Ms. Jan Carlson (3:30 p.m. ONLY).
- Internal Parasite Control - sustainable internal parasite control program with Dr. Charlotte Clifford-Rathert (1:30 p.m. ONLY).
- Diseases of Concern during Pregnancy and Kidding – diseases that every producer should know and identify especially those that can be transmitted to humans with Dr. Charlotte Clifford-Rathert (2:30 p.m. and 3:30 p.m. ONLY).
- Abortions and Their Diagnosis – diseases and conditions that provoke abortions and their diagnosis with Drs. Keith Bailey and Lionel Dawson (1:30 p.m. and 2:30 p.m. ONLY).
- Nutrition for Health and Production - calculation of energy, protein and feed intake requirements with Dr. Steve Hart (2:30 p.m. and 3:30 p.m. ONLY).
- Goat Farm Budgeting - basics of budgeting and financial recordkeeping with Mr. Roger Sahs.
- Sketching Goats in the Field - basics of how to draw any type of goat in a natural setting with Mr. Ken Williams.
- DHI Training - supervisor/tester training for dairy goat producers including scale certification with Ms. Eva Vasquez.
- Cheesemaking Overview - basics of cheesemaking with Dr. Steve Zeng.
- USDA Government Programs - overview of USDA Natural Resource Conservation Service's work with goats and its cost-sharing program with Mr. Dwight Guy.
- Pack Goats - basic goat training as a pack animal and equipment needs with Mr. Dwite Sharp.
- Mortality Composting – overview of basic composting techniques and equipment for disposing of goat mortalities moderated by Dr. Roger Merkel.
- Fitting and Showing for Youth and Adults - tips and pointers on fitting and show ring etiquette with Ms. Morgan Hallock (this was a half-day afternoon workshop).

Ms. Sheila Stevenson hosted a full day of activities for youth ages 5-12 in the Fun Tent. This allowed the parents and older teens to enjoy the workshops knowing that their little ones were having fun in a safe environment.

If you could not attend the 2014 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 <http://www2.luresext.edu/goats/library/field/fd14.htm>.

Artificial Insemination Workshops

The Goat Extension Program will be conducting two artificial insemination workshops in the fall of 2014. The schedule will be:

- ★ **Langston University**
 - **September 6, 2014**
 - **October 11, 2014**
 - **Both dates are Saturdays.**
- ★ **Both workshops will be hands-on and will follow the same format.**

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 harvested reproductive tracts and with live animals. *Registration for each workshop is limited to 20 participants. Registration fee is \$45 per person.* Included in the cost of registration are handouts and snacks for breakfast and breaks.



Practice with live animals.

For information regarding the AI workshops, contact Dr. Terry Gipson at 405-466-6126 or tgipson@langston.edu. Registration forms are available online at: http://www2.luresext.edu/goats/extension/workshops_field_day.htm.



Scan this QR code with your smartphone to send Terry an email about the workshop.

Composting Goat Mortality

On April 25, 2014, the American Institute for Goat Research of Langston University held a one-day conference entitled “What Farmer Educators Need to Know about Mortality Composting – Beyond the Basics.” Nationally-recognized scientists presented information on various topics related to mortality composting to provide information to farmer educators as they work with and answer producer questions. A total of 51 persons attended the conference, 32 males and 19 females. Attendees represented producer organizations, universities, USDA/NRCS, extension organizations as well as individual goat producers. This conference was supported by a USDA NIFA 1890 Institution Capacity Building Grant # OKLXMERKEL2010-0223167. Other institutions collaborating on this grant include Virginia State University and Florida A&M University.

All livestock producers know that if you raise livestock, at some point you will have dead stock. Leaving dead stock to decompose naturally has the potential to pollute ground water, feed predators, and is unlawful. Mortality composting of small ruminants is a lawful, environmentally-friendly method of carcass disposal that can easily be done on-farm. The basic procedure of mortality composting can be found in a number of on-line resources and requires the same components as backyard vegetative composting, namely a carbon source (sawdust, animal bedding, old hay or straw, etc.), a nitrogen source (carcass), water, and available oxygen for aerobic decomposition. A base layer of carbon source is made, the carcass placed in the middle and the rumen lanced, water added to the surrounding material to achieve approximately 50% moisture content, and a thick layer of carbon source material placed on top. The compost pile should heat and the carcass begin to decompose.



Dr. Josh Payne, Oklahoma State University, answers questions following his presentation on drug residues after composting.

Whereas mortality composting is not difficult, farmer educators and other people who work with producers should have a deeper knowledge about the process to answer questions and concerns that farmers may have. Can I compost an animal that dies of disease? What happens to the drugs used to treat an animal prior to its death? What are the most important things to check or do to ensure the pile is working? Can I use the compost on pastures or cropland? What is the best way to build a pile? Are there pollution or other environmental concerns? Providing information to farmer educators on these and

other questions that producers may have is the goal of this conference.

To address these topics the following speakers and presentations were given:

- Mortality composting resources for extension and conservation educators: Teaching the benefits and opportunities to producers; Mr. Thomas Bass, Livestock Environment Extension Program, Montana State University
- Pile characteristics for effective animal mortality composting; Dr. Saqib Mukhtar, Department of Biological & Agricultural Engineering, Texas A&M University
- Mortality compost nutrients and use on farm, ways to enhance nutrient content; Mr. Dean Ross, Agrosecurity Consulting, Bath, Michigan
- Quality assurance in mortality composting, mortality composting safety; Ms. Mary Schwarz, Cornell Waste Management Institute, Cornell University

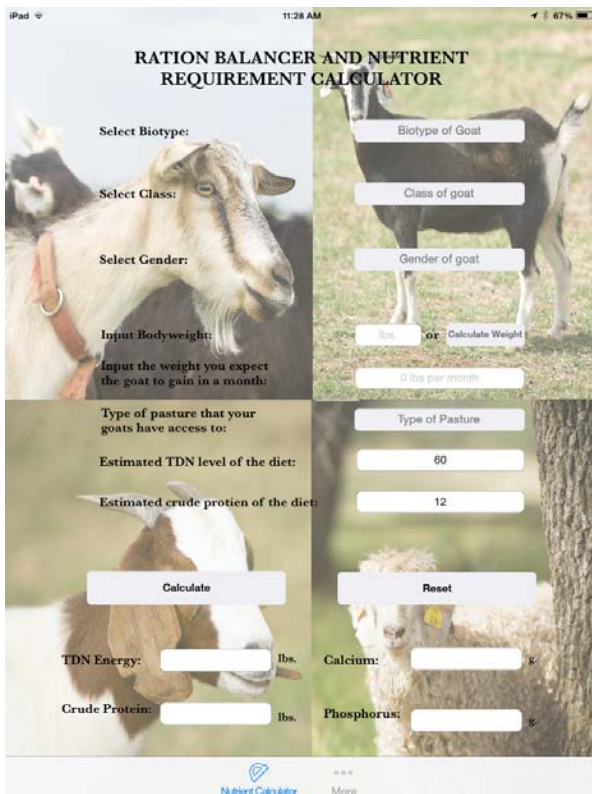
- Management and environmental considerations when siting and managing composting facilities; Dr. Karl VanDevender, Biological and Agricultural Engineering, University of Arkansas
- Can composting solve specified risk materials issues? Dr. Shanwei Xu, Agriculture and Agri-Food Canada, Lethbridge Research Centre, Alberta, Canada
- Fate of euthanasia drugs during equine mortality composting; Dr. Josh Payne, Biosystems and Agricultural Engineering, Oklahoma State University



Dr. Saqib Mukhtar, Texas A&M University, presents on compost pile characteristics.

Proceedings from the conference along with the presentations given can be found on the American Institute for Goat Research website at http://www2.luresext.edu/goats/library/fact_sheets/mortality_composting.html.

Goat Nutrient Calculator now available for iPad



Langston University's popular web-based nutrient calculator is now available for free on the iPad. To install this version, simply go the App Store and search for "Goat Nutrient Calculator". Once installed on your iPad, you will be able to calculate the nutrient requirements for any goat in any age, breed or stage of production, as well as, calcium and phosphorus requirements.

The original web-based nutrient calculators were developed under a research project and were only accessible via the website(<http://www2.luresext.edu/goats/research/nutreqgoats.html>). This iPad version is the first stand alone version of the calculators available.

The web-based version has a feed library and a least-cost ration balancer so that rations can be formulated to meet nutrient requirements. Currently, the iPad version does not have these attributes but it is planned to update this version with those capabilities with the next release.

For these calculators to be of value, they must be readily accessible and reasonably simple. It is hoped that this iPad version will enjoy widespread usage and enhance feeding practices for goats.

Noteworthy News

► In March, Dr. **Roger Merkel** conducted a tanning goat hides workshop at Langston University.

► In March, Dr. **Steve Hart** conducted a parasite workshop and FAMACHA training at Crowder College in Neosho, MO.

► In March, Dr. **Steve Hart** presented on sustainable goat grazing at Tuskegee University in Tuskegee, AL.

► In March, Dr. **Terry Gipson** traveled to Ethiopia to work with scientists in the Southern Agricultural Research Institute.

► In April, Dr. **Arthur Goetsch** traveled to Mexico to fulfill objectives of the USDA FAS - SCRP project.

► In April, Dr. **Roger Merkel** conducted a full-day training workshop on mortality composting at Langston University.

► In May, Dr. **Roger Merkel** conducted a mortality composting workshop at Florida A&M University.

► In May, Drs. **Steve Hart** and **Steve Zeng** presented at the Urban Ag Day at the Langston University Tulsa campus.

► In May, Drs. **Arthur Goetsch**

and **Tilahun Sahlu** traveled to India to fulfill objectives of the USDA FAS - SCRP project.

► In June, Drs. **Steve Hart** and **Steve Zeng** conducted a training workshop in Woodward, OK.

► In June, Dr. **Steve Hart** conducted a parasite workshop and FAMACHA training at Langston University.

► In June, Dr. **Steve Hart** attended the American Consortium for Small Ruminant Parasite Control Conference in Fayetteville, AR.



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