

***Due to concerns  
about COVID19, the  
2020 Goat and Hair  
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been canceled.***



# Goat Newsletter

Cooperative Extension Program  
Langston University

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

Spring 2020

## From the Director's Desk



As usual, we are busy with research and the Goat and Hair Sheep Field Day, and this year's theme is Goat and Lamb Cookery. The Merriam-Webster online dictionary (<https://www.merriam-webster.com/defines/cookery>) defines cookery as "the art or practice of cooking." I think that good cooking is indeed an art form. Over my career, I have traveled to many different countries and I always enjoy the local dishes, especially those with spices.

An Irish proverb states "Laughter is brightest in the place where food is." Sharing a meal weaves us together into a beautiful fabric and good food enriches the process. Do you

have a favorite food story? If so, it probably involves trying a new dish with someone special. I was discussing this topic with Dr. **Terry Gipson**, organizer of the Field Day, and he recounted a trip to France that he and his wife took several years ago. They were in the small village of Bruniquel and were dining in the restaurant of the hotel. The starter course was an ordinary salad of fresh garden greens but it was topped with a medallion of local goat cheese wrapped in a phyllo dough triangle that was baked and then the entire salad was dressed with a mixture of honey and orange juice. He said the flavors were exquisite and he has recreated the experience several times back in Oklahoma. For this year's Field Day, one of the items that we would like to create is a small recipe booklet and Dr. **Gipson** assured me that his "fromage de chevre en triangle de phyllo" salad will be part of the recipe booklet. I know that Ms. **Suzanne Stemme**, one of our Field Day speakers and a regular columnist on Goat Cuisine in the Goat Rancher, will contribute several recipes, but if you have a favorite goat

meat or cheese recipe that you would like to share, please email Dr. **Gipson** at [terry.gipson@langston.edu](mailto:terry.gipson@langston.edu) and he will include your recipes in the booklet. You can read about the Field Day on page 3.

On a related research topic for goat cheese production, Dr. Wei Wang, Visiting Research Scientist from China, is preparing to conduct an experiment entitled "Effects of the level and quality of dietary forage and ruminally degradable fiber on milk yield and composition of Alpine goats and cheese yield and quality." Dr. Wei is working on this important research topic under the guidance of Dr. **Arthur Goetsch**, our Research Leader, and several other Institute scientists.

Conducting research is important, but disseminating the findings is just as important. Accordingly, several Visiting Research Scientists and undergraduate students will be presenting research findings at the upcoming Oklahoma Research Day, an excellent venue for the exchange of ideas.

***I hope to see you at the Goat and Hair Sheep Field Day.***



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Dr. Wesley Whittaker,  
Dean,  
School of Agriculture and  
Applied Sciences

Dr. Vernon Jones,  
Associate Dean,  
School of Agriculture and  
Applied Sciences

Dr. Tilahun Sahlu,  
Director,  
E (Kika) de la Garza American  
Institute for Goat Research

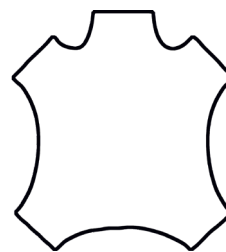
E (Kika) de la Garza American  
Institute for Goat Research  
Langston University  
P.O. Box 730  
Langston, OK 73050  
Phone: (405) 466-3836  
FAX: (405) 466-3138  
<http://goats.langston.edu>  
Newsletter Editor  
Dr. Terry A. Gipson



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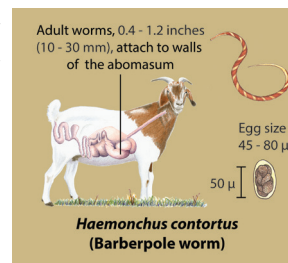
## 2020 Producer Workshops

On Saturday, March 28, 2020, a tanning goatskins workshop will be held at Langston University from 8:00 a.m. to 12:30 p.m. The focus of the workshop will be tanning hair-on goatskins but the process of unhairing skins and making leather will also be discussed. After discussing the stages of tanning from how to handle and store a raw hide to softening and finishing a tanned skin, participants will have hands-on practice with goatskins in several of the different tanning steps. Participants can practice fleshing, will apply tanning chemicals in two different methods, and soften a goatskin prepared for the workshop. Various tanning methods will be discussed and examples of tanning kits and chemicals displayed. All of the tanning procedures and chemicals used are appropriate for home tanning with all of the work done by hand. The tanning processes learned can be used on goat, sheep, deer, coyote, and other skins. Registration is limited to 10 participants. A registration fee of \$20 is charged. Refreshments will be provided.



*For more information regarding the tanning hides workshop, email Dr. Roger Merkel at [merkel@langston.edu](mailto:merkel@langston.edu).*

On Saturday, May 23, 2020, a Parasite and FAMACHA® workshop will be held at Langston University from 9:00 a.m. to 3:00 p.m. The focus of the workshop will be biology and control of worms with management, proper use of dewormers, FAMACHA® eye scoring, and fecal egg counting.



*For information regarding the Parasite and FAMACHA® workshop, email Dr. Steve Hart at [steve.hart@langston.edu](mailto:steve.hart@langston.edu).*

On Saturday, October 3, 2020, an artificial insemination workshop will be held at



Langston University from 8:00 a.m. to 5:00 p.m. The focus of the workshop will be basic anatomy and physiology of female 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 is limited to 20 participants. Registration fee is \$50 per person. Included in the cost of registration are handouts and snacks for breakfast and breaks.

*For information regarding the AI workshop, email Dr. Terry Gipson at [terry.gipson@langston.edu](mailto:terry.gipson@langston.edu).*

**Registration forms for each of the above workshops are available online at:**  
**<http://goats.langston.edu/Extension-Activities>**

# Goat and Lamb Cookery

## Goat and Hair Sheep Field Day 2020

Our annual Goat and Hair Sheep Field Day will be held on Saturday, April 25, 2020 with registration beginning at 8:00 a.m. This year's theme will be *Goat and Lamb Cookery and More* and our featured speakers will be Ms. **Suzanne Stemme**, Dr. **Frank Pinkerton**, and Dr. **Kwame Matthews**.

Ms. **Suzanne Stemme** will speak on the main topic of cookery. Suzanne, who also answers to Nana when addressed by one of her eight grandchildren, resides in East Texas with Kraig, her veterinarian husband of 52 years. The couple has been raising registered Kiko goats for more than 10 years, and for the last six years she has written a monthly cuisine column for Goat Rancher magazine. Before retiring and moving to the country in 2005, Suzanne worked in non-profit communications. She is a graduate of the University of Missouri-Columbia, earning a B.S. in Education with a minor in English. An enthusiastic and intrepid traveler, she has visited 30 countries and keeps her passport current and her suitcase ready to pack. Suzanne sings in the Northeast Texas Choral Society and is a voracious reader on her Kindle.

Dr. **Frank Pinkerton**, aka *The Goat Man*, will speak on marketing meat goats. Frank started his goat career at the International Dairy Goat Research Center of Prairie View A&M University in 1978. In 1983, Frank relocated to Langston University to conduct extension work in dairy, Angora, and meat goats. Frank retired in 1993 to raise meat goats in east TX and do consulting work in goat management and marketing. During his 40+ year career, Frank has published numerous scientific articles and technical bulletins on dairy, Angora, and meat goats. Frank also conducted 13 international consultancies on livestock and goat nutrition and 16 domestic consultancies on goat management and marketing, not to mention conducting 5 large-scale goat-grazing demonstrations for vegetation control in public forests and grasslands. Since March of 2005, Frank has written a monthly question-and-answer column for The Goat Rancher and also to share occasional articles on various facets of the industry.

Dr. **Kwame Matthews** will speak on the benefits of a mobile meat processing unit in the northeastern United States, Kwame is an Assistant Professor and



Small Ruminant Specialist at Delaware State University. Kwame has a split appointment in Extension, Research and Teaching. Kwame completed his Ph.D. at Tuskegee University in July of 2016 where he worked on Identifying Chemical Inhibitors for Novel Therapeutic Molecular Targets in *Haemonchus contortus*. Kwame received his masters at Delaware State University where he worked on using plant dewormers (pumpkin seed and ginger) and breed resistance to reduce internal parasite infections in small ruminants and assisted with several parasite and reproduction research conducted by his advisor. His current interest lies in low-input small ruminant production and using basic and applied research to identify novel means of parasite control which will be applicable for producers.

**Adult Activities (afternoon session):** 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 to attend three.

The afternoon workshops include:

- *More Cookery Tips* with Ms. Suzanne Stemme.
- *Understanding Marketing* with Dr. Frank Pinkerton.
- *Is a Mobile Processing Unit the Model for the Future?* with Dr. Kwame Matthews.
- *Basic Herd Management – hoof trimming, body condition scoring, FAMACHA scoring, etc.* with Dr. Lionel Dawson.
- *What Processors Want – learn from an Oklahoma meat pro-*



cessor concerning the type and weights of lambs and goats that they want with Ms. Jamie Priddy.

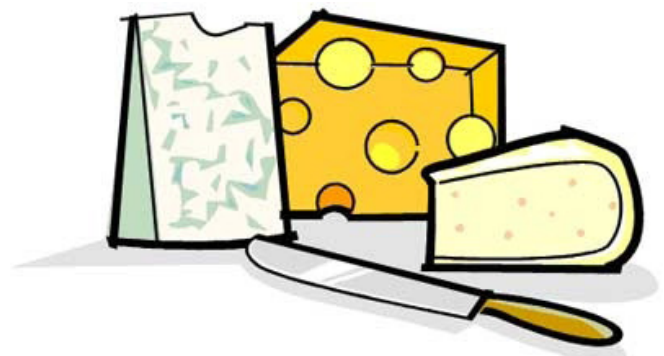
- *Internal Parasite Control* - sustainable internal parasite control program with Dr. Barry Whitworth.
- *Pack Goats* - basic goat training as a pack animal and equipment needs with Mr. Dwite Sharp.
- *Financial Statement Use and Analysis* - financial basics necessary for livestock production with Mr. Clark Williams.
- *Introduction to Cashmere Production* - what it takes to raise goats for cashmere with Dr. Heidi Dickens.
- *Nutrition for Health and Production* - calculation of energy, protein and feed intake requirements with Dr. Steve Hart.
- *Dairy Goat Products panel* - local dairy goat producers give their insights to marketing and production.
- *USDA/NRCS: Conservation programs* with Mr. Nick Jones and *USDA/FSA: Farm loans* with Mr. Phil Estes (1:30 p.m.).
- *USDA/WS: Wildlife programs* with Mr. Kevin Grant and *NRCS: Conservation programs* with Mr. Nick Jones (2:30 p.m.).
- *USDA/FSA: Farm loans* with Mr. Phil Estes and *USDA/WS: Wildlife programs* with Mr. Kevin Grant (3:30 p.m.).
- *Fitting and Showing for Youth and Adults* - tips and pointers on fitting and show ring etiquette with Ms. Morgan Hallock (this is a full-day workshop).

Registration for the Goat and Hair Sheep Field Day is FREE but there is a \$10.00 per person charge for the lunch of various goat main dishes and goat milk ice cream. You can bring your own lunch, if you desire. Regardless of lunch preferences, we ask everyone to pre-register.



**Goat Field Day Program for Kids (Old Fashioned Fun):** The Goat Field Day for Kids provides the opportunity for kids to explore and enjoy “old-fashioned activities” while their parent(s) participate in the Goat Field Day Program. With all of today’s technological gizmos, most kids are no longer exposed to the old-fashioned games and activities that shaped the imaginations and innate creativity of their parents and grandparents. The Goat Field Day for Kids is intended to challenge and enhance cognitive and social skills. The development of intellectual and socialization practices have been determined as prerequisites for helping children to learn complex concepts, enhancing their personal capabilities.

**Cheesemaking Workshop:** Our 25th annual goat



milk cheesemaking workshop has been scheduled on Friday April 24, 2020 (the day before our annual goat field day on April 25). Dr. Steve Zeng, Professor and Dairy Product Specialist in the American Institute for Goat Research at Langston University, will be the host/instructor for this workshop. He has instructed cheese workshops in AR, DE, KS, GA, KY, MO, NE, OK, TX, and VT in the U.S. as well as overseas in Argentina, Armenia, China, Jamaica, Kenya, and the Republic of Georgia. He has also judged cheeses for the World, the United States, the American Cheese Society and the American Dairy Goat Association cheese championships/contests since 2007. He will share his rich background, personal experience and masterful skills in small-scale cheese manufacture, particularly goat milk cheeses. He plans to demonstrate basic principles and practical skills of making hard and semi-soft cheeses using our own Grade “A” goat milk. Milk quality, cheesemaking facility, cheese sensory evaluation and federal safety requirements will also be discussed. This one-day hands-on workshop will be held in the pilot creamery at Langston University. There is a registration fee of \$60.00/person, which includes continental breakfast, break snacks, and lunch consisting of goat meat BBQs, sausages, jerky, goat milk ice cream and cheeses, etc. Only the first 15 registrants will be admitted. To reserve a seat, please send your personal check of \$60.00 to LU Ag Res. Sales (Attn: Dr. Steve Zeng, Department of Agriculture & Natural Resources, P.O. Box 1730, Langston, OK 73050).

For information regarding the cheesemaking workshop, please contact Dr. Steve Zeng at 405-466-6145 (O), 405-404-5171 (M), or [steve.zeng@langston.edu](mailto:steve.zeng@langston.edu). For information regarding the 2020 Goat Field Day, please contact Dr. Terry Gipson at 405-466-6126 or [terry.gipson@langston.edu](mailto:terry.gipson@langston.edu).

You can register online for the 2020 Goat and Hair Sheep Field Day  
<http://goats.langston.edu/goat-and-hair-sheep-field-day>

## Goat Pot Pie

*by Suzanne Stemme*

*Makes 6 generous portions*

1 to 2 lbs. of goat meat cut into 1 inch cubes  
1/2 lb. sliced mushrooms  
1 shallot or small, sweet onion chopped fine  
1/2 lb. package of baby carrots  
1 cup beef broth  
Pie dough for top and bottom of 9 or 10 inch pie pan

Seasoned flour to coat goat cubes  
1 clove garlic, chopped fine  
6 red potatoes, cut in half  
1 cup frozen peas (optional)  
1 bottle of stout or Guinness (12 oz.)

In a deep skillet, lightly brown floured goat cubes in 1-2 tablespoons of olive or canola oil. When browned, remove goat and set aside. Add garlic, onion, and mushrooms to the pan and cook over low heat until softened, approximately 6-8 minutes. (Add more oil to the pan if necessary to keep mixture from sticking.) Return meat to the pan and add remaining vegetables, beef broth, and stout. Simmer for 30 minutes until all vegetables are cooked. Correct seasonings as necessary. Roll out pie crust and place bottom crust in pan; pour in filling and top with remaining crust. Make 3 or 4 slits in the pie to allow steam to escape while cooking. (You can cover the pie pan with foil and freeze for later use; thaw before baking.) Bake at 375 degrees until top crust is golden brown.



Cooperative Extension and Outreach Program  
Langston University  
P O Box 1730  
Langston, OK 73050

Phone: 405-466-6167

Fax: 405-466-3271

Greetings Goat Field Day Participants:

The Langston University E (Kika) de la Garza American Institute for Goat Research provides the opportunity for children ages 5-14 to attend the **Goat Field Day for Kids Program** while their parent(s) participate in Goat Field Day workshops and seminars, **Saturday, April 25, 2020.**

Participants will engage in developmental games that influence cognitive thinking and innate capabilities. They will also partake in physical activities such as basketball, volleyball, dodgeball and jump-rope to emphasize the importance of establishing physical fitness habits at an early age. It is intended that these concepts will cause them to understand the dynamics of cognitive thinking and the value of strengthening physical and socialization skills while having "old-fashioned fun."

Please complete and return the **Goat Field Day for Kids Program Registration Form** along with your Goat Field Day Registration Packet. **Be sure to check their Participation Status indicated on page 2.**

If you have questions or concerns, you may contact **Sonya Davis at (405) 466-6167** or **sydavis@langston.edu**. We look forward to supporting your Goat Field Day experience.

Sincerely,

A handwritten signature in black ink that reads "Sonya Y. Moore-Davis". The script is cursive and fluid, with the first name "Sonya" being the most prominent.

Sonya Moore-Davis, Extension Educator  
Cooperative Extension and Outreach  
4-H Youth Development



# GOAT FIELD DAY

**Saturday, April 25, 2020**

**Registration at 8:00 a.m.**

**Allied Health Center**

***Due to concerns  
about COVID19, the  
2020 Goat and Hair  
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been canceled.***

**Agric. Res. and Ext. Prog.  
Langston University  
P.O. Box 1730  
Langston, OK 73050  
ATTN: FIELD DAY**

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.

**In compliance with the ADA Act, participants with special needs can be reasonably accommodated by contacting Dr. Terry Gipson at (405) 466-6126 at least five business days prior to the Goat Field Day.**





American Institute for Goat Research  
E (Kika) de la Garza  
Goat Field Day Program for Kids

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RELEASE, or arising out of any injury, death, damages or loss as a result of my Child's participation in any part of the Program, shall be brought only in Oklahoma.

This RELEASE contains the entire agreement between the parties to this agreement and the terms of this RELEASE are contractual and not a mere recital. The information I have provided is disclosed accurately and truthfully. I have been given ample opportunity to read this document and I understand and agree to all of its terms and conditions. I understand that I am giving up substantial rights (including my right to sue) and acknowledge that I am signing this document freely and voluntarily and intend by my signature to provide a complete and unconditional release of all liability to the greatest extent allowed by law. My signature on this document is intended to bind not only myself and my Child but also the successors, heirs, representatives, administrators, and assigns of myself and my Child.

**DATE OF EFFECT:** I agree to the terms listed until such time that I am asked to complete a new or revised Consent Form.

Parent/Guardian (PRINT) \_\_\_\_\_

Parent/Guardian Signature \_\_\_\_\_ Date: \_\_\_\_\_ 2020

OVER ►



**STUDENT PARTICIPATION STATUS:**

☐

**Will attend Fitness and Showing Session**

☐

**Will not attend Fitness and Showing Session**

**PARENT/GUARDIAN CONTACT INFORMATION**

**EMERGENCY CONTACT**

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right, title, and interest including copyright. I also understand that neither I nor my child will receive compensation in connection with the use of my child's image or works. The information I have provided is disclosed accurately and truthfully. I have been given ample opportunity to read this document and I understand and agree to all of its terms and conditions. I acknowledge that I am signing this document freely and voluntarily. My signature on this document is intended to bind not only myself but also my successors, heirs, representatives, administrators and assigns.

**SIGNATURE AND COMPLETED INFORMATION IS REQUIRED**

Parent/Guardian Signature: \_\_\_\_\_ Date: \_\_\_\_\_ 2020

Oklahoma State University and Langston University, in compliance with Title VI and VII of the Civil Rights Act of 1964, Executive Order 11246 as amended, Title IX of the Education Amendments of 1972, Americans with Disabilities Act of 1990, and other federal laws and regulations, does not discriminate on the basis of race, color, national origin, sex, age, religion, disability, or status as a veteran in any of its policies, practices or procedures. This includes but is not limited to admissions, employment, financial aid, and educational services.

# Research Spotlight

## ***Regional Differences of Feed Intake Resulting from Low Water Availability in Sheep.***

Resilience to restricted availability of drinking water was evaluated with 44 Dorper, 42 Katahdin, and 42 St. Croix sheep from 46 farms in 4 regions of the USA (Midwest, Northwest, Southeast, central Texas). Ad libitum water intake was determined during 2 weeks of period 1, with 75% of this amount offered in 2 weeks of period 2 and 50% in 5 weeks (i.e., 5 to 9) of period 3. Body weight and dry matter in week 2 of period 1 and week 9 of period 3 were analyzed. There was a breed  $\times$  period interaction in water intake relative to body weight (6.17, 6.69, and 7.19 in period 1 and 3.04%, 3.26%, and 3.36% body weight in period 3 for Dorper, Katahdin, and St. Croix, respectively). There were 3-way interactions of breed, region, and period in feed intake. St. Croix was similar between periods for all regions (2.76, 2.58, 2.34, and 2.56 lb/day in period 1 and 2.47, 2.38, 2.25, and 2.25 lb/day in period 3), as was also the case for Dorper from Midwest and Southeast but not from Northwest or Texas (3.40, 3.31, 2.87, and 3.11 lb/day in period 1 and 3.11, 2.49, 2.76, and 2.60 lb/day in period 3) and Katahdin from Texas though not from the other 3 regions (3.24, 3.35, 3.26, and 3.09 lb/day in period 1 and 2.34, 2.54, 2.87, and 2.93 lb/day in period 3 for Midwest, Northwest, Southeast, and Texas, respectively). In conclusion, based on feed intake with water intake restricted at 50% of ad libitum consumption by individual animals, St. Croix appeared more consistent in display of high resilience to restricted water availability, although Dorper from two regions and Katahdin from one also were relatively resilient. The results suggest benefit to breed comparisons of inclusion of animals from multiple areas and that environmental conditions of regions may have disparate effects with different breeds of hair sheep.

Hussein, A., R. Puchala, I. Portugal, B. K. Wilson, T. A. Gipson, A. L. Goetsch. 2020. Effects of restricted availability of drinking water on body weight and feed intake by Dorper, Katahdin, and St. Croix sheep from different regions of the USA. *Journal of Animal Science* 98(1):skz367, <https://doi.org/10.1093/jas/skz367>.

## ***Genetics of Parasite Resistance.***

*Haemonchus contortus* infections are an important source of animal production loss to livestock industry. Genetics of helminth resistance involves a complex set of factors related to the host immune response. The increasing use of genetic markers such as single nucleotide polymorphisms (SNPs) in genome wide association studies offers the potential to identify loci or regions associated with nematode resistance in small ruminants. The aims of this study were: (1) to use a targeted sequencing approach to identify SNPs in 100 genes related to immune response during *Haemonchus contortus* exposure in growing males of St. Croix, Katahdin and Dorper sheep, and in Kiko, Boer and Spanish goats, and (2) to perform an association analysis for fecal egg count (FEC), packed cell volume (PCV), immunoglobulin levels (IgA, IgG and IgM) and average daily gain (ADG) in the populations under study. After quality control, 1,356 SNPs (sheep) and 1,029 SNPs (goats) were used for the association analysis. For sheep, SNPs located on OAR1 and OAR2 were significantly associated with IgM, ADG, and FEC. For goats, SNPs on CHR3 and CHR22 were associated with ADG and IgM. In both species, no significant associations were found for IgA, IgG and PCV. The results from this study revealed genes involved in the immune response to *H. contortus* exposure and provide additional SNP marker information that has potential to aid selection of resistance to gastrointestinal parasites in sheep and goats from different breeds. Significant SNPs within IL12RB2, NFIL3 and STAT4 genes could be potential markers for IgM, FEC and ADG in sheep populations. For goats, potential markers for IgM and ADG were identified within IL5RA and IL12RB2 genes. These results could be directly implemented in the populations used in this study, however, they should be validated before using these markers in other sheep and goat populations.

Estrada-Reyes, Z. M., Y. Tsukahara, A. L. Goetsch, T. A. Gipson, T. Sahlu, R. Puchala, Z. Wang, S. P. Hart, R. G. Mateescu. 2019. Association analysis of immune response loci related to *Haemonchus contortus* exposure in sheep and goats using a targeted approach. *Livestock Science* 228:109-119, <https://doi.org/10.1016/j.livsci.2019.08.005>.

# Goat and Hair Sheep Field Day 2020

## *Goat and Lamb Cookery*

You can register online

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Goat Newsletter

E (Kika) de la Garza American Institute for Goat Research

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P.O. Box 730

Langston, OK 73050