

ANNUAL REPORT OF ACOMPLISHMENTS AND RESULTS

RESEARCH AND COOPERATIVE EXTENSION

Langston University

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Certification:

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A. Planned Programs

National Goal 1

An agricultural system that is highly competitive in the global economy. Through research and education, empower the agricultural system with knowledge that will improve the competitiveness in domestic production, processing, and marketing.

Overview

Langston University Research and Extension continue to carry out programs/projects designed to make our clientele highly competitive in a global economy. Research personnel are addressing nutritional needs of goats. Knowledge regarding nutritional requirements of goats lags far behind the knowledge of cattle and sheep nutrition. Nutritional needs of goats impact the goat industry in other areas such as reproduction, breed or biological type, internal parasitism, growth rate and overall management. Results from this research will help goat producers to increase the level and efficiency of their goat herds' productivity.

A very important factor in meat goat production is the growth rate efficiency of kids. Langston University Cooperative Extension personnel have developed a meat buck performance test to determine growth rate efficiency in goat kids. The test allows the identification of genetically superior meat goat lines. Use of genetically superior meat goat lines has helped some Oklahoma producers to become more competitive in meat goat production.

An aquaculture project is examining alternative production methods, species and markets for fish farmers. In Oklahoma, over 80% of reported aquaculture income is from channel catfish. Additional alternative markets are being examined to help boost channel catfish sales. Polyculture is also being studied as an alternative method for helping aquaculture producers to increase their earnings.

Total FY 2003 Expenditures and Full-time Equivalent (FTE) for Reported Projects

Smith-Lever: \$25,000 FTE: 3.06

Evans-Allen: \$69,150 FTE: 8.8

Key Theme – Animal Production Efficiency (Research)

- a. Knowledge regarding goat production lags behind that for other ruminant species such as cattle and sheep. It is with this premise in mind that the general objective of this project is to study goat nutrient requirements, management practices and production systems in order to increase the level of production efficiency in goats.

- b. **Impact** – Goat enterprises are important components of many farms and farming systems in the United States, particularly small and resource-poor units. In addition, there are growing numbers of farms where sales of goats or goat products provide a sizeable amount of on-farm income and some large operations have added goats to their more conventional production systems to benefit from the unique feeding habits of goats. This project has assisted some goat producers in improving their management practices and the overall production efficiencies of their goat enterprises
- c. **Source of Federal Funds:** Evans-Allen
- d. **Scope of Impact** – Oklahoma/the United States

Key Theme – Aquaculture (Extension)

- a. Channel catfish is the primary aquaculture crop in the United States. Approximately 600 million pounds of channel catfish were processed nationwide in 2001. However, most small catfish farmers can not afford to sell their catfish to a processor as the proverbial middleman. Producer income via processors is at its lowest level in a decade. Farmers must reduce production costs in order to sell their fish at a profit. Alternative markets or marketing methods need to be identified and used to increase sales of channel catfish.
- b. **Impact** – In response to this project, two Oklahoma catfish farms are now selling more catfish on regular retail deliveries to urban centers. These producers are also developing their production schedules to produce larger quantities of large (> 3 pounds) catfish to meet these new markets. One farmer will test the lower cost feed this year. Also in response to this project, two minority clients are now operating catfish delivery/broker businesses. This project has inspired entrepreneurship in the minority community.
- c. **Source of Federal Funds:** Smith-Lever
- d. **Scope of Impact** – Oklahoma and Southern United States.

Key Theme – Animal Production Efficiency (Extension)

- a. A very important factor in meat goat production is the growth rate efficiency of goat kids. Objective performance records are needed when making sound genetic selections to improve average daily gain and/or feed efficiency in goat herds. In order to compare animals from different ranches or environments, a central performance meat buck testing site was developed at Langston University.
- b. **Impact** – over a seven-year period in which these performance tests have been conducted, meat goat producers have been able to purchase performance –tested

bucks via a public auction. Some producers improved the genetics of their meat goat herds resulting in higher profits during 2003.

- c. **Source of Federal Funds:** Smith-Lever
- d. **Scope of Impact** – Oklahoma/the United States

National Goal 3

A healthy, well-nourished population. Through research and education on nutrition and development of more nutritious foods, enable people to make health promoting choices.

Overview

Obesity is the number one malnutrition problem in the United States today. Studies show that individuals who are 20 percent or more overweight run an elevated risk of developing diabetes mellitus, hypertension, coronary heart disease, stroke, arthritis, and some forms of cancer. The two main factors contributing to overweightness and obesity are hereditary and environmental. Two additional contribution factors include lifestyle and eating patterns.

Nutrition wellness programs were conducted by Langston University personnel for clientele in Oklahoma counties. 4-H Youth Development staff collaborated with other organizations to provide educational programs to youth and adults in underserved areas. These programs were beneficial to all participants. Food selection, preparation, and exercise practices were key components of the presentations. The programs were instrumental in reaching youth and adults attending health fairs, workshops and educational events.

Total FY 2003 Expenditures and Full-time Equivalent (FTE) for Reported Projects

Smith-Lever: \$2,000 FTE: 0.05

Key Theme – Human Nutrition (Extension)

- a. Food nutrition and exercise are key ingredients needed for good health among youth and adults. The objective of this project is to provide nutrition education and exercise programs to clientele, and encourage them to adopt these health-conscience regiments.
- b. **Impact** – Participants reported that these programs increased their knowledge of the importance of consuming healthy foods and developing a healthy diet. They expressed appreciation that these sessions have helped them to select, prepare, and maintain foods that are more nutritious. Several program participants

indicated that they had previously been diagnosed with obesity, diabetes, arthritis, hypertension, or other ailments. Participants decreased their weight and improved their overall health by participating in the exercise and Healthy You Programs. All participants stated that these programs helped to improve their health and wellness.

- c. **Source of Federal Funds:** Smith-Lever
- d. **Scope of Impact** - Oklahoma

National Goal 4

Greater harmony between agriculture and the environment. Enhance the quality of the environment through better understanding of and building on agriculture's and forestry's complex links with soil, water, air, and biotic resources.

Overview

Substances produced by filamentous blue-green algae cause off-flavor problems in channel catfish culture ponds. The most common approach to managing phytoplankton communities involves application of therapeutic doses of copper sulfate. However, the margin of safety between phytotoxic and ichthyotoxic doses is small, and frequent application of these quantities of copper sulfate reduces water quality, and causes environmental concern for some non-governmental organizations.

Total FY 2003 Expenditures and Full-time Equivalent (FTE) for Reported Projects

Smith-Lever: \$ 20,000 **FTE: 1.05**

Key Theme – Sustainable Agriculture (Extension)

- a. Langston University researchers investigated the feasibility of using low doses (ppb vs. traditional ppm doses) of copper sulfate to change the community structure and successional patterns of phytoplankton communities in catfish culture ponds.
- b. **Impact** – Channel catfish ponds were treated biweekly with 15ppb of copper sulfate from July 7-September 6, 2003. That application was ten percent (10%) less than the recommended dosage. After treatment, target algae populations were significantly reduced in treated ponds. These data indicate that blue-green algae can be managed with much lower amounts of copper than are presently being applied. This project has shown that blue green algae can be controlled by copper sulfate at rates that do not compromise water quality.

- c. **Source of Federal Funds:** Smith-Lever
- d. **Scope of Impact** – Oklahoma/the United States

National Goal 5

Enhanced economic opportunity and quality of life for Americans. Empower people and communities, through research-based information and education, to address economic and social challenges facing our youth, families, and communities.

Overview

Langston University Cooperative Extension personnel are implementing programs to enhance economic opportunities and quality of life for Americans. A quality education is perhaps the greatest avenue for enhancing future economic opportunities for youth. One of the most glaring obstacles to many youth becoming high achievers in school is poor reading skills. The Cooperative Extension 4-H reading program is achieving success in enhancing youth participants' reading skills. Other programs are also enhancing youth's mathematic skills and appreciation of the arts.

Langston University Cooperative Extension is addressing what has been labeled as being "a bad manners epidemic". There has been a trend in certain crimes here in the United States that can possibly be linked to poor manners and disrespect. According to a U.S. News and World Report Survey: 78% of the population feel that rudeness has worsened in the past 10 years; 90% of the population feel that rudeness has contributed to increased violence; and 85% of the population feel that rudeness divides the national community.

Total FY 2003 Expenditures and Full-Time Equivalents (FTE for Reported Projects)

Smith Lever: \$ 16,000 FTE: 1.00

Key Theme – Literacy (Extension)

- a. Economically disadvantaged youth are much less likely than affluent youth to have access to quality after-school or out of school programs. According to a longitudinal study sponsored by the U.S. Department of Education, 40% of low-income eight graders compared with only 17% of high-income respondents do not participate in organized after-school activities. Access, not interest, is the issue. Surveys of American youth suggest that children want to participate in well-designed, organized after-school programs.

Several organizations worked collaboratively with the Langston University Cooperative Extension-Outreach Staff to design and administer quality 4-H after-school and out of school educational programs for school age children in

under-served rural and urban Oklahoma communities throughout the state. Exciting, fun enhancement educational programs were accessible to children from October 2002 through August 2003. 4-H staff persons, volunteers, AmeriCorps members, and other collaborative partners combined their efforts to maximize their resources and better serve the children, families, and stakeholders of Oklahoma.

- b. Impact** – The after-school and summer literacy program provided nearly year round supplemental education for participating students. Program evaluations completed by parents indicated some of the impacts of this program on our students. Parents reported that the program provided their children with a safe learning environment where reading, mathematics and other subjects taught in the regular school system were reinforced. The music enrichment program was appreciated by many parents because some Oklahoma schools have had to scale back on or drop music enrichment due to budgetary constraints. Pre- and post-tests showed that students enrolled in after-school tutoring significantly increased their reading skills for grades 5th through 8th. Participating students in grades 5th and 6th also showed significant improvement in mathematics.
- c. Source of Federal Funds:** Smith-Lever
- d. Scope of Impact** – Central Oklahoma

Key Theme – Character/Ethics Education (Extension)

- a.** The Langston University Cooperative Extension Program provided workshops for Family and Consumer Sciences (FCS) Extension Educators, high school FCS teachers, volunteers, and Home and Community Education groups on educational materials and resources in the area of manners/etiquette. This included posters, videotapes, books, newspaper and magazine articles and cartoons. Each participant received a resource packet to take home to use in their respective counties. The objective of this program is to enhance the character and civility of participating students through manners/etiquette training.
- b.** It is our goal, that through the educational information presented in this program, youth and adults will be better prepared for social situations. They will be better prepared to develop lifelong habits of courtesy, respect, consideration for others and the people skills necessary for survival and success in the workplace and for strengthening individual and family relationships. Proper etiquette often plays an important role in the job interview process and even in career advancement. Parents of some teenagers have informed us of how the behavior of their children has improved after attending our manners/etiquette seminars. Parents have also stated that their teenagers have raised their table etiquette IQs. This has especially been appreciated by the

parents of youth participating in school athletics and other activities that have formal banquets.

- c. **Source of Federal Funds:** Smith-Lever
- d. **Scope of Impact** – Central Oklahoma

B. Stakeholder Input Process

Projects, programs and priorities of Cooperative Extension and Research at Langston University are strongly impacted by stakeholder input. Input from our stakeholders is an ongoing process. That process includes the following methods:

- Input from advisory boards
- Input during and following Research & Extension Field Days
- Stakeholder surveys

C. Program Review Process

There have not been any significant changes in the program review process since submission of the 5-year Plan of Work (1999-2004).

D. Evaluation of the Success of Multi and Joint Activities.

Multi and Joint activities include the following:

Dairy Herd Improvement Association Laboratory

A national Dairy Herd Improvement Association (DHIA) Laboratory has been in existence for a number of years. Research has shown that when the laboratory instruments are calibrated with a cow milk standard and then goat milk is tested, there is a 29% increase in somatic cells, a .27% decrease in protein and a .04% decrease in butterfat from the actual values. The records produced by the DHI labs across the country are used to identify high producing does. These records are also useful for the exportation of these does to foreign countries. In the past, incorrect records were costing goat producers to lose money on the resale value of their does and offspring. Langston University established a certified DHI laboratory that calibrates the instruments using a goat milk standard. We have also worked in cooperation with Texas A&M University to write a program that utilizes goat language. Goat producers are now able to get records for their animals that reflect accurate information with the correct language. These records not only reflect higher fat and protein values for a doe, but also are easier to understand when dealing with importers from foreign countries. Currently, we are serving a 27 state area that includes a majority of the eastern states.