

# Integrated Goat Management System for Eastern Oklahoma Emphasizing Fiber and Meat

Dr. Claud Evans, DVM, Okemah, Okla

Many producers in the five-county area around Okfuskee County, Oklahoma, are limited-resource, part-time producers with land of less than 200 acres. A system of farming, on a small scale, that would allow these farmers to maximize their farm income is needed. Some farmers are attempting to develop a sustainable farming system through the use of goats. Issues involve: (1) determining ways to efficiently harvest cashmere; (2) improving net return to producers from the marketing of "value-added" cashmere; (3) reducing off-farm expenditures for forage and high protein supplements; (4) improving economic efficiency of farm enterprise; (5) timing kid production to capture "high-value" seasonal markets.

One of the major causes of death in grazed goats is internal parasites. Anthelmintics (drugs used for expelling or killing such parasites) are a major cost factor in raising goats. Many operators de-worm their goats on a monthly basis. Issues involve: (1) reducing the use of and expenditures for anthelmintics; (2) using rotational grazing to help lower intestinal parasite loads in goats.

The ultimate goal was to substantially improve the net return to the producer. This was attempted by implementing an integrated goat management system. Cooperators from Langston University, Oklahoma State University, and the Oklahoma Cooperative Extension Service helped with the design and evaluation of the project. A total of 120 goats were used during the first year of the project. The number of goats used increased by 20 each year of the study. Fiber was harvested by shearing one-half (one side)

of each goat and combing the other half. Fifteen "baby toothed" (less than one year old) female goats; 15 "2-6 toothed" (1 to 4 years old) female goats; and 15 "greater than 6-toothed" (greater than 4 years old) female goats; were used for the fiber study. By measuring the quality and quantity of the fiber we evaluated the benefits of shearing versus combing goats. Yield values (ratio of cashmere to guard hair) was determined. Good yields are critical to the development of an economically sound cashmere herd.

Seasonal legumes and rotational grazing was used to reduce off-farm expenditures for forage and high-protein supplements. Rotational grazing also reduced the parasite load and decreased the frequency of anthelmintic use. When this was coupled with timed production, heavier kids, and the high-value seasonal meat markets, the overall economic efficiency of the farming operation was improved.

## A. Fiber Research

Goat research personnel from Langston University and marketing specialists from Oklahoma State University were cooperators for this phase of the study. Forty-five nannies and doelings (three age groups) were sheared on one side in February. The other side of each goat was combed at weekly intervals from the time of shearing until May (or until all cashmere had been harvested). Since the shedding time of secondary fibers can vary from goat to goat, some goats were combed every two weeks.

## About Dr. Claud Evans

Dr. Claud Evans has been the owner and practitioner of the Okfuskee County Veterinary Clinic since 1983. He is a current member and former chairman of the Oklahoma State University and A & M Colleges Board of Regents and is on the board of directors of the Oklahoma Meat Goat Association.

"My wife Elayne and I have raised Angus cattle since 1967. Her parents, James and Vivian Owens, started raising cattle in the 1950's. We joined and continued the family farm. In the fall of 1991 Elayne & I purchased 162 Spanish doelings and 7 Spanish billies with genes for cashmere. Our goats have been

exhibited, and have won ribbons, at the Okfuskee County Fair, the State Fair of Oklahoma, and the State Fair of Texas, where one of our baby billies won a blue ribbon. Our primary interest now is on-the-farm, value-added practices."

*For more information contact:*

Dr. Claud Evans  
PO Box 362  
Okemah, OK 74859  
918-623-1166  
cde4@earthlink.net

Shearing versus combing was contrasted for quantity, yield, and quality of fibers. The combed fibers contained less primary guard hair and were ready for value-added processing. The sheared hair was a combination of primary and secondary hair fibers and required special commercial separation. The secondary hair fibers were cashmere fibers. Since each nanny was used for both shearing and combing, each animal was a complete research unit and all variables due to genetics, environment, or management differences were eliminated, making the study extremely accurate.

Sheared cashmere is usually marketed raw through wholesale outlets. With some goats combing reduced the need for commercial dehairing and allowed for on the farm, value-added processing and direct marketing of cashmere to the end user. (In previous years I have sold my sheared fiber to wholesale outlets for \$27 to \$42 per pound.) Today, cleaned cashmere, ready for spinning, is selling in retail markets for \$120 to \$190 per pound.

## **B. PLANT USAGE**

By using perennial legumes, rotational grazing, and annual soil testing the farmer can build a forage system that requires very limited purchase of protein supplement and almost no purchase of supplemental forage. Red

Clover, Ladino Clover, and Hairy Vetch were seeded in primarily Bermuda grass pasture to act as a source of nitrogen for Bermuda grass and a source of high protein food for kids and pregnant nannies.

Pastures were divided into seven plots. Soil analyses were used to determine soil needs. All plots were seeded with the legumes. The type and method of fertilization varied between the plots. Grazing systems were established and forage yields were obtained through exclusions and clippings. Hay yields were compared with previous years' yields.

All goats were dewormed at the start of the project in order to establish a parasite load baseline. Due to severe drought conditions in our part of the state the rotational aspects of the study had to be cancelled.

## **C. PLANNED KIDDING**

Currently, the best kid meat markets are June to July, and November to December. Kid production was timed to meet these higher-value seasonal markets. Billies were placed with the nannies on October 1 of each year. (The gestation period for goats is approximately 150 days.) Kids were born the following March. These kids were weaned in June for the July 4 market, or kept and grazed on the summer legumes for the November-December market.