AS-14-02

THE OHIO STATE UNIVERSITY EXTENSION

Extension FactSheet

Animal Sciences, 2029 Fyffe Road, Columbus, OH 43210-1095

Meat Goat Production And Budgeting

L. Tony Nye
Extension Agent, Clinton County

Robert Moore
Extension Associate, Agricultural, Environmental, and Development Economics

Introduction

Interest in meat goats has grown rapidly in Ohio over the past 10 years. Goat is the most frequently consumed meat in the world. In the United States, meat goat production is growing because of goats' economic value as efficient converters of low-quality forages into quality meat, milk, and hide products for many speciality type markets.

A big reason for the growing popularity of meat goats in this country is the large number of ethnic groups who have settled in this country and who prefer goat meat, milk, and cheese products. The meat goat is popular for another reason. Where resources are limited, a small herd of goats may be the only livestock enterprise that a small, part-time farmer can raise efficiently and profitably and become self-sufficient. In Ohio, goats are growing in popularity as a popular 4-H or FFA youth project, and many youth are raising meat goats for breeding or show.

General Characteristics of the Meat Goat

Female goats are called does, or sometimes doelings if they are less than a year old. Males are bucks or bucklings. Young goats are called kids.

Bucks usually do not make good family pets because of their aggressive behavior and strong urine-like odors. Buck odors are most offensive during the breeding season, usually from September to early January; however, their scent glands can be removed. Does do not secrete strong odors from their scent glands.

Goats adapt well to most environments, but do especially well in hot environments because of their small size and higher ratio of body surface area to body weight. Also, their ability to conserve body water, their limited subcutaneous fat cover, and their hairy coats are good survival traits under desert-like conditions.

The foraging preference of goats is for a broader range of plants than the prefrences of other small ruminants. Goats make excellent browsers and are inclined to forage from the top of a plant downward, making them efficient biological controls for undesirable plants and shrubs.

Goats are particularly adept at selecting the most nutritious plants or parts of plants. Because of their foraging characteristics, meat goats fit well on poor or fair grazing areas as long as adequate plant material is available to consume. This aspect allows goats to respond very well to an improved quality forage-feeding program.

Goats can efficiently convert vegetative matter into meat and milk, requiring little need for other feed sources such as corn or processed feeds.

Meat Goat Breeds

Goats of all breeds may be raised for meat production in many parts of the world. However, meat-goat carcasses are generally leaner and more muscular than dairy-goat carcasses and have different proportions.

With the possible exception of the South African Boer goat and the New Zealand Kiko goat, there are no real defined meat-goat breeds in the United States. Several other breeds such as, the Spanish, Myotonic, and the Nubian, have been utilized for meat production in the United States.

Some general characteristics of each of these breeds are presented here.

Boer. The present day Boer breed (other names include the Africander and South African Common goat) was developed in the early 1900s when African ranchers began breeding goats for the specific purpose of meat production. Today there are approximately 5 million Boer goats in Africa, of which only 1.6 million are of the improved type. The Boer goat has a good conformation with high growth and fertility rates. In the late 1980s, Boer goats were imported into Australia and New Zealand. In 1993, the breed was imported into the United States from Australia and New Zealand.

A mature Boer buck weighs between 240 and 300 pounds, and a mature doe weighs between 200 and 225 pounds. Performance records indicate that some goats are capable of average daily gains of more than 0.44 pounds per day in feedlot conditions, with average performance between 0.3 and 0.4 pounds per day. The Boer goat doe has sufficient milk to raise a kid that is early maturing. The breed is prolific, with common kidding rates of 200 percent. The Boer goat has a non-determinate breeding season, making three kiddings every two years possible.

Kiko. The Kiko breed was developed by crossing feral does (relatively small goats which developed from escaped domestic goats in New Zealand with does weighing between 25 and 55 pounds and bucks less than 88 pounds) with Nubian, Toggenberg, and Saannen bucks. The Kiko herd book was closed in 1986 (all breeding animals had to be selected from within the herd). Kiko goats (weighing roughly twice the weight of feral goats) are capable of high levels of meat production and can produce well under a variety of conditions.

Nubian (Anglo-Nubian). Originally imported from Nubia, Africa, the Nubian breed was developed by crossing British goats with bucks of African and Indian origin. The does are not heavy milk producers but have milk with higher than average butter fat content. In addition, the Nubian breeding season is much longer than that of the Swiss breeds, making it possible to milk the doe year-round.

Any solid or part-colored goat is permitted in the breed, but the most common colors are black, red, and tan. Bucks should weigh at least 175 pounds, and mature does should weigh at least 135 pounds.

Myotonic. The Myotonic goats are often referred to as Wooden Leg, "stiff-leg," or Tennessee fainting goats. The stiff-leg name is derived from the fact that the goats, when excited or frightened, "lock-up" and often fall over and lie very stiff (faint) for a few seconds (normally only 10 to 20 seconds).

The breed is one of the few indigenous to the United States. Two strains of the Myotonic breed exist one in Tennessee and the eastern United States and the other in Texas. While the exact circumstances of the development of the breed are unknown, it is widely accepted that the breed originated in Tennessee. It is believed that all fainting goats in the United States can trace their origin back to four goats imported to Tennessee from Nova Scotia by a man named John Tinsley.

The Myotonic goat is heavy rumped and deep chested. While multi-color animals are not uncommon, the most common colors are black and white. The goat is an aseasonal breeder. Many breeders have noted that the breed has the capability to produce two kiddings a year. They have been discovered as an excellent crossbreed stock for the Boer goat. Because the fainting quality comes from a recessive gene, the fainting is not usually expressed in crossbred animals.

Spanish. The Spanish or brush goat breed has developed through natural selection from goats first placed in Oklahoma and Texas in the early 1540s by Spanish explorers. The size of the goat varies according to climate, terrain, and available breeding stock. Mature bucks can weigh up to 200 pounds and does up to 130 pounds. Body shape, hair, and color are not consistent among goats of the breed. The term Spanish or brush goat has been used to denote goats that do not fit into any breed description. Historically, the Spanish goat has been kept primarily to help clear brush and other undesirable plants from pasture and range land.

Breeding and Selection

Important considerations in a selective breeding program are multiple births, twice-a-year kidding, rapid growth, good conformation (sound feet, legs, and mouth), and attention to color standards for certain breeds. Since income is derived primarily from the sale of kids, multiple births should be a high priority in the selective breeding program. Give preference to early-born kids for replacements, and select doe kids from does that kid twice each year. Wean doe kids when they weigh 40 to 50 pounds and are four to five months old.

The weaning period is a good time to accustom future replacement stock to supplement feed, should the need arise to provide a limited amount of concentrate. These

replacement doe kids can return to the breeding flock when they reach desirable size (two-thirds the mature weight) or are one year old.

Meat goats are polyestrous, and many does can be rebred while nursing a kid. Some producers choose to let bucks run with the does throughout the year. If this is done, available feed resources, management, labor, and marketing options need to be carefully evaluated. Also, a continuous breeding season is discouraged because it subjects underdeveloped replacement doe kids to the buck. These factors can have a negative influence on overall profitability.

Meat goat kids may breed as early as four months but typically do so at seven to 12 months. Body weight and condition are probably more important than age in determining initial juvenile oestrus, or post-partum estrus. It is not advisable to breed young females weighing less than 65 percent of their estimated mature body weight range of 90 to 120 lb.

A well-planned breeding program is highly recommended for any producer interested in expanding to a sizable commercial operation of greater than 50 head of breeding-age does.

The gestation period for does can vary from 147 to 150 days, but five months is the average time. Provide three to four bucks per 100 head of does. The best system for mating appears to be exposing the does during February and March, removing them, and putting them back with the bucks in September and October. This allows for good management of the doe kids.

Pasture and Management

Goats should be stocked at the rate of five to six adult does to one animal unit equivalent. Meat goats must depend almost solely on forage to meet their nutritional needs.

A carefully planned forage program can enhance growth and performance of goats. A good, thought-out, rotational-grazing program can improve pasture production and help control internal parasites.

Supplemental grazing in stubble fields, corn fodder, wheat pastures, or winter rye can be used to either extend the grazing season or to boost required nutrient levels.

Goats also complement both sheep and cattle in marginal grazing lands. Goats are considered excellent browsers and consume a higher percentage of brush and other less desirable plants. This allows goats to maximize the use of marginal pasture land as well as improved forage production systems.

Fencing

Goats require very tight fencing. Net fencing; traditional woven wire with two to three barbed wires above it; eight-strand high-tensile fence with electrified third, fifth, and top wire have all proven effective fencing.

Goats need minimum shelter. Natural shade and wind breaks are adequate except in cold windy weather when a simple draft-free shed will likely improve performance, especially if early kidding is practical. An open shed providing 10 to 12 square feet per doe can provide good shelter during both extreme heat or cold weather.

Health Considerations

A preventative health program should be carefully worked out with your veterinarian. Internal parasite control is probably the most important health issue for goats. Generally, what works for sheep within a certain region of the country will work for goats.

Problem diseases associated with reproduction or kidding can be managed and treated, in most instances, the same as for sheep. Consult a veterinarian when in doubt.

Goat Meat Characteristics

Goat meat is termed either cabrito or chevon. Cabrito is Spanish for “little goat.” Cabrito is from kids harvested within the first week of birth. Its main use is for barbecue meat and is highly sought after by various ethnic groups. Cabrito is more tender.

Chevon is from older kids harvested close to or after weaning.

In general, goat meat is unique in flavor and palatability. It is leaner than many other red meats and usually less tender.

Budgeting for Production

Included is a sample budget showing net returns at various kidding rates. The budget considers a herd size of 25 does and one buck (assumed typical size for starting a meat goat operation in Ohio); however, the budget represents receipts and costs of one doe in this operation.

Bibliography

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DOE AND KIDS
Annual Budget
3 kid crops every 2 years [1]
Based on 25 doe/1 buck operation [2]

ITEM	QUANTITY/UNIT		PRICE PER UNIT	130%	Kidding % 170% lamb crop	210%	YOUR BUDGET
RECEIPTS							
Kids [3]	15% kept back	70 lb.	$1.00 /lb	$110	$152	$194	
Cull Doe and Buck [4]							
Doe	15% cull rate	150 lb./doe	10.00 /cwt	2.25	2.25	2.25	
Buck	50% cull rate	200 lb./buck	10.00 /cwt	10.00	10.00	10.00	
TOTAL RECEIPTS				123	165	207	
VARIABLE COSTS							
Feed							
Kids							
Pasture[5]	10 kids/acre		44 /acre	9	11	14	
Minerals			1.00 /head	1	1	1	
Does							
Corn[6]	0.5 lb./day	135 days	2.20 /bu	3	3	3	
Pasture[5]	10 does/acre		44 /acre	4	4	4	
Salt and Mineral				2	2	2	
TOTAL FEED COSTS				19	21	24	
Health Program				6	6	6	
Marketing[7]				5	5	5	
Utilities, supplies, and miscellaneous costs				3	3	3	
Int. on Operating Expense [8]			9%	1	2	2	
TOTAL VARIABLE COSTS				34	37	40	
FIXED COSTS							
Labor Charge		4 hours	7.50 /hr	30	30	30	
Doe Replacement [9]	15% cull rate	5% death rate	150 /doe	30	30	30	
Buck Replacement [10]	100% cull rate	5% death rate	200 /buck	8	8	8	
Int. on Breed Stock [11]			9%	15	15	15	
Equipment Charge [12]		$30	20%	6	6	6	
Buildings Charge [13]		$50	17%	9	9	9	
Management Charge[14]		5% of gross revenues		6	8	10	
TOTAL FIXED COSTS				104	106	108	
TOTAL COSTS				138	143	148	
RETURN OVER VARIABLE COSTS (total receipts - total variable costs)				89	128	167	
RETURN OVER TOTAL COSTS (total receipts - total costs)				-15	22	59	
RETURN TO LABOR AND MANAGEMENT[15]				21	60	99	

[1] A goat's reproductive cycle allows a doe to kid about every 8 months or 3 times every 2 years. Therefore, this annual budget is based on 1.5 kid crops.

[2] 25 does and 1 buck is asumed to be a typical size for a meat goat operation in Ohio. This budget represents 1 doe in this size operation.

[3] A 10% mortaility rate for kids is assumed and 15% of kids are held back for replacement does. Therefore, a 170% kidding rate will actually yield a 145% rate for kids available for marketing (170% - 10% mortality - 15% replacements = 145% marketable yield). Market price will vary with location and market availability. Prices can range from $0.60-$1.20 /pound. The kid weight is a typical sale weight but can range from 50 - 80 pounds.

[4] Cull rate: does = 15%, bucks = 50%. Cull revenue = cull rate x weight x market price. (Doe: 15% x 150 lb. X $10 cwt = $2.25)

[5] Pasture costs are based on an annual rental rate for 1 acre of pasture. The rate is determined by the following formula: yield x hay price x 0.25. (2.5 T/acre x $70/T x 0.25 = 43.75 $/acre)

[6] Does fed 1/2 pound of supplemental corn for 135 days every year.

[7] Marketing costs are the costs associated with the sale of the animal. This may be a fee for putting the animal in an auction or the costs of selling the animal privately.

[8] Includes value of feed plus other variable expenses less marketing.

[9] Doe replacement cost based on 15% annual replacement rate, 5% death loss and cost of doe of $150. Replacement cost = 15% replacement rate + 5% mortality rate x $150/doe = 30

[10] Buck replacement cost based on 100% annual replacement rate, 5% death loss and cost of buck of $200. Replacement cost = 100% replacement rate + 5% mortality rate x $200/buck / 25 does/buck = $8.40. The 100% replacement cost assumes that 2 bucks are owned and one is replaced every year to prevent inbreeding.

[11] Interest on breeding stock is the average value of a breeding animal x interest rate. ($150/doe + $400 bucks / 25 does) x 9% = $15. Assumes 2 bucks are owned. See #10 footnote.

[12] $30 investment / doe X 20% = $6.00

[13] $50 investment / doe x 17% = $8.50

[14] The management charge is the value of the operator's management skills used in managing the goat operation.

[15] Return to labor and management is the revenue less total expenses except operator labor and management. It is a measure of the returns to the operator's labor and management.

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