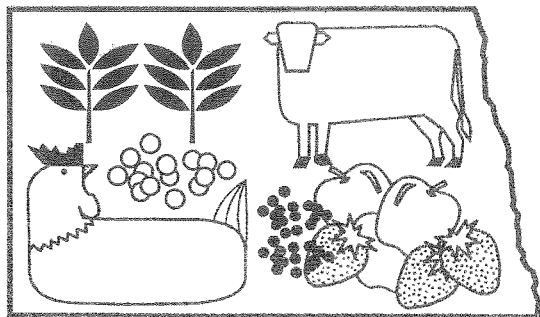




Angora Goat

Author: **Randy Sell**, Research Assistant,
Department of Agricultural Economics, NDSU

Series Editor: **Dwight Aakre**, Farm Management Specialist,
NDSU Extension Service

Angora goats are a relatively new species in the Northern Great Plains. In 1987 in North Dakota there were 132 Angora goats produced by seven farmers. By 1992 there were 17,430 Angora goats and the average herd size was 140. Angora goats are raised primarily for their fleece: about 70 percent of gross income from an Angora herd generally comes from the sale of mohair. With careful management Angora goats perform quite satisfactorily in the cold temperatures of northern climates. Minnesota data indicates that at 0 degrees Fahrenheit, Angoras in short fleece can stand the cold as well as sheep. Angora fleece grows about one inch per month, and in two to three months they have a fleece of sufficient length to withstand sub-zero temperatures.

Characteristics

Angoras are less active than the typical dairy goat and are more easily confined. They are excellent browsers and will derive a large proportion of their food supply from tree leaves and branches. They also eat weeds, if available. Studies are under way in North Dakota to investigate the feasibility of using Angoras to control the expansion of leafy spurge.

Size

Angora goats are slightly smaller than the meat-type, black-faced sheep typically raised in North Dakota. At birth they weigh 4 to 8 pounds; at 6 months, 35 to 50 pounds; and at 16 to 18 months old, 55 to 65 pounds. Mature does (nannies) weigh 75 to 100 pounds and mature bucks (billies) weigh 85 to 125 pounds.

Reproduction

Goats are seasonally polyestrous, like sheep. The sexually mature animals begin breeding during fall and early winter. Declining light hours trigger the onset of the breeding season, but the presence of a billy significantly contributes to the onset of estrous. A doe bred during her first estrous of the season will generally have a lower lambing percentage than if she is bred in the following cycle. Angora goats are substantially less prolific than sheep and have a higher percentage of barren or open does. Breeding kid does at 7 to 8 months of age is less successful than breeding ewe lambs of the same age. The gestation period for Angoras is approximately 148 days. The breeding season should be scheduled so that farm labor is available the following spring for kidding. Kid crops of 115 to 140 percent are realized for a mature herd.

Fleece

Angora goats are excellent producers of fine quality fleece. On average mature goats will produce 10 to 16 pounds of hair annually. Angoras are typically shorn twice a year, September and March. During the first 30 days following shearing the goats are susceptible to hypothermia. Adequate housing is necessary during this time to protect them. The spring shearing usually yields 25 to 35 percent more than the fall. As the goats become mature and larger, their fleece becomes coarser and less valuable.

Diseases and parasites

Health problems are the major risk associated with Angora goat production. Angoras are known to have more health problems than other domesticated livestock. Angoras are susceptible to the same diseases



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as sheep, and to similar parasites. Angora kids are quite susceptible to coccidiosis. Other common diseases include pneumonia, urinary calculi, and overeating. Although they appear to be less resistant than sheep to internal parasites, internal parasites may be controlled with Ivermectin or Tramisole. External parasites are generally controlled with Ectrin poured along the back. Good management will control diseases and parasites.

Feed

Although Angora goats will eat poor quality shrubs, bushes and woody plants, the amount of hair they produce is greatly affected by their nutrient intake. During gestation, a diet of 75 percent alfalfa and 25 percent corn has enough energy, protein, minerals and vitamins to allow good animal performance. A free-choice diet of 50 percent corn and 50 percent alfalfa is recommended during lactation. This diet will maximize milk production and maintain body weight and hair growth.

Investment

Investment capital and labor input requirements necessary to start a herd of Angora goats can be substantial. Producers must have adequate facilities to ensure protection from the elements for a period of time after shearing and during lambing. Sufficient labor during lambing is an important consideration, to ensure survivability of the kid crop.

Mature goats will require about 20 square feet of indoor housing and 25 square feet of open lot during the winter and inclement weather. Angora goats can be produced in total confinement, but high establishment costs usually are prohibitive. Feeding and handling facility requirements for goats are similar to those required for sheep, if the goats' horns are removed.

Investment in the breeding herd is similar to the investment required for sheep. Prices for nannies will range from \$75 to \$150. Billies will range from \$300 to \$1,000, depending on performance records. Age, mohair quality, and whether the animal is registered all affect the price of breeding stock. No organized market system exists for cull animals, and the carcass quality of Angora goats is very poor.

Operating expenses for Angora goats are generally less than for sheep because goats are smaller and eat less feed. Maximizing grazing on marginal pasture land and reducing the quantities of mechanically harvested feedstuffs helps keep feed costs to a minimum.

Management

Good quality breeding stock is necessary to maintain a profitable Angora goat herd. While environment plays an important role in the quantity of mohair produced, genetics is the single most important factor determining quality. The price discounts for poor quality mohair are substantial. There are limited supplies of breeding stock in Iowa, Michigan, and Minnesota, and a much greater supply in the southwestern United States.

Breeding stock should be kept in above-average condition throughout the year. If condition seems to be declining, then grains should be added to the diet to increase the energy content of the ration. Research has shown that nannies maintained in above-average condition can attain a kid crop of 150 percent. Nannies not in good condition produce much less mohair and have a very low reproductive rate. Kids should be creep-fed their first year to maximize growth and mohair production. Both sexes of Angora goats have horns. Many managers suggest they be removed, since this reduces the amount of bunk space necessary and decreases damage to fences. Angoras have tough hooves which require trimming twice a year.

Harvesting mohair

Shearing mature goats is usually done on a six-month schedule. Shearing in mid-September allows enough time for hair regrowth before the weather turns cold. Shearing the following March, before kidding, provides a good environment for the newborn kids. It is easier for the kids to find the nanny's udder, and warmth from the nanny is more easily transferred to the kid. The shearing areas should be clean so that debris and manure do not contaminate the mohair. The mohair should be bagged immediately after shearing. Adult mohair should be kept separate from younger goat mohair since younger goat mohair is much more valuable and will command a higher price.

Economics

Estimated economic and cash flow budgets are presented below, to allow comparisons to be made with other enterprises. The 125-head goat herd costs \$14,600. Machinery, equipment, buildings, and facilities were assumed to cost \$24,000. Depreciation on these assets was calculated over 10 years with no salvage value. The enterprise is assumed to be 50 percent leveraged. Interest on borrowed capital and owner equity is 9.75 and 4 percent, respectively. A return to owner's equity and principle repayment is

not included in the cash flow budget. Pasture is assumed to be owned by the operator.

Producers interested in Angora goat production should be aware that 80 percent of the gross revenue comes from the sale of mohair, and 65 percent of this amount comes from a government sponsored mohair incentive program payment. The mohair incentive payment is based on the national average mohair price received by farmers and a target price of \$4.45 per pound. Returns to owner labor are moderate (\$14.26 per head) for Angora goat production. More acceptable returns could be earned if investment in buildings, facilities, machinery and equipment were lower.

References for Further Information

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Production coefficients for North Dakota angora goat herd

Mature animal death loss (%)	1
Kid death loss (%)	2
Culling rate (%)	10
Weaning (%)	90
Mohair yields (lbs)	
per doe	12
per yearling	8
per kid	4
per billie	15
Mohair market prices	
per doe	\$1.25
per yearling	\$2.60
per kid	\$4.00
per billie	\$1.25
National Mohair target price (lb)	\$4.45
1991 Deficiency payment per lb	\$2.66
Kid market price	\$40
Cull billie and doe selling price	\$18
Bred nannie value	\$100
Mature billie value	\$300
Grass hay price per ton	\$50
Corn price per bu.	\$2.30
Mineral cost per ton	\$240
Pasture cost per AUM	\$10
(Animal Unit Month)	
Feed requirements	
Pasture-AUM's (6 months @	
2 AUM per nannie and billie)	1.2
Roughage-grass hay (lbs per 6	
months per nannie)	302
Corn grain to nannies (bu)	3.25
Mineral per nannie (lbs)	24

The economic budget is generated by charging market rates for all resources needed for production. It helps answer the question "Is this enterprise profitable?" The bottom line represents a return to labor and management.

The cash flow budget is an estimate of the out-of-pocket cash needed to run the enterprise, including not only direct costs but indirect cash costs such as principle and interest payments, insurance and taxes. It helps answer the question "Can I make meet my cash obligations if I go into this enterprise?" Total cash expenses are subtracted from total cash receipts to calculate the net cash which is available for family living and other needs.

Angora goats annual enterprise profitability and cash flow budgets for a 125 head herd located in North Dakota, 1992

	Economic		Cash Flow Budget	
	per nannie	per flock	per nannie	per flock
Returns				
Kids	\$34.80	\$4,350	\$34.80	\$4,350
Cull does	1.62	203	1.62	203
Mohair-doe	15.00	1875	15.00	1875
Yearling	2.29	286	2.29	286
Kid	14.40	1800	14.40	1800
Billy	0.94	117	0.94	117
Shorn mohair incentive@247.5%	45.80	5,725	45.80	5,725
Gross Revenue	\$114.84	\$14,355	\$114.84	\$14,355
Variable costs				
Feed	29.91	3,738	17.91	2,238
Shearing nannie twice per year	9.00	1125	9.00	1125
Breeding expense	7.05	881	7.05	881
Utilities and fuel	4.95	619	4.95	619
Interest	4.96	620	3.79	474
Total Variable Costs	\$55.87	\$6,984	\$42.70	\$5,337
Fixed costs				
Machinery ownership	3.20	400	3.20	400
Equipment ownership	1.28	160	1.28	160
Building & land ownership	3.20	400	3.20	400
Breeding stock ownership	4.60	575	4.30	538
Replacement nannies	5.09	636	3.77	471
Depreciation on fixed assets	19.20	2,400	xxxx	xxxx
Depreciation on nannies	9.02	1,128	xxxx	xxxx
Insurance	1.15	144	1.15	144
Total Fixed Costs	\$46.74	\$5,843	\$16.90	\$2,113
TOTAL LISTED COSTS	\$102.61	\$12,827	\$59.60	\$7,450
Returns over variable costs	\$58.97	\$7,371	\$72.14	\$9,018
Returns to labor, equity and manage.	\$12.23	\$1,528	---	---
Cash flow (debt & family living)	---	---	\$55.24	\$6,905

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