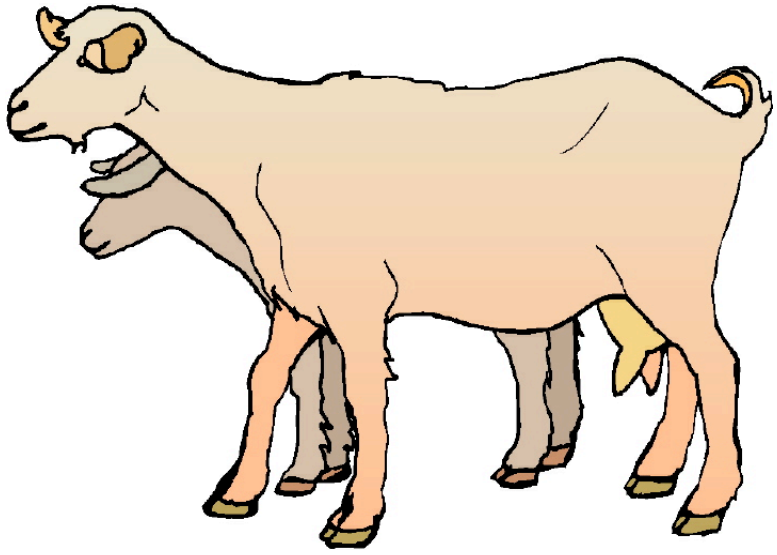
UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION

2005

SAMPLE COSTS FOR A

500 DAIRY GOAT

OPERATION



Milk for Cheese Production
In the North Coast

Deborah D. Giraud	UC Cooperative Extension Farm Advisor, Humboldt County
Karen M. Klonsky	UC Cooperative Extension Economist, Department of Agricultural and Resource Economics, UC Davis
Pete Livingston	Staff Research Associate, Department of Agricultural and Resource Economics, UC Davis

STUDY CONTENTS

INTRODUCTION

The sample costs to raise dairy goats on the North Coast of California are presented in this study. The ranch used in this study is 55 acres with the needed milking parlor, barns, storage, housing, fencing, and other investments required for a 500 dairy goat herd. The milk produced at the dairy is meant for the cheese market. This study is intended as a guide only, and can be used to make production decisions, determine potential returns, prepare budgets and evaluate production loans. Practices described are based on those production procedures considered typical for this enterprise and area, but will not apply to every situation. Sample costs for labor, materials, equipment and custom services are based on current figures. Some costs and practices presented in this study may not be applicable to your situation. A blank column, "*Your Costs*", is provided in Table 1 to enter your costs.

The hypothetical dairy operation, production practices, overhead, and calculations are described under the assumptions. For additional information or an explanation of the calculations used in the study call the Department of Agricultural and Resource Economics, University of California, Davis, 530-752-2414.

Sample Cost of Production studies for many commodities are available and can be requested through the Department of Agricultural and Resource Economics, UC Davis, 530-752-4424. Current studies, those produced during the last five years, can be obtained from selected county UC Cooperative Extension offices or downloaded from the department website http://coststudies.ucdavis.edu.

THE COMMERCIAL GOAT MILK INDUSTRY IN CALIFORNIA

How many commercial herds are there in California? The exact number is hard to pin down, but a best guess would be 50-60. Commercial is defined as an inspected operator that sells milk to a processor, or makes an inspected farmstead product such as cheese. Commercial operators have the goal to make a living from the enterprise, although many small farms in California have some off-farm income. California has a long history of producing goat milk. There used to be many farms in Southern California, but most are now in the central part of the state. There are several factors that made it difficult to determine the number of goat dairies in the state. The state and county milk inspectors do not have easily available lists of milk producers for goat milk separated from the cow dairies. Because of new food security concerns, the state does not make sites of food production available to the public. The California Dairy Herd Improvement Association issued a report for the year 2004. It reports 35 herds on the testing program in California. The average herd size was 28 does per herd. This number indicated that many herds on test are not commercial herds. Conversations with herd owners indicate that few commercial producers are members of the DHIA. So, the following numbers are not from published data, but were generated through industry contacts.

The San Joaquin Valley of California has approximately 40 commercial goat dairies that sell for fresh milk and for cheese. There are some long established goat farms and some new ones. The sizes of herds range from 150 – 1,200 goats. A single processor buys most of the milk. This processor sells fresh and dried milk throughout the nation.

The Santa Rosa area has about five commercial producers; the herd size ranges from 30 – 2,000 goats. The milk is sold for cheese, yogurt and fresh milk. There are two processors and a dozen boutique cheese makers throughout northern California. There are trucks delivering goat milk between the Central Valley and the Santa Rosa area, and visa versa. In the Sacramento Valley there are several goat herds and one processor buying goat milk for cheese. Humboldt County is located 650 miles north of San Francisco. It is home to a large goat cheese processor. Currently there are five commercial milk producers milking about 850 goats.

Goat milk is also shipped into California in the form of frozen curd which is added to fresh milk to make cheese. Because of this importation, it is difficult to report on the pounds of goat cheese produced and relate it to the milk produced in the state. Interest in goat milk production is increasing as the demand for cheese and other dairy products grows.

ASSUMPTIONS

The following assumptions pertain to sample costs to produce goat milk destined for the cheese market on the North Coast of California. Practices described are not recommendations by the University of California, but represent management and production practices and materials considered typical of a well managed goat dairy herd. Some costs, practices, and materials may not be applicable to your situation nor used during every year. Additional ones not indicated may be needed. Management practices vary by dairy and region and variations can be significant. These costs are on an annual basis. *The use of trade names in this report does not constitute an endorsement or recommendation by the University of California nor is any criticism implied by omission of other similar products.* Some recommended practices such as

herd improvement testing, membership dues in associations, ultra sounding does, and others are not included in this study.

Land. The hypothetical ranch consists of 5 acres of owned land and 50 acres of rented pasture. We used a number of $5,000 per acre for the owned land, and $30 per acre for the rented land. This is not a study about start up costs, it is a study on operating costs of an existing dairy. Real estate purchase and rental is very difficult to predict. It is advised that a new operators include land payments and interest paid on investment in their individual analysis and business planning.

GOAT DAIRY MANAGEMENT PRACTICES AND MATERIAL INPUTS

Goat Herd. The herd consists of 500 does, 10 bucks, and replacement kids. Annually, 20% or 100 does are replaced in the herd. Does and replacement does are bred in late summer through winter. Kids are born five months after breeding. The doe milk production rates take into consideration a lower than normal milk production period during the months of gestation. In this study it is assumed that the 500 does will produce 800 kids. This rate considers twins, triplets, does which did not conceive, embryo losses, and neo-natal deaths. Most of the doe kids and all of the buck kids are sold within three days to one week after birth through commercial markets (or given away). A group of doe kids are kept to become replacement does in the herd. With good management, young kid survival rates should be 95%.

130 female kids are retained to become part of the replacement herd. Out of these 130 replacements, 30 will either die or be culled for various reasons during the first year. Does are bred at eight to ten months of age. 100 young does are moved into the milking herd after kidding. This study assumes that all 30 culled replacement does are sold.

Approximate dates for various operations are shown in Figure 1.

For breeding purposes, 10 bucks are kept year round. Twenty percent or two bucks per year are replaced for age, breeding, or disease related issues. The new bucks are purchased outside of the herd.

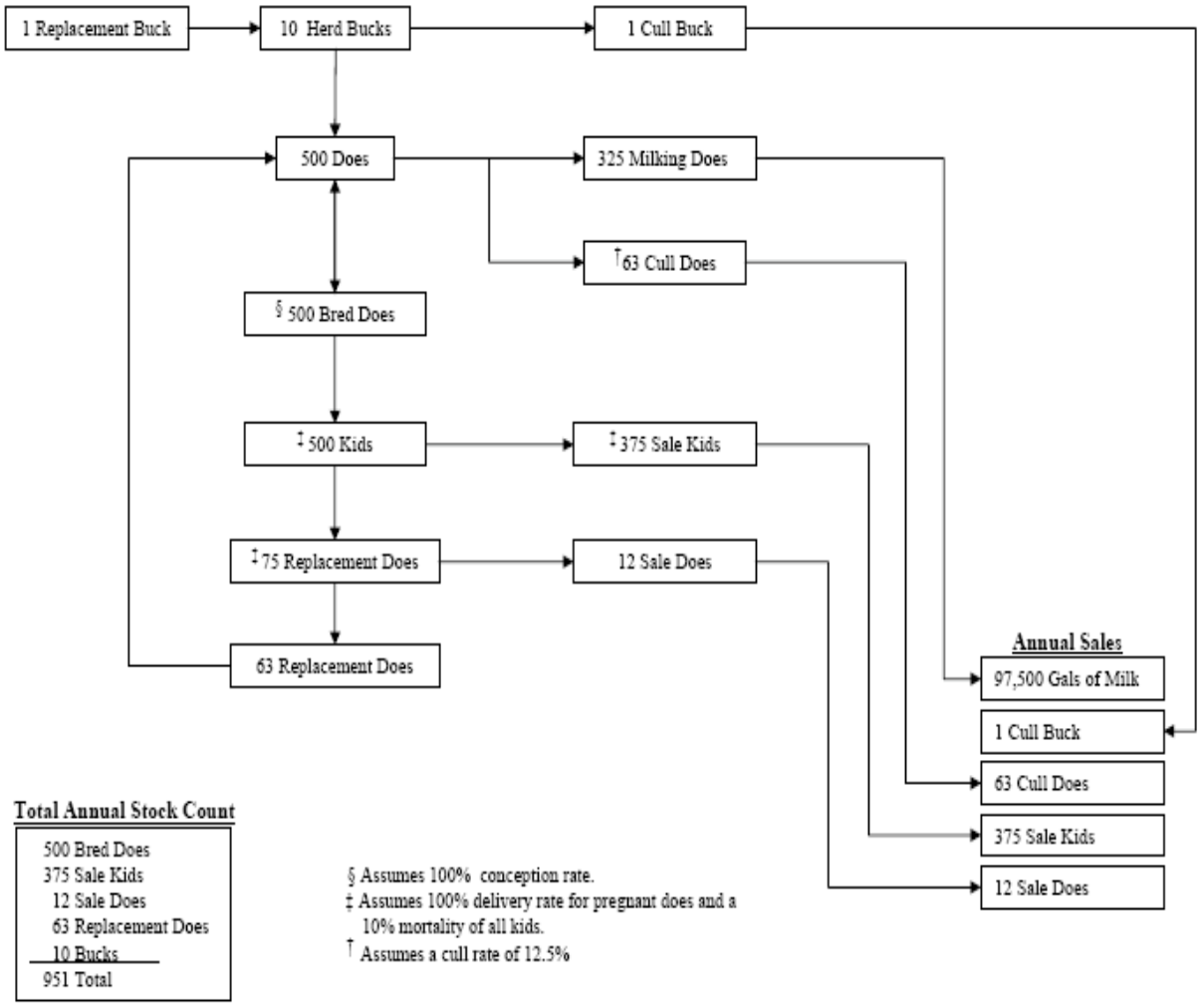
Figure 1. Months of major operations

Operation	Month	To	Month
Winter Feeding	August	-	January
Outside Grazing	February	-	July
Breeding	August	-	January
Kidding	January	-	March
Weaning	January	-	March
Milk & Goat Sales [§]	Annually	-	Varies

[§] For milk and goat sale dates see Table B.

A flowchart of the goat herd on an annual basis is shown in Figure 2. Both herd population and production used for sales are indicated below.

Figure 2. A 500 doe herd dairy.



Feed.

Milking Does: Milking does consume an average of three and a half pounds of grain a day annually. Alfalfa hay is fed most of the year, with only a few months where the pasture is sufficient. Milking does will consume an average of five to six pounds of feed per day.

Bucks: Bucks average one to two pounds of grain during most of the year and two to three pounds during breeding**.** Bucks are not given any grain during the wet season. They are fed hay which is included in the hay totals.

Kids: Kids being raised for replacer are fed milk replacement from two days old to eight weeks of age. The pricing used is for a milk replacement bought by the pallet load (40 sacks at 50 pounds each). Kids also consume grain, starting to nibble at two weeks and consuming about 1.5 lbs a day by weaning. In the first year the average kids' grain consumption is 450 pounds. Some producers will cut back on grain significantly for several months if optimum weight is reached. Kids are fed alfalfa hay.

Pasture: On the North coast, many goat dairies have pastures or rangeland. These are accessible for browsing and exercise for much the year. Overall, the pastures do not provide much forage, and feeding is essential.

Dairy pellets contain both grain and ground forage. These are desirable as goats can be selective feeders and waste grains when offered a mix. Pellets can present problems with fines, and create an extra chore to clean feeders, so are not chosen by some producers. Availability of feed products in this region will vary and, in some of the counties, a dairy pellet is not even available. North Coast producers order a custom mix which is usually more expensive than dairy pellets. Animals are also fed supplement minerals and salt in block, not mixed with the feed. It is assumed that a herd this size will consume 72 supplemental mineral blocks annually, or its equivalent in loose salts (for ease of pricing, blocks are used).

Health Care and Veterinary Management. Dairy goats routinely receive preventative treatments for certain health conditions. Does are treated for more health issues than bucks. Herds might experience more problems or diseases than those listed below. Vaccination for overeating disease and tetanus, treatment for mastitis, internal parasites and hoof care are the main concerns on most goat dairies.

All goats have a footbath to help prevent foot rot and hooves are trimmed and injuries treated. This requires about two hours of labor every other day throughout the year. Kids are wormed, vaccinated, and disbudded. Milking does on pasture are wormed 3 to 6 times a year. These costs are included in Table 1 and 2 under Veterinary Medicine.

Other health concerns that may occur within the herd are soremouth, abscesses, joint conditions, Johne's disease, tetanus, scours, pneumonia, parasites, and other problems. This study assumes that $1,112 is spent on miscellaneous veterinary practices on the herd.

Buildings. Goat dairies vary in numbers of buildings and layouts for many reasons. For this study, it is assumed that four buildings are needed for the dairy itself, not including housing for workers or the owner. A milk parlor, shelters for does and kids, buck shelters and a storage building for feed, supplies, repairs and parts are the needed buildings.

The milking parlor is built to milk 12 does at a time and laid out in a herringbone pattern. It also has a holding pen for does waiting to be milked. The building has a 1,500 gallon bulk milk tank and hot water heater. It is 1,200 square feet. For this study, construction costs are $66,000 with an additional $75,000 for all the milking equipment including the bulk tank. The $141,000 total cost is for a new building and equipment. A producer converting an existing cow dairy parlor or using used machinery may expect lower costs.

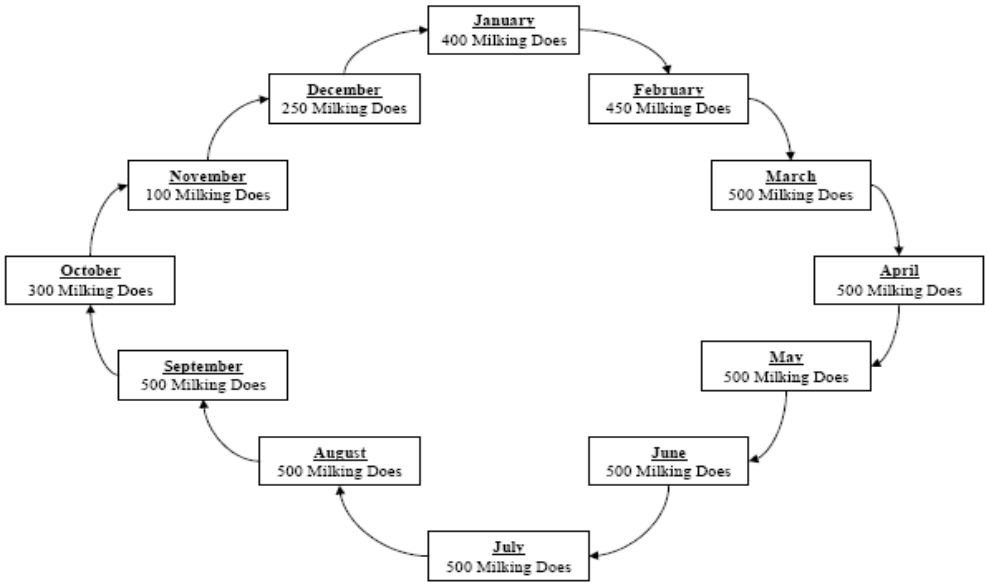
Goats do not like wet conditions. Most dairies allow goats to wander into or out of shelters as they wish. The size and type of shelters vary considerably. Some are open on all sides while others are enclosed. This study assumes a 75 foot by 120 foot pole barn with two enclosed walls for sheltering the doe herd, with separate pens for kids, and an area to store feed and bedding material. The buck shelter is 15 by 10 feet. Neither barn has a concrete floor. This study uses $24,000 for the doe and kid barn, and $13,000 for the buck shelter. Straw bedding is used in the barns.

The storage building is 500 square feet and is used to keep some feed, veterinary supplies, cleaning goods, machinery parts and other materials. Most of the space is used to store feed and is open on some sides. The storage building costs $10,250 for materials and construction.

Milking. Lactating does are milked twice daily. The does stand on elevated platforms so the workers do not have to stoop. In this study the milking parlor has 12 stanchions. Electricity use and cost for dairies will vary, but this study uses a cost of $8,000 annually. This includes lighting, power to milking machinery, cooling milk, cleaning equipment, and other uses.

Teats are cleaned and dried prior to milking. This helps keep bacteria counts low in the milk and reduces mastitis. All milking equipment is sanitized before each milking session. Goat dairies maintain the same sanitary conditions in milking parlors, milk cooling, and storage as cow dairies and are inspected by county or state personnel. The costs of cleaning supplies used in the parlor are included in the miscellaneous expenses.

Figure 3. Annual number of does milking each month



Milk production is expressed in both volume (gallons) and weight (hundredweight). Along the North Coast most dairy goat producers expressed milk production in gallons, but hundredweight (cwt) is also used. In this study, a total of 97,500 gallons (or 8,385 cwt) of milk are produced by the herd annually. Different breeds of goats will give varying amounts of milk and have different factors affecting milk quality and, ultimately, price. It is assumed that a doe will produce, on average, 195 gallons (16.77 cwt) of milk anually. The actual numbers will vary by individual dairies. Figure 3 shows the number of does that are being milked each month during the year as assumed in this study. Since goats are seasonal breeders, some producers are using lights and other methods to breed off season to enable a continual milk production. Some producers dry down the herd for two months and have one kidding season.

For this study the herd is not included on DHIA tests. The costs of DHIA membership, ultra sounds, and other practices are not included in this study.

Transportation Cost. There are two types of transportation costs; for milk and for hauling animals to sale. Milk is picked up two or three times per week, depending on the season, herd size, and the dairy's milk holding capacity. Hauling costs vary depending on many factors, such as charges per mile to plant, stop charges, and milk quality sampling costs. In this study, a transportation charge of $70 per week is used

Animals are normally not sold year round. Producers will often transport many at one time to save on costs. Most sales occur after non-replacement kids are a few days old and when animals are culled from the herd. This study uses a cost of $200 annually for hauling animals.

Sales and Returns. In this study, goat milk is sold to the cheese production market. Price for milk destined for this market is variable. Protein and butterfat content play a large part in determining the price received by producers. Prices also tend to vary with the season. When milk production is lower in the winter and spring, protein and butterfat levels tends to be higher. Quality premiums for low bacteria counts are not included in the price for this study. This study uses a price of $3.40 per gallon ($39.53 per cwt) for return purposes only. Fluid milk sales are shown in Figure 4.

Animal sales will also vary depending on birth rates, mortality, and culling. Categories, price per head, and the number of animals used in this study are shown in Figure 4.

Figure 4. Sale prices for commodities marketed.

Unit Name	Sale Date	Unit	# of Units	Price/Unit	Returns
Fluid Milk	Anually	Gallons	97,500	$3.40	$331,500
Kids	January - March	Head	400	$1.00	$400
Small Kids	April	Head	230	$15.00	$3,450
Cull Bucks	June	Head	2	$100.00	$200
Cull & Sale Does	August - January	Head	130	$85.00	$11,050
Total					$346,600

Labor. Labor rates of $9.59 per hour for milkers and general labor includes payroll overhead of 42%. The basic hourly wages are $6.75 for milkers and general labor. The overhead includes the employers' share of federal and California state payroll taxes, workers' compensation insurance for a dairy operation, and a percentage for other possible benefits including providing housing. Although a cost is not used in this study, most dairies in this region supply housing because of low availability of places to stay and low worker wages. Workers' compensation insurance costs will vary among dairies, but for this study the cost is based upon the average industry final rate as of January 1, 2005 (California Department of Insurance).

A total of 130 hours of labor per week is estimated. Milking takes 10 hours every day, including clean up. There are many scenarios available for the needed labor; a full time position working five days a week plus a part-time relief milker working two days a week; the owner milking some shifts etc. The hired labor totals 70 hours per week at minimum wage. Besides milking, the tasks are repairs, feeding, breeding, and all animal management. The owner also provides labor for all aspects of the dairy. The owner works seven days a week, for a total of 60 hours per week. With two weeks away, the study assumes 3,000 hours of owner labor annually. The owners are paid $20.00 per hour which includes self-employment taxes and benefits. The owner

labor is included in the operating costs. Returns above total costs are a return to risk and management. These are the minimum average labor needs, seasonal differences can be expected.

Equipment Operating Costs. Repair costs are based on purchase price, annual hours of use, total hours of life, and repair coefficients formulated by American Society of Agricultural Engineers (ASAE). Fuel and lubrication costs are also determined by ASAE equations based on maximum Power-Take-Off (PTO) horsepower, and fuel type. Prices for on-farm delivery of diesel and gasoline are $1.51 and $2.05 per gallon, respectively. Costs are based on current delivery prices quoted by distributors and 2004 monthly price data. The cost includes a 2% local sales tax on diesel fuel and 8% sales tax on gasoline. Gasoline also includes federal and state excise taxes that are refundable for on-farm use when filing income tax return. The fuel, lube, and repair cost per acre for each operation is determined by multiplying the total hourly operating cost for each piece of equipment used in the selected operation by the hours per acre. Tractor time is 10% higher than implement time for a given operation to account for setup, travel and down time.

Risk. The risks associated with a 500 head goat dairy to produce milk for the cheese market are significant. While this study makes every effort to model a production system based on typical, real world practices, it cannot fully represent financial, agronomic, and market risks which affect the profitability and economic viability of a dairy goat operation. A market channel should be determined before starting a goat dairy for either fluid milk or cheese markets. Goat milk is not part of a state or federal marketing order.

Interest On Operating Capital. Interest on operating capital is based on cash operating costs and is calculated monthly until the first cash returns, at a nominal rate of 7.65% per year. A nominal interest rate is the typical rate for borrowed funds.

CASH OVERHEAD COSTS

Cash overhead consists of various cash expenses paid out during the year that are assigned to the whole farm and not to a particular operation. These costs include property taxes, office expense, liability and property insurance, and, if used, management services.

Property Taxes. Counties charge a base property tax rate of 1% on the assessed value of the property. In some counties special assessment districts exist and charge additional taxes on property including equipment, buildings, and improvements. For this study, county taxes are calculated as 1% of the average value of the property. Average value equals new cost plus salvage value divided by 2 on a per acre basis.

Office Expense. Office and business expenses are estimated at $5,000 annually and included in miscellaneous expenses. These expenses include office supplies, telephones, bookkeeping, accounting, legal fees, etc.

Insurance. Insurance for farm investments vary depending on the assets included and the amount of coverage. Property insurance provides coverage for property loss and is charged at 0.690% of the average value of the assets over their useful life. Liability insurance covers accidents on the farm and costs $529 for the farm.

NON-CASH OVERHEAD COSTS

Capital Recovery Costs. Although farm equipment on a stock farm in the region might be purchased new or used, this study shows the current purchase price for new equipment. The new purchase price is adjusted to 60% to indicate a mix of new and used equipment. Annual ownership costs for equipment and other investments are shown in the various tables. They represent the capital recovery cost for investments on an annual per acre basis.

Capital recovery cost is the amount of money required each year to recover the difference between the purchase price and salvage value (unrecovered capital). Put another way, it is equivalent to the annual payment on a loan for the investment with the down payment equal to the discounted salvage value. This is a more complex method of calculating ownership costs than straight-line depreciation and opportunity costs, but more accurately represents the annual costs of ownership because it takes the time value of money into account (Boehlje and Eidman). The calculation for the annual capital recovery costs is as follows:

$$\left[\left(\underset{\text{Price}}{Purchase} - \underset{Value}{Salvage}\right) \times \left(\underset{Factor}{\overset{Capital}{Recovery}}\right)\right] + \left[\underset{Value}{Salvage} \times \underset{Rate}{Interest}\right]$$

Salvage Value. Salvage value is an estimate of the remaining value of an investment at the end of its useful life. For farm machinery (e.g., tractors and implements) the remaining value is a percentage of the new cost of the investment (Boehlje and Eidman). The percent remaining value is calculated from equations developed by the American Society of Agricultural Engineers (ASAE) based on equipment type and years of life. The life in years is estimated by dividing the wearout life, as given by ASAE by the annual hours of use in this operation. For other investments including irrigation systems, buildings, and miscellaneous equipment, the value at the end of its useful life is zero. The salvage value for land is equal to the purchase price because land does not depreciate.

Capital Recovery Factor. Capital recovery factor is the amortization factor or annual payment whose present value at compound interest is 1. The amortization factor is a table value that corresponds to the interest rate and the life of the equipment.

Interest Rate. The interest rate of 6.01 % used to calculate capital recovery cost is the USDA-ERS's ten-year average of California's agricultural sector long-run rate of return to production assets from current income. It is used to reflect the long-term realized rate of return to these specialized resources that can only be used effectively in the agricultural sector. In other words, the next best alternative use for these resources is in another agricultural enterprise.

Table Values. Due to rounding, the totals may be slightly different from the sum of the components.

Acknowledgment. Assistance provided by local producers, builders, and suppliers was greatly appreciated.

REFERENCES

American Society of Agricultural Engineers. 2002. *American Society of Agricultural Engineers Standards Yearbook*. Russell H. Hahn and Evelyn E. Rosentreter (ed.) St. Joseph, MO. 41st edition.

Berg, Jolene, P. Robinson, and D. Giraud. 2005. *Raising Dairy Goat Kids*. ANR Publication 8160

Boehlje, Michael D., and Vernon R. Eidman. 1984. *Farm Management*. John Wiley and Sons. New York, NY.

Hutton, Granville A. Jr., 1978. *Sample Costs To Produce Goat Milk.* University of California, Cooperative Extension. San Joaquin Valley. Department of Agricultural and Resource Economics. Davis, CA.

Reed, Barbara A., Dan L. Brown. 1988. *Feeding California's dairy goats*. In California Agriculture, Vol. 42, Number 1, January-February 1988. University of California, Division of Agriculture and Natural Resources. Oakland, CA.

Reed, Barbara A., Christine M. Bruhn. 2003. *Sampling and farm stories prompt consumers to buy specialty cheeses*. In California Agriculture, Vol. 57, Number 1, July-September 2003. University of California, Division of Agriculture and Natural Resources. Oakland, CA.

USDA-ERS. 1991. Economic Indicators of the *Farm Sector: National Financial Summary*. Agriculture and Rural Economics Division, ERS. USDA. Washington, DC

Western Regional Extension Publication. 1981. *Your Dairy Goat*.

For information concerning the above or other University of California publications, contact UC DANR Communications Services at 1-800-994-8849, online at www.ucop.edu, or your local county UC Cooperative Extension office.

Table 1.

UC COOPERATIVE EXTENSION
COSTS RETURNS TO OPERATE A 500 HEAD DAIRY GOAT OPERATION
NORTH COAST
FOR CHEESE PRODUCTION

	Unit	Total Number of Head or Units	Price or Cost/Unit	Total Value	Value or Cost/Head	Your Value
GROSS RECEIPTS						
Milk	Gallon	97,500	3.40	331,500	663.00	
Kids	Head	400	1.00	400	0.80	
Small Kids	Head	230	15.00	3,450	6.90	
Cull Bucks	Head	2	100.00	200	0.40	
Cull & Sale Does	Head	130	85.00	11,050	22.10	
TOTAL RECEIPTS				**346,600**	**$693.20**	
OPERATING COSTS						
Rented Pasture	Acre	50	30.00	1,500	3.00	
Mineral Block	Block	72	8.20	590	1.18	
Alfalfa Hay	Ton	75	180.00	13,500	27.00	
Oat Hay	Ton	75	120.00	9,000	18.00	
Dry Minerals	Ton	1	380.00	456	0.91	
Mixed Grain & Pellets	Ton	320	253.00	81,023	162.05	
Kid Grain	Ton	16	200.00	3,200	6.40	
Calf Milk Replacer	Sack	40	42.50	1,700	3.40	
Inspection	Dairy	1	350.00	350	0.70	
Veterinary Medicine	Dairy	1	10,089	10,089	20.18	
Miscellaneous Veterinary	Treatment	556	2.00	1,112	2.22	
Miscellaneous Expenses	Month	12	666.67	8,000	16.00	
Milk Tranportation	Week	52	70.00	3,640	7.28	
Animal Transportation	Trip/Fuel	4	50.00	200	0.40	
Dairy Electricity	Month	12	666.67	8,000	16.00	
Straw Bedding	Bi-weekly	24	50.00	1,200	2.40	
Hired Labor	Hour	3,650	9.59	35,004	70.01	
Owner Labor	Hour	3,000	20.00	60,000	120.00	
Machinery (fuel, oil, lube, repair)	Dairy	1	84	84	0.17	
Vehicles (fuel, lube, repair)	Dairy	1	6,832	6,832	13.66	
Equipment (repair)	Dairy	1	370	370	0.74	
Housing and Improvements (repair)	Dairy	1	3,973	3,973	7.95	
Taxes and Insurance	Dairy	1		5,497	10.99	
Interest on Operating Capital	Dairy	135,259	7.65%	10,347	20.69	
TOTAL OPERATING COSTS				**265,666**	**531.33**	
INCOME ABOVE OPERATING COSTS				**80,934**	**161.87**	
CASH OVERHEAD COSTS						
Interest on Retained Livestock				2,226	4.45	
Office Expense				4,003	8.06	
TOTAL CASH OVERHEAD COSTS				**6,229**	**12.51**	
NON-CASH OVERHEAD						
Capital Recovery				22,206	44.41	
TOTAL NON-CASH OVERHEAD COSTS				22,206	$44.41	
TOTAL COSTS				**294,102**	**588.26**	
Returns to Risk and Management				**52,498**	**104.94**	

Table 2.

UC COOPERATIVE EXTENSION
MONTHLY SUMMARY OF CASH RETURNS AND EXPENSES TO OPERATE A 500 HEAD GOAT DAIRY
NORTH COAST
FOR CHEESE PRODUCTION

	Sep 04	Oct 04	Nov 04	Dec 04	Jan 05	Feb 05	Mar 05	Apr 05	May 05	Jun 05	Jul 05	Aug 05	Total
PRODUCTION													
Milk	40,926	24,556	8,185	4,093	4,093	12,278	32,741	40,926	40,926	40,926	40,926	40,926	331,500
Kids	0	0	0	0	175	175	50	0	0	0	0	0	400
Small Kids	0	0	0	0	0	0	1,950	1,500	0	0	0	0	3,450
Cull Bucks	0	0	0	0	0	0	0	0	0	200	0	0	200
Cull & Sale Does	0	0	0	0	0	0	0	0	0	5,950	5,100	0	11,050
TOTAL RECEIPTS	**40,926**	**24,556**	**8,185**	**4,093**	**4,268**	**12,453**	**34,741**	**42,426**	**40,926**	**47,076**	**46,026**	**40,926**	**346,600**
OPERATING INPUTS													
Mineral Block	49	49	49	49	49	49	49	49	49	49	49	49	590
Alfalfa Hay	1,125	1,125	1,125	1,125	1,125	1,125	1,125	1,125	1,125	1,125	1,125	1,125	13,500
Oat Hay	750	750	750	750	750	750	750	750	750	750	750	750	9,000
Dry Minerals	38	38	38	38	38	38	38	38	38	38	38	38	456
Mixed Grain & Pellets	6,831	6,641	6,641	6,641	6,641	6,641	6,831	6,831	6,831	6,831	6,831	6,831	81,023
Kid Grain	278	278	278	278	0	0	139	417	417	420	347	347	3,200
Calf Milk Replacer	0	0	0	0	850	850	0	0	0	0	0	0	1,700
Inspection	0	0	0	0	350	0	0	0	0	0	0	0	350
Veterinary Medicine	0	780	2,875	2,715	748	58	0	2,914	0	0	0	0	10,089
Miscellaneous Veterinary	0	0	102	102	202	202	202	102	100	100	0	0	1,112
Miscellaneous Expenses	667	667	667	667	667	667	667	667	667	667	667	667	8,000
Milk Tranportation	280	350	280	280	350	280	280	280	350	280	350	280	3,640
Animal Transportation	0	50	0	0	0	0	50	50	0	50	0	0	200
Dairy Electricity	667	667	667	667	667	667	667	667	667	667	667	667	8,000
Straw Bedding	100	100	100	100	100	100	100	100	100	100	100	100	1,200
Machinery (Fuel, Oil, Lube, Repair)	71	1	1	1	1	1	1	1	1	1	1	1	84
Vehicles (Fuel and Repair)	547	547	571	571	571	571	547	547	591	591	591	591	6,832
Equipment (Repair)	30	30	33	33	33	33	30	30	30	30	30	30	370
Housing, Improvements (Repair)	318	318	358	358	358	358	318	318	318	318	318	318	3,973
Taxes and Insurance	0	0	0	1,374	0	0	0	0	0	1,374	2,748	0	5,497
Hired Labor	3,203	3,203	1,918	1,918	2,282	3,203	3,213	3,213	3,213	3,213	3,213	3,213	35,004
Owner Labor	5,000	5,000	4,750	4,750	4,900	5,000	5,100	5,100	5,100	5,100	5,100	5,100	60,000
Interest on Operating Expenses	127	258	395	529	664	796	923	1,070	1,200	1,333	1,462	1,590	10,347
TOTAL OPERATING COSTS	**20,080**	**20,851**	**21,597**	**22,946**	**21,345**	**21,388**	**21,028**	**24,267**	**21,546**	**23,035**	**24,386**	**21,696**	**264,166**
CASH OVERHEAD COSTS													
Interest on Retained Livestock	186	186	186	186	186	186	186	186	186	186	186	186	2,226
Office Expenses	459	459	459	459	459	459	459	459	459	459	459	459	5,503
TOTAL CASH OVERHEAD COSTS	**644**	**644**	**644**	**644**	**644**	**644**	**644**	**644**	**644**	**644**	**644**	**644**	**7,729**
TOTAL CASH COSTS	**20,724**	**21,495**	**22,241**	**23,590**	**21,989**	**22,032**	**21,673**	**24,911**	**22,190**	**23,679**	**25,030**	**22,340**	**271,895**
NET RETURNS ABOVE CASH COSTS	**20,202**	**3,060**	**-14,056**	**-19,497**	**-17,722**	**-9,579**	**13,068**	**17,515**	**18,736**	**23,396**	**20,996**	**18,586**	**74,705**

* Differences due to rounding.

Table 3.

UC COOPERATIVE EXTENSION
INVESTMENT SUMMARY OF OPERATINGING A 500 GOAT DAIRY
NORTH COAST
FOR CHEESE PRODUCTION

	Purchase Price	Salvage/Cull Value	Livestock Share (%)	Useful Life (yr)	Annual Taxes and Insurance	Interest	Annual Capital Recovery
BUILDINGS, IMPROVEMENTS AND EQUIPMENT							
Milking Parlor	141,000	14,100	100	40	620		9,292
Barn/Shelter - Does	25,500	2,550	100	40	112		1,680
Barn/Shelter - Bucks	13,200	1,320	100	40	58		870
Storage Building	10,350	1,035	100	40	46		682
Corrals	3,000	300	100	30	13		214
Fencing	5,000	500	100	30	22		357
Land	25,000	25,000	100	20	200		1,503
Veterinary Equipment	390	65	100	15	0		37
Gooseneck trailer	6,930	1,155	100	20	4		573
Squeeze	1,080	180	100	10	1		133
TOTAL BUILDINGS, IMPROVEMENTS & EQUIPMENT	**231,450**				**1,076**		**15,343**
PURCHASED LIVESTOCK							
Bucks	1,000	200	100	5			188
TOTAL PURCHASED LIVESTOCK	**1,000**						**188**
RETAINED LIVESTOCK	**(Beginning Value)**						
Does	60,000	28,000	100			1,760	
Replacement Does	12,500	6,000	100			370	
Bucks	4,000	800	100			96	
TOTAL RETAINED LIVESTOCK	**76,500**					**2,226**	
MACHINERY AND VEHICLES							
30 HP Tractor & Loader	20,000	2,000	100	20	0		17
Pickup 4x4 3/4 ton	26,000	2,600	75	5	2,652		4,060
Pickup 1/2 Ton	23,000	2,300	65	7	1,768		2,599
TOTAL MACHINERY AND VEHICLES	**69,000**				**4,420**		**6,676**
TOTAL					**5,497**	**2,226**	**22,206**

Table 4.

UC COOPERATIVE EXTENSION
RANGING ANALYSIS FOR A 500 GOAT DAIRY
NORTH COAST
FOR CHEESE PRODUCTION

Table 4A. COSTS PER ACRE AT VARYING YIELDS FOR DAIRY GOATS – MILK [§]

	Units	Units Produced	Market Prices $ per Unit						
Milk	Gallon	97,500	2.80	3.00	3.20	3.40	3.60	3.80	4.00
Kids	Head	400	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Small Kids	Head	230	15.00	15.00	15.00	15.00	15.00	15.00	15.00
Cull Bucks	Head	2	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Cull & Sale Does	Head	130	85.00	85.00	85.00	85.00	85.00	85.00	85.00
Gross Income			**288,100**	**307,600**	**327,100**	**346,600**	**366,100**	**385,600**	**405,100**
Total Operating Costs			265,666	265,666	265,666	265,666	265,666	265,666	265,666
Net Income Above Operating Costs			**22,434**	**41,934**	**61,434**	**80,934**	**100,434**	**119,934**	**139,434**
Total Cash Costs			271,895	271,895	271,895	271,895	271,895	271,895	271,895
Net Income Above Cash Costs			**16,205**	**35,705**	**55,205**	**74,705**	**94,205**	**113,705**	**133,205**
Total Costs			294,102	294,102	294,102	294,102	294,102	294,102	294,102
Net Income Above Total Costs			**-6,002**	**13,498**	**32,998**	**52,498**	**71,998**	**91,498**	**110,998**
Net Income per doe	**500**	**Does**	**-12.00**	**27.00**	**66.00**	**105.00**	**144.00**	**183.00**	**222.00**

Table 4B. RETURNS ABOVE TOTAL OPERATING COSTS FOR DAIRY GOATS – MILK [§]

Milk	Market Prices $ per Gallon						
Gallons Produced	2.80	3.00	3.20	3.40	3.60	3.80	4.00
90,000	1,434	19,434	37,434	55,434	73,434	91,434	109,434
92,500	8,434	26,934	45,434	63,934	82,434	100,934	119,434
95,000	15,434	34,434	53,434	72,434	91,434	110,434	129,434
97,500	22,434	41,934	61,434	80,934	100,434	119,934	139,434
100,000	29,434	49,434	69,434	89,434	109,434	129,434	149,434
102,500	36,434	56,934	77,434	97,934	118,434	138,934	159,434
105,000	43,434	64,434	85,434	106,434	127,434	148,434	169,434

[§] Returns include both milk and animal sales though only milk prices and production vary.

Table 4C. RETURNS ABOVE TOTAL CASH COSTS FOR DAIRY GOATS – MILK [§]

Milk	Market Prices $ per Gallon						
Gallons Produced	2.80	3.00	3.20	3.40	3.60	3.80	4.00
90,000	-4,795	13,205	31,205	49,205	67,205	85,205	103,205
92,500	2,205	20,705	39,205	57,705	76,205	94,705	113,205
95,000	9,205	28,205	47,205	66,205	85,205	104,205	123,205
97,500	16,205	35,705	55,205	74,705	94,205	113,705	133,205
100,000	23,205	43,205	63,205	83,205	103,205	123,205	143,205
102,500	30,205	50,705	71,205	91,705	112,205	132,705	153,205
105,000	37,205	58,205	79,205	100,205	121,205	142,205	163,205

[§] Returns include both milk and animal sales though only milk prices and production vary.

Table 4D. RETURNS ABOVE TOTAL COSTS FOR DAIRY GOATS – MILK [§]

Milk	Market Prices $ per Gallon						
Gallons Produced	2.80	3.00	3.20	3.40	3.60	3.80	4.00
90,000	-27,002	-9,002	8,998	26,998	44,998	62,998	80,998
92,500	-20,002	-1,502	16,998	35,498	53,998	72,498	90,998
95,000	-13,002	5,998	24,998	43,998	62,998	81,998	100,998
97,500	-6,002	13,498	32,998	52,498	71,998	91,498	110,998
100,000	998	20,998	40,998	60,998	80,998	100,998	120,998
102,500	7,998	28,498	48,998	69,498	89,998	110,498	130,998
105,000	14,998	35,998	56,998	77,998	98,998	119,998	140,998

[§] Returns include both milk and animal sales though only milk prices and production vary.