Browsing Academy

THE KIKO OF GOATS UNLIMITED

Goats Unlimited began their meat goat farming experience on the Big Island of Hawaii in early 1985. It consisted of searching for breeding females to begin a herd/mob and then securing replacement stock to maintain the herd. Being on an island has its limiting factors (challenges) and one cannot become frustrated. We started putting together two mobs – one of Spanish meats and one of mixed Dairy breeds. The decision to maintain a closed herd was made at the initiation of the project (business) to secure a disease free status. Because of our rigid testing procedure, the herd is clean of caprine arthritis encephalitis (CAE), caseous lymphadenitis (CL), brucellosis, tuberculosis, toxoplasmosis and leptospirosis. We have spot tested for campylobacter, chlamydia, bovine viral diarrhea (border disease), Johne's disease and Q-fever, never having a case appear. Biosecurity has always been an important criteria for our business, sometimes extreme, but disease prevention and control are a vital part of our business.

Over several years, it became obvious that the seedstock for herdsires possessing the production characteristic traits we had identified was not available. We required a breed that would readily adapt to the environment, twin and recycle on native vegetation; with kids having rapid growth rates on scrub vegetation and brush and still produce a high quality carcass for our diverse ethnic population. And, just as important, the bucks had to be from a closed herd or from another country that was considered free of the specific diseases we had identified.

Several years later, visiting with a close friend from New Zealand, it was mentioned that Garrick Batten (Caprinex) and a group of individuals had been breeding feral does in New Zealand and crossing to AngloNubian, British Toggenburg and Saanen bucks. The breeding regime was developed to take advantage of the feral doe base dynamics as a breeding and genetic improvement tool. Feral does are small in stature with an amazing ability to survive adverse climatic conditions and demanding nutritional constraints without supplemental feeding. In crossbreeding with dairy breed bucks that met the size and meat production criteria established by the New Zealand breeders, milk production of the feral does was enhanced (Goat Rancher, May 98).

Goats produced under extreme environmental and vegetative constraints are naturally selected for soundness in conformation, structurally correct feet and legs, fertility, milk production (good udder and teat conformation) and temperament. Consequently, there are both polled and horned genetics in the KIKO breed as well as a range of coat colors with white being the most dominant. Initially, there was no set breed type since the 'breed', now known as the KIKO was selected solely for survivability and growth rate under commercially farmed hill country conditions.

With selections from the F2 and F3 generations, the liveweights of the kids increased; kid growth rate increased as did their ability to survive under New Zealand hill country pastoral conditions. The KIKO was then tested for performance under the conditions established for the breed.

The breeding flock was farmed on steep hill country and managed with minimal inputs such as internal parasite drenching. The does were expected to twin at first kidding and rear twins at subsequent kiddings. They were pressured by a higher stocking rate and culled ruthlessly. Five month liveweights of kids were used as an initial selection point (weaning at 4 months) as it is a measure of maternal ability. At eight months, liveweights were a good indication of the weanoffs' ability to obtain growth rate from vegetation on their own accord and at fifteen months, the liveweight was used to select replacement stock.

By that point in time, the offspring had become environmentally adapted, they had survived and had a high growth rate – the major characteristic traits selected for the breed. Therefore, successful completion of the performance tests under stressful conditions by four generations had evolved the new breed – the KIKO meat goat.

The breed seemed to offer everything that we were looking for in seedstock herdsires. New Zealand is an extremely disease conscious country with strict import regulations. And, Hawaii, being a pacific island, has its own set of extremely strict importation criteria – including a federally mandated quarantine program. There are only two federal quarantine stations in the US – Florida and Hawaii. All incoming livestock has to be admitted for the required quarantine period and pass additional testing.

I decided that I wanted to go into the New Zealand hill country, especially areas that were infested with gorse and berry vines because we were using our goats for the eradication of christmas berry, guava, thistle, indigo, wattle trees and other noxious, invasive and poisonous plants (gorse, rattlepod, coffeeberry, false tobacco).

Goats Unlimited goal was to establish a breeding mob that could survive all of the environmental, climatic, soil diversity and plant community uniqueness imposed by the islands. This doe mob had to twin, raise twins and rebreed to a commercially managed production scenario of three kiddings in two years. The kids had to reach 70 to 75 pounds with minimal supplemental feed (and a loose, free choice chelated mineral mix) in six to seven months to meet our ethnic demand for quality carcasses.

Traveling to New Zealand is an adventure I highly recommend. I was met in Nelson, on the South Island of New Zealand by Garrick Batten and his wife, Anne. Their hospitality was greatly appreciated and the week spent looking at goats (Kiko, Cashmere, Angora), gorse and hiking (climbing) the steep hill country was what I expected (strenuous). What was most impressive was climbing steep slopes on the station where most of the KIKOs were out performing noxious plant eradication.

It was an ugly day with rain blowing horizontally but when we came to the top of the incline, there was a mob of KIKO kids out stripping gorse – oblivious to the weather. We stood for a long time in our 'dry-as-a-bone' raingear, backs to the weather, discussing the genetics of the kids and the doe mob. Further hiking brought us to the doe mob; they were attacking larger diameter vegetation – oblivious to the weather. It was at that point I realized the KIKO was a breed of goat in a class all of its' own.

We purchased 4 KIKO herdsires in 1990 that met our specific selection and performance criteria. Each buck had to be a twin from the top 1% of the kid crop, and have sturdy legs and feet. They had to exhibit a mild temperament, great depth of heart girth, spring of rib with body capacity, width across the withers and rump, length and width of back and loin and fullness of hindquarter.

The bucks were from a mob that had no hoof trimming, a decreased rate of deworming and performance tested. Since our initial purchase of four live bucks, we have purchased semen from 5 unrelated lines in New Zealand. The bucks were health tested before semen collection for export/import requirements. Then the semen was tested and had to pass another set of export/import specifications.

Selection decisions for replacement females from both mobs (Spanish Meat and dairy) were based upon environmental adaptation, pedigree and progeny data, breeding values and performance, carcass data analysis, heritability and repeatability of traits along with genetic prediction(s) and the use of the sire summaries. Heritability is the expression of a trait in a population that is influenced by breeding values and phenotypic values (Table 1). Breeding value(s) is related to an individuals value as a genetic parent and phenotypic value(s) is the measured level of performance for a specific trait within an individual. The major maternal (doe) traits are fertility, milk production, maintenance efficiency, motherability and freedom from dystocia (kidding problems). Major paternal (buck) traits are rate and efficiency of gain, meat quality and carcass yield.

The production characteristic traits selected have to be carefully chosen based upon criteria for production management in meat goats. The criteria used by Goats Unlimited: 1) adaptability to climatic, environmental and native vegetation conditions, 2) the reproductive efficiency of the individuals within the mob and the mob as a unit, 3) growth rate of offspring at weaning, 8 months and 15 months of age and 4) carcass merit – quality grade and yield.

Adaptability

In selecting for environmental adaptation, Goats Unlimited selected both females and males based, as closely as possible, on natural selection. It is a hard criteria at times because it can have negative effects on the growth rate in the kids which eventually effects maturity, both on-set of puberty and weight gain throughout their productive life.

Therefore, intensive rangeland (pastureland) and brush management is needed to be sure that the young growing animals are receiving quality protein and energy from the native vegetation. Selection for the desired traits is encouraged by using diversified grazing management practices (Goat Rancher, Oct 97 and Nov 97).

To encourage the expression of genetic potential of Goats Unlimited Kikos, we use older goats to land clean and brush reduce areas. Nutrition plays a major role in the goats ability to produce in a stressful environment. Since we expect our does to kid in the brush (Goat Rancher, Jan 2000) and raise/wean twins, our vegetation is managed so that the pregnant does have the high quality feed during the last trimester of pregnancy. They are set-stocked at kidding on good feed and when the kids are 17-21 days (they begin ruminating), the mob is moved onto high quality feed for the kids. We go into areas with lots of young leaves and buds (blackberries, young forbs, yellow star thistle), or into areas of previously cleaned oak forests now supporting young, lush regrowth. The kids have quality nutrition and they are in the beginning phase of fire mitigation (Goat Rancher, Mar 2000 and Aug 2000).

At weaning, the kids now are managed on the highest quality vegetation available. Should nutrition be lacking, protein is supplied by supplementing with cull beans (blackeyes, limas) and energy is supplemented by feeding whole corn. Minimal amounts are fed as it is the rumen microflora that we need to keep stimulated and colonized. Then, cellulose and lignin (main components of forbs, dry grass, branches) can be more easily digested and utilized. A mineral mix, based upon vegetative analysis and soil samples is balanced, chelated, and offered free choice. Sea kelp is offered ad lib. Mineral nutrition stimulates the immune system decreasing internal parasite loads, footrot, retained placentas, milk fever, grass tetany, etc.

During adverse weather conditions, the goats are rotated into areas with lots of mature trees, downed timber, and rock outcroppings that offer natural protection from wind and rain. If inclement weather persists, then portable shelters are provided as the severity can affect reproduction and growth rate.

The goats are segregated into various groups according to sex and age. They are easier to monitor for body condition score, social status interactions are less pronounced, health maintenance programs are easier to administer, and the potential for genetic expression increased.

It is less stressful on all involved (man, livestock and land) to work in harmony with mother nature. I will save a discussion on holistic resource

management for another article; Goats Unlimited firmly believes in and practices HRM. Environmental adaptation is only one of the many facets of production.

<u>Reproduction</u>

Reproduction is a trait closely related to income. We want to give the Goats Unlimited Kiko does and doelings all possible chances of breeding and rebreeding. To maximize kidding rate and optimize profit, our breeding season for doelings is 45 days and for the does, 36 days. I select replacement individuals that fit into this schedule as it makes feed management easier, the kids are more uniform at birth and there are fewer light weight kids. The doelings must be more than 85% of their mature body weight and between 12 to 14 months of age before they are bred. Breeding the doelings older gives them a chance to develop more bone (structural) growth and will decrease chances of dystocia. Under our native vegetation management scheme, we expect the females to kid a minimum of 3 times in two years. To meet this criteria, nutrition plays a vital role. We have to be sure that their energy requirements are met as energy is the major nutrient needed at this time. Without the correct energy balance, physiological priorities begin to change and reproduction is compromised. The amount of nutrition needed depends upon body size, body weight, milk production and activity level.

Body condition score (BCS) is monitored before breeding, after kidding and again before rebreeding. The higher the score (1- emaciated through 9 - obese), the sooner the does will recycle and the breeding season will be shortened. We like our does to be in a BCS of 6.5 before breeding. The kids will have a higher birth weight and gain weight faster after parturition. Because we kid in the brush, it is important that our kids are born strong, aggressive, and double their birth weight in 5 to 7 days. As the kids reach 7 to 8 weeks of age, the BSC of the doe will begin dropping to 5. Our kids are weaned at 12 weeks of age and the BCS on the does is 4.5 to 5. If the does drop below a 4, it takes both energy and protein supplementation along with high quality forage to get them back to a 6.5. It takes about 2 to 3 months and that means losing out on a breeding season. If this happens continuously over a period of 3 years, then the birth weight and growth rate of the kids is greatly compromised. Therefore, maintain body condition as it saves money over the long haul.

Reproduction is also affected by the readiness of the bucks to breed. The does can be ‘flushed’ and ready to breed but if the bucks have not been hot synchronized, then it will lengthen the breeding season, or, there will be fewer does bred. Reproduction efficiency increases ease of kidding management. If the bucks and does are ready to breed, about 80% of the does will kid during the first 21 day heat cycle with the other 20% kidding in 20 to 24 days. We begin checking heat 3 weeks before we want to put the bucks out. It is important to know what does are ovulating and how many.

Growth Rate

Growth rate of the kids and weanoffs is a very important selection criteria. We weigh the kids at birth, at weaning (3 months), 8 months and again at 12-15 months of age. Birth weight is affected by nutrition the last trimester as 80% of the fetal growth takes place at this time. The weaning weight is a measure of the dams ability to mother and produce milk. At 8 months, the young goat has survived the initial weaning stress, foraging for

itself, and re-structuring of its' social acceptance within a mob. It is a better indication of an individuals potential. And, the 12-15 month weight gives you a good indication of mature weight as this weight is approximately 80% to 85% of the mature weight of a Goats Unlimited Kiko. This weight is a good indication of genetic expression. We are cautious not to select replacement stock from the extreme range of weight gain post-weaning. Our goal is to have a moderately sized goat, that grows rapidly carrying a high percentage of lean red meat but is not an expense to feed (Table 2).

We have been selecting for growth rate as our niche market demands a young (6 to 7 month old) 75 pound liveweight goat. All of that weight gain comes from foraging unless weather conditions are severe and supplementation is needed to maintain basal metabolism or body condition. Our Goats Unlimited Kiko herdsires have increased our rate of gain weight, from weaning to 7 months of age, by 20 pounds. Selecting for growth rate is a long term genetic process.

There has been a lot written over the years on both the pros and cons of linear measurements, which measurements to use, how to interpret the values and what they really mean or evaluate. The measurements selected have to be carefully chosen based upon actual production data, reviewed, and used only as one of many tools in selection criteria for production management in meat goats. The individual(s) collecting and analyzing the data must have integrity and honesty as a personality requirement.

Goats Unlimited decided to begin linear measuring offspring from the original 4 imported Kiko meat goat bucks from New Zealand. Initial linear measurements taken are presented in Table 3. Table 4 represents linear measurements of bucks taken after 10 years of selective breeding for Goats Unlimited Kikos. The linear measurements for does are shown in Tables 5 and 6.

Carcass Quality

Over the past 10 years, one characteristic trait that kept surfacing in need of enhancement was carcass quality with predicatble consistency. In other words, all carcasses at a designated weight, whether 45 or 75 pounds, had to be consistent in dressing percentage, cooler shrink weight, ribeye size, cutability, muscling, leg circumference and conformation score. Those traits are important in our niche marketing as we supply chefs with whole carcasses and sell cut/wrapped/boxed meat cuts. The chef has to know how many carcasses to order, the exact weight of each cut they plan to prepare, how to cut and serve the desired cuts of meat – consistency of known high quality are their demands. Those requests became our goals as niche marketing offers a higher price per pound than any other mode of carcass sales. We are able to offer organically produced goat meat because we do not use deworming drenches, the goats consume native vegetation and the goats fertilize naturally through their dung and urine. Our herd vaccination program differs for individuals selected for replacement breeding stock and wethers or cull females for our meat market. The replacement stock are vaccinated for clostridium perfringens C and D with tetanus and leptospirosis (carried by deer, wild pigs, etc.) The wethers and cull females are not vaccinated. To get around the tetanus situation, the does

are vaccinated 3 weeks before kidding and antibodies are passed to the kids from the colostrum.

Goat meat has always been a lean red (ethnic) meat dish. The goat is not genetically coded for a 'fat' finish and the ethnic (traditional) consumers do not like to eat fat. I consider that advantageous for Goats Unlimited. It costs more to put on fat than muscle. But the true value of grass or browse fed goat meat is that it is lower in fat and has fewer calories. The goat meat is richer in omega-3 fatty acids, conjugated linoleic acid (CLA) and higher levels of an essential vitamin, beta-carotene (Vitamin A). These are all human nutritional advantages to help reduce cholesterol levels and decrease the risk of blood clots and heart attacks.

Carcass merit is a difficult trait to select for as there are also within breed differences. For identifying sires that produce offspring expressing desirable carcass characteristics, we use a single-sire mating breeding program. Increasing the percentage of lean has to be done early in life as muscle cell numbers increase inutero to about three months of age, and muscle fiber bundles increase in size from weaning to about 12 months of age. Nutrition plays a role in carcass quality as it affects the birth weight of the kids, the health of the offspring, sparks the kids immune system, uniformity of weanoffs (predictability), time to puberty, and maintaining a high body condition score. Stress has to be minimal as it increases the amount of energy expended, decreases water consumption, and intensifies hormonal effects. To minimize stress, we use livestock guardian dogs (Goat Rancher, Dec 99), modified behavioral management techniques, quiet working facilities and peaceful labor.

To help guarantee carcass quality to clients, we deliver our goats to the slaughter facility in the early morning and they are processed as soon as we arrive. There is no pre- or post- slaughter stress which affects the quality (tenderness, color) of the meat.

In the past 10 years, after lots of record keeping and analyzing, we are slowly making progress toward our initial goal. Upon completion and analysis of this years data (Table 7), we have increased our dressing percentage by 6% with only a 0.01% hot:chill weight loss, the ribeye area has increased by 0.3 square inches, the conformation score has gone from an 8 to 11 (based upon 1 to 15) and carcass length increased 2.25 inches. Table 8 details a whole goat carcass processed into retail cuts.

Had we not started using some linear measurements when we did, we would not have had an initial starting point – a base. You have to know where you are in production management, the environmental effect on production, and the market demands that you service to determine the direction you need to go.

It has taken a lot of effort and determination (perseverance) to get to where we are in production management with Goats Unlimited Kikos today. Sometimes I do look back and am amazed at how far the breed has come. One of my favorite past-times is sitting in a pasture with my friend from Maui and a ham and cheese on rye watching the does kidding. We start reminiscing about 0.63 kids per doe per kidding in the 1980's,

progressing each kidding season until now, for the past four seasons, averaging over 2.1 kids per doe per kidding. Goats Unlimited Kikos, as a breed, are here to stay.

Goats Unlimited next adventure, becoming certified as a scrapie free herd. The process begins next month – I'll keep you updated on the procedure for becoming a certified scrapie free commercial meat goat producer.

Table 1. Heritability Estimates
for
Various Production Traits

Traits	Heritability %
Birth Interval	0.5 to 10
Birth Weight	30 to 40
Number Born	15
Motherability	40
Weaning Weight	20 to 30
Yearling Weight	40
Mature Weight	65
Milk Yield	25
Milk Fat (percent)	55
Milk Protein (percent)	50
Udder Support	20
Teat Placement	30
Feed Conversion	40
Stature (conformation / frame)	45 to 50
Rear Legs	15
Wither Height	40
Cannon Bone Circumference	45
Carcass Weight	45 to 50
Quality Grade	40
Fat Depth	40 to 45
Ribeye (loin) Area	40 to 45
Cutability (percent)	25 to 30
Muscling	40 to 45
Temperament	25
Scrotal Circumference	50

* Collective information based on various research studies

(Low heritability 10 to 20%; Moderate heritability 25 to 45%;
High heritability 50 to 70 %)

Table 2. Kiko Weight Gain Data
Goats Unlimited, Rackerby, CA
Sierra Nevada Foothills (Native Vegetation)

Age	Kiko Wether (pounds)	Kiko Female (pounds)	Kiko Male (pounds)
Birth		6 to 8	7 to 9
3 mo	40 to 46	36	40 to 50
5 mo	50 to 56	50	65 to 76
6 mo	67 to 77	64	80 to 85
8 mo	80 to 90	85	92
12 mo		90 to 100	120
15 mo		120	142
16 mo		128	150 to 160
18 mo		135	168
2 yr		145	228 to 240
3 yr		130 to 148	240 to 260
5 yr		155 to 180	260
7 yr		187	270

Table 3. Purebred Kiko Bucks Imported from New Zealand (Native Vegetation)

Tag Number	014	0022	0026	0062
Color	crème / spot	white	black	white
Birth Date	16 Sept 89	10 Sept 89	17 Sept 89	22 Sept 89
Birth Status	twin	twin	twin	triplet
Weight (pounds)				
Birth	6.25	6.5	6.5	6.25
4 mo	55	45	53	50
8 mo	66	68	67	68
12 mo	75	86	80	84
16 mo	92	103	99	110
5 yr	225	245	240	247
7 yr	247	260	264	270
Wither Height (inches)				
5 yr	31	31.25	31.5	30.25
7 yr	31.75	32	32.25	31
Hip Height (inches)				
5 yr	29.5	29	31	30
7 yr	31.5	30	32	31
Body Length (inches)				
5 yr	32	34	34.25	37.5
7 yr	31	36	35.75	40
Rump Width (inches)				
5 yr	7.25	8.5	8	8
7 yr	8.75	9	9.75	10
Rump Length (inches)				
5 yr	10	10.5	10.5	11
7 yr	10	10.5	10.5	11
Heartgirth (inches)				
5 yr	38.5	40.75	40.25	41
7 yr	39.25	41	41	43
Cannon Bone (inches)				
5 yr	5.5	5.5	5.5	5.25
7 yr	5.5	5.5	5.5	5.25

Table 4. Purebred Kiko Bucks, Goats Unlimited, Rackerby, CA
Sierra Nevada Foothills (Native Vegetation)

Tag Number	8519	8516	9678	9532
Color	grey roan	white	white	white
Birth Date	2 Mar 98	2 Mar 98	4 Mar 99	18 Mar 99
Birth Status	twin	twin	twin	triplet
Weight (pounds)				
Birth	9	10	11	8.75
5 mo	70	70	85	80
16 mo	155	172	164	152
2 yr	225	242	234	222
3 yr	273	264		
Wither Height (inches)				
1 yr			32.5	30.5
2 yr	34	36	33	34.5
3 yr	35	37		
Hip Height (inches)				
1 yr			32.5	32.5
2 yr	34	36	33	34
3 yr	35	37		
Body Length (inches)				
1 yr			35	34
2 yr	34.75	37.75	35.5	37.5
3 yr	38.25	39.25		
Rump Width (inches)				
1 yr			7.75	8
2 yr	8.75	10	8.25	8.25
3 yr	9	10.5		
Rump Length (inches)				
1 yr			10	8.5
2 yr	10.5	12	10.5	9.5
3 yr	12.5	12.75		
Heartgirth (inches)				
1 yr			38.5	38.5
2 yr	44.5	45.75	45	44.5
3 yr	50	52		

Cannon Bone (inches)				
1 yr			5.25	4.5
2 yr	5.75	6	5.75	5.5
3 yr	6.5	6.5		

Table 5 . Purebred Kiko Does, Goats Unlimited, Rackerby, CA
Sierra Nevada Foothills (Native Vegetation)

Tag Number	2118	2127	2112	2102
Color	crème / spot	crème / spot	buckskin	tan / grey
Birth Date	13 Apr 92	26 Apr 92	19 Apr 92	21 Apr 92
Birth Status	twin	twin	quad	triplet
Weight (pounds)				
Birth				
4 mo	38	40	41	45
12 mo	90	93	89	110
3 yr	145	145	130	148
5 yrs	180		155	
9 yr	183	151	167	167
Wither Height (inches)				
3 yr	30	27	26	28
5 yr	30		26.5	
9 yr	30.5	29.5	27	28
Hip Height (inches)				
3 yr	28	27	27.5	27.5
5 yr	30		27.5	
9 yr	30.5	29.5	28	27.5
Body Length (inches)				
3 yr	31	30	29.5	28
5 yr	30		29.5	
9 yr	32	30	29.5	31
Rump Width (inches)				
3 yr	7.5	7	7	7.5
5 yr	8.5		7.25	
9 yr	9	8.25	7.50	7.5
Rump Length (inches)				
3 yr	9	9.5	9	9
5 yr	9.5		9	
9 yr	9.5	9.5	9	9
Heartgirth (inches)				
3 yr	37	36.5	35.5	37
5 yr	41		37.5	

9 yr	40.5	37.75	39	39
Cannon Bone (inches)				
3 yr	4.5	4.75	4.5	4.75
5 yr	5.5		5	
9 yr	5.5	5.5	4.75	5

Table 6 . Purebred Kiko Does, Goats Unlimited, Rackerby, CA
Sierra Nevada Foothills (Native Vegetation)

Tag Number	0294	0305	0329	9145	9162	9319
Color	brown	white	white	white	white	white
Birth Date	24 Mar 2000	25 Mar 2000	5 Apr 2000	2 Mar 1999	3 Mar 1999	4 Mar 1999
Birth Status	twin	twin	twin	twin	twin	twin
Weight (pounds)						
Birth	9	8	10.75	7.25	11	8.5
4 mo						45
18 mo	147	128	166.75			
2 yrs				137.25	157.5	137.25
Wither Height (inches)						
18 mo	28	27.75	30			
30 mo				29.25	28.5	30
Hip Height (inches)						
18 mo	29	28	31			
30 mo				29.75	28	30.5
Body Length (inches)						
18 mo	31.25	30	31			
30 mo				28.75	29	32
Rump Width (inches)						
18 mo	8.5	7.25	7.5			
30 mo				7.75	8.25	8
Rump Length (inches)						
18 mo	9	8.5	9			
30 mo				9	9.5	10
Heartgirth (inches)						
18 mo	37	35	39			
30 mo				36	38	36

Cannon Bone (inches)						
18 mo	5.5	5	6			
30 mo				5.5	6.25	6

Table 7. Carcass Quality Evaluations, Goats Unlimited, Rackerby, CA
Sierra Nevada Foothills, Native Vegetation
Year 2000

Live Weight (pounds)	Dressing Percentage[1]	Ribeye (sq. in.)	Conformation Score[2]	Lean Maturity Score	Carcass Length (in.)
50	47%	1.6	12	choice	34 to 36
60 to 70	44 to 48%	1.9	10	choice	37 to 39
70 to 75	48 to 49%	2.0	10 to 11	choice	40
76 to 80	48%	2.2	12 to 13	prime	40 to 42

[1] Dressing percentage is the carcass hot weight without the head, legs (removed at knee and hock), skin, heart and liver.
[2] Conformation Score out of a rating from 1 to 15.

Other Carcass Traits of Interest:

1. Leg circumference: ranges from 17 to 20 inches depending on age (weight)
2. Fat over the 12th rib: averages 0.1 inch or less
3. Flank streaking fluctuates around modest
4. Skeletal maturity score is always 'A' because the goats are less than 7 months of age

It is very important to know the varying requirements of the ethnic consumers you are supplying. These requirements may include availability for a specific holiday, slaughter technique for religious purposes, age and/or sex of goat, etc.

Table 8. Carcass Weight and Weight of Processed Cuts
Goats Unlimited Meat Wethers
Sierra Nevada Foothills, Native Vegetation
Year 2000

Whole Carcass Weight (pounds)	Weight of Processed Product (pounds)							
	Bone	Cut & wrapped	Rolled shoulder (boneless)	Chops	Rolled leg (boneless)	Stew	Riblets	Shanks
36	10	26	6	4.5	5.5	4	2.5	3.5
45	12.5	32.5	6	7.5	7	4	4.5	3.5