Goat & Sheep
Management /Production Calendar

The information provided on the following pages is intended to be an introductory guideline.

Dates suggested in the management calendar are not necessarily absolute, but provide the user with an approximate schedule for planning purposes.

Goat and sheep owners are strongly encouraged to develop a valid, working vet/client/patient relationship with an animal health professional. In the context of this valid relationship, the veterinarian must be familiar with the owners, animals and their management program. Such a relationship does not require the veterinarian to perform all health-related management practices.

For additional information and assistance, contact the
Texas Cooperative Extension agent in your county.
http://texasextension.tamu.edu/

Texas Cooperative EXTENSION
The Texas A&M University System



Management Calendar

Farm/Ranch Name	Joe's Critter Farm		
Number of Breeding Does	50		
Number of Bucks Needed	Buck Kids	Yearlings	Mature
	5		
		3	
			2

Kidding Season	
First kid born	1-Apr
Last kid born	20-May
Breeding Season	
Evaluate condition of bucks	6-Sep
Begin flushing does	6-Oct
Evaluate internal parasite burden	6-Oct
Turn bucks with does	5-Nov
Remove bucks	19-Dec
Gestation	
Nutrient requirements increase	5-Feb
Give annual enterotoxemia booster	2-Mar
Kidding/Lambing	
Prepare facilities	2-Mar
Inventory OB supplies	2-Mar
Begin daily observation of does/ewes	18-Mar
Begin twice daily observations	26-Mar
Separate by experience	at parturition
Disbudding & Castration	
Disbud oldest kids	1-May
Castrate male kids/lambs	1-May
Vaccinate kids >30 days old for CD&T	1-May
Disbud & Vaccinate - additional groups	depends
Creep Feeding	
Begin creep feeding	16-May
Weaning	
Early weaning can begin (60 days old)	31-May
Normal weaning begins (100 days old)	10-Jul
Late weaning (150 days)	29-Aug

Internal Parasite Management

1. Develop a working relationship with a veterinarian knowledgable of goats and sheep.
2. Use fecal egg counts or FAMANCHA to objectively monitor parasite burdens.
3. Understand that grazing management is a huge factor in parasite management.
4. Understand that the primary internal parasite is capable of developing resistance to parasiticides.
5. Understand that resistance development is facilitated by:
   - treating too often
   - massive re-exposure immediately following treatment
   - using an ineffective dose
   - using an ineffective product
   - using an inappropriate route of delivery
   - prolonged use of the same or similar compound(s)
6. Effective rotation of parasiticides is critical.
   Rotation should be across families of compounds, NOT within a family (see below).

Dewormers Labeled for Use in Goats and/or Sheep

Compound Family	Active Ingredient	Trade Name(s)	Route of Administration	Formulation	On the label? Sheep	Goats
Avermectins	ivermectin	Ivomec Sheep Drench	oral	liquid drench	yes	no
Milbymycin	moxidectin	Cydectin Sheep Drench	oral	liquid drench	yes	no
Benzimidazoles	fenbendazole	SafeGuard	oral	liquid drench, feed additive	yes	yes
Imidiathiazole	levamisole	Tramisol	oral	water soluble liquid drench	yes	no
Morantel tartrate	morantel tartrate	Rumatel	oral	feed additive	yes	yes

Note: The above products are labelled for sheep and/or goats. Pour-on formulations are NOT effective in sheep or goats. Other anthelmintics are available for cattle. Use of cattle products is extra-label use and must be done under the supervision of a veterinarian.

7. Treat when warranted, not by the calendar or when convenient.
8. Strategic treatment focuses on periods when parasites are most greatly concentrated in the host:
   - Winter — after killing frost and before spring greenup
   - Summer — dog days of summer (July/August; hot/dry soil surface not conducive to larvae survival)
9. Select for genetic resistance to internal parasites; cull/remove animals that seem most susceptible.

General Health Program

There is no substitute for the counsel and expertise of an animal health professional. Goat and sheep owners are encouraged to seek the assistance of a veterinarian in the development of a Preventative Herd Health Plan for their farm/ranch.

Remember - it takes the immune system of a healthy, well-nourished animal a minimum of 10-12 days to develop an immune repsonse to vaccine. Also - vaccines are preventative measures, not treatment for a disease that is in progress.

Vaccinations

Enterotoxemia	Commonly known as 'Overeating' disease. Look for *Clostridium perfringens* Type C&D on label. Keep vaccine cold and in the dark until used. Purchase vaccine in an appropriate quantity such that all (or most all) vaccine is used. Use vaccine within 72 hours of opening. Partially used bottles open more than 72 hours should be discarded. Does/Ewes Vaccinate annually 21-30 days prior to parturition to boost antibody production and inclusion in the colostrum. Kids/Lambs Vaccinate at 30-45 days of age. Follow label directions regarding revaccination. Vaccinate again at weaning. If appropriate, select low dose (2 ml), low irritant vaccine labeled for subcutaneous (under the skin) administration.
Tetanus	Look for *Clostridium tetani* bacterin-toxoid on the label. (Tetanus *antitoxin* is used to treat animals suffering from tetanus.) Tetanus vaccine is included in some Enterotoxemia vaccines, commonly referred to as C D &T vaccines. Ideally, animals should be vacinated 10-14 days prior to castration or disbudding. If males are castrated with elastrator bands, tetanus vaccine is a must. Tetanus vaccine is recommended for all disbudded animals.
Contagious ecthyma	Commonly known as 'Soremouth'. Kids/Lambs Vaccinate young animals according to label directions. *Check animals 14-21 days after vaccination - look for a small scab at the vaccination site, indicating a desirable response to the vaccine.* Immunization generally provides lifetime immunity. The most efficacious vaccine for use in Texas is manufactured by: Texas Agricultural Experiment Station Sonora, Texas (325) 387-3168 and is available from animal health suppliers.

Visit with your Animal Health Professional about the prevalence of these diseases in your area

and their prevention/treatment. Most will not be a problem in your operation, but you need to know.

	Problem in this area? (Yes/No)	Prevention	Treatment
Reproductive diseases			
Bluetongue			
Brucella ovis			
Caseous lymphadenitis			
Chlamydia			
Leptospirosis			
Toxoplasmosis			
Vibriosis			
Other diseases			
Anthrax			
CAE			
Coccidiosis			
Mastitis			
Pasteurella			
Pinkeye			
Pregnancy toxemia			
Ringworm			
Urinary calculi			
Toxic Plants			
Buckeye			
Carelessweed			
Chinaberry			
Cocklebur			
Hairy calthrop			
Lantana			
Nightshades			
Oak bud			
Oleander			
Prussic Acid Poisoning			
Photosensitization			
Rainlily			
Twinleaf senna			
White Snakeroot			

An excellent reference "*Toxic Plants of Texas*" is available at http://tcebookstore.org/pubinfo.cfm?pubid=1300

Natural Resource Management

Goats Goats prefer browse and will use forbs (weeds) and green grasses if browse is limited.

Sheep Sheep prefer forbs and grasses and will use some browse if preferred forages are not available.

Goats and sheep are selective browsers/grazers and will put detramental grazing pressure on prefered forages.
Consequently, a grazing management program intended to protect the natural resource generally involves pasture rest and rotation.
In many small acreage situations, rotational grazing is not feasible. As a result, many small acreage properties grazed by goats and/or sheep are abused and eventually become a dry lot production system.

Supplementation and Feeding

Supplement **feedstuff(s) and high quality hays offered to compliment the forage diet, make up for deficiencies or extend available forage.**

Examples *whole shelled corn, whole grain sorghum, whole cottonseed, soy hulls, distillers dried grains, cottonseed meal, soybean meal*
alfalfa hay, peanut hay, soybean hay
formulated supplements
Generally: not medicated
20% crude protein or greater
pelleted (1/4, 3/8 or 1/2 inch diameter), 33 lb pressed blocks, molasses-based tubs, liquid feeds
mineral supplements

Feed **a complete balanced diet that, *if fed in the appropriate quantity* , meets the protein, energy, mineral and vitamin requirements of an animal. A mixture of two or more ingredients.**

Examples *Smith's Goat Grower, Acme Kid Developer, Show Goat Pellets, Boer Goat Crumbles*
16% Lamb Creep Pellet, Acme Lamb Grower, Show Lamb Feeds
Generally: medicated with a coccidiostat [Decoquinate (Deccox) or Monensin (Rumensin)]
less than 18% crude protein
almost all goat feeds are pelleted (5/32 to 1/4 inch diameter) to prevent sorting
sheep feeds may be pelleted or textured/loose rations

Supplementation of goats/sheep is likely warranted when:

1. Body condition of the animals is less than average flesh or lower than desired.
2. Forages are dormant, weathered or limited in availability (grazed short, prominent browse line on shrubs & trees, etc).
3. Animals are observed actively grazing all day, especially during mid-day.
4. Birthing and early lactation occur when forages are dormant/weathered.
5. Access to forage is precluded due to ice or snow.

Daily Requirements

	Body Weight, lb	Crude Protein, lb	(TDN) Energy, lb
Kids[a]	44	0.18	1.32
Yrlg doe[b]	88	0.26	1.92
Mature doe[m]	110	0.24	1.75
	154	0.31	2.25
	198	0.37	2.72
Mature doe[p]	110	0.42	2.65
	154	0.50	3.15
	198	0.55	3.62

[a,b]gaining 0.25 lb/day
[m]maintaining body weight
[p]late pregnancy, early lactation

from Nutrient Requirement of Goats, 1984

National Academy of Sciences

	Body Weight, lb	Crude Protein, lb	(TDN) Energy, lb
Lambs[a]	44	0.37	1.80
Yrlg Ewe[b]	88	0.39	2.00
Mature Ewe[m]	110	0.21	1.20
	154	0.25	1.50
	198	0.29	1.70
Mature Ewe[p]	110	0.43	2.40
	154	0.47	2.80
	198	0.51	3.00
Mature Ewe[L]	110	0.86	3.40
	154	0.92	4.00
	198	0.99	4.60

[a,b]gaining 0.50 lb/day
[m]maintaining body weight
[p]late pregnancy
[L]early lactation

from Nutrient Requirement of Sheep, 1985

National Academy of Sciences

Typical Composition of Feedstuffs for Goats and Sheep[a]

	Percent, dry matter basis						
	Dry Matter	Crude Protein	TDN	Crude Fiber	Calcium	Phosphorus	Comments
Alfalfa hay	89	17	58	30	1.4	0.24	often the most economical hay purchase
Peanut hay	91	11	55	33	1.23	0.15	quality (leaf content) can vary greatly
Soybean hay	89	15	52	35	1.29	0.30	
Coastal hay	90	7	49	31	0.43	0.20	
Haygrazer hay	88	8	57	36	0.50	0.22	if seedheads present and stems large, assume >15% wastage
Corn, whole	88	9	88	2	0.02	0.30	remember acidosis potential if fed in large amounts (>1% body weight/day)
Grain sorghum	89	11	82	3	0.04	0.32	remember acidosis potential if fed in large amounts (>1% body weight/day)
Oats	89	11	76	11	0.05	0.41	
Wheat	89	14	88	3	0.05	0.43	remember acidosis potential if fed in large amounts (>1% body weight/day)
Cottonseed, whole	91	23	95	29	0.14	0.64	excellent supplement for goats & sheep
Cottonseed meal	90	48	77	13	0.22	1.25	excellent source of phosphorus
Corn gluten feed	90	26	83	10	0.36	0.64	by-products can vary in nutrient content
Rice bran	91	14	72	13	0.07	1.7	high fat content (14%) = excellent energy source
Wheat midds	89	19	82	8	0.15	0.07	works well in pelleted feeds
Soybean hulls	90	12	77	38	0.55	0.17	excellent energy source
Cottonseed hulls	90	5	45	48	0.15	0.08	very palatable
Peanut hulls	91	7	22	63	0.20	0.07	poor quality feedstuff; filler only
Rice hulls	92	3	13	44	0.14	0.07	poor quality feedstuff; filler only
Goat Grower	as fed	17	54*	22	1.00	0.50	consult feed tag for feeding recommendations and precautions
Show Goat	as fed	15.5	59*	17	1.00	0.38	"
Goat Cube	as fed	26	72*	9	0.80	0.60	"

[a]Nutrient Content data from: Nutrient Requirements of Goats, 1984. National Research Council
Typical Composition of Feeds for Cattle and Sheep, 2006 www.beef-mag.com

*Estimated from the crude fiber content specified on the tag. Actual TDN content can be obtained from the manufacturer.

Determining How Much to Supplement

Enter information in shaded areas.

Step

1 **Animal Description**

Sex	Doe
Average weight	150 lb
Physiological status	maintenance

2 **Animal Requirement**

Protein, lb	TDN, lb
0.31	2.25

3 Estimate forage intake as a % of body weight (practical range 1.5-3.5%). **2.0%** body weight

Body wt, lb	150
Estimated intake	3 lb/day

Protein content to Meet Requirement	10%
TDN Content to Meet Requirement	75%

4 Compare the protein and energy content requirements from #3 to the reference values shown below to estimate the liklihood that grazing animals will consume enough forage to meet nutrient demand.

Reference Forage Values - Edwards Plateau*

Plant Type	Season	# Samples	Water	Percent C. Protein	TDN**	DOM
Grass	Spring	21	48	8	45	44
	Summer	22	43	6	44	43
	Fall	23	38	5	35	34
	Winter	15	14	5	32	31
Forbs	Spring	6	68	19	60	59
	Summer	8	55	11	54	53
	Fall	8	64	14	54	53
Browse	Spring	17	64	16	71	70
	Sumer	13	58	11	65	64
	Fall	14	51	9	59	58

*from Nutritional Value of Range Plants in the Edwards Plateau Region of Texas, B-1357, Huston et al.,1981

**TDN calculated from DOM; TDN = 1.02 * DOM (from Ruminant Nitrogen Usage, 1985)

5	**Supplement Considered**	whole cottonseed		Dry Matter	C Protein	TDN
				90%	23%	95%
6	**Amount fed, lb/head/day**	0.75				
7	Nutrient Status, lb/day		Requirement		0.31	2.25
			whole cottonseed		0.16	0.64
			Difference		0.15	1.61
	If forage intake is	**2%**	of body weight,			
	then the forage needs to contain at least				5%	54%

Marketing Your Products

The Products

			Liveweight, lb	
Category	Age	Teeth	Goats	Sheep
Kids or Lambs	0-11 months	all temporary	15-60	15-80
Yearling	12 -23 months	1 pair of permanent	60-100	75-120
Young	24-35 months	2-3 pair permanents	90-150	90-170
Mature/Aged	over 48 months	full mouth	100-200	100-225

Meat The primary product from goats and sheep is meat. There is a demand for animals of all ages, weights and qualities. Market prices is influenced by supply and demand and the carcass quality of the animals offered for sale. Neither the goat or sheep meat trade has a use for excessively fat animals.
Most goat and sheep meat is sold bone-in. Packers generally sell kid goats as whole carcasses, which are then quartered for retail presentation. Older goats are usually processed and sold as bone-in cubes.
Small lambs may be presented for retail sale similar to kid goats. Heavier lambs (>50 lb carcass) will be fabricated into the four primall cuts - leg, loin, rack and shoulder, each of which may be further processed for retail presentation.

Offal Offal includes the head, skin and viscera. Goat and hair sheep skins yield very high quality leathers. Most skins are salted and exported 'raw' to other countries (ex. Mexico) for processing into leather. Some consumers enjoy foods prepared from heads, organ meats and the intestines.

Market Timing Most goats and sheep are born in the spring and come to market mid-summer to late fall. Consequently, supply often exceeds demand during that same period of time. Kid and lamb market prices are traditionally the highest from mid-November through Easter.
Holidays and religious celebrations often drive market prices higher. Producers should mark these events on their management calendar: Easter (both Greek and Judeo-Christian), Cinco de Mayo, Memorial Day, July 4, Labor Day and Ramadan.
In order to capitolize on these markets, animals must be marketed at least 10-14 days prior to the event.
Visit with your local livestock marketing professional regarding these and other marketing opportunities.

Breeding Animals Doe kids of acceptable quality and conformation can be sold at a premium to their value as a slaughter goat.
When culling does from the breeding herd, if pasture conditions permit, allow thin does time to gain some condition and their udders to dry up before marketing. Thin does with distended udders have little market value.

Estimating Age by Teeth

Goats and sheep, like all ruminant animals, do not have incisors on the upper jaw. They do have sharp molars on both the upper and lower jaws at the back of their mouth.

Age is most accurately determined by birthdate. However, if birth records are not available, age can be *estimated* by looking at the number of permanent incisors. The incisors are arranged in four pairs for a total of 8 teeth. **Teeth are sometimes not an accurate indicator of age.**

Age: less than 12 months old **Kid**
Comments: Milk teeth are present at or shortly after birth. As the animal ages, the teeth will begin to spread and loosen. Milk teeth are very small at the base and much narrower than permanent teeth.

Age: 12 to 23 months old **2 Tooth**
Comments: The first pair of permanent incisors will generally errupt around 12 months of age. However, this first pair of permanent incisors can appear by 9 months of age or may not appear until the animal is 15-16 months old.

Age: 24 to 35 months old **4 Tooth**
Comments: The second pair of incisors will generally errupt around 24 months of age. It is not uncommon for the third pair of permanents to errupt soon after the second pair appears.

Age: 36 to 47 months old **6 Tooth**

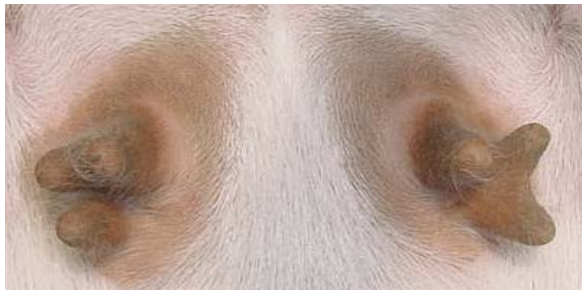
Comments: The third pair of permanent incisors generally appears around 36 months of age. As mentioned above, it is common for this third pair to errupt soon after the the second pair are fully errupted.

Age: at least 48 months old or older **Full mouth**

Comments: Once the fouth pair of permanent incisors has errupted, the animal is considered mature. As the animal ages, the teeth will appear longer and the gums will begin to receed. As aging continues, the teeth will begin to spread and wear. Old animals may have short, stubby teeth and may loose one or all of these incisors. Grazing habits, soil types and genetic differences in dental integrity preclude accurate assessment of age by teeth beyond 4 years of age.

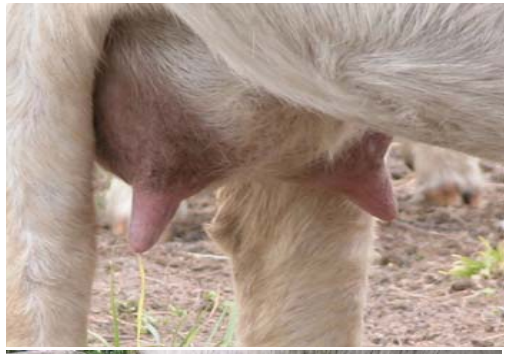
Udder Conformation (Goats)

Bad **Good**



Doe kids

Yearling does



Aged does