

## **DRUG USE GUIDE: GOATS**

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### **Introduction**

Live animals are considered unprocessed food, if those animals are intended for slaughter or the milk from these animals are intended for human use. Therefore, persons involved in raising, handling, transporting, holding, and marketing food-producing animals are encouraged to establish systems to ensure that animal drugs are used properly and to prevent illegal drug residues.

There is only a handful of drugs approved to be used in goats. Any drug not specifically labeled for use in goats, or any product either prescription or over the counter that is not used as directed on the label, is considered “Extra-label” or “Off label”. Veterinarians may use products “Off label” or “Extra-label” provided that have a valid veterinarian – client/ patient - relationship.

This means:

- \* The veterinarian has examined the animal(s) in question recently and has made a diagnosis and a determination that products with proper labeling will not work in this instance.
- \* The client has been instructed by the veterinarian in the proper use and administration of the product and a withdrawal period has been determined, and the client is willing to follow the instructions given by the veterinarian.
- \* The veterinarian is available to respond to any adverse reaction or follow up examination and treatment that may occur to the animal due to the administration of the drug or failure of the drug to work.

### **Extra-Label Use**

Most livestock producers and many veterinarians do not realize that producers do not have “extra-label” drug use privileges. Extra-label use is defined as the administration of a drug in a manner that is different from the drug’s labeling. Only veterinarians who have established a veterinarian-client-patient-relationship (VCPR) with a particular client may prescribe or use drugs in an extra-label manner on that client’s animals.

The Food and Drug Administration has published three specific conditions that must be met for the establishment of a VCPR.

The first condition requires that the veterinarian assume responsibility for making clinical decisions regarding the health and treatment of the animals and that the client has agreed to follow the veterinarian’s recommendation.

The second condition is that the veterinarian must have visited the farm in question, have

knowledge of the particular farm's methods and practices, and have recently examined the animals to be treated.

A veterinarian working with goat owners must stress the need for farm visits to fulfill the first two conditions in establishing a VCPR, as many goat owners would rather call for advice over the phone and eliminate farm visits.

The third condition is that the veterinarian must be readily available for follow-up evaluation in the advent of an adverse reaction or treatment failure.

### **FDA Criteria**

The FDA has also established five criteria that must be met before any drug may be used in a food-producing animal in a manner different from that product's label. The veterinarian must first examine the animal and determine a clinical diagnosis within the guidelines of a VCPR. Often a goat owner will not have the animal examined by a veterinarian, but will telephone a veterinarian, who may never have visited the farm, with a list of symptoms and ask for a recommended treatment.

The second criteria requires the veterinarian to determine that there is no marketed drug specifically labeled to treat the diagnosed condition or that the recommended dosage for that product is clinically ineffective. Because there are so few drugs labeled for use in goats, it is not difficult to determine whether or not there is legally licensed product available.

The third criteria require that individual animals be clearly identified and that accurate records be maintained regarding the treatment of those specific individuals. Many registered goats are uniquely tattooed, but few goats are ear-tagged and the owner must make some effort to mark treated animals with a visible temporary mark, tag, or paint.

The fourth criteria requires that a significantly extended time period be assigned for drug withdrawal prior to marketing meat or milk from treated animals, and the owner must keep accurate records of the treatment and withdrawal period.

Many goat owners casually treat their animals and do not keep records of which animals were treated, what drugs were used or the withdrawal period for that product. If no information is available to establish a withdrawal time, then the treated animal or animals are permanently barred from the human food chain.

The last criteria details the information that must be listed on the drug dispensed for extra-label use and includes: the name and address of the veterinarian; the established name of the drug(s); and specific directions for use - including dose, route of administration, frequency of treatment, duration of therapy, cautionary statements, and the withdrawal time for any food that might be derived from the treated animal.

When following the guidelines established in the Animal Drug Use Clarification Act of 1994, eight drugs cannot be used in food animals. These eight drugs include: chloramphenicol, clenbuterol, diethylstilbestrol, dimetridazole, ipronidazole, other nitroimidazoles, furazolidone, and nitrofurazone.

## **Administration**

Once the decision has been made to use a specific product in a goat, the owner must be informed of the proper storage, use, and administration for that product.

Commercial goat dairies must meet the specific requirements of the Pasteurized Milk Ordinance for storage of drugs used in animals producing milk for human consumption.

Access to drugs should be restricted, and producers should be reminded that animal health products can be human health hazards. Owners should be instructed in the proper methods and location for administration of injectable drugs. Adequately and comfortable sized syringes and sharp, sterile needles of appropriate size and length should be used.

Label directions for oral medications and feed or water additives should be easy to read and understand, and any directions for dilution of drugs should be clearly indicated.

Some products added to feed or water may be harmful to other species and this must be stated on the label. It is extremely important to determine an adequate withdrawal time to prevent illegal drug residues in products for human consumption.

Although there are no drug residue test kits marketed specifically for goats, owners should be aware that drug residue testing is conducted on milk and meat produced for human consumption.

Veterinarians can play a vital role in educating goat producers about quality assurance concepts through these three important avenues:

- \* Review of management practices with the client
- \* Establishment of a legal veterinary - client - patient - relationship
- \* Adherence to FDA guidelines for extra-label drug use.

These practices will aid in the production of wholesome products free of drug residues.

### Medications Commonly Used in Goats (Approximate withdrawal times)

I. Antibiotics:	Brand Name	Approval	Dosage	Route	Frequency	Withdrawal Time	
						Meat	Milk
Procaine Pen. G	Crysticillin	extra-label	20,000-40,000 IU/lb	SQ	Once a day	14-20 days	5 days
Benzathine Pen G	Pen BP-48	extra-label	20,000 IU/lb	SQ	Every 48 hours	30 days	??
Amoxicillin	Amoxi-inject	extra-label	5 mg/lb	SQ	Once a day	25 days	96 hrs.
Ampicillin	Polyflex	extra-label	5 mg/lb	SQ	Once a day	10 days	72 hrs.
Oxytetracycline	LA-200	extra-label	9 mg/lb	SQ	Every 48 hours	28 days	6 days
Sulfadimethoxine	Albon	extra-label	25 mg/lb	PO	Once a day	7 days	??
Ceftiofur	Naxcel/Excenel	extra-label	0.5-1 mg/lb	IM	Once a day	0 days	0 days
Erythromycin	Erythro-200	extra-label	1 mg/lb	SQ	Once a day	3 days	72 hrs.
Tylosin	Tylan-200	extra-label	10 mg/lb	IM	Once a day	30 days	96 hrs.
Neomycin	Biosol	approved	5 mg/lb	PO	Once a day	30 days	??
Florfenicol	Nuflor	extra-label	9 mg/lb	IM	Every 48 hours	28 days	??
Gentamicin	Gentocin	DO NOT USE					
Tilmicosin	Micotil	DO NOT USE - TOXIC TO GOATS					
Enrofloxacin	Baytril 100	DO NOT USE {NO EXTRA LABEL USE PERMITTED}					
II. Anti-inflammatory Drugs:	BrandName	Approval	Dosage	Route	Frequency	Withdrawal Time	
						Meat	Milk
Flunixin meglumine	Banamine	extra-label	1.1 mg/kg	IV or IM	Twice a day	14 days	4 days
			2.2 mg/kg	IV or IM	Once a day	14 days	
Dexamethasone	Azium	extra-label	0.44mg/kg	1/m	Once a day	14 days	4 days

Phenylbutazone	Phenylbutazone	extra-label	10-20 mg/kg [loading dose] 5-10 mg/kg	PO	First day	14 days	5 days
				PO	Once a day	14 days	5 days
Aspirin	Aspirin	extra-label	100 mg/kg	PO	Twice a day	1 day	2 days
Dipyrene	Dipyrene	DO NOT USE {NO EXTRA LABEL USE PERMITTED}					
Ketoprofen	Ketoprofen	Extra-label	3mg/kg	I/V or I/M	Once a day	14 days	5 days
II. Prevention of Coccidiosis:	BrandName	Approval	Dosage			Withdrawal Time	
						Meat	Milk
Monensin	Rumensin	approved	15-20 gms/ton of feed			0	?
Lasalocid	Bovatec	extra-label	20-30 gms/ton of feed			?	?
Decoquinatate	Deccox	approved	0.5 lb/ton of feed			0	?
Amprolium	Corid	extra-label	25-50 mg/kg BW in feed or water for 5 days - treatment. 5mg/kg PO for 21 days- prevention			?	?
V. Anthelmintics:	Brand Name	Approval	Dosage	Route		Withdrawal Time	
						Meat	Milk
1. Avermectins:							
Ivermectin	Ivomec sheep drench	extra-label	0.3 mg/kg	PO		11 days	36-40 days
Ivermectin	Ivomec 1%	extra-label	0.3 mg/kg	SC		56 days	36-40 days
Doramectin	Dectomax	extra-label	0.3 mg/kg	SC		56 days	36-40 days
Eprinomectin	Eprinex	extra-label	0.5 mg/kg	PO		0 days	0 days
Moxidectin	Quest, Cydectin	extra-label	0.5 mg/kg	PO		0 days	?
2. Benzimidazoles:							
Albendazole	Valbazen	extra-label	10 mg/kg	PO		27 days	5 days

Fenbendazole	Panacur/Safeguard	approved	10 mg/kg	PO	14 days	4 days
Oxfendazole	Synanthic	extra-label	10 mg/kg	PO	14 days	5 days
3. Cholinergic Agonists:						
Levamisole	Levasole	extra-label	8 mg/kg	PO	10 days	4 days
Morantel Tartrate	Rumatel	approved	10 mg/kg	PO	30 days	0 days
VI. Hormones:	Brand Name	Approval	Dosage	Route	Withdrawal Time	
					Meat	Milk
Oxytocin	Oxytocin	extra-label	10-20 IU	1/M	0 days	0 days
Dinoprost	Lutalyse	extra-label	5-10mg	1/M	0 days	0 days
Cloprostenol	Estrumate	extra-label	125 microgram	1/M	0 days	0 days
Dexamethasone	Azium	extra-label	20-25mg	1/M	14 days	4 days
VII. Electrolytes	Brand Name	Approval	Dosage	Route	Withdrawal Time	
					Meat	Milk
Calcium	Calcium borogluconate	extra-label	60 to 100ml of 20 to 25% Solution	1/V	0 days	0 days
Calcium	Calcuim gluconate	extra-label	50 to 100ml 10 to 23% calcium ion solution	1/V	0 days	0 days

NOTE: The drugs listed above are commonly used in goats. There are only a few drugs approved to be used in goats. The above withdrawal times for various drugs is compiled from different sources. Extra-label use of these products is legal if prescribed by your veterinarian.

*The proper citation for this article is:*

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