

I accept calls for Goat related questions  
@ (262) 705-1417

**I am not a veterinarian ~ Can give only experience related guidance**

Basic care of Goats is Easy ~ It's when something is wrong that it gets tricky

Make sure everyone comes running at feed time - If they don't, something is wrong.  
(Never use feed/minerals that say for sheep & goats!!!)

Sheep cannot tolerate the amount of copper that goats Require.

Do Not Feed Bucks/Wethers "Sweet Feed Grain".

Corn is a "Hot" feed, and should be fed in moderation.

If they require supplementation beyond hay, feed a pelleted grain,  
or dry oatmeal, in moderation, is a good choice.

A little goes a long way, so don't over feed any type of grain.

Goats love treats: Fallen tree branches, Grapes/raisins, bread/crackers.

Stale chips, bread & cereal are favorites here.

Goats Love watermelon and bananas, and un-carved Halloween pumpkins.

Cut them open and they will gobble them up.

My goats Love those biscuits that come with a meal from Kentucky Fried Chicken.

They gobble them up.

If I want them to come running, all I have to do is crinkle a wrapper,  
even with my unfriendly goats.

However, remember that treats are just that, and only work well alongside  
a nutritious feeding program.

Feed Fresh, nutritious hay (with or without alfalfa - as needed).

Provide Clean water in a clean bucket (ice free in winter).

Provide loose minerals/mineral block, available at all times.

Some provide salt, available in a separate dish or block.

Well balanced grain product for your does. It gives them added nutrients  
& minerals that they need. It is easy to over-do

with grain, so watch your animals condition to determine how  
much/little they may need. During lactation, more protein is needed.

Hoof trimming is necessary every 4-6 weeks

Trimming is necessary to keep your animal from developing hoof rot and leg/hoof issues.

When you have a lot of animals, this can seem overwhelming.

Break it down to 1-2 animals per day, and they are  
all trimmed again before you know it. Make the time to do this, it is very  
necessary in the maintenance of your animals.

We vaccinate annually with c/d tetanus, and give Bo-Se and Copper supplements as needed.

Watch your goats coat condition - A dull, course, or thin coat can give you many clues to worm load or nutrient deficiency.

Watch your animals legs for any bowing (back or inward), as this can indicate a nutrient deficiency.

If your animal has diarrhea, take a fecal sample to your local Vet ASAP!!!

This is the ONLY way to find out what you might be dealing with...

(Worm load & what type, or Coccidiosis).

This is the correct way to determine the problem, so that you can treat with the correct medication.

Worms & Coccidia are very common, and are also the #1 killers of goats.

***Things that I always keep on hand*** ~ BO-SE, Thiamine, Probios, Procaine penicillin, syringes & 1/2" 20 gauge needles.

Aged Animals may require pampering & extra care.

(Goat Mortality is about 16 years)

Resistance to worms & coccidia may diminish as an animal ages, allowing these invisible killers to steal what is left of your animals health. Yearly fecal exams may become necessary, as well as more frequent worming.

Feed should stay true to ruminant needs, as long as possible.

Roughage is of great importance to the ruminant stomach, and that stays true with aged animals.

Once you change to a senior feed, there is no going back.

You must let their needs determine care, in regard to feed & maintenance.

Nutrient Facts :

Manganese - Helps nervous and immune system functioning, joint function and the proper absorption of nutrients.

Found in spices (cloves, saffron, ginger), wheat, rice and oat brans, nuts and sunflower seeds.

Copper - Necessary for proper bone and cartilage development, it also works with iron to produce blood.

Found in nuts, fruits and vegetables, legumes and whole grains.

Iodine - Necessary for proper thyroid function. Also helps to promote healthy skin, nails, hair and teeth and to burn fat.

Found in pineapple, raisins, cereals and grains.

Selenium - Assists thyroid function and acts as an antioxidant to protect cells from damaging free radicals. Aids in proper immune system function.

Found in plant products that are grown in selenium-rich soil and in wheat, corn and nuts.

Trace minerals are important. A lack of these essential minerals can lead to many types of disorders.

### Coccidiosis

This is a huge problem with many species, especially wild animals that receive no treatment. Wild animals that cross your pasture or fly into your pens, infect the area, and this transmits coccidia to your domesticated animals.

Adult goats can carry it and show no signs, as they develop a certain immunity, but if you have adult does that are nursing babies, this can & will most certainly affect the kids. Coccidiosis is an infection of intestinal epithelium caused by protozoan parasite of family Eimeriidae. (1 cell organism) Coccidia is very difficult to control, as it is highly resistant to environmental conditions, and disinfectants.

I have found that some medications stop working, so we must rotate our use of meds such as corid & albon.

I am making this statement based on my own personal experience using these medications, and testing after consistent administration.

(vet recommended dosage amount and method of administration).

### **Coccidiosis Effect on the Animal**

Coccidia invades the intestinal wall, and goes through several stages of growth & multiplication, which damages the tissue of the intestine.

Depending upon the strain & animal species affected, a coccidiosis infection can include severe intestinal problems, with severe lesions in the gastrointestinal tract. Symptoms can range from diarrhea & a sloshy belly, to death. Kids suffering through an extreme case of coccidiosis as a kid, can be stunted in growth, and have issues with production, as an adult.

### Treatment ~ Sulfamethoxazole/Trimethoprim or Baycox (Toltrazuril)

These drugs represent another option to control coccidiosis in various animal species. Toltrazuril affects many different stages in the life cycles of the various types of coccidiosis of birds & mammals. It has produced excellent results for a range of animal species. Toltrazuril "mode of action"

Damages all intracellular development states of Eimeria (coccidia).

Toltrazuril does not affect the tissue cells of the host animal, as was shown in light and electron microscopic studies.

Studies show that Toltrazuril interferes with the division of the nucleus and with the activity of the

mitochondria, which is responsible for the respiratory metabolism of coccidia.

You may order Toltrazuril from [www.horseprerace.com](http://www.horseprerace.com)

I use 9-12 cc's (1x) on nigerian dwarf kids 3 months old, as needed.

Sulfamethoxazole/Trimethoprim has been working, but must also be given twice per day, for at least 10 days, possibly more. This is pretty much the same administration recommendation for Corid and Albon, but with the benefit of actually killing the coccidia.

#### Things to watch for ~ New Goat Owners

If you have purchased a bottle baby, and it loses interest in the bottle, this is **serious**. It means that baby is not feeling well, and you should act **immediately**. You must get that baby feeling well enough to want to eat, because it's near impossible to force feed a goat. Begin with Probios, and give it at least 4 times a day. Do not stop feeding milk to give it electrolytes. Electrolytes are very helpful but they also need food/milk, to get the nourishment that is needed. You can hold a towel by the babies mouth, and put the nipple in it's mouth, and GENTLY squeeze small amounts of milk into the babies mouth. It will be forced to swallow. Do not become overzealous about this, as you can aspirate it by causing milk to go down the wrong pipe, so do this with gentle care.

If you have purchased a goat, young or old, watch the condition of the animal, as you would with any animal in your herd.

If you see that the animal is not thriving, becoming thin, or looking unhealthy, **take action**. You can begin with a fecal test to determine whether this animal is carrying worms or coccidia (Both very common & a never ending concern). Coccidia & worms are in soil & grass, and goats nibble on everything, including dirt, so it is always a possibility.

Pay attention to the little things, before they turn into big things.

That is a tip that will save you money & misery.

And, if you have concerns.... CALL THE BREEDER~!

#### **Johne's Disease ~ Slow, inevitable Death**

No vaccine currently available in the U.S. This disease is a death sentence.

There is no cure.

We Must eradicate Johne's disease. We need to be smart about it.

Ask questions, look at housing & conditions, and ask for a copy of test results.

If you wish to buy from a farm that does not test, offer to pay for testing of the animals you wish to purchase. I have done this many times.

It is an expense, but I love my animals & it is

my responsibility to protect them. All it takes is one infected

animal to take out a majority of your own. You make the mistake, and your animals suffer. If a farm resists testing, there must be a reason, and you should purchase from a different farm.

This disease is caused by mycobacterium avium subspecies paratuberculosis (MAP). Johne's is a "**FATAL**" gastrointestinal disease of goats and other ruminants, including (cattle, sheep, elk, deer & bison).

This disease has a 1-5 year incubation period.

Bacteria damage of the intestinal lining, resulting in malabsorption of nutrients and wasting. The animal will become anemic, weak and develop a poor hair coat. Diarrhea or clumpy stools may be a symptom.

The appetite stays good, so this is not a way to make a determination.

Johne's disease can quickly spread through a herd that has poor waste disposal practices, or unclean pens/housing.

Goats can be carriers of the disease and show no signs of infection until the disease takes its toll. The disease is passed through droppings, which can be consumed by other goats that then become infected.

The infection is most commonly passed in the manure of infected animals.

The MAP organism usually spreads from adults to kids, and occurs when a young animal swallows the organism via water, milk or feed that has been contaminated by manure from infected animals.

Due to lack of testing & reporting, it is unknown how widespread Johne's is in goats in the U.S.

Johne's blood testing does not give a definite result, as this is a disease that affects the intestine. That is where it must be tested~!

There is a very reliable test available through the University of WI, Johne's testing center School of veterinary medicine, in Madison WI

The test is a **direct PCR feces test**, and takes approximately 1 week for results.

This is a very reliable test. It is affordable, if you submit your samples directly to the Johne's testing Center, yourself. You may do what is called a "pooled" sample, which allows you to pool up to 5 animals fecal matter (submit & mark individually for each of the 5 animals), to be tested in one group, for a single \$30 fee.

Please check out <http://johnes.org> for further information, and for a pdf submittal form.

You may also call to discuss with the vet on location by calling (608) 263-6920.

### **CAE ~ Caprine Arthritis Encephalitis**

CAE can be detected by a blood test ~ Be Smart. Don't buy untested animals.

This is a disease that contributes to the early demise or crippling of many goats.

It is caused by a virus that is carried in both milk and colostrum, and is easily

absorbed by a kid. This virus does not cross the placental barrier, which means CAE clean kids are born from infected does. If kids are pulled at birth (never nurse from dam), and are fed "heat treated" colostrum and milk, they can be saved from this crippling disease.

Young animals afflicted with this disease tend to exhibit neurological symptoms. Weakness and lack of coordination which begins in the hind legs and progresses to include the forelegs. Kids do not run a fever and remain bright and alert, though most do not survive the disease. Some kids may show signs of arthritis or pneumonia. Older animals, usually over a year, will develop swollen knees, stifles or hocks with a slowly progressive lameness. They lose body and coat condition. Pneumonia, wasting and udder edema also may occur with this virus.

### **Tiny little bugs on your goats** ~ Sucking Lice

A Huge problem Winter/Spring, for some reason. Hard to see unless you are looking for them. They are tan and tiny, blend with skin color, and live at the base of the hair so they can suck blood from the animal, and lay their eggs at the base of the hair. An animal can be infested, and with a winter coat, you may never even know it, unless you see them itching against fencing, and biting at their backs.

Remember that lice are species specific, and you will not be troubled by the same lice that your goats get. However, remember that when treating lice in humans, you must treat with the medication & then comb out the eggs, strip bedding & wash in hot water and treat all living areas.

### Treatment for Sucking Lice

You can treat with a shot of Ivermectin, or a pour on treatment that kills sucking lice. Dust your animals, so that living lice will be killed immediately, and any that hatch, will meet the same end.

Strip their houses, pens & stalls. Dust their living area with something that will kill lice. Diatomaceous Earth for instance, will work ~ It is a remarkable "all natural" product made from tiny fossilized algae like plants called diatoms. It is a mineral based pesticide. DE is approximately 3% magnesium, 33% silicon, 19% calcium,

5% sodium, 2% iron and many other trace minerals such as titanium, boron, manganese, copper and zirconium. Due to the nature of this substance, breathing of the dust from this product, should be considered "Dangerous", to you & your animals, and should be carefully avoided.

I use cattle dust. When purchasing, make sure that one of the main ingredients is permethrin, which kills fleas & lice. Continue to watch for any lice, and treat again when needed. We will soon be into summer, so you will also have the option of clipping your animals, which will make the task of eradicating the lice much easier.

Did you Know... Goats are ruminants (**with 4 stomach chambers**)

When a Baby goat/kid is born, the only developed stomach chamber is the abomasum (true stomach) Baby goats/Kids initially function as a single-stomached animal.

As soon as a kid starts eating solid foods, its rumen begins to develop.

When the kid chews its cud, all 4 chambers are functioning, and the animal has become a true ruminant

4 Stomach Chambers of a Goat:

**Rumen** ~ Largest chamber, representing about 80% of the stomach (fermentation vat)

**Reticulum** ~ 2nd chamber, looks like a honeycomb & functions as a fluid pump (actually part of the rumen, separated by a partial wall)

**Omasum** ~ Also called many ply as it consists of folds of tissue for better absorption (like leaves of a cabbage)

**Abomasum** ~ 2nd largest chamber & true stomach, where actual digestion occurs.

Ruminants require the proper proportion of **roughage (Hay)** to grain in order to maintain good rumen action.

Adult goats that lack adequate fiber in their diets, lose rumen capacity, and their digestive systems begin to function more like those of a single-stomached animal.

Too much grain in relation to roughage works against rumen muscle tone.

When too much fiber is fed without necessary amounts of energy to aid digestion, rumen **impaction may result**. Balance is best, even when you are feeding additional grain during milk production, make sure to feed a good quality hay for roughage, to keep the rumen in proper working order.

When a ruminant eats, food mixes with saliva and is sent down to the 1st & largest compartment of the stomach (rumen) To help fiber break down, soft masses of "cud" are sent back by the rumen to the mouth for re-chewing.

In both the rumen & the 2nd chamber (reticulum), fatty acids and vitamins produced during fermentation are absorbed into the goat's bloodstream.

In the 3rd & 4th chambers (omasum & abomasum), food is further liquefied and broken down so that more of its nutrients can be absorbed.

### **Housing:**

Provide draft free housing for your goat with bedding that is clean and dry.

I prefer shavings over straw, as it is absorbent, and easier to clean up.

Make sure that any enclosed space is kept clean and free of strong urine odor.

Fresh air is necessary even in the cold of winter. During those long, cold winter months you can also provide a heat lamp or a goat coat on the nights that are below freezing, but I believe they stay plenty warm with their thick winter coats, and a draft free, dry house & a friend or two to snuggle up to for warmth.

### **Fencing:**

I've found, through years of trial and error, that cattle panels are the best fencing to use for goats.

Easy to install using steel fence posts. Sturdy and strong enough to withstand your goats abuse. You can buy gates made from the same material as well, or use a chain link gate or devise one of your own.

You might want to get the combination bottom style if you are housing young goats that can escape through the bottom panels.

You can easily attach screen or wire to the bottom temporarily for those small escape artists. Once they are about 6 months old even most miniatures are too big to fit through the regular cattle panels.

### **Feeders:**

I've found that it is difficult to keep goats from wasting hay.

Any feeder you have chosen, hay bag, hay rack, milk crate, Expensive feeder or whatever you might use, goats will eat what they pull out of the feeder in their mouth,

and let the rest fall to the ground where it is Now Bedding or garbage for us to clean up. feeders should be at eye level or lower, as chafe falling into the goats eyes can cause eye irritations & pink eye.

### **Supplements:**

Loose Minerals should be available to your goats at all times.

Provide a feeder in a dry location. Baking soda can be added to loose minerals, it helps expel gases from the rumen. My goats eat their minerals like candy.

There is a special buck mineral available. However, I choose to feed all in my herd the same mineral, but I add "Ammonium Chloride" to my buck minerals as it is a preventative for urinary calculi.

### **Constipated Goats???**

When I hear constipated, I initially think it's a buck/wether, and it's most likely not constipated, but trying to urinate, and cannot, due to a urinary tract that is blocked by a stone. However, if you have a doe that is constipated, look to the feed & water intake. Are they eating????

Have there been changes to the diet, or changes in condition, due to giving birth or moving to a new home? Feed is most likely the cause. Chemical changes in the body, due to giving birth, can also impact the bodies reaction to a change in diet.

If you have a goat that is constipated, or you



notice that the stools are no longer little rabbit pellets, but rather logs or clumpy stools, try cutting back on the grain, and make sure minerals are available, as well as salt, to increase the animals water intake. Then you can gradually increase the grain intake again, so that she is getting enough protein to produce milk for babies, and still keep enough weight on, so that her condition stays nice.

A doe that is too thin and run down is susceptible to illness.

When you attend a Dairy goat show, where all the does are being fed large quantities of grain, to keep milk capacity up, you always see clumpy stools, or logs around the show ring area & in pens. This is a symptom of the additional grain intake, or a change in the diet, such as going out to pasture, eating fresh grass, or a change from grassy hay to alfalfa.

### **Listeriosis:**

This is a brain stem disease caused by the bacteria *Listeria monocytogenes*, which is found in soil, water, plant litter, silage, and even in the goat's digestive tract. There are two forms of Listeriosis. One results in abortions, while the other causes encephalitis.

### **Symptoms of Listeriosis:**

Can include depression, decreased appetite, fever, heat tilting to one side, leaning, stumbling or moving in one direction only, head may be pulled to flank with rigid neck, facial paralysis on one side, slack jaw, drooling, and abortions.

### **Immediate treatment is critical.**

There is no time to waste with Listeriosis. Recovery is more difficult and time-consuming than Goat Polio. A goat can go blind and completely recover its eyesight and overall health if proper treatment is provided; such treatment can take days or even weeks, depending upon the severity of the illness and how quickly treated.

### **Treatment:**

Higher-than-normal dosage of procaine penicillin is needed to cross the blood brain barrier to put sufficient amounts of the antibiotic into the tissue of the goat's central nervous system (3cc's per 50 lbs), every 6 hours.

It is Very Important to Continue all treatment until 24 hours *\*after\** the last symptom has disappeared to avoid a relapse. Give the procaine penicillin SQ over the ribs with an 18 gauge needle so the goat doesn't become a pin cushion of holes from repeated injections during this intensive treatment. It is very important to use (Thiamine) along with the penicillin treatment.

**Thiamine is an appropriate addition to treatment of any sick goat due to the fact that any change in the rumen's environment that suppresses normal bacterial activity can interfere with thiamine production, and it**

**must be replaced.**

See below (Goat Polio) section, for dosage.

**If you are seeing symptoms that look like Listeriosis or Polio, such as head tilting & circling behavior.**

**Don't rule out the possibility of Meningeal worm ~ Brain worm/Deer worm (See section further down page).**

**Goat Polio:**

See symptoms of Listeriosis (above), as they are basically the same.

Thiamine is the **only** effective therapy, and treatment can result in improvement within a few hours if the disease is caught early enough.

Thiamine (Vitamin B1 100ml) is inexpensive at \$30 per bottle, and can treat many goats. It is a Must have, for any goat owner.

You can purchase thiamine without a prescription at [www.horseprerace.com](http://www.horseprerace.com).

Dosage is based on the goat's weight (4-1/2 cc per 100 pounds live weight for 100 mg/ml thiamine) and must be given every six hours on a 24-hour cycle until all symptoms have disappeared completely to avoid relapse.

Thiamine, like all B vitamins, is water soluble, so the goat eliminates daily what it doesn't utilize in the rumen. A sick goat's rumen doesn't produce B vitamins, hence the importance of adding them to the goat each day until it gets well.

Initially thiamine should be given IM (into the muscle) but can be given SQ (subcutaneously) or even orally after several days of treatment.

Some thiamine comes in 500 mg/ml strength, making the required dosage 1 cc per 100 pounds bodyweight. If thiamine is unavailable but the producer has injectable multiple B vitamins, check the label for how much thiamine (Vitamin B1) is present.

Injectable multiple B vitamins containing only 25mg/ml of thiamine require four times the 100mg/ml dosage (18-1/2 cc) per 100 pounds bodyweight, so the producer can quickly see the importance of obtaining the proper strength of injectable B vitamins.

The key to overcoming Goat Polio is early diagnosis and treatment.

Complete recovery is possible under such circumstances.

Since symptoms of Goat Polio can easily look like Listeriosis, we recommend that procaine penicillin also be used.

Better to cover both possible illnesses with appropriate treatments when symptoms are so similar than risk the goat's dying.

**Star Gazing** ~ Similar to Goat Polio, in that it is due to a severe deficiency of Vitamin B "Thiamine".

The reason can be due to hay/alfalfa, grain or pasture, that is much too rich for the goats system. Goats can quickly regress from star gazing, being listless, and going down, to ending up dead.

Thiamine can turn this animal around very quickly. I always keep it on hand.

You may purchase Thiamine without a prescription @ [www.horseprerace.com](http://www.horseprerace.com)  
A 100ml bottle is \$30, and a must have for your goat care supplies.

### Meningeal worm ~ Brain worm/Deer worm

The meningeal worm is an internal parasite (*Paralaphostrongylus tenuis*), usually completing its life cycle within deer. However, goats are at risk to this parasite, due to the fact that they prefer to eat much as deer, foraging on the same type of things, such as leaves from the ground. The life cycle of the meningeal worm requires slugs as its main host. As you can imagine, slugs are very easily ingested while goats are feeding on leaves from the damp ground.

We've all seen tiny slugs on the underside of damp leaves found on the ground, and there you go.

A goat that ingests an infected slug, is at serious risk of this larvae migrating into the brain or spinal cord. This larvae wanders through the central nervous system, causing inflammation, damaging nerve tissue, causing many neurological symptoms. The symptoms depend upon how many larvae are present, and the portion of the brain or spinal cord affected. Slight symptoms may include weakness, limping or lack of coordination, while more serious symptoms may mimic brain diseases such as polio or listeriosis. As with listeriosis or polio, severe symptoms may include blindness, head tilt, circling and lack of appetite or inability to eat due to symptoms.

Diagnosis of the meningeal worm would require finding the parasite in the nervous system.

This would require testing of the cerebral fluid. Since goats are not a "natural host", fecal testing will not show eggs or larvae of this parasite.

Diagnosis, therefore, is based on symptoms & medical history of the animal.

Since goats are not a "natural host", they will not shed larvae or eggs of this parasite.

Therefore, you may see 1 individual in your herd affected, and no others.

Treatment usually involves high, repetitive doses of (levamisole, ivermectin, albendazole, fenbendazole, thiabendazole). This, along with steroids & other therapies, have been used. Treatment is uncertain. It may be possible to kill the larvae before it enters the central nervous system, or to cross the brain blood barrier, but no treatment is certain. One thing is certain.

Once nerve tissue is damaged, it cannot be repaired.

Prevention is your best avenue in regard to meningeal worm. This would involve keeping your goats out of areas in which they might ingest slugs from leaves that are damp. High & dry, well drained ground would be best.

Dark & damp, wooded areas are high risk, as they are highly travelled by white tailed deer, which are the "natural host" of this parasite. One deer can easily shed

hundreds of thousands of eggs in their fecal matter. The larvae is highly resistant to environmental forces, such as extremes in temperature.

Excellent Info on Meningeal Worm @

<http://www.tennesseeatgoats.com/articles2/meningealworm.html>

There is a system designed to control the parasite [Haemonchus Contortus](#) in sheep & goats. This parasite is one of the most problematic among small ruminants. The parasite sucks large amounts of blood from the true stomach of the animal, and the result is a severely anemic animal. [Famacha](#), involves checking the under eyelid of the animal for color.

You want to see a healthy pink/red coloring to the eyelid and eye tissue. If you see pale or white, you are looking at an animal that is definitely carrying a load of these worms, and you would want to treat that animal.

Beware of wormers that are not safe for pregnant animals. If they are labeled as such, follow instruction. Do not worm a pregnant animal with such a product, as you seriously risk losing the kids.

I believe it is important to worm a pregnant doe about 1 month before delivery, with a wormer labeled safe for pregnant animals. It is a time when she is more susceptible to any risk of worms and the possibility of transmitting them to the kids. You should always worm a doe within days after kidding as well.

Some worms are just waiting to infect those newborn kids, and you must protect them!

### **Poison Ivy**

Treatment for Poison Ivy ~ A product called Rhus Tox, which is sold in health food stores for arthritis. It comes in little tablets & 5 tablets of the 30c Rhus Tox dissolved under the tongue several times a day will clear a poison ivy rash faster than steroids & makes you immune to poison ivy allergies as well.

### **Iodine Deficiency:**

Very common in grazing stock and goats are particularly susceptible. Iodine is related to the functioning of the thyroid gland. Thyroid hormones are required for the normal development of the fetus. Thyroxin does not pass from mother to fetus. The fetus has to make its own. The iodine status of the doe during gestation is therefore very important. (Iodine does pass from doe to fetus across the placenta.) It is evident that thyroid hormones are very much involved in the normal growth and development of the fetus and thyroid gland deficiencies can result in a higher proportion of weak or still born kids being born than would otherwise be the case. Prevention Supplementing with iodine can be accomplished

by feeding out as a supplement in troughs. Drenching should take place 4 weeks before mating, 6 to 8 weeks before kidding and 2 weeks before kidding.

**Copper deficiency:**

Can be the result of low levels of the mineral in the soil and in grass/hay/grains raised on the soil. This is primary copper deficiency. However, both the feed and the soil can have adequate copper but its absorption can be interfered with by minerals known as copper antagonists: lead, iron, manganese, various sulfates, cadmium, and molybdenum. This is secondary copper deficiency. Congenital copper deficiency is the term used to describe the kid who did not receive sufficient copper in utero. Copper is essential in the proper development of the central nervous system, correct bone growth, and hair pigmentation. Copper-deficient goats have difficulty conceiving kids and, if bred, abortions are not uncommon. Kids who appear to be fine at birth but develop symptoms at around three months of age are said to have the delayed form of copper deficiency. Secondary copper deficiency tends to be more responsive to treatment than primary copper deficiency. Insufficient weight gain, poor appetite, and weight loss are seen in copper-deficient goats of growing age. Adults display more subtle signs of copper deficiency. They are generally unthrifty, anemic poor milk producers, and sometimes have diarrhea. The most visible sign of copper deficiency in adults is loss of hair, and/or hair color. Copper is essential for melanin production that causes hair pigmentation. Hair discoloration occurs when copper-containing enzyme is missing. On a black goat, you might see brown coloration behind the rear legs & thin tail hairs, to the point that you can see the tail stub through the hair.

Other symptoms which may indicate copper deficiency are difficulty in conceiving kids, delayed shedding of hair coat, extreme hair loss, lowered libido in males, slight hoof deformities, bent legs in yearlings, and other immune-deficiency problems such as frequent bouts with pneumonia, mange or fungus-type lesions, and lice infestation. Copper deficiency may play a role in Floppy Kid Syndrome if the dams were copper deficient, leaving the kids with only enough stored copper for a week to ten days after being born.

Copper can be given to pregnant does about 1 month prior to kidding, and that way the kids get some. Severely copper-deficient goats are sometimes given copper boluses, however I've found that copper granules mixed into peanut butter is a much easier way to get it into your goats. I then swipe a finger through the mixture & put it on the goats tongue or the roof of its mouth. It is possible to induce copper toxicity in goats, so DO NOT leave your peanut container unattended, as most goats love the peanut butter, and want to eat

more of the mixture than they should get. Copper accumulates in the liver. Red/brown urine may be a sign of copper poisoning.

Do NOT use products labeled "for sheep & goats" because they are insufficient in the amount of copper needed by goats.

### **Enterotoxemia:**

Also called "Overeating disease". This occurs when specific bacteria (*Clostridium perfringens*, type C or D), infects the rumen when an animal is suffering from indigestion. This bacteria quickly multiplies, taking advantage of the acidic environment to produce its own toxins, poisoning the animal. When the balance of bacteria in the stomach is thrown off (by eating too much pasture or grain...etc.), *C. perfringens* become prolific and produce toxins. Animals suffering from this disease may exhibit twitching, a swollen stomach, teeth grinding and fever.

There is no effective cure. It is usually fatal and does not respond well to any treatment.

This can be prevented by annual vaccination of c/d tetanus, and by avoiding abrupt changes in your goats diet. Animals on pasture or those at risk of getting into the grain shed and devouring the rations should be vaccinated.

Young nursing kids are at risk, especially if their dam is producing lots of milk.

Goats kept on dry lots with absolutely no chance of getting excess grain may not need this vaccine.

### **Many disorders of goats are now associated with selenium deficiency (BO-SE)**

These include white muscle disease, which can exhibit symptoms such as "Floppy kid", or a stiff kid. Other signs are retained placentas, infertility, slowed growth and other related problems. Young animals exhibit the most symptoms, while older animals may have equal problems that are not as clinically apparent.

Selenium deficiency affects the muscular system, although other systems may be affected as well, including the liver, gastrointestinal system and reproductive system.

Animals affected from birth to 3 months of age may show difficulty in rising and unsteadiness standing or walking.

Animals with affected heart muscle may exhibit pneumonia like symptoms that will not respond to treatment. If you have a goat that has a continual cough, without other cold symptoms, you may be dealing with a deficiency.

Older animals may have weak pasterns as their only physical sign of deficiency.

Some animals don't grow properly, and this is usually evident by 4 months of age.

The lack of proper growth is often accompanied by a liver disorder.

Pregnant does are more readily affected by a selenium deficiency since they must supply selenium for both themselves and their kids. Some does will fail to "take", when bred, others will absorb the embryo if there is a lack of selenium. Selenium deficient does can have difficulty during delivery due to lack of uterine tone, which is needed to expel kids. To prevent this deficiency, use an injectable selenium (Bo-Se), as per the need of your animals.

### **Caseous Lymphadenitis (CL):**

At one point, CL was the most common Caprine disease in the U.S. It is caused by (*Corynebacterium pseudotuberculosis*). This organism has a thick outer wall and survives well even in harsh environments.

It can enter the body through lightly abraded skin. It is carried to the local lymph node and the node becomes abscessed. 75% of the abscesses occur in the head and neck area.

External abscesses are not uncomfortable to the goat and rarely cause clinical signs, though they are unsightly and may rupture. The pus emitted from a ruptured abscess will spread the disease to other goats. It is best to surgically remove the smaller abscesses before they rupture. If surgery is not an option, isolate the goat before the abscess ruptures. You may lance the abscess, but don't do so without first determining that it is definitely an abscess.

To do this, you gently insert a needle into the possible abscess and draw back on the syringe plunger. If it is an abscess, the pus will fill the syringe. Some lumps on the body are caused by hernias and should not be cut open. Some lumps are caused by c/d tetanus vaccinations, which leave a lump, and should not be treated as CL.

If you do determine that a lump is CL, and you proceed to lance it, you will need to flush the wound with iodine and peroxide twice daily, so that the wound heals from the inside out. Do not allow the outside of the wound or incision to heal too quickly, or the whole process will repeat. Keep the wound covered with antibiotic ointment and bandage to heal thoroughly. Do not return the goat to the herd until the wound is healed.

**CL is far easier to prevent than to treat, and retention of an animal with this ailment is a decision not to be made lightly.**

### **Bloat:**

You should always have Bloat Release or Therabloat on hand as well as Probios, which replaces good bacteria needed to help the rumen function properly.

These items are very reasonably priced, and if you have need of the product, it can easily save your goat's life and save you a hefty vet bill.

If an animal tends toward bloat, feed the most course hay you can find as the

softer grassy hay seems to aggravate this condition almost as much as grazing on fresh grass.

Vegetable oil can be used as a treatment if bloat occurs although the Therabloat or bloat release is the better remedy. What I found is that tubing to release air is very tricky and doesn't always work, as the object is to get the tube far enough into the stomach to release the air. What worked for me was to use a 16 gauge needle through the outer wall into the rumen. You can see where the rumen is located, as it is usually always the most distended area when the animal is bloated, high up on the left side of the stomach. Shave a small area of hair, use alcohol to clean the skin very well, so that you don't carry anything through with the needle. Poke the needle all the way through, and you should be able to hear the air releasing, as if from a balloon. Massage the stomach to help the air free itself, and when the animal has been relieved, and you can see that the stomach is once again flat, remove the needle. I have always given (1 cc) of penicillin in the muscle for 3 consecutive days after this procedure to fight off any bacteria that might have been introduced. You do not want your animal to get peritonitis.

There are no surefire answers, and I am certainly not a vet, only experienced through necessity in dealing with this problem. I have only had one animal that has ever suffered from this condition, and it continued to worsen until we had to euthanize the animal.

### **Pink Eye:**

A contagious eye ailment. It is spread by flies, so is more evident in summer. Hay chafe that falls into the eye, can cause eye infection that leads to pink eye as well, so feeders should be at eye level, rather than above the animal.

### **Signs of Pink Eye:**

The eye will look cloudy. You will notice that the animal holds it's eye squinted shut, and it seems that the eye is causing them pain, which it is.

You must treat this problem immediately & aggressively to avoid it spreading to your other animals, and to avoid more serious eye problems, such as blindness.

### **Treatment**

1 shot of penicillin per day - for 3 days.

I put penicillin directly into the affected eye, twice per day.

Draw fluid out of bottle with needle, **then remove the needle**, and put a drop or two into the affected eye. You must continue drops of penicillin directly into the eye until all cloudiness is gone, and the animal shows no tenderness & is not sensitive to light in the eye. This treatment, when completed diligently, will stop pink eye dead in it's tracks before any other animals are affected, and before the animals suffers over much.



### **Urinary Calculi or Urethral Obstruction:**

Male goats, especially wethers, are at risk of urethral obstruction from small bladder stones.

The Male goats penis is long and has an "S" shaped curve (sigmoid flexure).

The urethra, through which the urine passes, is small in all males and may be smaller in wethers because of stunted development, which causes bladder stones to lodge and obstruct the urethra.

The goat will strain to urinate, exhibiting discomfort when lying down, and occasionally cry out in pain. Dampness and occasional crystals may be found around the opening of the penis. As the ailment progresses, the urethral tissue swells around the stone and no urine can pass.

The bladder fills to over normal capacity, and if the obstruction is not relieved, either the bladder or urethra will rupture to relieve the pressure.

This is painful and often fatal.

**It is easy to mistake a straining goat as constipated, causing many goats to mistakenly be treated with laxatives.**

Caused by an improper ratio of calcium to phosphorus in the diet.

Corn contains high amounts of phosphorus, thus is not good for bucks.

Sweetened Grain is a contributor to this factor in males, and should be avoided as well.

**Ammonium chloride** added to free choice trace minerals is a good preventative and definitely worth your time & expense.

The additional salt/minerals consumed will result in the buck drinking more water, therefore flushing out his system.

Always have plenty of fresh, clean water available.

Especially in the warmer summer months, make sure to refill water buckets every day, as stale warm water is not as quickly consumed as fresh, cold water.

Anti-inflammatory drugs and smooth muscle relaxants may enable the goat to pass the stones. Treatment of the blocked goat requires removal of the obstruction.

**If the stone is in the urethral process, an extension of the urethra, located at the tip of the penis, it is simply amputated with**

**scissors** ~ I recently had a fellow goat enthusiast call about her little male, that had granulated looking crystals at the end of her little bucks penis.

He was acting oddly, and backing up in an odd manner.

She took him to her vet, and it was determined

that he had exactly this type of obstruction, right at the tip of the the penis.

She said that they managed to get the little guy to extend, and the

vet was able to snip off the blocked tip. The little guy was then able to empty is over distended bladder, finally.

It bled a bit, but not overly much, and stopped on it's own. He was saved.

If stones are caught at the sigmoid flexure, they must be removed surgically. If the obstruction cannot be relieved, surgery can be performed to create a new urethral opening under the goats tail and bypass most of the penis. This procedure "perineal urethrostomy", will eliminate the breeding capabilities of the buck. If there are stones remaining in the bladder, the vet can perform a cystotomy to remove the stones at the time of surgery.

### **Ketosis ~ Pregnancy Toxemia**

Not contagious. This is pregnancy toxemia attributed to low blood sugar. Most often seen in late pregnancy, and first weeks of lactation. Usually brought on by a combination of an increase in grain, and the inability for the animal to eat enough roughage, due to the large area that multiple kids take up in the stomach area. Doe will be lethargic and go off feed. Cut back all grain intake until you have this issue resolved. Do not be afraid to give high doses of of **propylene glycol** (6-12 cc's), 2-3 times per day. Feed only roughage until the animal is eating well, then you may reintroduce grain. Propylene glycol cannot hurt them, and it will turn them around quickly, which is what is needed. Always keep propylene glycol on hand for kidding season.

### **Home remedy for Ketosis:**

White or brown sugar, corn syrup, molasses or honey can be used in a pinch.

### **c/d Tetanus ~ Where to vaccinate**

The c/d tetanus shot should be given sub Q (under the skin), leaves a bump that lasts quite a while. Because of this, many people have started giving this shot I.M. (in the muscle). This is not the correct way to give this shot. Giving in the muscle distributes the medication too quickly and doesn't give the proper protection for this vaccination. You must give the c/d tetanus shot sub Q for it to be an effective vaccination. I give under the skin along the ribs, where the lump is out in the open, away from lymph nodes. That way it is easily explained, as all my goats receive this shot in the same location, and I can easily see if the lump becomes infected, so that it can be treated accordingly.

### **Bo-Se:**

BO-SE is selenium with vitamin E. This shot is to be given I.M. I give my Muscle shots in the muscle along the rib cage, as the risk of hitting a large vein is lower than when given in the rear leg.

### **Calcium Requirements:**

Pregnant does and does in milk require plenty of calcium so that they do not begin leaching calcium from their own bones to replace what they are producing in milk for the kids needs. You may want to provide a calcium drench, but be careful to use the proper dosage.

### **Doe in Milk:**

Keep a close watch on your does condition, and if it begins to deteriorate, take action ASAP.

You might want to increase grain ration (slowly), or feed a better quality hay/alfalfa.

Protein requirements are high during production of milk, especially for the feeding of multiple kids. Feed your doe appropriately, based on her needs, determined by her condition. Also, look to worm or coccidia load.

Treat accordingly, as this is the natural cycle of worms/cocci.

Kids systems are very susceptible to these natural killers.

If the doe they are nursing from, has a heavy worm load or coccidia, you should know that the kids will be infected with the same.

### **Penicillin:**

Must be refrigerated. Penicillin should be given (I.M.) in the muscle.

I give this shot in the muscle along the rib cage. When given, you must draw back on the syringe to be sure you do not see blood before giving this shot.

If you draw blood into the syringe, it means you have hit a vein. In this situation, withdraw the needle and

try a different spot. If you give this shot directly into a vein, you will KILL the animal.

Also, always have epinephrine (1/2 to 1 cc - to be given I.M.)

on hand when giving this shot, as it is higher risk for anaphylactic shock reaction.

### **Epinephrine:**

Must be refrigerated. If ever you need it, you will need it immediately.

You will not have time to run to the refrigerator to get it.

(1/2 to 1 cc - to be given I.M.)

This shot is given to save an animal having a negative reaction to any vaccine.

### **Feeding:**

Goats need roughage to keep their rumen working properly. Hay should be the main diet.

Grain provides a lot of protein in a small amount of feed and because of this, should be fed with great care. Feeding grain to a wether, for instance, can lead to urinary tract blockage.

### **During Gestation (5 months):**

Grain is a necessary supplement to the pregnant does diet, as is Alfalfa which provides much needed Calcium. I usually start graining about 1 month prior to expected kidding date, so that they don't become too fat,

but it will help them right at the time they will need to begin producing milk for their kids. As a doe becomes larger in the last month of gestation, the stomach is restricted and she cannot eat as much, so you must make sure that what she is eating is high enough in protein to fill the requirements for her and her unborn kids.

If not, you risk Hypocalcemia and ketosis. A pregnant doe should get plenty of exercise and fresh air, and stay in premium condition for kidding.

### **Long range consequences of nutritional imbalance:**

You effect the condition of the fetus as well as the kid (after birth), if you have not fed the doe appropriately during gestation.

The long range effects last beyond birth, and can cause a kid that was malnourished during gestation to have problems that could have been avoided.

I learned this lesson the hard way, purchasing a doe that was pregnant.

The doe was extremely undernourished when she came, 2 weeks prior to kidding.

She was not able to provide milk for her kids and one of her kids died before birth. Another kid that I received from the same breeder as a 9 week old, was never right, and her legs began to bow at 20 days of ownership.

I had started supplements and the best feed upon her arrival, as she was so thin and tiny, but it did little to no good, as the damage had already been done.

This doe went on to have multiple problems, which eventually led to her being euthanized at 9 months of age.

### **Water:**

Clean, fresh water must be available always, as goats will go off feed without it, and will choose not to drink out of a dirty water bucket.

Use an electric bucket in the winter as goats will drink water that is a little warmer in the winter, and they cannot break through even the thinnest of an ice coating and will go without if it freezes over.

### **Basic care:**

Keep hooves trimmed as overgrown hooves can cause leg and feet problems.

Trimming should be done approximately every 4-6 weeks, but younger kids hooves tend to grow a bit quicker, so keep an eye on them. When it's muddy & wet outside the last thing you probably want to do is pick up their feet, but it is the best time to trim hooves, as the mud really softens them up, and they should not be left in mud with over long hooves, because this is the perfect condition for foot problems to develop due to mud & bacteria being trapped inside.

Those young goats can sometimes put up quite a fight when you are trying to trim those back feet, and you or your goat can get jabbed with those sharp tipped nippers.

I have developed a very easy way to stop the kicking & fighting of those young ones.

If you have them on your milk stand, simply sit under them so that their back legs can stand between your legs. This way you can trap the foot you're not trimming,

while you trim the other. It helps to support them while you have one foot up, and it gives your back a much needed break from leaning over. You will find that they do not kick and struggle as much using this method.

It's a little messier, but if you're wearing your barn grubs, as you should be, it really doesn't matter. Wearing light, soft leather gloves while trimming hooves is also a very good idea. It will save your hands from blisters & maybe a snip from the nippers too.

Happy trimming!

### **Worm control:**

In an effort to avoid immunity to wormers it is very important that you worm when necessary. You can quickly find out if your goats carry any worm load by having a fecal done, or by purchasing your own supplies to check for worms.

The vet or yourself can collect fecal matter from the goat and you or your vet can do a worm count. You will also want to check for coccidiosis.

Worms & coccidiosis are invisible killers and can take a goat down quickly.

Many people check the gums of the animal for paleness, which indicates worminess in goats, but to be sure of what type of worm you need to treat for, a fecal is your best indicator.

There are wormers on the market to treat for different types of worms.

You can find this information in any of a number of different catalogs that sell these products.

### **Dehorning or Disbudding:**

This is a procedure that many people abhor and cannot bring themselves to perform.

The option is to take your animal to the vet or find someone locally that can perform this procedure for you. I do my own disbudding, as it can get costly being that it may have to be done more than once, especially on young bucks, and sometimes for persistent growth in does as well.

Keep in mind that you may need to touch up horns if you see growth, but it is well worth the effort, as animals with horns cannot be taken into a show ring. You can read about dehorning in the [Hoegger or Caprine](#) goat supply catalogs, and they give a pretty good description of the task.

I use the Rhinehart X30 electric dehorner.

### **Tattooing:**

This is another, not very pleasant task, that many would rather not have to perform.

Some have opted to microchip instead. The problem with that can be a floating chip that can't be located, and having no identification for that animal.

It's still a good idea to tattoo for backup identification.

But I have found that even the tattoo's can fade away and cannot be read.

At this point in time ADGA does not accept micro chipping as the only means of identification. Tattooing can be tricky.

You will probably want to have the guidance of someone that has done it before.

You must be very careful to place the tattoo correctly, in the correct ear and such. You will want to have a piece of paper to test the tattoo letters on before you actually tattoo the animal's ear. Make sure that you can read an ear tattoo before taking an animal into the show ring, as the judge must be able to identify that animal by the tattoo in case of a win.

In my experience tattoos don't stay for long, especially in dark ears, and many times must be done again.

If you have to re-tattoo, be sure to have the papers adjusted to show that the animal was re-tattooed, just in case any ghost impression of the previous tattoo is visible. I've found that green ink works the best, especially in the dark ears.

You can read about the procedure for tattooing in the above mentioned catalogs.

You would do well to order each of these catalogs.

Hoegger (800) 221-4628 / Caprine (800) 646-7736.

### **Ringworm:**

Fungus - Very contagious. Hair loss and scaling. Transmitted through direct contact, even to humans. Treat with antifungal creme applied directly to area.

May need treatment a few times a day until gone. You can use antifungal foot creme purchased from Wal-Mart, as well as the higher priced products for treating fungus. This fungus can be transferred to your animal through soil or wood that emits a spore.

### **Soremouth:**

Virus - Very contagious. Scabs or open sores on lips, face, ears and sometimes udders.

Contagious to humans, so use care during treatment. Treat with ointments or cremes to help soothe pain. You can choose to isolate effected animals and let it run it's course, generally 2-4 weeks. As sore mouth heals & sores dry up, scabs fall off. These scabs are very infectious. It is very important to completely disinfect pen area.

You must be sure to clean up ground, bedding and feeding areas, as well as fence panels that may have become contaminated.

### **Tube feeding a weak/failing kid:**

If you are at risk of losing a kid that is down, cold, and will not suckle, you must take action quickly. Get it warm. Fill a sink with warm water & submerge all but the head (Only in a warm house).

Blow dry completely, and hold in a warm blanket until the body temp comes up.

Then you can attempt feeding. Try bottle feeding first, and then if the kid won't take a bottle, you can try feeding slowly with a syringe, orally.

It is Very important that a kid receives colostrum as it's first meal as it provides antibodies that the animal needs, and it activates the proper balance of naturally occurring microorganisms in the stomach.

If you need it, you can use a save-a-kid syringe. They run about \$5.00 for the tube and syringe. Feed through the tube slowly until you've gotten 25-40 cc's of warm colostrum into the stomach.

**Tube feeding:** Assemble your supplies.

Measure your tube from nose to the chest floor & mark with black marker.

This is the maximum depth you need to insert the tube.

Hold the kid securely & dip the end of the tube in water to soften it.

Insert the tube from the center of the kid's

mouth, over the tongue and down the throat until you reach the mark.

They should still be able to cry with the tube inserted.

Very important to get the tube in the

right spot. If you pour fluids into the kid's lungs, it will die.

Test to make sure the tube is in the stomach & not the lungs - listen

at the end of the tube to see if you hear breath sounds

(you should not), or stick the other end of the tube in water to make

sure it doesn't blow bubbles, which would indicate that you are in the lungs.

Time is an important factor. You must get colostrum into the kid's within 24

hours or you don't stand a very good chance of saving the kid.

After you are sure that the tube is in the right place, attach the syringe

to the end of the tube.

The liquid should flow freely down the tube. If not, withdraw the tube

about 2" and push it back in. It may be up against the wall of the stomach or kinked.

If the liquid flows freely down the tube, slowly add 2-3 ounces of fluid into the syringe.

Let gravity push the liquid down the tube, hold the syringe up above

the kid's head. Much easier done with two people.

After all the feed has flowed through the tube, add about 10 cc's of water

to rinse the tube before removal, as milk or medication that aspirates as

the tube is removed, can cause pneumonia, but a little water should be absorbed.

Be sure to cover the end of the tube as you are removing it.

This keeps the fluid from leaking as it is being pulled out.

Be sure to rinse all your supplies very well with hot water & Betadine.

**Colostrum Trick :**

Freeze your colostrum in ice cube trays & put into a plastic freezer bag.

This way you can thaw a cube at a time for a kid that should need it,

and keep from wasting a very valuable resource.

**Pasteurization Temperatures**

For CAE Prevention : 145°F (63°C) for 30 minutes for batch pasteurization

For Johne's Prevention : 162°F (72°C) for 15 seconds for flash pasteurization

Always remember that it's better to be safe than sorry.

Call for HELP if you cannot handle a health matter with your animal.

Waiting too long can mean the difference between life and death.