

UK COOPERATIVE EXTENSION SERVICE
University of Kentucky – College of Agriculture

LEXINGTON, KY 40546

Merry Christmas and Happy Holidays

KSU COOPERATIVE EXTENSION PROGRAMS
Kentucky State University

Goat Producer's Newsletter

Terry Hutchens, MS, Animal and Food Sciences, UK
Robert Harmon, PhD, Animal and Food Sciences, UK
Kenneth Andries, PhD, Animal Science Specialist, KSU

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Getting Ready for the Kidding Season: Herd Health and Kidding Kit

We are in the early part of winter, and many goat producers are already anticipating kidding in January and February. As always, it is best to plan ahead and prepare a basic herd health program for the doe herd and put together a "kidding kit" for the anticipated kidding season. The kidding kit will assure that everything will be in its place when need arises.

First, and well before kidding, check the doe's body condition. Ideally, the body score should be around 2.5 to 3.0 (on a 1-5 scale) at the end of the 3rd trimester, 30 to 35 days pre-kidding. Body condition scores should not exceed a 3.5-4.0 at time of kidding. This extra fat cover will provide a reserve energy source during kidding and the onset of lactation. If the doe is thin at late gestation, supplement the hay ration with a 14% concentrate fed at 1.5-2% of the doe's body weight.

Does having a body score of 4 and above are subject to birthing problems and metabolic disorders prior to and during kidding. It is best to maintain the current body condition during mid and late trimester. Does with a body score of 4 to 5 should not gain additional weight. Does in high condition must be monitored for problems in the latter stages of gestation and during birth. Propylene glycol is an essential component of a "kidding kit" and is used in reducing ketosis in over-conditioned does.

The Clostridial vaccine CD and T should be given to each doe 14 to 21 days prior to kidding, which will allow temporary passage of immunity to the new kid crop from the doe's natural immunity for overeating disease and tetanus. Kids should be vaccinated at 30 days and 60 days of age for these diseases.

Kidding Kit

Disinfectant soaps are always needed in a kidding kit for scrubbing the doe's skin or vulva and hands of those assisting the doe. In addition, Nolvasan solutions can be used to disinfect scissors and other equipment. Obstetrical sleeves, sterile lubricant, and examination gloves are also needed when assisting the doe during birth. Paper towels for washing off the doe and for cleaning hands are needed as well. Cloth shop towels are ideal for cleaning afterbirth from newborn kids.

Each kit should also contain syringes, needles, wound dressings, and an ear tagger and tags for kid identification—it's imperative for good herd management to identify each kid and corresponding dam. The kit should also contain clean newspapers for lining kidding areas to provide insulation for the newborn kids at ground contact and create a sanitary mat.

Have on hand the following:

A clean 20-oz soda bottle with a nipple for feeding colostrums,

- ◆ A French-type feeding tube and syringe for tubing weak kids.
- ◆ Heat lamps or heating pads for warming chilled kids
- ◆ A good source of frozen colostrums and milk replacer
- ◆ Hand injectables such as vitamin A, D, E, vitamin B complex, and BoSe (BoSe is a vitamin E and selenium source that should be given to each kid at birth.)

-Terry K. Hutchens, UK Extension Specialist

Understanding Why We Have High Feed Prices for the Fall and Winter of 2010-2011

Corn and soybean prices experienced an unprecedented price rally from early July to the first week in November of 2010. The December 2010 corn futures rallied a little over 50%, while 2011 January soybean and futures rallied by about 40%.

The November World Agricultural Supply and Demand Estimates (WASDE) help explain much of the price increases. For corn, this year's crop size was estimated to be 12.54 billion bushels, down 4% from last year's record production. Yield is expected to

average 154.3 bushels per acre, down more than 6% from last year.

On the corn-use side, feed and ethanol (which is currently experiencing very strong demand, up 5.3% over last year) are expected to increase, while exports are expected to decrease, for a total use of 13.43 billion bushels, up 2.69% from last year. Ending stocks are expected to come in at 827 million bushels, down an astounding 51% from the previous year.

For soybeans, crop size decreased to 3.37 billion bushels (still a record size) from what was reported in the October USDA crop report. Estimated yield decreased by 0.5 bushels per acre over figures projected in the October USDA crop report, for an average of 43.9 bushels per acre. *(taken from the UK Economic and Policy Update for November 2010).*

Soybean consumption increased slightly to 3.35 billion bushels over what the USDA reported for October, stemming from increases in exports (expected to be a record) and residual. Currently, China accounts for more than 60% of all U.S. exports of soybean. Smaller production coupled with a larger use number resulted in ending stocks decreasing by 30% from figures in the October USDA report, to 185 million bushels. *-Terry K. Hutchens, UK Extension Specialist*

Price Impact on Feed Cost and Meat Production

The price of corn is expected to average about \$5 per bushel for the 2010/11 crop year, which is \$1.50 above last year's price. Over 40% of the corn crop is expected to go to food and industrial uses such as sweetener and ethanol, and about 15% will be exported. The rest, approximately 40%, will be used as livestock feed. As more corn is used in ethanol, less is available for use in the livestock sector.

Higher feed prices will reduce profitability of goat enterprises. Presently, higher prices for

live animals will somewhat offset the increases in feed costs; however, if prices for live animals go down, we may see a major reduction in profitability and a drastic cut in animal numbers.

-Terry K. Hutchens, UK Extension Specialist

Dealing with the High Cost of Feedstuffs and Consideration of the Alternatives

Goats are moderate nutritional feeders. They do not digest low-quality forages as efficiently as do cattle, because the goat rumen is too small for this job. Forage feeds extremely high in fiber and low in protein (TDN 40%-50%) can't be digested, accumulate within the rumen, and slowly move out of the gut as undigested organic matter.

Additionally, goats do not perform well on high concentrate or high starch diets (corn and soybeans). They perform best in the rumen environment of feeds in the energy range of 55-70% TDN with just enough nitrogen in the gut to produce microbial protein and enough digestible fiber to produce fatty acids. These volatile fatty acids are quickly and efficiently converted to metabolizable energy.

Low-quality forages can be greatly improved by supplementation of the forages with feedstuffs of highly digestible fiber by-products. Furthermore, some by-product feeds such as soybean hulls can substitute for moderate-quality hay.

-Common By-product Feeds-

By-product feeds are produced secondarily through the extraction or milling process. There are many by-product feeds on the market, but the most common ones fed in Kentucky are distillers dried grains with solubles (DDGS), corn gluten feed (CGF), whole cotton seed (WCS) and soybean hull (SBH). These by-product feeds are ideal for goat rations because of their highly digestible fiber content and bypass proteins.

In addition, absence of starch in these feeds promotes good rumen health where as excessive starch can produce rumen pH drop and related metabolic disorders.

-How to Determine the Economic Value of By-product Feeds-

Table 1. (see page 4) describes the protein and energy content of whole corn and soybeans as well as by-product feeds and allows producers to compare and contrast nutrient values of the different feeds. This table, along with Table 2 indicates the current price per ton for these feeds. The two tables together provide insight into the relative value of each feed as compared with corn and soybean meal.

Comparisons of nutritional values can be calculated with knowledge of the current feed cost, a energy and protein factor for the commodity and a calculator.

To calculate the nutritive value of a by-product feed:

1. Multiply the current price of shelled corn by the energy factor for the commodity of interest. (*as seen in Table 3.*)
2. Multiply the current price for 44% soybean meal by the protein value for the commodity of interest. (*as seen in Table 3.*)
3. Add the values in Steps 1 and 2. (*resulting in the total nutritional value of the commodity*)

Table 3 shows the current energy and protein values of the major commodity feeds found in Kentucky. As long as the calculated nutritional value is greater than the purchase price, the by-product choice would have a strong economic value over corn and soybean meal.

-Terry K. Hutchens, UK Extension Specialist

**Table 1.
Feed Values of Primary Feeds used in KY Feed Blends**

Nutrient Type	Commodity Type	DM %	TDN %	CP %	Ca %	P %
Energy	Whole Corn	88	88	9	0.32	0.30
Protein	Soybean Meal 44	91	84	45	0.38	0.71
Energy	Soybean Hulls	90	77	9	0.55	0.17
Protein/ Energy	Distillers Dried Grains w/ Solubles	90	92	29	0.28	0.79
Protein/ Energy	Whole Cotton Seed	90	95	24	0.13	0.55
Protein/ Energy	Corn Gluten Feed	89	80	22	0.12	0.85

**Table 2.
Current Commodity Prices for 2010**

Commodity	Current Price in %/Ton
Whole Corn	192.50
Soybean Meal 44	330.00
Soybean Hulls	148.00
Distillers Dried Grains w/ Solubles	178.00
Whole Cotton Seed	230.00
Corn Gluten Feed	145.00

**Table 3.
Energy and Protein Factors for
Common Commodities Available in Kentucky for 2010 Prices**

Commodity	Price Corn \$	Multiply by Energy Factor	Energy Value of Commodity \$	Price Soybean Meal 44 \$	Multiply by Protein Factor	Protein Value of Commodity \$	Total Nutritional Value of Commodity \$
Soybean Hulls	\$192.50	0.819	\$157.66	\$330.00	0.100	\$33.00	\$190.66
Distillers Dried Grains w/ Solubles	\$192.50	0.689	\$132.06	\$330.00	0.394	\$130.02	\$262.08
Whole Cotton Seed	\$192.50	0.850	\$163.63	\$330.00	0.323	\$106.56	\$270.22
Corn Gluten Feed	\$192.50	0.597	\$114.92	\$330.00	0.304	\$100.32	\$215.24

Table was taken from ASC-136 Using by-products to feed dairy cattle, University of Kentucky, Cooperative Extension Service

Improving Production through Selection

Many of you have already heard me talk at meetings about the importance of records and selection. With winter and spring kidding about to start, now is the time to begin record keeping or improve the records you already keep. The more information you have, the more valuable the records will be. With a good set of records you are better able to select the best replacements and cull the poor-performing animals in your herd. This is true regardless of the size or type of herd you have.

The most important records for performance are birth-to-weaning records. You need to begin by gathering birth data, which includes birth date, birth type (single, twin, triplet, etc.), birth weight, and dam ID. Hopefully, you use single-sire mating pens so that you can use birth date and dam ID to determine sire ID. This information is the starting point for performance evaluations that will improve your herd. You may also want to check the teat number and pattern on the doe kids and record any that may be a problem if you keep these doe kids as replacements.

The next critical point for gathering data is at weaning. You will need to keep the date, weaning weight, and record any issues with rearing, including any bottle kids or kids you grafted to other dams. This data should also include any changes to your normal creep-feeding program. You don't want to give a doe credit for a kid she did not raise. You also want to know if your feeding changes impacted average performance, and if so, by how much.

After you have birth-to-weaning information, you need to adjust and summarize it. I offer the Goat Herd Improvement Program (GHIP) to producers free of charge to help calculate

these adjustments and summaries. This program can help you use your data and make more accurate comparison between individual goats in your herd. To participate in GHIP you simply need to contact me at ken-neth.andries@kysu.edu. I can provide you with some blank record forms, or you can use the records you already have. Once I receive your information, I will perform the adjustments for sex, type of birth/rearing, and age of dam. No adjustments will be made for information not provided, so don't worry. I can use information even if you don't have birth weights. If you like, I also am willing to come to your farm with a scale and help take weaning weights. Your scale can be used if assistance is all you need

Currently, 24 herds from 14 states have provided data for the program. I have over 3,000 kid birth and almost 3,000 weaning records in the data set. This sounds like a lot, but it is really a very small fraction of the goats out there. I would like to triple the number to be more confident in the averages we get from the combined data set. The table below shows the upper 75%, average, and lower 25% marks for birth and weaning weights in the data set at this time for kids, dam, and sire performance. The small number of sires listed is because a lot of producers don't provide me with sire ID, so I cannot look at that value with any confidence. I report these numbers to you so you can get an idea of where your herd may stand in relation to other herds. This data set is general, in that it contains both purebred and crossbred goats. Most of the herds now included are meat goats, but some dairy herd data has been submitted, and they are also included. The more data I have, the more accurate these figures will be.

Table 4. (see page 6) Entitled, Performance data for kid, dam, and sire in 75%, average, and lower 25% from the Goat Herd Improvement Program (GHIP) data set, can be seen on the following page.

Table 4.
Performance data for kid, dam, and sire in 75%, average, and lower 25% from the Goat Herd Improvement Program (GHIP) data set.

	Kid		Dam		Sire	
	Birth Wt	Weaning Wt	Total Birth Wt	Total Weaning Wt	Average Birth Wt	Average Weaning Wt
	Lbs	Lbs	Lbs	Lbs	Lbs	Lbs
Numbers of Animals	3283	2807	1671	1570	125	135
75% Above Average	8.5	44.0	16.7	75.6	8.1	42.8
Mean	7.5	37.1	13.6	60.1	7.7	40.9
25% Below Average	6.4	29.0	9.5	41.0	7.0	31.6

Note: Average litter size at birth is 1.82 kids per doe, and average litter size at weaning is 1.68 kids per doe.

The information in Table 3 will enable you to better see how your herd may perform in relation to other herds in the industry. Please remember that these data represent only a small sampling of goats in the United States, and the numbers are subject to change as more data are added. I am also trying to obtain more information on breed differences and the impact of crosses from this data set, but I need a lot more data in order to be able to report any breed comparisons that I would be willing to state are true differences. I am seeing very little difference at this time among Boer, Kiko, and Savanna goats for birth and weaning weights, however. I really need more data to make a better estimate of breed differences.

Again, if you are keeping data I would like to be able to include it in the data set. If

you are not keeping data, you really need to start, as it is how you can improve performance and achieve a more productive and profitable herd. For anyone who would like to participate, contact me by e-mail at ken-neth.andries@kysu.edu or by phone at (502) 597-5094. The quickest way to reach me is through e-mail, as I am currently spending time at the [farm](#) with early winter kidding and preparation for spring kidding.

-Ken Andries, KSU, Extension Livestock Specialist



Investigating Abortions in Ewes and Does

Reproductive loss due to abortion, stillbirth, mummification, resorption of a fetus, or the birth of live yet weak offspring can occur on a herd/flock basis and affect many susceptible animals in the same season. Investigating these disease outbreaks is important in order to halt the spread of the problem but also in order to make future management decisions such as vaccination choices, antibiotic use, and how to handle new additions to the herd.

Following an abortion, certain steps should be taken to maximize the chance of a diagnosis. Ideally, every aborted fetus should be submitted to a diagnostic laboratory. Realistically, submission for diagnosis needs to take place when the incidence of abortion is greater than 2% over the lambing/kidding period and/or clusters of abortions occur. The aborted fetus and placenta should be double-bagged, kept cool (not frozen), and taken to a diagnostic laboratory as quickly as possible—the fresher, the better. Blood should be drawn from the ewe or doe and half of it placed in a blood tube (purple-top tube) and half in a serum tube (red-top tube). Both tubes should be labeled and with the abortion material. Many samples sent to the laboratory yield no results due to decomposition (unrefrigerated tissues more than 24 hours old, especially if sampling occurred in warm weather) or because they are incorrect, contaminated, or insufficient. If you cannot get the fetus and placenta to a diagnostic laboratory, your veterinarian can collect and ship the necessary representative samples. Always send a complete history containing the following information:

- ◆ The age of the ewe or doe and her lambing/kidding history

- ◆ A list of all vaccines, dewormers, and medications given and when they were administered
- ◆ The date and stage of pregnancy at which the abortion occurred
- ◆ Any history of previous abortion in the herd or flock
- ◆ Whether or not the dam has shown any signs of illness during the pregnancy up to the time of the abortion or other reproductive loss

Also include the following:

1. A summary of the diet currently being fed to the affected doe(s). Include your best approximation of how much and what type of feed (grain), forage (hay/pasture/silage), and trace mineral the affected does are actually consuming daily.
2. Note when any new additions joined the herd or flock, including purchased replacement females, bucks/rams, or sale barn animals. Also note if animals have been on the show circuit and recently returned to the farm.
3. Is there recent history of contact with other animals? Are there cats, dogs, rats, and/or wildlife in contact with your herd/flock or their feed?

Many of the organisms that cause abortion in sheep and goats are “zoonotic,” which means they have the ability to cause disease in people. These organisms are present in abortion material (fetus + placenta + fluids) but can also be found in contaminated feed and bedding as well as on the boots and clothing of farm workers.

Some adult animals and their offspring may be carriers of a disease but show no outward signs. Wild and domestic animals, birds, and insect vectors may also pose a risk for disease transmission. The following guidelines should be strictly adhered in all human and animal contact situations, in order to avoid serious consequences in humans such as abortion or gastroenteritis:

- ◆ Pregnant women should not, under any circumstances, come in contact with lambing ewes/kidding does or the clothes worn by those working with those animals.
- ◆ Pregnant women should not handle vaccine.
- ◆ Always wear gloves when assisting birth.
- ◆ Thoroughly wash hands before eating or drinking.
- ◆ Wash and disinfect boots and outerwear.

On the farm, certain biosecurity measures should be followed to minimize the potential of disease spread. In case of infectious abortion, isolate the ewe or doe that aborted for at least three weeks. Dispose of all the abortion products and bedding, then disinfect the pen or general area. Initiate antibiotic therapy at the direction of a veterinarian if the ewe/doe is sick or has retained fetal membranes. Do not graft female lambs or kids who may become replacements onto adults that have aborted.

Finally, it is important to record the identification name or number of the ewe or doe that has aborted and the date of abortion. A second serum (blood) sample is often needed three to four weeks after the original serum

sample to compare the results of the two tests and look for an increase in antibody titers against a specific disease organism.

-Michelle Bilderback, UK, Extension Ruminant Veterinarian

**2011 Kentucky Small Ruminant Grazing Conference,
Saturday Jan. 15 2011
Hardin County Extension Office
Elizabethtown, KY (all times EST)
\$20 Registration Fee**

- ◆ 9:00 a.m. Welcome- Dr. David Ditsch
- ◆ **Grazing Management**
 - 9:15 a.m. Using Annual Forage Species for Grazing – Dr. Ray Smith
 - 10:00 a.m. Endophyte Infected Tall Fescue: Do we have a problem? Dr. Glen Aiken
 - 10:30 a.m. Break
 - 10:45 a.m. Characterizing the parasite challenge of meat goats grazing summer pastures in western Maryland - Susan Schoenian
- ◆ **Producer Presentations**
 - 11:30 a.m. Predator Control for Sheep and Goat Production: The Berea College Experience - Dr. Neil Douglas
 - 12:00 p.m. Lunch
 - 1:00 p.m. From IBM to Goat Production – Mr. Barry Arnett
 - 1:30 p.m. Lambing in the Fall – Dr. Diane Hellwig, DVM
 - 2:00 - Break
- ◆ **Economics/Marketing Outlook**
 - 2:15 p.m. Sheep and Goat Marketing for 2011 - Tess Caudill
- ◆ **Parasite Management**
 - 2:45 p.m. A Five Point Evaluation System for De-worming Decision Making – Dr. Michelle Bilderback, DVM
 - 3:10 p.m. **FAMACHA Training** – Dr. Ken Andries, (optional Cost \$10.00)

For additional information contact:

***Terry K. Hutchens
Extension Goat Specialist,
Animal and Food Sciences,
University of Kentucky.***

859-257-2465

859-323-1027

thutchen@uky.edu

<http://www.uky.edu/Aq/AnimalSciences/goats/goatinfo.html>

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University of Kentucky
Animal and Food Sciences
Ag. Distribution Center
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