Differences in Sheep and Goats

By: Jodie Pennington

Many know that sheep are ovine and goats are caprine. There also are other differences in sheep and goats. Lately, we are getting a lot more questions about sheep since the price of market lambs have been almost as high as market goats. Traditionally, goats have sold for about 30% more per pound than sheep.

Further complicating the differences in sheep and goats is that sheep can have either primarily wool or hair, e.g. woolled sheep or hair sheep. Hair sheep are smaller than woolled sheep and some people are more apt to confuse them with a goat than a woolled sheep. Hair sheep are increasing in popularity, in part because they are considered easier to rear than goats and the market price is presently almost as much per pound as market goats.

**Anatomy:** Sheep are larger than goats with hair sheep being larger than goats but smaller than woolled sheep. Sheep (*Ovis Aries*) have 54 chromosomes, while goats (*Capra Hircus*) have 60. Hybrids are rare and are called chimeras. A goat's tail goes up normally, unless it is sick or in distress. Sheep tails hang down and are often docked (shortened) for health and sanitary reasons.

Most goats have hair coats that do not require shearing or combing. Most sheep grow wool and need to be sheared annually. Lamb tails are usually docked whereas goat tails are not. With the exception of hair sheep, sheep and goats fatten very differently. Goats deposit fat around their internal organs before depositing external fat. Sheep deposit external fat before depositing internal fat. Finn sheep and some of the hair breeds deposit fat around their internal organs similar to goats. Some but not all will detect an offensive odor in cooking lamb or mutton which is concentrated in the fat.

Sheep have an upper lip that is divided by a distinct philtrum (groove). The goat does not. Male goats have glands beneath their tail. Sheep have face or tear glands beneath their eyes and foot or scent glands between the toes. Male goats develop a distinct odor as they grow in sexual maturity. The odor is very strong during rut (mating season). Sexually mature rams have much less of an odor. The meat of both older males has an odor.

Most goats naturally have horns. Some goats have beards. Many breeds of sheep are naturally hornless (polled). Some sheep have manes. Goat horns are narrower, upright, and less curved than sheep horns. Sheep horns tend to loop on the sides of their heads. The estrus cycle averages 17 days for the ewe and 20-21 days for the doe. Goats are much easier to artificially inseminate (breed) than sheep. Sheep have a complicated cervix which makes passage of an insemination rod very difficult. Sheep show few visible signs of estrus (heat) as compared to goats; thus AI in sheep is rare. Male goats have an offensive odor during the mating season; rams do not. Though it varies by breed, goats tend to be less seasonal and have fewer offspring per pregnancy than sheep.

**Behavior:** There are many behavior differences between sheep and goats. Goats are naturally curious and independent. Sheep have a stronger flocking instinct and become very agitated if they are separated from the rest of the flock. In general, sheep are gentle, quiet animals. They are easily led. Goats tend to be more vocal and more individualistic. They are more apt to separate from the herd—hence a need for greater fencing than for sheep. Goat tend to have more personality than sheep and seem to like to interact with people more—although both can be personable. Goats tend to seek shelter more readily than sheep. Neither likes to get their feet wet and both prefer upland grazing to lowland.

*continued on page 3*
SW Missouri Sheep and Goat Conference March 24; FEC Workshop March 23

By Jodie Pennington, Lincoln University Small Ruminant Educator, Newton County Extension Center, Smith Hall at Crowder College, 601 Laclede Avenue, Neosho, MO 64850; penningtonj@lincolnu.edu, 417-455-9500

The Southwest Missouri Sheep and Goat Conference is planned for 9 a.m. to 4 p.m., Saturday, March 24, at the New-Mac Electric Community Room, 9 Mustang Lane (near corner of Hwy 76 and 71B), Anderson, MO.

"If you want to raise sheep or goats for meat or milk, you can learn how to raise them successfully at this conference," said Dr. Jodie Pennington, small ruminant educator with Lincoln University Extension who is located in Neosho. The conference will provide the basic information participants would need to work with sheep and goats, including hands-on training in the afternoon.

Topics for the conference include herd health management including foot rot, internal parasite control, sheep and goat nutrition including pasture and forage management, and co-grazing of small ruminants and cattle.

After lunch at the McDonald County Fairgrounds, the conference also will include an information-exchange panel of sheep and goat producers who will answer questions from the audience. Panel members include Todd Schubert, Manager of White’s Sale at Diamond; Pam and Garry Bartkowski, goat and cattle producers from McDonald County; Cecile and Tim O’Neil, cattle producers who are adding goats to their operation from Barry County; Rachael Kennedy, Newton County meat goat producer; and Christy Cole, Newton County dairy goat producer and 4-H leader.

Hands-on practices will include deworming, FAMACHA, vaccinations, foot trimming, body condition scoring, and selection of breeding stock.

Other speakers include Dr. Helen Swartz and Dr. Charlotte Clifford-Rathert from Lincoln University Extension in Jefferson City. Swartz is a sheep and goat specialist who has worked with small ruminants for over 40 years. Clifford-Rathert is a small ruminant veterinarian who routinely works with goat diseases and internal parasites.

Additionally, the University of Missouri and Lincoln University Extension are hosting a Fecal Egg Count Workshop from 6:30 p.m. to 8:30 p.m., Friday, March 23 in HS2 (basement) of Smith Hall (Newton County Extension Center) on the campus of Crowder College, Neosho, MO, at the corner of Hwy D and Doniphon Ave.

Worms are the primary internal parasite of small ruminants and remain one of the biggest problems of meat and dairy goats. “They can also be a problem in sheep but not to the same extent as goats,” said Clifford-Rathert. “In order to control worms, you must set up a deworming and sanitation program and stick to it.” Worms not only kill both young and old goats, they contribute to poor growth rates, an unthrifty appearance, coughing, diarrhea, and, in severe cases, bottle jaw.

For those who pre-register before March 19, the cost is $10 person. Simply mail your registration information to the Newton County Extension Center, 601 Laclede, Smith Hall (Crowder College), Neosho, MO 64850. Registration is $15 at the door the day of the event. You also may contact the Newton County Extension Center at 417-455-9500 or email simkinsv@missouri.edu to register or for more information.

Round Bale Feeders Worth the Investment
By John Hobbs

Feeding losses from 15 round bales fed without a hay ring or some means of limiting access would pay for a commercially available round bale feeder.

Feeding losses occur primarily from trampling, refusal, and leaf shatter. Some feeding loss is inevitable but can vary from as little as 2% to more than 50%. A study conducted by the Alabama Agricultural Experiment Station, using equal groups of steers, found that feeding round bales enclosed in panels reduced the amount of hay fed by 36% when compared to feeding round bales without panels. If a 1200 pound round bale cost $45, wasting 36% is a loss of $16.20 per bale. Or, in other words, these round bales cost $61.20 if fed without using a feeder to limit the loss. The savings in reduced loss from 15 of these bales would pay for a round bale feeder that cost $243.00. Round bales can be fed without hay rings if un-rolled, and limited to the amount the animals can eat in 2 days or less. But, if setting out more than a 2 day supply, which is an advantage of using round bales, then round bale feeders are a wise investment.

Source: Oklahoma State U. Extension
Preparedness is the key to making an informed purchase. Before you crack open the sale catalogs of seedstock suppliers, there are a few resources and skills you should possess. First, make sure you understand the use of Expected Progeny Differences (EPD) and selection indexes. While EPDs are not the only selection information you should consider, EPDs are the most effective tools available to describe the genetic differences between animals within and across herds. EPDs are much more effective genetic predictors than actual or adjusted performance records.

If an EPD is available for a trait it should be used instead of an animal’s own performance record for that trait. The EPD removes age and environmental effects that can bias a decision based on actual or adjusted performance records. Use Calving Ease (CE or Calving Ease Direct: CED) EPD, rather than birth weight (BW) EPD, to select bulls that minimize calving difficulty. Calculations for CE EPD include BW data and other sources of information that affect calving difficulty. The CE EPD is a much better tool to manage calving difficulty than either BW EPD or an animal’s own BW record.

Not all EPDs are the same, so make sure you know the appropriate information for the breed of cattle you are purchasing. For a useful reference on EPDs and other genetic topics see a Beef Sire Selection Manual. Obtain the breed average EPD and a percentile rank table available from the most current genetic evaluation for the breed of interest. Percentile rank tables can be found on most breed association websites. These tools will enable you to compare the relative genetic merit of individual animals to other animals in the breed.

Second, make sure you know what traits you would like to improve in your herd. What breed(s) fit in your mating system? If you are using a crossbreeding system make sure the breed you selected fits your objectives. Other factors to consider are: keeping replacement heifers, endpoints for progeny marketing (weaning, back-grounded or in the beef). Assessment of these factors will help point you to the best breed for your needs and the combinations of maternal/growth/carcass traits that best fit your operation and environment. Be sure to apply selection to traits that have direct economic importance in your production system.

Third, set a realistic budget for bull purchases. Like most things in life, price is driven by quality. Evaluation of a seedstock supplier’s prior year sale averages will give you an idea of what to expect in terms of purchase costs. That said, prices over the last 12 months indicate that seedstock purchases are substantially more expensive, some as much as $500 more, than in previous years. The increased bull cost is largely driven by increased development costs incurred by seedstock producers. The added purchase cost makes it even more important to make a well thought out decision.

Fourth, get to know your seedstock supplier and make sure he/she knows you and your operational goals. Seek out recommendations from your supplier well in advance of the sale. Once you receive the sale catalog, make a short list of bulls (6-12 head) that fit your specifications. Arrive at the sale site early to inspect the bulls on your short list. Shorten this list of candidates based on conformation and updated data to identify your purchase candidates. Keep the sale order in mind. Stay focused on the bulls you selected earlier. Sticking to your plan will avoid impulse purchases. Remember: Failure to plan is planning to fail.

Goats and sheep can be intermingled although there may be individual conflicts. Similar sizes are better. However, when young bucks and rams are maintained together, rams will dominate because the ram will preemptively strike the buck in the abdomen as he tends to butt fast when attacked while the buck may be still in the act of rearing up to get ready to fight.

Foraging behavior and nutrition: The biggest difference between sheep and goats is their foraging behavior and diet selection. Both are ruminants. Goats are natural browsers, preferring to graze with their heads up and eat leaves, twigs, vines, and shrubs. They are very agile and will stand on their hind legs to reach vegetation. Sheep are grazers, preferring to eat short, tender grasses and clover. Their dietary preference is forbs (broadleaf weeds) and they like to graze closer to the soil surface. Goats like to eat the tops of plants.

Sheep and goats have similar nutrient requirements for their size, although goats have slightly higher maintenance requirements. The larger sheep tend to grow much faster than goats, no matter what the diet is. They convert feed more efficiently. Grain-feeding is less likely to be profitable in goat production.

Sheep may have a problem with copper toxicity. Goats require more copper in their diet than sheep and are not as sensitive to copper toxicity. When co-mingled, sheep products should be fed in the long-term although some will use goat products for brief periods of time.

Diseases: Sheep and goats are generally susceptible to the same diseases, including scrapie which is the “mad cow” disease of small ruminants. Scrapie is very rare in both but more so in goats. Sheep and goats are infected by the same internal parasites (worms), though coccidia are species-specific. Sheep tend to have fewer problems with internal parasites than goats, due to their origins and natural browsing behavior. Goats metabolize anthelmintics (dewormers) quicker and require higher doses of the drugs. The clostridial vaccines also seem to be less effective in goats and some think that goats tend to have fewer clostridial problems than sheep. Fewer drugs are FDA-approved for use in goats. There is no disease similar to "floppy kid syndrome" in lambs. Sheep tend to have more foot problems than goats.

Summary: Sheep tend to be larger, more parasite resistant, more prolific reproductively, and more flock-oriented than goats. Goats tend to have less foot problems, be better browsers, more curious, and bring more per pound than sheep, although the price has tightened in recent months.
Child Labor on the Farm  
By: Ed Browning

There’s been quite a bit in the news in recent weeks about child labor laws being significantly modified. The U.S. Department of Labor had proposed more stringent rules for young people working on farms and the kind of jobs they could perform. It seemed the regulations were about to be put in motion when several ag groups called for more review and relaxing of some of the proposals. According to an Associated Press news release on Feb 1 entitled Labor Department Changes Child Labor Plan by Sam Hananel, the secretary of labor has pledged to work with the Department of Agriculture “to ensure that the rules reflect the concerns of rural communities.” Newly proposed rules should roll out this summer. Additionally there will be another opportunity for public comment once the modifications are prepared.

Agriculture and mining used to compete as to which was the most dangerous occupation, but in recent years the agriculture, forestry and fishing sector has unfortunately won that title with 29 deaths per 100,000 workers from 2005 to 2009. The oil and gas industry has taken over from mining in second place. The point is that agriculture is a hazardous occupation for adults much less children. The National Institute for Occupational Safety and Health indicates that in a study of workers under the age of 15 who were killed on the job from 2003 to 2010, 74 percent were children working in agriculture.

The bottom line; if we as a rural society don’t teach our youth about safety on the farm and use safe practices as a teaching tool or proper “follow by example” trainings, then we can expect the government to step in and regulate our farm youth tasks even more.

Farmstead Arrangement

If you are thinking about adding a structure to a current farmstead or planning a new farmstead, there are several things to consider and certain factors to place in an arrangement.

Considerations

- Review present situation for existing problems
- Assess near-term needs
- Provide for long-term goals and future expansion
- Give thought to personal objectives
  - Improved performance or production
  - Greater capacity
  - Expansion of facilities
  - Better use of time

There are also a few rules of thumb to follow when planning a farmstead. Those include but are not limited to:

- Don’t build in a hole—drainage off the site is critical
- Don’t create bottle-necks
- A structure in the wrong place is a 20, 30 or more year problem
- Mistakes can be corrected on paper much easier than on the ground after concrete is poured.
- Is a new structure financially feasible
- Don’t let “we’ve always done it this way” rule your thinking
- There’s always more than one way to develop a farmstead

Planning factors

- Remember vehicle turning radius can affect spacing between buildings and the amount of space allowed in the middle of the farmstead. A semi with a cattle pot or grain trailer generally has a 55’ to 65’ turning radius. A twin-screw with a sleeper cab might be more than that. A one ton dually can have a radius of as much as 52’. Add a fifth wheel trailer and it could be more.
- Wind direction can direct noise, odor, dust and snowdrifts toward the house, so pay attention to prevailing winds. In southwest Missouri, summer winds are mostly from the south. Some are from the southwest and southeast. Winter winds are primarily from the direct north and slightly northeast. If you consider all wind for 365 days for the five-year period of 2006 to 2010, the combined average is roughly 15° southeast of south (data from the University of Missouri Commercial Ag weather station located at Lamar).
- Where will you store chemicals and locate secondary containment of pesticides, fertilizers and fuel?
- Is the view from the house acceptable to other members of the family?
- Is the view from the road acceptable to family members as viewed by passersby? In other words can people driving by see into your machine shed? Can they tell whether or not you’re home or away? Can vandals see into buildings without pulling into your farmstead.
- What about security? Can vandals get in and out of the farmstead without having to drive past the house?

When planning a farmstead, there are four zones recommended. The first zone is within the first 100’ of the house. That’s the area for family activities. The next 100’ is zone two and would be considered an area for machinery storage and probably a shop. Zone three is the next 100’ and would be for grain storage and small livestock structures such as a flock of laying hens, maybe a pen of goats, pigs or calves. The fourth zone would be for large livestock facilities such as confined poultry or hogs.

For a sizeable operation, you’re probably looking at utilizing four or five acres of land for a farmstead. If you have multiple enterprises, or farm several thousand acres, the land area necessary for the farmstead could be much larger.
Who is Annie?
Annie was a woman who grew up in a small farm community with a goal to marry a farmer and she did. Annie spent her lifetime learning how to be an involved business partner with her farm husband. Together they did great things, but it wasn’t easy.

This is Annie’s project. to take her life’s experiences and share it with farm women living and working in a complex, dynamic, evolving business environment.

Annie’s Project Topics
Class 1
- Introduction to Annie’s Project
- Human Resources and Time Management
Class 2
- Women and Money
- Business Plans
- How Property is Titled
- Leases and Legal Issues
Class 3
- Financial Documentation
- Retirement & Estate Planning
- Using Spreadsheets
Class 4
- Risk Management
- Insurance
Class 5
- F.A.S.T. Tools
- Financial Records
Class 6
- Students will get to choose their own topics for the last night of class.

The class will include presentations, group efforts and discussion in a classroom setting. We will be using a computer lab to learn farm related software tools. (We realize computer skills vary, so please do not let that stop you from taking the class.)

Begins
March 12, 2012 6:30 PM to 9:30PM
Newton Co. Extension Center
Registration Deadline:
March 6, 2012
Class schedule:
Mar 12, 19, 26, April 2, 9, & 23

For More Information
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If you are a farm woman with a passion for business involvement, this 6-week course is designed just for you !!!

Critical decision-making and information on:

Objectives
Annie’s Project is a comprehensive educational program and support network for farm women designed to:
(1) Deliver technology training to farm women, enhancing their business skills
(2) Develop a support network, which is essential for continuing education and self-help.

At the end of the program, farm women will have increased their knowledge about:
1. The importance of goal setting
2. Their personalities and how they affect relationships with others
3. The importance of organizational and time-management skills
4. How to work with professionals to meet goals

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