

Frequently Asked Questions List

(Linda Coffey, NCAT/ATTRA, 2014)

You will want to maintain your own list as you get the same questions recurring; having a place to note a particularly good resource on the subject saves time and effort. Here are the questions in this collection.

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Nutrition, Grazing, Related Issues

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Facilities and Fences

- 20) What kind of barn do I need?
- 21) Should I have a working facility?
- 22) What kind of fencing is best for sheep or goats?

If your question is not listed here, or you need further information, here are four places to look.

- www.attra.ncat.org; ATTRA, the National Sustainable Agriculture Information Service

- <https://attra.ncat.org/oasdf/>; the Small Ruminant Course has additional, narrated PowerPoints, short video clips—including one on hoof trimming—and tipsheets on marketing sheep and goats. Business planning resources are also found on this page.
- http://www.extension.org/pages/Goats_Community_of_Practice; the eXtension Goats Community of Practice, offers resources on-site as well as the opportunity to ask questions online
- www.sheepusa.org; the American Sheep Industry Association website allows access to the Sheep and Goat Research Journal, workshop proceedings, the Targeted Grazing Manual, and much more.
- www.sheepandgoat.com; the Maryland Small Ruminant webpage

Selection/Getting Started

1) How long does a sheep or goat live?

Assuming good health (and good nutrition, and good teeth, and good luck), a sheep or goat female should be productive until she is about 10 years old. If teeth wear quickly, though, older animals will not be able to graze well enough to maintain condition, and then they are susceptible to illness and will not be able to raise kids or lambs very well.

Prime years for a sheep or goat female are typically ages 2 to 7. Rams and bucks sometimes have disposition problems as they age and may not be retained as breeders for long for that reason. Also, to avoid inbreeding, rams may need to be used for only two to three years on a given farm.

2) How much should I pay for a doe? Ewe? Buck? Ram?

See the discussion of breeding and selection in the *Small Ruminant Sustainability Checksheet* (ATTRA) (Included in the first chapter of the *Small Ruminant Resource Manual*, and also found at www.attra.ncat.org). See pages 20-22 for breeding and selection, and pages 25-29 for more discussion of economics. Marketing also plays a role in this decision, because what you can afford to pay depends on the end use of the progeny. Bucks and rams are, genetically, half the herd, and you will want to spend money on a good one because that affects your resulting lamb or kid crop. But if you are selling market kids or lambs for \$1.25 a pound, and you intend to make money on the enterprise, you must keep breeding stock purchases in line with expected returns. Breeding your own replacements is often a good way to build your herd inexpensively, with animals already adapted to your conditions.

While females can and do remain productive beyond age 7, normally you can expect to get five years of service from a doe or ewe. Totaling up what you can realistically sell from that animal in five years, and subtracting the maintenance cost for those years, will show you what remains for purchasing the animal, for paying other bills, and paying for your labor (profit). This is a

helpful exercise to perform before going shopping. Note that you can do the same kind of calculation for the buck or ram, by figuring how many kids or lambs the animal might sire before you retire him.

Having said that, cheaper is not better if you are buying inferior or unhealthy stock. It is only right that you pay the breeder a fair price for a good quality animal. Perhaps you might explore ways to get more income from an animal to help offset a larger investment. See the Marketing section (pages 22-24) of the *Small Ruminant Sustainability Checksheet* for more ideas on how to increase revenue from your sheep or goat enterprise.

3) How many should I buy?

Are you a beginner? Learn with five to 20 animals; no more than you can afford to pay cash for and certainly no more than you can easily feed on pasture. Sheep and goats multiply quickly, and you will learn many lessons the first three years. For those who are unsure of their commitment to the enterprise, I think beginning with stocker animals (weaned lambs or kids) and grazing them on pastures until the late fall is a good way to learn. The problem with raising young animals is that they are more prone to illnesses, because their immune systems are not well-developed. See ATTRA publications (www.attra.ncat.org) for production information and talk to other farmers as well.

As you learn more about the animals and decide that you do want to continue the enterprise, it is quite easy to expand to larger numbers. Just be careful not to let the flock or herd overgrow the land base, because overgrazing is very damaging to the land. See ATTRA's pasture publications and the presentations in this toolbox for more information. (You can use "find in page" on the presentation annotations list in the PowerPoint Library folder to find those pertaining to grazing).

4) How do I know how many animals my land can support?

One way to start answering this question is by asking your local Extension or NRCS agent how many acres it takes on your farm to support one cow. By looking at soil maps and forage types and density, they can arrive at a good initial guess. Convert that number to sheep or goats by figuring five ewes equal one cow, and six or even seven goats equal one cow. Five dairy goats are approximately equivalent to the grazing pressure of a cow. Now, that gives you the upper limit; start with half that number initially and see how it goes. Always remember the impact of rainfall; in a good year, your land will seem relatively productive. If the rains don't come the next year, you may suddenly realize that you are overstocked after all. Selling some stock quickly to protect the land, or buying hay if that is economically feasible, will usually turn out to be a smart move. See the Forages chapter in the *Small Ruminant Resource Manual* and the *Small Ruminant Sustainability Checksheet* in the first chapter of that manual for more on this subject.

5) What breed is best to buy?

What do you plan to do? Here you need to think about your farm goals. Do you want to sell market lambs, or fine wool? Are you interested in conserving rare breeds, or in selling meat at the farmers market? For goats, is it meat or milk that is your focus? Some breeds are better suited to a purpose than others. Choosing a breed that is well-adapted for the purpose will result in greater profitability and less stress.

Where do you live? Some breeds are well-adapted to a particular climate or region, and will not do well elsewhere. For example, Angora goats thrive in the dry areas of the United States, but may be very susceptible to parasites if moved to the humid South. Icelandic sheep are a great choice if you want to raise fiber in a cold climate, but heat stress may be a problem for them in the South. Consider the climate that will make the animals comfortable before choosing a breed.

What do other local producers raise? If no one else in your region is raising a particular breed, it may be because that breed does not thrive in your climate. It also might be true that a breed is just not well-known in your area, even though it is perfectly suited. In that case, you might fill a niche and create a demand by educating others about the breed. On the other hand, if no one else in your region is raising a breed, where will you need to go to purchase breeding stock? And who will buy the stock you raise? If you are raising Suffolk sheep and there are lots of 4-H members in your county who want market lambs to show, you have a ready market (assuming you have high quality, healthy stock). Those same 4-H members may not be interested in Jacob sheep. Someone who wanted to draw people to the farm and also sell to handspinners would be VERY interested in those Jacob sheep, and not the Suffolks! So consider local availability and demand, along with farm goals and your interest in marketing.

What are your criteria for animals on your farm? This is related to the idea of the breed meeting your goals, but takes it a little farther; let's say I have decided my main focus is to raise lambs for meat. I will sell live lambs. And I want them to weigh 100 pounds in 120-150 days. A well-fed Suffolk might fit the bill; they are known for fast growth. On the other hand, let's say I want animals that are parasite-resistant, hardy, and able to breed out of season. I also am interested in conserving a rare breed. Those criteria steer me away from the Suffolk, and toward the Gulf Coast Sheep; but now we have to prioritize, because they are NOT known for fast growth.

How do you plan to raise and market the offspring? Again, this is an important factor in your decision. Using the comparison between Suffolk and Gulf Coast sheep, you might consider available feed and your personal values and decide that your farm is best-suited to raising sheep on pasture alone. The hardiness and parasite-resistance of the Gulf Coast then may make your decision easy. Suppose your customer is a restaurant that wants large lamb chops; the larger breed would be preferred (unless you convince the restaurant of how "cool" it is to conserve a rare breed and encourage genetic diversity!) An ethnic customer might be much

happier with the smaller Gulf Coast lamb, available nearly year-round due to out-of-season breeding.

The question of which breed to buy is really impossible to answer without having all the background information. Then you must factor in personal preference; there is no sense in raising a breed you do not personally enjoy, no matter how many fine attributes it has. (For example, I will not raise Lamancha dairy goats because I do not like their ears.)

For many purposes, cross-bred animals will work better; they bring hybrid vigor and improved hardiness, as well as combining two sets of admirable traits. But the main thing to look for in breeding stock is not breed; it is health, local adaptation, and suitability for the market.

The ATTRA publications in the Animal Resources section of the Small Ruminant Resource Manual give information about some breeds. Much more can be found in *Storey's Illustrated Guide to Sheep, Goats, Cattle and Pigs*, by Carol Ekarius.

6) Should I raise goats or sheep?

Several presentations in the PowerPoint Library address that very question. The answer depends on:

- Land base (Brushy land works better for goats; pasture works best for sheep.)
- Market (What do your customers want?)
- Personal preference
- Economics (Look at expected profitability for each enterprise.)

Both goats and sheep require similar feeds, fencing, housing and facilities, and health care, including parasite management and predator control. Both produce meat that is desired by certain ethnic groups and by some health-conscious or environmentally aware consumers (and by some who just know that lamb and goat taste good). Market possibilities center on these groups. Both are generally inexpensive enterprises, and both sheep and goats are quick to mature and to be ready for breeding or market. Both usually will have twins. Both improve pastures by eating under-used forages and depositing manure.

But expect differences in profitability from sheep or goats if you are raising meat animals. Sheep gain more efficiently and are marketed at heavier weights than goats. This means that supplemental feed (if any) is used more effectively by sheep, and the selling price is higher, too. On the other hand, if clearing brush is your goal, goats excel at that task. So, in addition to the questions about land, market, personal preference, and economics—you really have to first identify farm goals. See the *Small Ruminant Sustainability Checklist* for more about that important step.

7) I would raise sheep, but I don't think I can find a shearer.

Sheep shearing is a specialized skill, and it is hard work. Having a good shearer is important if you are selling to handspinners because they don't want "second cuts" (little snibbly bits) in the fleece. And a careful shearer does not injure the animals, except for the occasional tiny nick, which heals easily.

Because you want a good shearer, it's a good idea to ask your network of sheep producer friends whom they use. It might be possible to pool your animals for shearing to save on set-up fees.

If your networks can't help with this, though, see the American Sheep Industry website for a directory of sheep shearers at www.sheepusa.org.

Alternatively, you can raise sheep that do not require shearing. Hair sheep, including Katahdin, Dorper, St. Croix, and Barbados Blackbelly, all shed their hair coat with no need for shearing. You can find research about these sheep presented at the Hair Sheep Conference held in 2005 at www.sheepandgoat.com/HairSheepWorkshop/index.html. You can also visit individual breeds' websites. Owners of Katahdins and St. Croix list internal parasite resistance as another of the appealing traits of hair sheep. Dorper breeders consider excellent muscling to be evident for their sheep.

8) Can I make money with wool?

Knitting and crocheting are popular now, and having natural fibers to sell to handspinners or knitters can help the bottom line. But making money with wool demands three things.

- A good shearer
- Sheep that produce good fleece that is also clean and free of "vegetable matter" (seeds, hay, leaves, etc.)
- A niche market—which always takes extra time

Some people value wool sheep for their natural fibers, prefer the looks and carcass characteristics of woolled sheep, and believe that they grow better. If the farmers put effort into marketing, woolled sheep provide another income stream. Lambskins, knitted or woven items, yarn, batts, raw fleece, stuffed animals, felt...for a talented craftsman, wool can significantly help profitability. See Paula Simmons' *Turning Wool into a Cottage Industry* (Storey Books) for more on this; also see *Storey's Guide to Raising Sheep* (Paula Simmons and Carol Ekarius). Storey Publishing has also produced a wonderful book by Deborah Robson and Carol Ekarius, *The Fleece & Fiber Sourcebook*, which includes a wealth of information and gorgeous photos showing more than 200 animals and the uses of their fibers. Finally, magazines for fiber enthusiasts are a great place to advertise and to learn more about what the customer wants.

Profitability/Marketing

9) Can I make a lot of money with sheep or goats?

Sheep and goats are not get-rich-quick enterprises.

Having said that, historically there has been and there is continued potential for profit in sheep enterprises. Goats offer their own advantages in vegetation management and are growing in popularity (which usually improves prices). Let's note some advantages of these enterprises.

- Small size and low price for breeding stock = easy investment for a few starter animals
- Animals quickly reach maturity and reproduce, and quickly reach slaughter size on forage alone = quick expansion of herd, quick payback of investment, low cost to produce a saleable animal for market or breeding
- Multiple streams of income and easy combination with other enterprises, especially cattle = balanced risk and improved cash flow and profitability
- Low investment in facilities and equipment = less debt and easier exit should you need to leave the enterprise
- Enjoyable animals = personal satisfaction and family involvement

There are also significant disadvantages to sheep and goat enterprises. Here are a few.

- Fencing must be better than a cattle fence; this takes money and work.
- Predators are a consideration, and you must make provision to protect the stock; a good electric fence helps, but livestock guardian dogs (LGDs) are often needed as well. This means another animal to feed, provide health care, and manage; while most LGDs are good, some are not, and this can be a hassle.
- Health care for sheep and goats can be demanding, especially internal parasite management. (Proper stocking rate and nutrition will help this, as well purchasing healthy stock to begin with.)
- Because goats and sheep are small, income from selling market animals is low. This spreads risk and makes them easy to market, but it also means you need to sell a lot of animals to make significant income. You might be clearing \$50 to \$60 a head after paying expenses; if that is your sole income stream from the enterprise, you can see that it will be supplemental income for the farm, not enough to support a family unless numbers are large.
- In some situations, supplemental feed will be needed. You must strike a balance here, providing good nutrition but keeping costs as low as possible.

Open the PowerPoint Library folder and then see the NCAT presentation folder for these presentations: "What Sheep and Goats Can Do For You," "Recordkeeping, Marketing, and Economics," and "Marketing." See the Susan Schoenian folder for "Income Opportunities for Sheep and Goat Enterprises" and the Tennessee MMGP (Tennessee Master Meat Goat Producer program) folder for Chapters 1 and 2, both in the presentations and the Manual chapters. Sample budgets are included in the *Small Ruminant Resource Manual* (additional

resources section) and are in all the production publications (sheep, meat goats, dairy goats, dairy sheep) in the Animal Resources chapter of the *Small Ruminant Resource Manual*. The Whole Farm Planning, Animal Resources, and Marketing/Economics chapters are all helpful for exploring possibilities and giving producers the best chance to learn about management and marketing.

Much depends on management and marketing; it is a good idea to work budgets out on paper before starting an enterprise. Having realistic expectations up front will save disappointment. Enterprises that offer larger incomes also require more expertise, labor, and investment; for example, dairy goats and show and breeding stock tend to have higher incomes but also higher expenses. See the *Small Ruminant Resource List (Checksheet appendix D)* for more resources on business planning.

10) How can I sell my sheep or goats?

So many possibilities! Are they purebred, registered breeding stock, or milkers? Advertise in the publications read by your target customers. Use listservs dedicated to your breed or animal, breed associations, and of course local and regional newspapers, craigslist, and your farm website.

Are they market animals? Think about your customers and reach them where they are: get the word out at the mosque to reach Muslim customers, use the farmer's market or Local Harvest (www.localharvest.org), or your state marketing tools (websites are available in many states for listing farm products). Take advantage of pooled or graded sales, local auctions, craigslist....

This is a vital question, really, and deserves a lot of thought and effort. Ask at workshops about how other producers are selling their animals and whether or not they are pleased. All the marketing resources provided in this Toolbox will help; don't miss the section in the *Small Ruminant Resource List* about this. Be sure to check locally for ideas, and see www.sheepgoatmarketing.info for some very helpful articles. Finally, using several options can be a good idea. Sell your best lambs and kids as breeding stock or show stock, sell others directly to customers, and others at auction.

Health

11) What should I do when I bring a new animal home?

Any time you purchase animals, a quarantine period of at least two weeks is recommended. This gives some time for illness to show up, and you can treat the new animals without exposing your established herd. This also allows time for you to treat the new ones for internal parasite infection, and check to be sure your dewormer was effective. If the new animals are carrying internal parasites that are resistant to your dewormer, you will need to use a different dewormer or a combination of two dewormers; if that does not work, take that animal back to

the sale barn before it has a chance to populate your farm with parasites that are not going to be killed by dewormers.

12) I've heard that a sick sheep is a dead sheep. Is that true?

Well, no. But it is true that sheep can be stoic and don't show they are sick until they are VERY sick. Then, if the manager doesn't respond, the sheep may not be able to recover on its own.

But if you observe the subtle symptoms of illness and take action to support the animal by lowering stress, improving nutrition, medicating, or obtaining veterinary care when necessary, most sheep will prove to be resilient.

Prevention of illness is key to raising sheep and goats. How do you prevent illness?

- Purchase healthy stock and then keep a closed herd if possible.
- Provide adequate nutrition for every class of animal and every stage of production.
- "Adequate nutrition" must include plenty of forage, clean water, and salt and minerals. At some stages when pasture is not vegetative, adequate nutrition will include some supplementary feed (for energy or protein or both).
- Use appropriate vaccinations for your area. Almost everyone will want to give Clostridium CD&T to prevent overeating disease and tetanus. See the Health chapter of *Small Ruminant Resource Manual*.
- Practice low-stress handling, particularly when high-stress events such as weaning are occurring. (And there are lower-stress ways to wean.)
- Maintain good sanitation. Use clean water troughs and feed troughs; provide clean and dry lounging areas.
- Use good grazing management, with attention to the health of the pasture AND of the animal. Do not allow animals back on a pasture until the pasture has regrown, and use cattle or horses or hay-making to break internal parasite cycles. See ATTRA's *Tools for Managing Internal Parasites in Sheep and Goats: Pasture Management*.
- Pay attention to routine care such as hoof trimming and shearing as needed.
- Maintain proper stocking pressure on the farm. Dr. Pugh (author of *Sheep and Goat Medicine*) recommends that you stock to fit forage production for the year; that is, if you are not able to produce all the forage needed for the year on your own farm, then you have too many small ruminants.
- Retain hardy animals in the flock or herd, and cull weaker individuals.
- Pay special attention to internal parasite management. See the Health chapter of the *Small Ruminant Resource Manual*. ATTRA's *Managing Internal Parasites in Sheep and Goats* and the "Tools" series, as well as the *Rook* article on *Coccidiosis* will be informative on this important subject.

Several presentations in the Toolbox address health, and there are helpful articles in both the NCAT Small Ruminant Resource Manual and the Tennessee Master Meat Goat Producer's Manual.

13) Do we need to deworm our animals every month?

No, and you shouldn't. Please read ATTRA's *Managing Internal Parasites in Sheep and Goats*, and view Susan Schoenian's presentation "IPM for Small Ruminants." The website for the American Consortium for Small Ruminant Parasite Control (www.acsrpc.org) will be very educational as well, and so is the chapter in the Langston University online certification course, <http://www.luresext.edu/goats/training/parasites.html>.

A reasonable goal is to deworm less than three times a year, and to deworm only those animals that need it. You can reach that goal by selecting the strongest animals and providing good management to them. If your animals require more frequent deworming, then you have a problem with your animals, your management, or both. See the Health chapter in the Small Ruminant Resource Manual for the publications *Tools for Managing Internal Parasites in Sheep and Goats: Animal Selection* and *Tools for Managing Internal Parasites in Sheep and Goats: Pasture Management* for more information on using management to reduce problems with internal parasites.

14) My animals are not anemic, but they are not doing well. They have messy behinds, and they are looking thin. What is wrong?

Two possibilities come to mind. Is it spring, and are the animals grazing lush spring pasture? That will cause runny manure, and sometimes the animals will actually lose condition as the forages run through too fast for absorption. Offering hay should help this, and sometimes a small amount of grain will also improve the situation. This is a short-term problem; do watch sheep for signs that they need messy wool trimmed, though, as there is danger from maggots if flies infect the wet wool.

Another possibility, in any season but especially in wet weather, is coccidiosis. See the *Small Ruminant Resource Manual* health chapter for a great article about coccidiosis. This is more likely to affect young animals. Take it seriously, as it can cause permanent damage to intestines, resulting in "poor doers," and it is contagious.

Other internal parasites can also cause diarrhea, and in older animals it is likely an internal parasite problem but not coccidiosis. A fecal examination will help sort this out; consult your veterinarian.

15) I bought some animals at the sale barn, but now they are limping. What should I do?

One of the reasons NOT to buy breeding stock at the sale barn is that they are exposed to stress and diseases while there and may carry contagious organisms to your farm and to healthy

animals at your farm. Also, some animals were taken to the sale barn in the first place because they had problems; they were fence-jumpers, or they were poor mothers, or had frequent or chronic health problems. (Of course, any animals coming from off your farm—from a sale barn or a breeder— might be carrying some disease.)

Any time you purchase animals, a quarantine period of at least two weeks is recommended. This gives some time for illness to show up, and you can treat the new animals without exposing your established herd. This also allows time for you to treat the new ones for internal parasite infection, and check to be sure your dewormer was effective. If the new animals are carrying internal parasites that are resistant to your dewormer, you will need to use a different dewormer or a combination of two dewormers; if that does not work, take that animal back to the sale barn before it has a chance to populate your farm with parasites that are not going to be killed by dewormers.

When limping is the symptom, most likely footrot or footscald is the problem. Immediately isolate the animals and examine their hooves; trim and look for pockets. If it is footrot, you will see pockets and notice a foul smell. The goal is to expose those pockets and then treat the hoof. See <http://www.sheep101.info/201/hoofcare.html> for photos and helpful information about hoof care and about foot rot. See also <http://pubs.ext.vt.edu/410/410-028/410-028.html>, by Dee Whittier and Steven Umberger, Virginia State Extension. Another publication covering this subject is found at <http://www.aces.edu/pubs/docs/U/UNP-0087/>. See also the PowerPoint Library folder: Susan Schoenian folder: Small Ruminant Health presentation. Slides 36-42 addresses foot trimming, footrot, and footscald.

Note that if there is only one animal limping, it may be a minor problem; perhaps a clogged duct between the toes or a stone or stick caught in them. Don't ignore limping, though; you can give relief for the pain and can prevent more animals being affected (in the case of footrot).

Nutrition, Grazing, Related Issues

(See the Forage Utilization chapter of the *Small Ruminant Resource Manual* for more on these topics)

16) How do I know what plants are poisonous to my animals?

It has been said that all plants are toxic to some degree; even some forage plants that are excellent feed most of the season can be dangerous in some situations (for example, Johnsongrass after a frost). To add to the confusion, there are lists of plants said to be poisonous that your animals may eat with no ill effects. Plant identification can be tricky, and common names are not always consistent among regions. It is not possible to eliminate every plant that might be dangerous. And many plants that are toxic can be eaten in small quantities.

How do you know what plants are poisonous? Begin with your local Extension service and NRCS agent; ask what plants in your region are likely to cause problems, and learn to identify those plants. There are many websites that list poisonous plants; some are well-illustrated, and

some have practical indexes that are searchable by species affected. Having a good field guide helps with identification and provides Latin names to help eliminate confusion. The Maryland Sheep and Goat website has a page dedicated to poisonous plants, and many on-line manuals are collected on that page. You can browse them until you find the one that is most helpful to you, based on regional applicability or the organization of the site. One that I like (linked from the sheepandgoat.com site) is the “Poisonous Range Plants of Temperate North America” from the Merck Vet Manual (see <http://www.merckvetmanual.com/mvm/htm/bc/ttox04.htm>). This is organized to list both scientific and common names, includes a thumbnail photo (click to enlarge), a description of habitat and distribution, affected animals, important characteristics (to help in identification), toxic principle and effects, and comments and treatments. You can see all this at a glance, and the plants are arranged by “dangerous season”; so you can scroll down and browse the whole list of plants likely to cause trouble now, and by reading the symptoms, get an idea of what is causing trouble for your animals. Many other sites require you to click individually on a common name or a Latin name, and it takes quite a bit of time to sort through the possibilities.

Still, a field guide that can go out to the pasture with you is really nice to have. Ask your state forage specialists (Extension and NRCS) for recommendations.

Now, the better question is, how do I prevent poisonings? The Merck guide mentioned above gives practical suggestions for avoiding poisonings by various plants. It can be helpful to read the Tennessee Master Meat Goat Producers (MMGP) manual section on Behavior for a better understanding of how animals get feedback from substances contained in plants. Some plants are so toxic that the animals will be dead before feedback can work. Here are some principles to keep in mind.

- Dilution—if the animal has plenty of other forage in it, then the toxin is less likely to be fatal.
- Desperation—related to dilution; an animal that is not desperate is less likely to eat the bitter-tasting forages. So, be sure to provide enough good-quality forage that the animal is not feeling starved.
- Dam—the animals learn from their mother what is good to graze. If your female animals have grown up on your farm or at least very near, they will often know what to avoid and will teach their offspring.
- Down—limbs that fall during a storm may be dangerous to your animals, as some leaves are not safe to browse when they are wilted. Animals will not know to avoid wild cherry or peach trees; patrol your pastures after a storm and be alert to those kinds of trees. Also, don't give prunings from your yard to your animals, as some ornamental plants are toxic.
- Drought—because forage may be in short supply, your animals may be hungry and may eat plants they normally wouldn't (see “desperation”); and some plants also become dangerous because of drought.
- Diversity—where animals have lots of choice, they will be able to dilute toxins and to fill up without resorting to eating poisonous forage.

- Don't force—animals may not graze all plants in an area. They may be avoiding a weed with good reason. Be willing to clip or to spot-treat weeds that are not being grazed.

In 30 years of grazing sheep and goats, I have had only one loss due to suspected poisoning. That was from perilla mint, and death was quick; the other sheep grazing that pasture showed no symptoms at all. We continue to have patches of perilla mint on the farm (though we have attempted to control it since that loss). Others who have had more losses might give stronger warnings; do ask others in your area about their experiences with poisoning.

17) How much should I feed my sheep (or goats)?

¼ pound. Just kidding. If only it were that easy.

First of all, remember that sheep and goats are ruminants, and forages should be the basis of their diet; think of grain as a supplement, not the main course. Don't forget to provide lots of clean, fresh water; at least a gallon a day per head, and in some seasons a lactating animal might even need four gallons. Minerals and salt are needed in loose form, so animals will consume enough and not damage their teeth. Goats need copper among their minerals and can use cattle mineral; sheep need copper in their diet, too, but are more likely to accumulate it and have copper toxicity. The upper limit for sheep is 25 parts per million (ppm) in their total diet, so sheep minerals generally do not contain added copper.

See presentations about nutrition for an overview. I particularly like to note the slides (from Tennessee Master Meat Goat Producers Nutrition presentation) that illustrate animal needs overlaid on pasture at various maturities. For vegetative pasture, the animal needs for all classes can be met on pasture alone. For mature or dead pasture, only a mature dry animal can have its needs for protein and energy met; all other classes will require feed supplements or they will lose weight on that pasture. The Forage Utilization chapter in the *Small Ruminant Resource Manual* includes articles about matching the needs of the animal to the forage available.

So, the next step is to ask what forage is available (pasture or hay) and get a good idea of the nutrition available in that forage at that stage of maturity. Find that information by doing a forage analysis (ask your Extension agent) or by checking tables to get an estimate. *Southern Forages* (see the *Small Ruminant Resource List*) has great information to help with this; remember that maturity is more of a factor than plant species.

Next, determine the class of the animal. Weaned 65 pound lamb? Yearling pregnant ewe? Two-year-old dairy doe milking 1 gallon a day? Mature dry doe? Ewe in early lactation nursing twins? Each of these has different requirements for protein and energy and a different capacity for consuming feed. The ATTRA publications in the *Small Ruminant Resource Manual* Animal Resources chapter cover nutrition and feeding for sheep, dairy goats, and meat goats in some detail. Other resources for learning about nutrition can be found online at the Maryland Sheep and Goat site, and for goats at the Langston University website. That site includes an online

calculator; use the producer version, and ask for help if you run into trouble. Your local Extension service may also have helpful resources.

Then look at available feedstuffs. The goal is to provide adequate nutrition for affordable cost. If there are by-products (or co-products) available in your area, you might explore using those to cut cost. The Langston online calculator includes a library of feedstuffs with their nutrient contents listed.

When you arrive at a ration and a feeding plan that you think will work, it can be reassuring to run it by a nutritionist or another producer. The real test comes when you feed it to your stock. And here is where your stockman's eye comes in; you need to watch your animals eat and pay attention to their body condition and any changes in it. Get in the habit of handling your animals as they eat; a gentle hand over their backs can give you a feel of how much cover (fat) is over their bones. A milking ewe will lose weight, and as long as her lambs look good, are growing well and are lively, you accept some weight loss on the ewe. But if your late-pregnancy ewes are losing weight, then you'd have to ask why. Is the hay inferior? Hay that is not digestible will fill those sheep up but not provide enough nutrition.

It would be nice to give a pat answer to the question of feeding; but there are too many possibilities and factors that enter into the decision. It is important to note that overeating grains is a danger to the health of sheep or goats; the rumen microorganisms must be protected from too much grain. See ATTRA's *Goat Production Overview* for a simple discussion of this; it is true for sheep as well.

18) What kind of pasture/hay is best?

Again, *Southern Forages* is a great help in learning about possibilities. Local Extension offices have information about what forages are adapted to your area and soils, and it's always good to start with what you have. But here are some principles that may help in thinking about this.

First think of the grazing animals. Because you want them to eat as much forage as possible, you want palatable forage. But research has shown that diversity encourages more intake. Diverse pastures can be hard to manage effectively, because if both warm-season and cool-season plants are on the same pasture, you will wind up favoring one or the other by your management. But to get good production throughout the grazing season, you will need both warm-season and cool-season plants on your farm. One approach might be to have some pastures for primarily warm-season grasses and legumes, and some for cool-season grasses and legumes. Forbs, sometimes known as weeds, can also be nutritious and palatable, so there is no need to be a purist. And if you have a tractor and enough land, annuals such as rye or turnips can help extend the grazing season and save money on hay. See the *Small Ruminant Resource Manual* (in its folder in the Toolbox), Forages chapter, for many useful publications dealing with expanding on forage possibilities, extending the grazing season, and managing pastures.

The kind of forage matters less than how you manage it. To the extent that you can graze your pastures properly (at the right stage of maturity—and leaving the right amount of residual forage for quick regrowth and good protective soil cover), you can provide good feed for your animals. See rotational grazing books and publications to gain a better understanding of this; many are listed in the *Small Ruminant Resource List*. The Forage Utilization chapter in the *Small Ruminant Resource Manual* includes excellent articles on the subject as well.

Don't forget the value of browse for goats; see the nutrient tables in the "Grazing Goats" presentation found in the NCAT Toolbox folder in the PowerPoint Library.

Concerning hay, mixed grass hay with weeds included, put up before it headed out, will be accepted and enjoyed by most goats and sheep as long as it was cured and stored properly (so it is not moldy). Alfalfa or another legume (such as peanut hay in the South) makes a good supplement to boost protein for classes that need it. Milking dairy does are an example of a type of animal that would benefit from this and might warrant the expense. To save expense on hay, be sure to use a good hay feeder. Giving goats or sheep access to a big bale of good hay with no feeder means they will consider it a very comfortable bed.

19) Will sheep or goats eat sericea?

Yes, and it helps with internal parasite control. See ATTRA's *Tools for Managing Internal Parasites: Sericea Lespedeza* for more. You can find it at www.attra.org or look in the *Small Ruminant Resource Manual's* Animal Health chapter.

Facilities and Fences

20) What kind of barn do I need?

For sheep and goats, a three-sided shelter, open on the side away from prevailing winds, will offer enough shelter from cold and rain and provide plenty of ventilation. A completely closed barn will tend to accumulate ammonia and may lead to respiratory diseases. Simple shelters that are easily cleaned are best.

If funds allow a more elaborate setup, it is great to have hay and feed storage and a couple of pens to use for sorting and for lambing or kidding time.

Plans from Midwest Plan Service are included in the *Small Ruminant Resource Manual*. It is even more helpful to visit other farms and see their setups.

21) Should I have a working facility?

If by "working facility" you mean some setup that helps you to accomplish needed management tasks, such as sorting groups of ewes or does that are close to birthing, vaccinating, deworming, or selecting animals that are ready for market—yes, you should have a

working facility. But for small flocks, that can be as simple as a small pen that you crowd with animals; do the operation for the whole group, marking with paint sticks as you finish a vaccination on each animal, for example; and then turning out the whole group and filling again with animals.

For larger operations, it is nice to have more elaborate facilities, either homemade or purchased. Again, before investing a lot in equipment and facilities, it is advisable to visit other farms and see how they are set up to perform management tasks. What do they like about their setup? What do they wish they had? Is there some feature that they never use or that is not worth the money?

Especially for beginning operations, it is smart to keep it simple and cheap. You can always upgrade if the enterprise can afford the investment and the manager thinks it is warranted. It is hard to get the investment back if you need to sell it within a few years.

22) What kind of fencing is best for sheep or goats?

Refer to the Facilities chapter in the *Small Ruminant Resource Manual*. There are several excellent articles about fencing, each addressing important questions and giving information about cost and installation, as well as pros and cons of various options.

There are also several presentations that briefly address fencing. See the PowerPoint library folder and check the descriptions to find relevant information.

Electric fencing works well for goats; and if there are enough strands, it works well for sheep, too. Sheep are coated with insulation, and if they are hungry, and there are not enough strands, they will learn to brave the small shock to get into a greener pasture.

To improve results with an electric fence, install it correctly and use plenty of ground rods and a powerful charger; we aim for 9,000 volts. Then use a training pen until your animals understand that touching the fence hurts. After that they will avoid the shock (unless, as said earlier, they learn that wool insulates).

For perimeter fences or anywhere you really need a secure fence, woven wire is good. Goats may try to climb it or rub it, so an offset hot wire is nice to have, if possible.

The advantage of high-tensile wires showed after the 2009 ice storm in Arkansas. Those stretches of fence where limbs or trees fell on woven wire were very difficult to mend. Where high-tensile was the fence of choice, removing the limbs and then replacing or re-locating the insulators was the main job; the wires sprang back up.

On the other hand, after a lightning strike destroyed the fence charger, it was clear that no charger means you really have no fence.

Consider ease of use and maintenance, longevity, flexibility; Dr. Steve Hart of Langston University points out that cost is NOT a primary consideration, because labor is much more important than initial material expense. Once again, visiting other farms will show you some ideas you want to try, and some you want to avoid.

Finally, consider the role of fencing in predator control. Electric fencing can help discourage coyotes and stray dogs.

Footnote:

These answers lead to more information sources and are accurate according to the author's experience and observation. You are encouraged to add resources and questions and adapt this document and folder for your use. Call 800-346-9140 (the ATTRA toll-free number) to get help with any sustainable agriculture questions. You may contact me with questions or comments and suggestions at lindac@ncat.org.

Sincerely,

Linda Coffey, NCAT/ATTRA sheep and goat specialist
2014