

So you're thinking of raising sheep or goats?

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With changes in Kentucky agriculture, many farmers and rural residents are thinking of raising small ruminants, sheep or goats. A lot of things need to be considered before you invest in one of these enterprises.

Kentucky for Small Ruminants

Kentucky was a large sheep producer in the past indicating a potential for greater numbers today. The decline in the wool market and rise of other agriculture enterprises reduced the sheep numbers. Goats have always been around in Kentucky providing milk and meat to early settlers of the commonwealth. A nation wide growth in goat numbers and the location of Kentucky in relation to markets has resulted in a rapid growth of the meat goat industry since 2000. Kentucky also has the potential to produce excellent quality forage for sheep and goats. With the hill sides and small acreage of many places they simply seem to fit better than cattle for many producers.

The primary consumers of lamb and goat meat are concentrated in the major cities of the northeast and mid-west. This positions Kentucky in a prime location to reach these markets. The marketing system for live goats is well developed with strong markets in many regions of the commonwealth. Lamb markets are good but may not be as well developed or reported as the goat market. Direct sales of lambs and goats are very common and more difficult to measure than auction sales.

At one time wool was the major source of income for sheep producers. Today wool generates a very small income for sheep producers and in many cases is actually an expense. Because of the decline in wool prices, many sheep producers are turning to raising hair sheep to eliminate or reduce the cost of shearing. Niche markets for hand spinning can yield better wool prices, but require special attention to quality and marketing.

New producers need to acquire the information, skills and judgment necessary for success before they enter any business, this is especially true with small ruminants. Specific knowledge about agriculture business management and marketing is critical to establishing a successful small ruminant enterprise. These skills will be different from other businesses that you may have been involved with in the past. The best way to learn these skills are to attend meetings and talk with producers that have been successful. Information on production practices and meetings are available from cooperative extension offices. Often the extension agent will be able to recommend producers in your area to talk to as well. Even with good information, it is recommended that people start small with 15 to 20 head at first and then increase slowly to the numbers they wish to maintain. This allows them to learn about the animals and the care they need without rising large numbers and expense. The slow growth helps keep you from being overwhelmed as you grow your herd.

Evaluating Your Resources

To run a successful livestock enterprise, you'll need to determine what product you plan to market and who will be your customer. As with any business you must have a customer for what you produce to be successful. Because of this it is important to identify that customer and learn what they desire in the product before you start to produce it. Next, evaluate your resource base

to insure you have the materials needed to be successful and produce the desired product. Then design a production system that will use those resources most efficiently and allow you to target your intended customer. The resources that you need to evaluate are:

1. **Land:** How much land is available and what is its productivity? If all the forage produced on an acre of land could be harvested as hay and measured in tons (or hay equivalent per acre), you would have an estimate of your land's productive capacity. "Average" pasture and hay land may produce two or more tons of forage per acre. Good land might produce four or five tons if properly managed. Suppose you have 20 acres, of which 5 acres are rough poor pasture and will produce about one ton per acre, 10 are average and will produce two tons per acre and 5 are good to excellent and should produce four tons of forage per acre. Your total production would be $5 \times 1 = 5$, plus $10 \times 2 = 20$, plus $5 \times 4 = 20$. This equals a total estimated forage yield of 45 tons. An average ewe or doe requires $\frac{3}{4}$ ton of forage/ year (some of this in hay during winter). So in this example, you should have enough forage for about 60 ewes or does (45 divided by .75). This method is, of course, only an estimate. But it is a quick, easy and reasonably accurate method to evaluate your land resources for sheep or goats. On most farms, improvements in pasture management and forage can result in big increases in production. This estimate also does not consider breeding males, lambs or kids in growing programs, or hay production. You must be prepared to provide hay for winter feed and supplement when needed. These other classes of animals also consume forage and will reduce the total number of does you can feed on your land. Your management and marketing will determine what impact this will actually have on the numbers you can maintain.
2. **Buildings:** Do you have buildings to house the number of females you want in the winter, along with their offspring? You will need about 15 square feet for each female. So in the example of a 60-ewe or doe flock, you would need about 15×60 , or 900 square feet for the animals (The exact amount will depend on your production system). Dry (non-lactating) females need only modest protection, even in winter, if they are well fed, while ewes and does with January offspring need more protection. Most older tobacco barns, machine sheds and outbuildings can be converted into excellent shelters for small ruminants. But remember, sheep and goats should have an *open, cool, dry* shelter rather than a *tight, warm, humid* shelter.
3. **Machinery and Equipment:** Do you have the equipment and machinery to harvest hay, clip pastures, clean barns, etc.? Or can you arrange with a neighbor to do this? Or should you plan on purchasing hay? If you only need about 50 tons of hay, it may be cheaper and easier to buy the hay than to make it. This might also allow you to increase your herd size. What about livestock equipment? You will need proper fences (high-tensile electric, woven wire), corrals, sorting pens, lambing/kidding pens, etc. You will also need small pieces of equipment for foot trimming, tail docking, ear tagging, and possibly for shearing.
4. **Markets:** How will you market your products? Are you planning to sell feeder lambs/kids, freezer lambs/kids, market lambs/kids, breeding stock, wool/mohair or all of the above? Are you planning to sell on a seasonal basis or have a more even cash flow with the animals for sale throughout the year? Your market is a valuable resource that must be studied and cultivated. This also plays a very big role in the breeds and production system you will be using in your small ruminant production.
5. **Labor:** Do you have the time to properly care for the sheep or goats? For the most part, the labor is not hard, but they require quality time and quality labor. Timeliness of management tasks is very important. You must have time to do the jobs when required

and not put them off until next week or next month. You must have time to observe the animals and recognize their needs.

6. **Capital:** Do you have the capital or money available to get started, hold you until the sheep/goats are in full production and maybe see you through some dips? Finances are individual, so we cannot give much information here. You need to carefully evaluate your financial resources before starting a small ruminant enterprise. Be sure to consider all cost associated with the livestock enterprise. This includes cost of facility, land, equipment, maintenance of buildings and equipment, and marketing cost. Compare this with other alternatives.
7. **Attitude:** What is your attitude toward sheep or goats? Do you like them? Would you be willing to brave cold rains, sleet, bitter cold, or snowstorms to feed and care for them? Would you be willing to miss a ball game or a social event to be sure they were protected from dogs or coyotes? Are you willing to do late night checks in the lambing/kidding barn? Some of these factors can be addressed with differences in management; however you may need to consider another enterprise.

Establishing Production Goals and Management Systems

Once you evaluate your resources, you can set-up an overall management system that will use them efficiently and be profitable. Small ruminants are amazingly adaptable. Using different breeds and systems, you can set and meet most reasonable production goals. In Kentucky, most farms have the potential to produce good quality forage for most of the year. This can allow the smart producer to use very little grain or concentrate feeds, helping reduce cost while maintaining productivity. The goals you set will depend on your resources, abilities, the ability of the sheep or goats and the products you hope to produce (See Table 1).

The level of productivity can vary greatly between breeds and management systems. Ewes and does can produce and raise less than one offspring per year to more than three per year. They also can vary greatly on the amount of care that they need you to provide. The product to be produced, your level of management, and production goal will determine which breed, and possibly species, will work for your operation. Each breed represents a given genotype that is best in some situations and not in others. For example, if you want to produce only fine wool, Merino or Rambouillet might be the breed of choice. For low maintenance, Katahdin hair sheep may be the best choice. If you want goats, the Boer is very popular but crosses with Kiko or Spanish tend to make a harder, lower maintenance herd. Table 2 has some more information on breed types of sheep and goats.

Many production systems use combinations of breeds to meet specific goals. Of course, your success will ultimately depend on good management, nutrition, disease control, and marketing. Table 4 give a base outline of several different management systems commonly used by sheep and goat producers.

Table 1. Product Choices

Lamb or Goat for meat:	Milk	Breeding stock	Wool/Mohair
<ul style="list-style-type: none"> • Market lamb (100 to 110 pounds) • Feeder lamb (40 to 70 pounds) sell to lamb feeder that feeds out to market weight • Market Kid (60 to 80 	<ul style="list-style-type: none"> • Sheep's milk for cheese is popular in some areas of the world, but not common in the United States. • Goat's milk is very desired for cheese, Kentucky regulations 	Both registered and Commercial sheep and goats are marketed as breeding stock. Quality of the animals is important for	Current markets are very weak for these products, they would be considered more of an expense in most operations. However, if direct marketed for crafts, prices produce a

pounds) ● Feeder Kid (20 to 40 pounds) sold to goat feeders that feed out to market weight	limit current market options	success	small profit.
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Table 2. Some Breed Characteristics of Sheep and Goats

For Sheep	For Goats
<ul style="list-style-type: none"> ● For premium wool: Rambouillet, Merino, Lincoln are popular breeds 	<ul style="list-style-type: none"> ● For Meat Production: Boer, Savannah or crosses with these breeds
<ul style="list-style-type: none"> ● For meat production: the large blackface breeds such as Suffolk, Hampshire, Shropshire and Oxford are hard to beat. 	<ul style="list-style-type: none"> ● For health traits: Spanish and Kiko tend to have fewer parasite and foot problems
<ul style="list-style-type: none"> ● For out-of-season lamb production, the Dorset is popular. 	<ul style="list-style-type: none"> ● For Milk production: Alpine, Nubian, Toggenburg, LaMancha are popular dairy breeds
<ul style="list-style-type: none"> ● For low maintenance: Katahdin, St. Croix are good hair breeds 	<ul style="list-style-type: none"> ● For Fiber production: Angora and Cashmere

Table 3. Management Systems

Four basic management systems (with variations) are used in small ruminants today. They are used as follows:

1. **Early-lambing/kidding:** Lamb/kid in January or February most of these producers plan to sell 100- to 110-pound lambs by early summer or market kids in summer or hold them to fall.
2. **Late-lambing/kidding:** Lamb/kid in April or May to maximize summer and fall pasture use and sell feeder or market lambs/kids in the fall or winter when prices start to rebound from seasonal lows. Production costs may be lower for this system. Summer parasites are more of a problem.
3. **Fall-lambing/kidding:** Lamb/kid in October to December and target the high seasonal market in spring around Easter. Cost for this system may be higher due to high nutritional demands coming during the winter when stored forages and supplementation are needed. Predator losses of young animals may be higher if you do not provide protection.
4. **Accelerated lambing/kidding:** Lamb/kid several times a year, with each female lambing/kidding three times in two years. You will increase production with frequent lambing/kidding, but this system requires the right animals and careful management. Most producers find it difficult to keep their animals in good enough condition to fully utilize this system for many years.

Markets for fiber and lambs/kids

There are several ways to market fiber from your sheep or goats. Today the most common is through a wool or fiber marketing cooperatives. Due to the current supply and demand situation, the price for these products in the open market is very low. Some producers have started direct marketing or developing specialty cooperatives that sell to hand-spinners, or other craft outlets. There is even a growing number that have their wool or fiber custom made into yarn, cloth or blankets. They then work to market these products. If you are considering these types of markets it is critical to your success to investigate them completely before you purchase your first animals.

The market for lambs and kids has been growing and Kentucky has a well established auction system that handles these animals. This makes marketing them easy, but the markets charge a fee for the service. There is a growing demand for lamb and goat through the freezer trade, this is where a producer direct markets the animals off their farm to consumers. This market has the potential to generate higher prices but also requires more work by the producer, than the auction

system. Be sure you are prepared before you start direct marketing off the farm. Investigate the regulations associated with these types of sales and be sure to know your cost so you can price the animals properly.

Where Do You Get Breeding Stock?

If you decide to start a small ruminant enterprise, where you get your breeding stock is critical. Depending on the breed or cross you want it may be difficult to find good quality breeding stock. It is important that you spend the time to find good stock and be willing to pay a fair price for it. However, don't be fooled into paying more than the animals are worth. Table 4 contains some traits to look for when selecting breeding stock.

The first thing to do is avoid the sale barns. Because of the number of animals going through a barn and the ease in finding one many people are tempted to purchase breeding stock from these locations. It is important to remember that the animals there were culled from someone's herd. That means they have a problem before they came to the sale. When you purchase from this source you are buying someone else's problems to start your herd. Sale barns are also high stress locations for animals. Animals that go through the auction are exposed to disease that may cause problems for you in the future.

The best source for breeding stock is direct purchases from a breeder or at a special breeding stock sale. These can be a production sale where a good breeder may sale some of his/her older breeding stock or it can be the opportunity to select from some good young stock out of their herd. Either way you have the opportunity to see their operation and talk to them about their management system, productivity of the animals and parents, and health issues. This will help you avoid problems and get off to a better start.

Table 4. Desirable Characteristics for Breeding Stock

- out-of-season breeding, increases flexibility of management
- multiple births, need twins to be profitable
- early sexual maturity, reduces cost before they can enter breeding herd
- high average daily gains, decreased the days to market weight
- desirable meat-type carcasses, improves desirability at market

Feeding for Production

Small ruminants are efficient users of forage. In fact, they can get a larger portion of their nutrients from pasture and hay than most other animals. They eat and control most weeds and, with proper pasture management, can significantly boost production in many pasture situations. However there are times of the year when supplementation may be necessary to meet the nutritional needs of the animals.

The most common times for supplementation are during the winter and late pregnancy or lactation and for rapidly growing lambs and kids. Most dairy feeds are suitable for lactating animals. It is important to always keep a good quality trace mineral mix available for your animals. Sheep and goats mineral requirements differ on one major element, copper. Because of this it is important to use sheep specific minerals if you have sheep. If you have goats you can use either a goat or cattle mineral. The trace mineral selenium is deficient the east and especially Kentucky, so your mineral supplement should contain this element. It is also recommended that animals be given a shot of selenium at birth to help prevent problems.

Producers need to decide on what type of stored forage they plan to use. This has an impact on equipment and supplement programs. Smaller farms usually use small square bales, although big

round bales are common. The small square bales are easier to handle and can be transported easier than the big round bales. Small square bales are easier to feed and store under shelter than round bales for small producers. It is also easier to control the amount of hay the animals receive using small square bales.

The big round bales are popular and require little labor if you have the right handling equipment. These bales are more difficult to store properly and many producers lose a lot of quality and hay due to improper storage. It is not uncommon for to see 30% loss for bales stored outside in Kentucky. Also, it is difficult to limit feed these types of bales. This results in a higher wastage than with small square bales.

There is another issue with feeding these bales for small ruminants. Sheep and goats cannot effectively utilize the normal feeding rings used for cattle and horses. There are some feeding structures that have been designed for use with small ruminants but they are not always easy to find at the local farm store. If you feed without some type of feeding structure you risk having some of your animal killed by the bale. Because of the height of the bale, the animals are only able to eat around the base of it and it will eventually fall over. If you have animals under it when this happens they are often killed.

A beginning sheep or goat producer must also decide whether harvested forage should be purchased or produced. Farmers who are adding sheep or goats to another livestock enterprise probably already have the equipment needed, but others may be better off purchasing hay. Due to the cost of equipment it is often cheaper to purchase hay for smaller herds, less than 50 head. Whatever stored forage system you decide on, remember that any investment in harvesting equipment must be paid for by the animals. A small flock cannot cover the costs of large tractors, mowers, balers, and other major equipment.

Normal Management issues

Many new producers become overwhelmed in the first year or two when starting a sheep or goat enterprise. This is often due to underestimating the time it may take to keep your animals healthy and stress related to lambing/kidding time. Table 5 lists several specific management tasks the new producer should be aware of and make sure to learn more about before starting a small ruminant enterprise.

Producers need to be ready to provide care for their animals that includes regular checking and treatments for parasites. This generally involves handling your animals on a monthly schedule during the grazing season and checking for symptoms of internal parasites. Treat only those that need treatment. Internal parasites are the number one killer of sheep and goats, so this is critical to the survival of your animals.

Another task is hoof trimming. Both sheep and goats are susceptible to hoof scald and hoof rot. Both conditions require hoof trimming to remove excessive growth and treatments. Information is available from several sources related to these conditions and practices. On some farms, the soil and other factors reduce these problems but you will need to check and perform hoof care as needed.

Table 5. Management Tasks

Any successful small ruminant producer keeps up with day-to-day management tasks, and does them properly.

- **Lambing/kidding:** Can you handle a ewe/doe properly before and after lambing/kidding? Can you assist her as needed or recognize more serious problems? What do you do with a newborn?

- **Vaccination:** Do you have a vaccination schedule for your flock/herd?
- **Ram/buck care:** Can you care for rams/bucks even during the non-breeding season?
- **Weaning:** Do you know about the weaning process?
- **Newborn lamb/kid care:** Do you know the basics of newborn lamb/kid care?
- **Internal and external parasite control:** Every sheep and goat has parasites. Can you set up an effective control program?
- **Foot trimming:** Do you know how to do this? Do you have the proper equipment?
- **Docking of sheep:** How do you remove a tail from a young lamb?
- **Shearing:** Can you learn to do it yourself, hire a custom shearer or do both?

For More Information

The best information often comes from other producers in your area who are willing to spend some of their valuable time with you and let you learn from their mistakes. Consider volunteering to work with another producer for a few days. You will learn, and he or she may catch up on some jobs that need doing! Another valuable source of information is your county Cooperative Extension office.