

Selecting Enterprises for Pasture-based Livestock Farms

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Introduction: Pasture-based livestock farming can fulfill many objectives from having a great lifestyle to operating a profitable business. However, like many small businesses careful planning and research can avoid painful and possibly expensive mistakes. Listed below are a few things that prospective farmers should consider before purchasing livestock.

Goals: Determine what you want from this endeavor. What is the ideal outcome? There is no right or wrong answer, but understanding your assets and weakness such as available acreage, cash flow, and/or labor will help you determine the best enterprise for your farm. If this is a family project make sure to include everyone while developing your plan.

Experience/Skill level: Do not assume that farming is easy. Livestock production is a biological system that is complex and the learning curve can be very steep. Prepare yourself by attending workshops, schools, visit with experienced producers to gain a perspective of the journey you are about to take. Working with or for experienced farmers to learn techniques many be an option. Your animals and your wallet will thank you for the skills you develop now!



Table 1		
Pastured Broilers	Swine Farrow to Finish	Cow-calf to Finish
N/A	Breeding/Gestation/Weaning 4 months	Breeding and Gestation 9 months
N/A	Growing and Finishing 6-7 months	Birth to weaning 7-8 months
		Growing/Finishing 10 months
Birth to harvest ~ 60 days	Breeding to harvest ~10-11 months	Breeding to Harvest ~26 months

Livestock Flow Plan: A livestock flow refers to the way resources flow into (i.e. feed, etc.) and out of the business (i.e. animals to sell, etc.) and they can vary greatly for different livestock enterprises. For example, a beef cow-calf operation that finishes cattle and markets pasture raised beef has a livestock flow of about 30 months,

starting with breeding and ending when the animal is ready to harvest for sale. Conversely, pastured broilers that go to harvest in about two months have a much shorter livestock flow plan. Smaller operations may want to choose these shorter flow plans due to limited land availability and the need for a faster rate of income and cash flow. Enterprises with longer production timeframes work better on larger farms because great scale can be achieved and economies of scale can help these operations achieve profitability. For example, a 5-10 acre farm does not have the acreage required for profitable cattle production (see Table 2 for animal enterprise

land requirements), so it would likely be more advantageous to use the land for smaller livestock (pork, poultry, small ruminants, etc.). Although the small amount of land can limit the ability to grow out species like cattle, you can still market a variety of products, including beef, to your customers. In this case the farmer with 5-10 acres may choose to offer beef by purchasing *finished* pasture raised steers ready for harvest from other farmers. These purchases can be made at wholesale prices leaving ample room for profit within the beef enterprise. **Table 1** compares the livestock flow plans for various species. Think about how many groups of pastured broilers can be sold before a pasture raised steer is ready for harvest.

Marketing Plan: As you create your livestock flow plan you need to make sure you have buyers for your products. To prepare for changing market conditions, plan to have multiple marketing outlets and contingency plans. Selling products at one farmers market is rarely going to cut it. Explore wholesaling some products to restaurants, small grocers, food hubs and others while developing a network of direct-market buyers. When applying to farmers markets, consider which farmers market will best serve your needs and your potential customer base? Are they accepting new vendors? How many meat vendors are selling at the market? Most successful farmers utilize multiple market channels to manage the risk associated with losing one or more marketing avenues.

Cash Flow Plan: A cash flow plan shows how money comes into (revenue) and exits the business (expenses). Start with a monthly cash flow plan and then combine each month to determine annual projections. The livestock flow plan will help project potential revenue/expense sources. Further planning will help you discover how money goes out of the business for land lease payments, feed, insurance, processing, etc. Remember most small business that fail do not do so due to lack of profitability, but rather it is due to poor cash flow. Selecting enterprises that turn over cash slowly (i.e. cow-calf) requires enough capital to operate until animals are sold. Determine periods of low cash flow and secure operating funds to bridge the gaps.

What do I need to start a Pasture-based livestock farm?

A Plan: The importance of developing a livestock, cash flow, and marketing plan was covered in the previous section. Remember to build flexibility into your farm so you can capitalize on opportunities. Insure your animals have adequate space, shelter, a consistent feed source and clean water.

Land: Land can be owned or leased. Don't postpone the dream of operating a farm just because you don't own land. Most small businesses (even those outside of agriculture) start with rented or leased infrastructure. A good starting point is to look for idle (unused) farmland within a five (5) mile radius of your home. In addition, consider unconventional/emerging grazing options like solar farms and landscape management with livestock. It may take some time and creativity but many successful operations use leased land.

Feed: Feed can be considered pasture for ruminant animals or processed feed for other livestock species. Look for opportunities to lower feed costs. You can save money by implementing good grazing management for your ruminant livestock. Some producers, particular with pasture pork operations, use brewers and/or distillers grains to reduce purchased feed expenses. However, make sure to provide a balanced and fortified daily ration to livestock. Also free feed is never "free" so be sure to account for the labor and transportation associated with the feeding program. Feed cost



is usually the largest expense in most livestock budgets and savings on this item can have a major impact. However, the livestock nutrient requirements must be met and consult a nutritionist to insure daily rations are balanced and properly fortified. Your county extension agent and feed suppliers can assist with ration formulation.

Water resource: Clean water is a requirement for livestock production. This can vary from surface water sources (creeks, ponds, etc.) to pressurized systems (well, municipal water supply, etc.). All options have their advantages/disadvantages and can be used successfully depending on the livestock species. When working with surface water it may be necessary to limit access cattle have to that surface water to prevent water



contamination. For example, if cattle are given access to a pond or creek they will spend considerable time in the water especially during hot weather. They can degrade the water supply with urine and manure which reduces their water intake. When their water intake goes down, so does feed intake which can cause cattle performance to drop dramatically. One way to combat this issue is by limiting water access to one area where cattle enter, drink, and leave. Low cost temporary electric fence

can be used to help control and direct cattle to that access point. Geotextile fabric and gravel can be used to stabilize the access point thereby reducing erosion, mud, and nutrient build-up.

If your feed relies on a grazing system, Lack of water or not having enough water access points can constrain your ability to rotate cattle. Therefore, the objective should be to build a system that delivers water uniformly across the farm to optimize grazing efficiency. Natural Resource Conservation Service (NRCS) and Soil and Water Conservation Districts can offer consultation and in some cases cost-share funding for grazing system develop.

Fence: The type of fence needed will depend on the species you raise. With larger livestock like cattle as well as small ruminants, the objective is to keep them on the property and control their grazing behavior. Small ruminants are especially vulnerable, so fencing as well as other measures are needed to slow predator entryways. Fence construction that eliminates predators is not realistic and the use of livestock guardian animals should be considered. Once the perimeter is secure, the interior subdivisions can be less substantial. Again your County Extension Agent will have resources to assist in estimating fence requirements and costs.

Pastures divided with temporary fence are cost effective, add flexibility, and to give the producer time to decide the proper fence location. With short term leases (< five years) using temporary fence could be the best option. Electric netting will provide good control and security for small ruminants and poultry.

Shade: The subject of shade can be controversial. Some experts, especially those from other parts of the country, argue that livestock do not need shade. However, the heat and humidity in our southern region makes shade mandatory. Heat can be further pronounced in our area if livestock gets fescue toxicosis, a warm season condition from grazing KY 31 Tall Fescue that leads to an elevated body temperature and reduced performance. Natural shade from trees is preferred by not always available. Experienced graziers will use temporary fence to lane livestock to/from shade as part of their grazing plan. Alternately, other farmers graze animals at night when the temperatures are cooler and let them spend the day time hours in the shade. Portable temporary shade structures also provide some comfort for livestock and add flexibility to grazing systems. However, just relying on portable temporary shade can be difficult and expensive especially when

provide enough shade for large herds. Also, remember that whatever system you employ, frequent heavy use will degrade the wooded areas and care must be taken to exclude those areas when shade is not needed.

Livestock Facilities: There are many ways to implement livestock handling facilities or buildings on pasture, ranging from home built stationary structures to manufactured portable units. Facilities constructed from portable panels can seem expensive but offer the flexibility of movement to multiple land parcels. When determining structures, you will want to consider how often you will need to use and move the facilities. Remember that these systems do not need to be fancy. The goal is to design a functional facility. Design specifications and plans can be obtained from your county extension service.

Enterprise Selection

A logical way to categorize pasture-based livestock enterprises is by grouping each enterprise by species, as each brings unique characteristics to the farm. Each species can be further divided into two production systems: 1) grower/finisher and 2) breeding.

Grower/finisher systems (G/F): This production phase takes weaned (removed from mother) animals and develops them for harvest. A grower/finisher system is much simpler than a breeding system because it removes the potential complications associated with reproduction. These systems require a less initial cash investment due to lower infrastructure requirements and the need for any additional livestock breeding expenses. These systems move fewer groups of animals at one time and the shorter production window usually leads to better cash flow. In addition, grower/finisher systems easily fit into seasonal production schedules, have a lower land requirement, and the grazing plan is less complicated. Keep in mind that young growing animals do require a high quality diet and thus a sound nutrition program is critical for success. There are differences between species but as a whole, grower/finisher operations are a logical choice for new/beginning producers.



Breeding systems: A breeding system is more complex than a grower-finisher system because farms may have many different classes of livestock at one time and most groups remain on the farm year-round. Purchasing breeding stock will significantly increase capital requirements and expect the cash flow can be slow to very slow depending on livestock type. When considering if you are interested in starting a breeder operation, remember to purchase good quality breeding stock even if it costs more and avoid “bargain prices” in breeding livestock because they are cheap for a reason. Breeding grazing species like small and large ruminants will require more complex grazing and pasture management than breeding pork and poultry. However, the advantage to grazing mature breeding stock is that they can use marginal quality feedstuffs and thereby improve forage quality for younger animals. The main advantage of breeding systems is the miracle of reproduction giving producers new animals to market annually. This is especially apparent with poultry, swine and small ruminants (i.e. multiple births and shorter gestation).

Does farm acreage matter?

The amount of farm acreage you have will influence your enterprise decision-making process, assuming efficient land use is an objective. Small acreages (5-10 acres) tend to be better suited for small animals, which

makes pastured poultry, pork, and small ruminants great choices for limited space. On the other hand, beef cow-calf production has a higher land requirement in order to gain efficiency. Larger livestock also requires more infrastructure, and subsequently capital expense, than smaller livestock regardless of herd size.

Many producers want a cow-calf enterprise to their own detriment. The high capital outlay and slow cash flow make it a poor choice for new farms especially on smaller acreages. Savvy producers will stack enterprises to increase total revenue and develop multiple income streams to spread production risks. **Table 2** outlines enterprise options based on available pasture acres (farm size).

Table 2				
Farm Size	< 5 Acres	6-20 Acres	21-80 Acres	>80 Acres
Enterprise Options	<ul style="list-style-type: none"> Pastured poultry G/F swine 	<ul style="list-style-type: none"> Pastured poultry G/F swine Small ruminants 	<ul style="list-style-type: none"> Pastured poultry G/F swine Small ruminants G/F beef cattle Breeding swine 	<ul style="list-style-type: none"> Pastured poultry G/F swine Small ruminants G/F beef cattle Breeding swine Beef cow-calf

What is the best enterprise for a new farmer?

Although a common question, there is not an absolute answer. However, there are some general concepts that can help shape the decision-making process. For example, starting with pastured pork and poultry may be advantageous for a lot of new farmers because these species do not require a lot of grazing skill. Plus, new



farmers starting with pastured pork or poultry can practice how to use temporary electric fence to rotate livestock and prevent damage. Once established, these skills can be introduced into more complex grazing systems. Poultry and pork enterprises also require less overall capital investment when compared to ruminants and the cash flow is better especially with poultry and grower/finisher swine.

Purchasing weaned (feeder) pigs and growing them to harvest can be a great starter enterprise for novice farmers. The learning curve is not as steep as a breeding system. The farmer controls the number of pigs they buy, leaving them with a more manageable quantity of meat than a little of piglets, which also simplifies the sales and marketing plan. **Table 3** summarizes the skills, knowledge and infrastructure needed for different enterprises.

Table 3						
Knowledge/skills or Infrastructure Required	Pastured Poultry	G/F Swine	G/F Beef Cattle	Breeding Small Ruminants	Breeding Swine	Beef Cow-calf
Identifying sick animals	High	High	High	High	High	High
Shelter requirements	Med	Med	Low	Low	Med	Low
Livestock nutrition	Low	Low	Med	Med	High	High
Livestock reproduction	N/A	N/A	N/A	Med	High	High
Handling facilities	N/A	N/A	Med	Low	Med	High
Loading facilities	N/A	Low	Med	Low	Low	High
Equipment requirements	Low	Low	Low	Med	High	High
Number livestock groups	Low	Low	Low	Med	High	High
Fence maintenance	Low	Low	Med	Med	High	High

Pasture management	Low	Low	High	High	High	High
Grazing skills	N/A	Low	High	High	Med	High

If you prefer to raise grazing livestock and have the available land resources, consider starting with purchased weaned steers to avoid the complications of reproduction. Cow-calf operations require cows and a bull, plus arrangements must be made to prevent bulls from breeding cows (or young heifers) out of the defined breeding season. The various production stages with cow-calf to finish systems can make the grazing plan complex. Remember, for novice producers it is best to keep it simple and consider grazing pasture based finishing steers; they can take advantage of seasonal forage production and provide a break between groups. Plus purchasing finishing steers as compared to a breeding operation, means in between harvest allows for some down time on the farm which can be good for the forage resources and for the farm crew. Furthermore, do not overlook the value of small ruminants (sheep and goats). They do require more management than beef cattle but they have a significant advantage in profitability.

Conclusion

Selecting a pasture based livestock enterprise is a major event in the life of your farm. It requires diligent research and thought to find what best fits your situation. Producers must find a balance between what they want and what their land resource will support. Develop a livestock flow and marketing plan that will fit your cash flow needs. Patience is needed as goals are pursued. Do not overlook the small steps of progress. Building a successful farm is a wonderful journey so enjoy the ride.

For More Information on Niche Meat Production in North Carolina:

NC Choices: ncchoices.com

Amazing Grazing: <http://www.cefs.ncsu.edu/whatwedo/researchunits/amazing-grazing.html>

North Carolina Growing Together project: ncgrowingtogether.org