



# General Production Considerations for Grain and Grass Finished Cattle in Tennessee

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Finishing cattle on-farm provides an opportunity to create a quality beef product for one's own family or local buyers and allows for knowledge and choice of how cattle are finished. Though it requires additional inputs such as labor, space and feed, the experience can be rewarding as well as educational. The finishing phase comprises the final growth and fattening of the animals to result in a product ready for harvest with desirable marbling and adequate lean mass. There are many ways to feed finishing cattle; one could use only forages or a combination of grain and grain by-products with a source of forage, in varying proportions, depending on the goal. The objective of this publication is to provide guidance on how to select a finishing system for cattle that best matches the unique aspects of your operation and how to achieve finished cattle with each method.



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## **CONSIDERATIONS BEFORE FINISHING CATTLE ON FARM**

Before deciding to finish cattle on farm, one must consider whether they have adequate time, facilities, and feedstuffs available.

### **Some questions to be considered are as follows:**

- How many animals do you plan to finish?
- Do you know the start weight and target finish weight?
- What equipment do you have available to feed with, i.e. bucket, feed bunk, mixer wagon, loader tractor, etc.?
- What feed resources do you readily have access to and what is the nutrient content of the feed?
  - For forage-finishing systems, what are your forage resources? Do you have access to hay, baleage or silage? Do you have dedicated space to grow annual forages?
- What is your level of understanding of management of fat cattle, i.e. feeding times, step-up rations, acidosis, pen maintenance, manure management, etc.?
- Do you plan to hand-feed or allow cattle to self-feed?
- Do you have a harvest location/date lined up?

Answers to these considerations will ensure that you understand the inputs required as well as have a clear endpoint for the finishing process. Characteristics of your operation, such as labor supply, equipment, land and feed resource quality and quantity, facilities (dry lot pens, cross-fenced pastures for rotational grazing, etc.), will guide your considerations and help determine the finishing method that best suits your situation.



**What feed resources do you readily have access to and what is the nutrient content of the feed?**

## CHOOSING THE RIGHT FINISHING METHOD

The finishing method should be determined by the marketing strategy that will be used for the final product and feed resources available to the operation. Cattle require a high-energy diet to convert feed to pounds of gain. The finishing period can range from 80 to 300 days, depending on the chosen finishing system. A conventional finishing period is 120–150 days. The length of the finishing period depends on the age of the animal and the ration it receives.

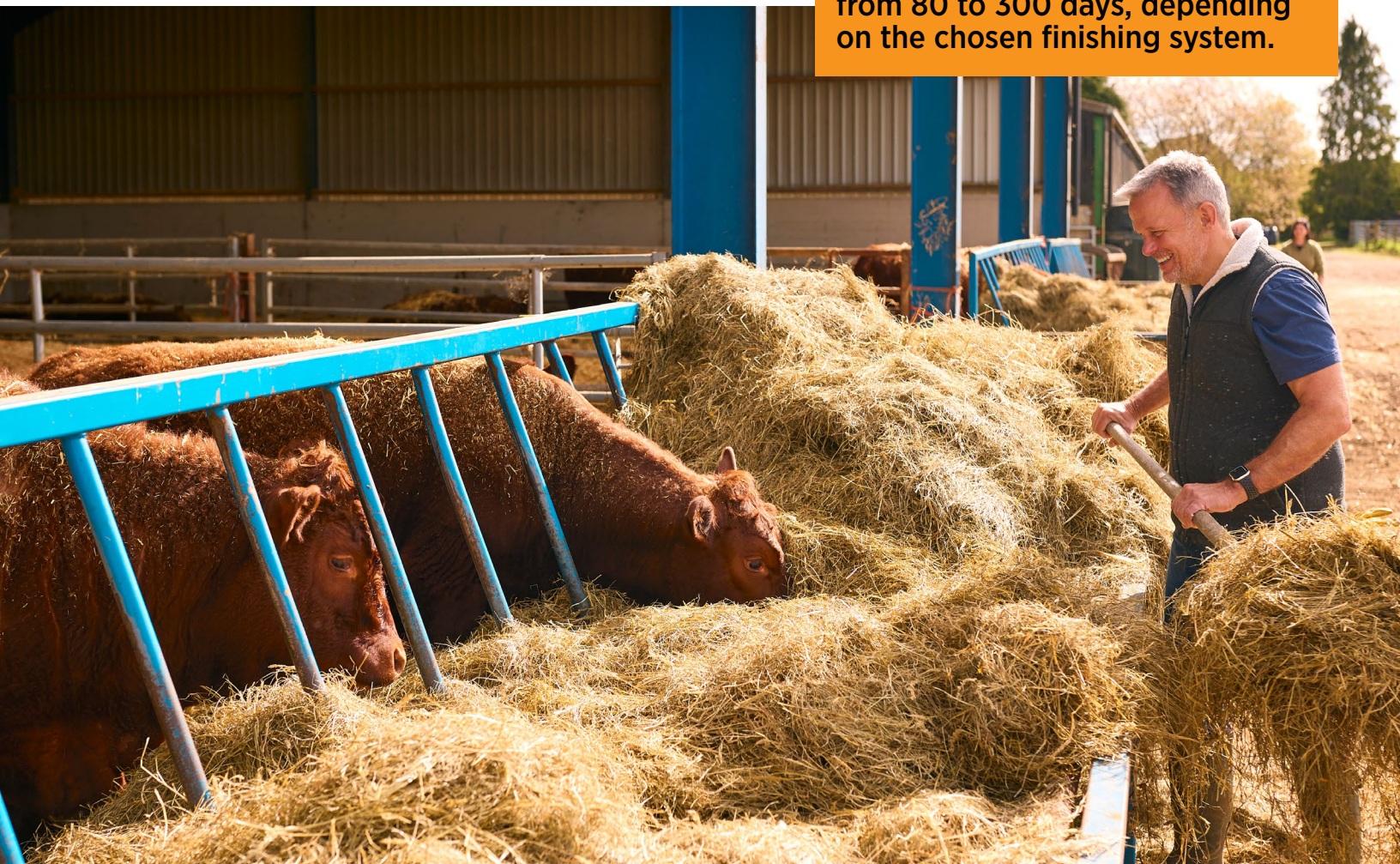
Realistic expectations about cattle growth will set the stage for a successful finishing period.

### A few concepts to remember when selecting calves and planning the finishing phase are listed here:

- A 600-pound calf will require a longer feeding period than a calf starting at 900 pounds.
- Small-framed calves will have a lower finishing weight than larger-framed calves at the same point of fat thickness.
- Heifers fatten at lighter body weight, but steers will have better feed efficiency.
- Calves finished on pasture tend to have lower gains, less fat and marbling and lower dressing percentage than calves finished in a dry lot.



The finishing period can range from 80 to 300 days, depending on the chosen finishing system.



## FINISHING SYSTEMS

Feed resources are dependent upon the land availability and local commodities. In a forage-finishing system, it is important to understand the seasonal availability and quality of forages. Evaluate the available forage resources on your property. Tennessee's climate supports a variety of forage options, including cool-season grasses like tall fescue, orchardgrass and small grains, and warm-season grasses like bermudagrass, sorghum sudangrass and crabgrass. Develop a forage management plan to ensure a consistent and nutritionally-balanced diet for your cattle. Rotational grazing becomes especially important in maintaining quality and availability of grass throughout the finishing period.

The figures below show seasonal forage availability within Tennessee (Figure 1) and the relative digestibility of different forage types (Figure 2). It is important to manage your land base to not only take advantage of both cool- and warm-season grazing periods but also to build a forage system that provides many days of grazing and high-quality conserved forages during times when grazing is not available.

In a grain-finishing system, consider grain availability and price in local markets. Corn and corn by-products are the most used option in grain-based diets. Grain finishing enhances weight gain and contributes to desired marbling within the meat. Cattle fattened on high-energy diets like grain-based diets result in beef with a more intense flavor compared to cattle on low-energy or forage-based diets. There are some commodity by-products that may create off-flavors in the final beef product such as fish by-products, raw soybeans or canola oil and meal. Avoid these products in the diet to reduce the chance of undesirable palatability characteristics. Also be aware of consistency differences and nutrient variability that may be seen when feeding corn by-products such as a distiller's dried grains with solubles (DDGS).

Once it is determined which type of finishing system will be used, the approach should be understood. This publication discusses general grain, forage and hybrid approaches to finishing cattle. [Nutritional requirements for finishing cattle are discussed in other publications.](#)



Tall Fescue

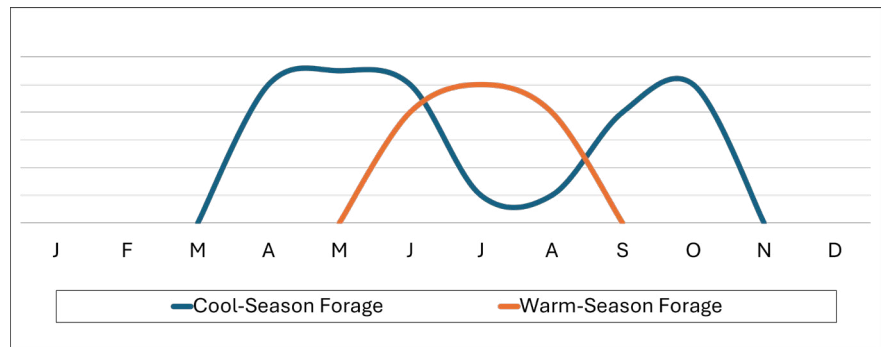


Orchardgrass

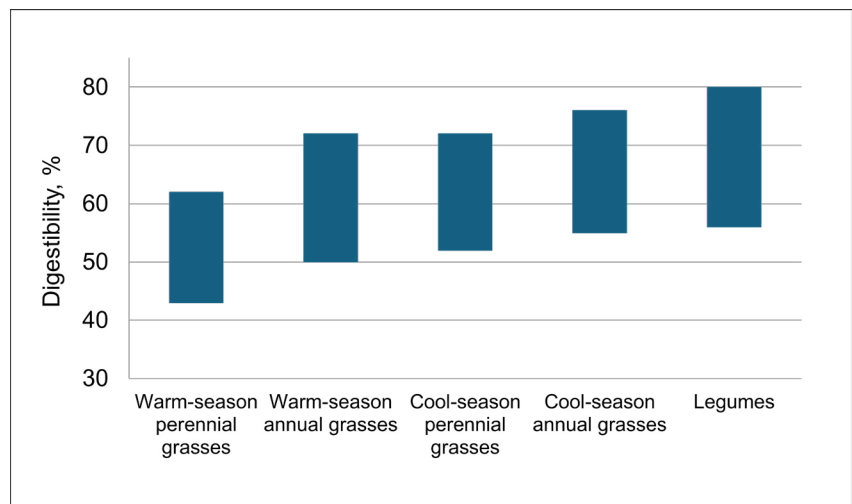


Sorghum Sudangrass

**Figure 1.** Typical seasonal forage availability of cool-season forage, warm-season forage, and conserved forage.



**Figure 2.** Relative digestibility of various forage types.



Soybeans



Corn

**Cattle fattened on high-energy diets like grain-based diets result in beef with a more intense flavor compared to cattle on low-energy or forage-based diets.**



### **FINISHING CATTLE ON A GRAIN-BASED DIET**

Typically, when finishing cattle on a grain-based diet, it is in a feedlot style or intensive feeding system. Cattle may be provided feed ad libitum or limit fed. This type of system is highly efficient. Create a step-up program to transition cattle from heavy roughage diets to grain-based diets. Roughage is still a key component of the diet and should be included in a total mixed ration (at about 10-15 percent of total diet) or provided separately in a limit-fed system. Concentrate levels may vary, based on your management system, but should be formulated to support desired growth rates. Grain-based diets do not have as much moisture as forage-based diets, so be sure to provide plenty of water and trough space per animal. Mineral ratios are important when feeding a total mixed ration as well. Calcium is often low in grain-based diets, so provide additional calcium, such as limestone, or a mineral specifically formulated for cattle consuming grain to ensure there are no deficiencies.

**Grain-based finishing systems are highly efficient.**



### **FINISHING CATTLE ON A FORAGE-BASED DIET**

A forage-based finishing system is less intensive in terms of nutritional management but may be intensive as it relates to forage management, i.e. rotational grazing. Most forage-based finishing systems yield low to moderate rates of gain and result in older heavier carcasses. An advantage of forage-finishing is that the method capitalizes on the ability of cattle to convert forage to muscle protein, so there is little to no risk of ruminal upset compared with grain-based diets. It also returns nutrients to the soil in a more uniform way through grazing compared with confined feeding scenarios. However, there must be adequate forage available to support daily intake needs of cattle, so there must be sufficient grazeable land. In general, the forage finishing system is dictated by the most prominent species present in pastures. When forage is not readily available for grazing, high quality hay should be made available. As forage quality and quantity fluctuate with environmental temperatures, average daily gain will fluctuate also.

Rotational grazing can increase forage use efficiency and becomes especially important when relying solely on forage to meet nutritional needs. Moving cattle through paddocks not only allows forage to remain in a vegetative state but also gives forage time to rest from hoof traffic of heavy cattle. One must carefully consider paddock layout, ensuring that there is a central feeding area or portable feeders and access to water from each paddock.

**Forage-based finishing systems capitalize on the ability of cattle to convert forage to muscle protein.**

## FINISHING CATTLE USING A HYBRID APPROACH

A hybrid approach may entail feeding cattle grain while housing them on pasture as opposed to a dry lot system or fully pasture-based system. When using a hybrid approach, feed management is especially important. As cattle transition from solely forage to forage plus grain, adjust the diet over a three-week period. Limit feed concentrate and practice good bunk management by providing feed daily or twice daily, ensuring that cattle are nearly cleaning the bunks out, and removing any refused feed. Adjust feeding amounts based on total feed disappearance and rate of gain. Whole or cracked corn is safer than ground corn in this type of system, as it reduces the possibility of acidosis. Using a byproducts or commercial concentrate blend may be safer in this type of system as well, as the fiber-based energy can complement a partial forage diet. If limit feeding hay, be sure to feed hay first, then provide concentrate to allow cattle to have roughage available in the rumen before consuming grain. Though hybrid cattle finishing methods may not result in the same carcass quality or timeframe as grain finishing methods, it is still possible to have acceptable carcass performance and may work especially well on a small scale.



**Using a byproducts or commercial concentrate blend may be safer in this type of system as well, as the fiber-based energy can complement a partial forage diet.**





## SUMMARY

In summary, finishing cattle on-farm in Tennessee presents a valuable opportunity for producers to create high-quality beef tailored to their specific needs and markets. By carefully considering factors such as labor, facilities and feed resources, and by understanding the distinct characteristics of grain, forage and hybrid finishing systems, farmers can make informed decisions that enhance both efficiency and animal welfare. The success of the finishing process relies on realistic expectations regarding growth rates and the strategic management of available resources. With proper planning and execution, producers can optimize their cattle finishing practices, ultimately resulting in a superior beef product that meets the demands of consumers while contributing to the sustainability of their farming operations.

**The success of the finishing process relies on realistic expectations.**



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