



Getting Started in the Cattle Business in Virginia

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The Beef Industry Structure

The beef industry consists of various segments of production. The function of this diverse industry is to produce a live beef animal from which high quality beef is ultimately delivered to the consumer. Newcomers to the business should have some understanding of the structure of the beef industry. They need to understand what takes place in each step of the industry and how the various segments mesh together. The segments of the beef business may be roughly grouped into six sectors:

1. Seedstock
2. Commercial cow/calf
3. Background/stocker
4. Cattle finishing
5. Packing and processing
6. Retail

Cattle production enterprises can be lumped into one of the first four major phases identified above. Each production sector requires its own specific set of resources and places its own specific demands upon the manager.

Seedstock

The seedstock or purebred sector of the industry helps set the course of the industry and cattle type 10 years into the future. Seedstock producers are the primary source of bulls and new genetics for the commercial cow/calf sector. It is extremely important for the purebred operator to be able to gauge the demands of the commercial industry to produce breeding cattle with marketability. The seedstock operator must also have vision and the judgment to anticipate the genetic demands of the beef industry in the future. From the time a purebred producer makes a breeding decision, it will be 4 to 4 1/2 years until the commercial offspring of that decision are processed into beef.

For most purebred operations, the primary source of income is the sale of young bulls. Most often bulls are sold as yearlings, 12 to 18 months of age, to commercial operators or other seedstock breeders. Other sources of income can be the sale of young breeding females, as well as the strategic marketing of cows, cow/calf pairs, and older bulls. Additionally, young cattle lacking the sufficient genetic merit or quality to be marketed as seedstock can be sold as commercial feeder cattle. The purebred sector generally demands a high level of capital investment per animal unit. To be competitive in selling seedstock, the operator must generally be committed to an intensive artificial insemination program. The use of artificial insemination allows the breeder to rapidly incorporate elite genetics into the herd's breeding program.

Purebred breeders might be grouped into two levels of performance. A small percentage of breeders within any breed are identified as *elite* breeders. The *elite* breeders seek to make significant change within the breed, which will ultimately impact the beef industry. The *elite* herds typically sell bulls, semen and females to other purebred breeders. A second and much larger category of breeders are *multiplier* herds. The *multiplier* operations utilize the genetics generated at the *elite* level to primarily produce bulls for the commercial cow/calf sector.

Commercial Cow/Calf

In terms of number of operations and land use, commercial cow/calf operations comprise the largest sector of the beef industry. Cow/calf operations maintain breeding females and bulls to produce an annual crop of feeder calves. The calves are typically weaned at 7 to 9 months of age, weighing 400 to 650 pounds. At weaning, these feeder calves may be sold to backgrounders or cattle feeders. The calves may also be retained on the farm or ranch on which they were raised and marketed later as heavier feeder cattle or may be sold as finished cattle.

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Because the cow/calf enterprise requires extensive amounts of low to medium energy level feed to maintain the cows, the cow/calf operation is a forage based enterprise. The cow/calf enterprise typically makes use of land that is of no use or marginal value to row crop production.

The budget presented in Table 1 presents only variable expenses and income that might be typical in a Virginia cow/calf herd. Several important areas of expenses are unaccounted for. No charge has been assigned for labor. Labor costs are quite variable for cow/calf operations



Table 1. Sample budget for cow/calf enterprise.

Beef Cows Calving In Spring - Hay Diet

100 Cows

90 % Calf Crop

15 % Replacements Kept as a % Of Cow Herd

15% Annual Culling Rate;1.0% Annual Cow Death Loss

Item	Head	Cwt	Unit	Price	Quantity	Total	Your Est
Cash Income							
Steers	45 @	5.50	Cwt	\$79.00	247.50	\$19,552.50	_____
Heifers	30 @	5.00	Cwt	\$68.75	150.00	\$10,312.50	_____
Cull Cows	14 @	11.50	Cwt	\$30.00	161.00	\$4,830.00	_____
Cull Bull	1 @	17.00	Cwt	\$40.00	17.00	\$680.00	_____
Total Cash Income						\$35,375.00	_____
Cash Expenses							
		Feed Waste					
Grass Hay		10.0%	Ton	\$50.00	227.28	\$11,363.96	_____
Corn Grain		2.0%	Bu	\$2.50	635.63	\$1,589.08	_____
Sbom 48%		0.0%	Ton	\$160.00	0.00	\$0.00	_____
Salt & Mineral			Cwt	\$22.00	68.00	\$1,496.00	_____
Vet & Medicine			Head	\$15.57	100.00	\$1,557.28	_____
Supplies			Head	\$2.00	100.00	\$200.00	_____
Replacement Bull			Head	\$1,200.00	1.00	\$1,200.00	_____
Pasture			Acre	\$18.00	250.00	\$4,500.00	_____
Haul Cull Cattle			Head	\$5.20	15.00	\$78.00	_____
Market Cull Cattle			Head	_____	15.00	\$155.20	_____
Haul Calves			Head	\$3.75	75.00	\$281.25	_____
Market Calves			Head	_____	75.00	\$859.80	_____
Bldg. & Fence Repair			_____	_____	_____	\$250.00	_____
Utilities			_____	_____	_____	\$125.00	_____
OTHER (Insurance Etc.)			_____	_____	_____	\$0.00	_____
LABOR (Cowherd)			Hrs.	\$0.00	800	\$0.00	_____
Machinery (Non-Crop)			Head	\$10.00	100.00	\$1,000.00	_____
Total Cash Expenses						\$24,655.57	_____
Annual Debt Payments						\$0.00	_____
Return To Equity, Management, & Operator. Labor						\$10,719.43	_____

*Feeder cattle prices above represent a 10 year average for October graded feeder cattle sales, 1990 –1999.

depending upon availability of owner labor, the size and efficiencies of the operation in question, and the local labor market. Potential cow/calf operators must understand that debt service on the breeding stock, land, facilities, equipment, etc., and other fixed costs must be paid from the “Return to Equity, Management, & Operator Labor” item.

Economic returns to the cow/calf operator are variable and generally cyclic in nature. The beef industry has historically followed a ten-year pattern of expansion and contraction in cattle numbers with per head prices paid on cattle reacting in a typical supply-demand response. As cattle numbers build in reaction to a profitable period, the price per head declines in response to increased supplies. When profits to the industry become negative, the industry cuts supplies of cattle to the point where supply and demand result in a more positive return to the cow/calf operator. By the nature of the enterprise, the cow/calf sector requires significant intermediate to long term capital investment.

Backgrounder/Stocker

Backgrounding

Backgrounding refers to the transitional phase in the life of feeder cattle between weaning and finishing. Not all feeder cattle pass through a definitive backgrounding enterprise. Many calves are sold directly off the cow/calf farm or ranch to cattle finishing operations, but a significant number of calves are backgrounded or “conditioned” for one to six months before being sent to feed yards.

Backgrounding operations can serve several important functions between the cow/calf and finishing sectors. Backgrounders manage feeder calves through the stressful adjustment period of weaning, shipment, and diet change. It is during this weaning and transition phase that feeder calves seem most susceptible to respiratory disease, commonly referred to as “shipping fever.” As the structure of the industry has moved toward larger commercial feed yards, the cattle finisher has become more reluctant to deal with the problems of freshly weaned calves. Backgrounders can also benefit from providing a repackaging service for the industry. Backgrounders commonly purchase calves in relatively small groups, transition them through weaning period, add weight to the calves, then package and market the feeder cattle in larger, more uniform lots. The resulting larger groups of backgrounded feeder cattle are generally more attractive to cattle feeders and stocker operators and bring a higher price than small lots of freshly weaned calves.



Successful backgrounding operators must be keenly aware of market conditions and have excellent skills in cattle health management and nutrition. Additionally, these operations require at least moderate cattle handling and feeding facilities and must have access to feeds with at least intermediate energy levels. Since most backgrounders purchase their own feeder calves, they are exposed to substantial price risk between the time of purchase and sale of the cattle. Some backgrounding operations have dealt with this price risk by operating as custom backgrounders serving either the cow/calf or cattle feeding sectors.

Stocker operators

Stocker cattle operators are somewhat similar to backgrounders. Stockers are grown primarily on forages sometime between the time they are weaned and the point at which they enter the finishing stage in the feedlot. The aim of the stocker cattle operator is to add pounds cheaply with forage. Stocker operators may purchase either backgrounded cattle or calves at weaning. Cattle from the stocker phase typically go directly to the feedlot.

The major resource critical to the stocker operator is an abundant source of high quality forage. Stockers generally require higher quality forage than a cow/calf enterprise. For example, a pasture that is predominately endophyte infected tall fescue would be a poor choice for stocker cattle since lower cattle weight gains would be



expected. In Virginia, the cattle are traditionally grazed during the spring to fall period. Some cattle for stocker enterprises may be purchased at a time when local forages are not available for grazing. These cattle are generally maintained on hay or some other relatively cheap feed until grazing is available. The logic behind purchasing needed cattle ahead of the time of forage availability is that cattle can usually be purchased at a lower price per pound.

Beyond the point cattle are initially received, the stocker cattle producer has some of the lowest demands for facilities and labor resources of any cattle enterprise. During the receiving period, the operator must have handling facilities and labor to process the cattle and be available to identify and treat sick cattle. Much like the backgrounding enterprise, the stocker operation is exposed to substantial price risk between the time of cattle purchase and time of sale.

Cattle Finishing

Cattle feeding or finishing is the final stage of cattle production. Cattle feeders may receive young cattle ranging from freshly weaned calves to yearling cattle. They are fed a high grain diet until reaching a point at which they should produce a Choice or Select grade carcass. Cattle leaving the feedlot generally weigh in the 1000 to 1350 pound range and vary in age from 14 months to 30 months. Even heavy cattle are typically fed for a minimum of ninety days. The consuming public has grown accustomed to the taste of grain fed beef since the rapid expansion of the cattle feeding industry during the 1950's and 60's.

Cattle feeding operations may range from just a few head, up to one time capacity of 100,000 head. Feed yards may own all the cattle on feed, may operate as a custom feedlot, or have a mix of cattle ownership. Since cattle on feed have the highest total dollars invested in them by the time they are marketed, cattle feeders are exposed to substantial price risk. Due to the price risk potential, the cattle feeding sector has shifted to more custom feeding.



There has been particular growth in cow/calf operations retaining ownership of their calves through the finishing phase.

Cattle feeders need a source of relatively low priced grain and other concentrate feeds, extensive feeding and handling facilities, and capital that may be required to purchase cattle and feed. Since the 1960's, the cattle feeding industry has shifted away from the Corn Belt area toward the High Plains region from Nebraska south to Texas. With the advent of irrigated crop production came lower priced grain in the region. Coupled with the lower grain prices, the High Plains offered a dryer climate with less mud and lower humidity, enhancing cattle performance. Additionally, the region was more centrally located to the major cow/calf and stocker cattle production areas of the country.

Advantages and Limitations in Virginia

Advantages

Virginia has an established and diverse beef cattle industry. The rolling topography, climate, and soils of Virginia lend themselves to producing an abundance of lush forages. Many of the state's cow/calf herds operate at 2 to 2 1/2 acres of pasture per cow/calf unit with an additional 1/2 to 3/4 of an acre for hay production. Some stocker cattle operations are able to maintain one yearling stocker per acre of pasture. Additionally, Virginia beef producers have access to a wide array of by-product feedstuffs. Given the topography, elevation, rainfall patterns, and forage species, grazing cattle enterprises tend to predominate in the western half of the state. The general economy of Virginia offers sufficient off-farm employment for those beef producers wanting to operate cattle enterprises on a part time basis.

The amount and quality of forages produced in Virginia, along with typically excellent water availability, encourages substantial cow/calf and stocker cattle production. Approximately 79% of Virginians having cattle indicate that a cowherd is part of the operation. Smaller cow/calf and stocker cattle operations have tended to fit the needs of owners with smaller land units and off farm employment.

Virginia feeder cattle producers have a wide choice of marketing alternatives. Virginia benefits from an extensive system of commingled feeder cattle sales that benefit the smaller operation. The graded, commingled feeder sales operated by local feeder cattle associations and the Virginia Cattlemen's Association allow the smaller producer to benefit from the price advantage of selling feeder cattle in larger, more uniform lots.

Limitations

Virginia is primarily a state of feeder cattle production with a limited amount of cattle finishing. Being a corn deficit region, corn costs in Virginia are substantially higher than in the major cattle feeding regions of the country. The high rainfall and moderate climate of the state result in frequent deep mud conditions when cattle are confined for a normal finishing period. The high humidity during the warmer months can also depress feed intake. The aforementioned conditions lead to higher costs of gain when feeding cattle in Virginia.

With only a small percentage of the feeder cattle being finished in Virginia, the state's producers are dependent upon out of state cattle feeders for a market. The modest cattle feeding industry in Pennsylvania provides the closest market outlet for Virginia feeder cattle. With the exception of Pennsylvania, the last few decades have seen the major cattle feeding areas move farther away from Virginia. The feeder cattle producer must ultimately pay the cost of transportation to the feedlot.

Virginia's growing human population will increasingly provide challenges to the cattle industry. The demand for land on which to build homes and businesses will keep the price of land relatively expensive. Livestock producers may expect closer public scrutiny in the areas of water quality, animal well being and nuisance ordinances.

Sources of Information

Individuals exploring the possibility of entering the cattle business should first spend a significant amount of effort gathering information. The beef business is much more involved than just turning cattle out to graze. New producers should not expect to be able to find one book to answer all their questions about beef production.

Prospective cattle operators should have some information on the local geography and its impact upon cattle enterprises. Are some types of enterprises better suited to the region than others? Do the climate, complementary farm enterprises, forage species and other factors suggest one calving season over another? What is the normal cattle stocking rate in the area?

In each county of the state there is an office of Virginia Cooperative Extension. The local Extension agent can be a source of unbiased, research-based information regarding the cattle industry and agriculture in general. The local agent also has access to university Extension specialists to help with specific information. In addition to printed materials in the local Extension office, the agent can also recommend other publications, educational programs and local sources of information. Virginia Cooperative Extension also maintains an internet site

(<http://www.ext.vt.edu>) which can provide additional information regarding production, budgeting, marketing, etc.

State and national cattlemen's and breed associations can be excellent information sources. Through their publications, internet sites, and personnel, these organizations can offer insight into current issues impacting the cattle business or a particular breed of cattle. Anyone considering investment in a seedstock operation should certainly contact the prospective breed association. National and regional beef magazines are also useful in supplying information.

Neighbors and other local cattle operators can offer valuable information related to local conditions. It can be useful to discover which local cattle businessmen other cattle operators consider successful. Visiting local livestock markets and seedstock cattle sales can be instructive in understanding local conditions and preferences.

Resource Inventory

If you are thinking of entering the cattle business in Virginia, you should develop a resource inventory that applies to the particular cattle enterprise that interests you. The list of available resources may dictate the type and size of cattle operation that would be feasible. The types of resources would fall into several classes.

- A. Knowledge
 1. Understanding of production systems
 2. Understanding of genetics and cattle type
 3. Forage management
 4. Nutrition
 5. Cattle handling
 6. Reproduction
 7. Marketing
 8. Business management
 9. Equipment operation, maintenance and repair
 10. Cattle diseases and health management
- B. Feed resources
 1. Forages
 - a. Amount
 - b. Type and quality
 - c. Means of harvest and storage
 2. Other
 - a. Grains
 - b. By-product feeds
- C. Labor
 1. Amount and experience of on-farm labor
 2. Availability
 3. Availability of hired labor and/or custom work

- D. Capital
 - 1. Amount of initial investment capital available
 - 2. Cash flow and debt repayment ability
 - a. Cash income projections
 - b. Potential delayed income as a result of startup
 - c. Off farm and other supplemental income
- E. Facilities
 - 1. Fencing – type, condition, locations
 - 2. Cattle handling – corrals, working chutes, loading chutes
 - 3. Feeding – feeding lots, troughs
 - 4. Water – sources, amounts, locations
 - 5. Storage – feed, equipment, supplies
- F. Marketing opportunities
 - 1. Livestock market location
 - 2. Proximity to certified scales
 - 3. If purebred operation, proximity to cow/calf operations
 - 4. Availability and cost of trucking

Deciding Upon a Direction

The selected direction of a new beef cattle enterprise should be a good match between the owner's interests, the available resources and the cattle business environment. Failure to consider an important resource limitation or how the resources will mesh together can mean disappointment.

Developing a Plan

Before the first head of cattle is purchased, a written management and business plan should be developed. The

plan should include both short term and long term goals for the operation. Attention should be given to any capital purchases, whether they be land, breeding cattle, equipment, or facilities. Before investing in the business, prospective investors should be aware of where the industry is in the roughly ten-year cattle price cycle. Capital purchases should be targeted to meet the goals of the operation and should contribute significantly to their own debt repayment. Facilities development must be completed in a timely manner to mesh with production plans.

A plan for feed production or procurement is critical. Limited feed resources can hinder the development of herd building and cattle performance. A new operation is advised to be conservative regarding crop production estimates and stocking rates until a few years' experience is gained.

Having an identified market for a year's worth of cattle production is critical to the operation's viability. The beef producer should understand the market climate. Developing a production plan to produce a product for which there is no predictable market base has led to disappointment and business failure in the past. A beef producer is never in a position to produce his idea of the ideal beef animal without the input of the marketplace.

Finally, it is critical to spend time in developing a debt service plan in conjunction with a projected cash flow statement. The owner must be certain that the operation generates enough cash flow to cover expenses, debt service and required non-farm withdrawals. The plan should recognize the typical failure of start-up operations to generate net income at budgeted levels.