

ADD-300 4-H Backgrounding Manual

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In this manual, you will learn:

- * What backgrounding is and why it is important.
- * Methods of backgrounding.
- * How to prepare a backgrounding budget.
- * How to obtain calves for backgrounding.
- * How to market backgrounded calves.
- * How to Use "TRACKS" (Tennessee Record And Cost Keeping System) to keep records.

Requirements

To fully benefit from the "ADD-300" backgrounding project, you should:

1. Read and study this manual.
2. Read at least two additional related references. These may come from the "Sources of Additional Information" section of this manual, or from material recommended by an adult leader or 4-H agent.
3. Answer the questions at the end of the manual.
4. Complete at least three of the suggested activities at the end of the manual.
5. Fill out the "ADD-300 Backgrounding Study Record" in the back of the book.

ADD-300 4-H Cattle Backgrounding Manual

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Introduction

Backgrounding is a term that describes a type of beef cattle production. It is the growing of calves from the time they are weaned until they are ready for finishing in a feedlot. Usually, this program starts with calves that are 6 to 9 months old and weigh from 400 to 500 pounds. The calves are typically ready for the feedlot at about 1 year old. These calves will then weigh about 700 to 800 pounds.

Average calves will gain about 300 pounds during the backgrounding period. This is why this 4-H project is called the "ADD-300" backgrounding project.

There may be words used in this manual that are unfamiliar. Many of them are words you should understand and remember. Use the glossary to help you learn these words if they are not defined in the text. You should become familiar with all the words in the glossary.

Where Backgrounding Fits Into The Tennessee Cattle Industry

Backgrounding is an important part of a very large and complex cattle industry in Tennessee. To understand the importance of backgrounding, it is important to understand the basics of the cattle business in Tennessee and how backgrounding fits into this business.

There are approximately one million beef cows in Tennessee. These cows produce a large number of weaned calves each year. Weaned calves are available in Tennessee markets at any time of the year, but most are marketed in the fall. Most of the weaned calves are shipped out of Tennessee to be backgrounded and finished. Many cattle producers have discovered that there are advantages to keeping weaned calves in Tennessee to be backgrounded. The advantages of backgrounding in Tennessee include:

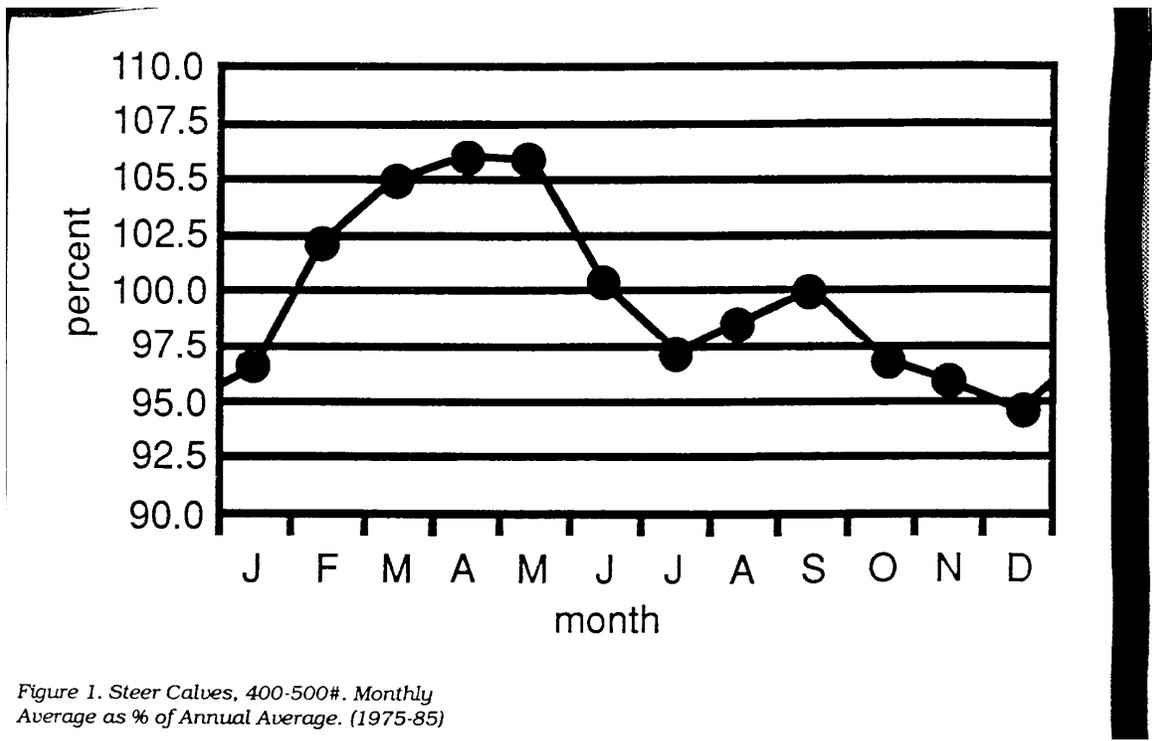
1. Large number of calves - Cattle producers in Tennessee produce many calves which are ideal for use in a backgrounding program.
2. Abundant forage - A large amount of pasture, hay and silage is available for use in backgrounding programs.

3. Excellent climate - Tennessee has a moderate climate which is well-suited for backgrounding calves.

4. Backgrounding is efficient - The phase between weaning and finishing is the most efficient period of calf growth. This means that less feed is needed to achieve gains.

5. Backgrounding is usually profitable - Profits are obtained when the calf is sold for more money than the sum of the cost of the calf and production costs. It is important to develop a realistic budget to predict profit or loss before a backgrounding project is started. In general, properly planned backgrounding projects have a good probability of being profitable in Tennessee.

CAUTION: Backgrounding profitability depends on a combination of good management and marketing success. Experienced cattle producers know that cattle production contains risks. There is no guarantee of profit. The goal of the successful backgrounder should be to study management and marketing alternatives and attempt to minimize risks. This manual will provide information to assist the 4-H member in understanding how best to obtain profits. Guidance should also be obtained from experienced cattle producers in your area, and from Extension agents.



General Methods for Backgrounding

The two basic methods for growing weaned cattle in a backgrounding program are winter feeding and grazing. Both of these will be discussed in the following sections.

Winter Feeding

The idea behind winter feeding backgrounding programs is simple. Farmers who have stored forage, such as silage or hay, need an efficient method for converting this forage into an easily marketed commodity. Since there are usually large numbers of weaned calves available in the fall, it is logical to consider growing these calves on the stored forage.

Many owners of cows with calves that are weaned in the fall use this type of program. By weaning the calves and feeding them to heavier weights, these cattle producers often increase the profits of their operation. An important advantage of this type of program is related to seasonal market prices received for calves in Tennessee (see Figure 1). Cattle purchased in the fall are usually bought when the market is relatively low. Cattle sold in the spring usually bring premium prices. This marketing combination makes winter feeding of purchased calves an attractive option for Tennessee beef producers.

Cow-calf producers who elect to retain calves in a winter feeding program obtain a similar advantage. They avoid selling on a low market and sell heavier calves on a high market, if market patterns are typical.

Feeding Calves in a Winter

Feeding Program Cattle purchased for this program should be treated as described in the following section about handling newly purchased calves. Calves will normally be fed for rapid gain in the winter feeding program. The optimal gains will usually be in the range of 1.4 to 2.0 pounds per day. The most commonly stored forages for winter feeding are hay and corn silage.

A complete mineral should be included in the supplement, or fed separately. It is suggested that this supplement contain salt, trace minerals and a minimum of 12 percent phosphorus and 12 percent calcium. University research has proven that including an ionophore (feed additive. see glossary) in the grain or mineral supplement will improve gain and efficiency of backgrounding cattle. Bovatec or Rumensin are trade names of two ionophores which are available.

Grazing Backgrounded Calves

Grazing weaned calves is a good method for converting grass, a difficult product to market, to yearling calves which are relatively easy to market. The best grazing season is during the spring. Grazing is also normally possible during the summer and fall. Winter grazing is possible, except during periods of heavy rain, snow or ice cover, if winter annual pastures such as wheat, rye and annual ryegrass are utilized.

Grazing can be as simple as turning a few calves out into a fenced pasture and letting them grow. Experience and research have shown, however, that implementing certain management practices will allow for increased production efficiency.

Selecting the Pasture Plants

An existing, established pasture should be selected for your ADD-300 grazing project. The following descriptions of the most common pasture grasses and legumes may be helpful in your selection.

Perennial, Cool Season Grasses

Bluegrass is a spring and fall producing, sod-forming grass of high grazing value and permanency. It may be dormant during the heat and drought of summer. Bluegrass grows best under cool humid conditions on well drained, fertile, limestone soils.

Tall Fescue is highest in quality in the spring and fall. Quality is lowest in midsummer. Fescue remains in an active growing stage at temperatures above 40-42F. It is an aggressive, erect, deeply rooted grass that is fairly drought resistant. The Kentucky 31 variety of tall fescue is likely to be infected with a fungus that cannot be seen but may decrease cattle performance. Discuss this with your Extension agent.

Orchardgrass is a bunch grass that does well on most soils and can tolerate low levels of soil organic matter. It tolerates fairly wet soil and gives abundant spring and summer production. Since orchardgrass does well in shade, it is often planted in orchards.

Timothy is an easily established, rapidly growing grass for short-lived stands. It is cold tolerant, requires ample moisture in the growing season and does not withstand close grazing.

Perennial, warm season grasses
Bermudagrass spreads by "runners" to form a dense sod. It starts growth in late spring and grows rapidly during hot mid-summer weather, but stops growth as soon as cold weather begins in the fall. Bermudagrass is fairly palatable but toughens as it matures. Ask your Extension agent for information about varieties which have been recommended for use in your area.

Annual, warm season grasses

Sudangrass and Sorghum
Sudangrass crosses grow well on fertile loam and sandy or heavy clay soils but do poorly on wet or highly alkaline sites. They are drought tolerant and make rapid growth from late spring seedlings.

Plants may contain toxic quantities of prussic acid after a severe drought or frost. As a precautionary practice, a growth of 18 to 20 inches should be available before cattle are allowed to graze these crops.

Millet is another summer grazing grass. There are several varieties of millet which may be used for summer grazing. Pearl millet is the most widely used. Millet is popular for summer and early fall grazing because it does not have a problem related to formation of toxic prussic acid at frost. Annual, cool

season grasses

Wheat, Rye and Annual Ryegrass are most commonly used in Tennessee for winter grazing. These grasses are well adapted for grazing in the late fall, during most of the winter and into the spring. These are often planted as cover crops for erosion control.

Legumes

Alfalfa is a perennial which is well adapted to fertile, well drained soils. It has an extensive, deep root system and is drought tolerant. It is high in protein.

Red Clover is a perennial clover that generally lasts two to three years. It is adapted to most soils that are well limed and fertilized. It will often grow where alfalfa will not. Red clover will tolerate lower pH levels and more poorly drained soils than alfalfa.

White Clover is a hardy, perennial, creeping clover that will grow in wetter soils than most legumes. White clover prefers moist clays or loams. It does not grow well on strongly acid soils.

Lespedezas include three commonly grown species. Common and Korean are annuals; Sericea is a perennial. The Kobe variety is most commonly used for grazing.

The variety of grass and/or legume that you choose for new seeding or renovation should be a variety selected for adaptation and productivity on soils. The land-grant is continuously breeding, selecting and testing new varieties. The currently recommended variety list can be obtained from your county Extension office.

Legumes are often sowed in established stands of cool season perennials. A common example is sowing a combination of white clover, red clover and lespedeza into tall

fescue. Discuss this practice with your 4-H agent.

Seasonal Distribution of Growth

Recognizing periods of growth of pasture grasses and legumes is important. Pasture mixes should be selected that will provide a continuous supply of growth for grazing throughout the growing season. Figures 2 and 3 show generalized growth curves of the common pasture grasses and legumes.

Grazing Management

Pasture grasses and legumes store food in their roots and lower stems after they have made their main growth. They use these reserves to live while the plant is dormant, to make the first growth next season and to start new growth after grazing. The ability of grasses and legumes to recover quickly after grazing makes them good pasture plants.

This ability deceives the user into thinking he or she can repeatedly graze closely without injury to the pasture. What happens to pasture plants that are continuously overgrazed during the growing season? (See Figure 4) Since no "food factories" (leaves) are left to receive and combine the raw materials from the soil and air, the plant keeps drawing on food stored in the roots and crowns to produce new growth. The plants may draw on the storehouse until the supply is exhausted. Then the plant production becomes lower until it dies of starvation.

The other extreme, undergrazing, wastes forage and allows pasture quality to deteriorate. Poor quality results in poor average daily gain and reduced beef per acre.

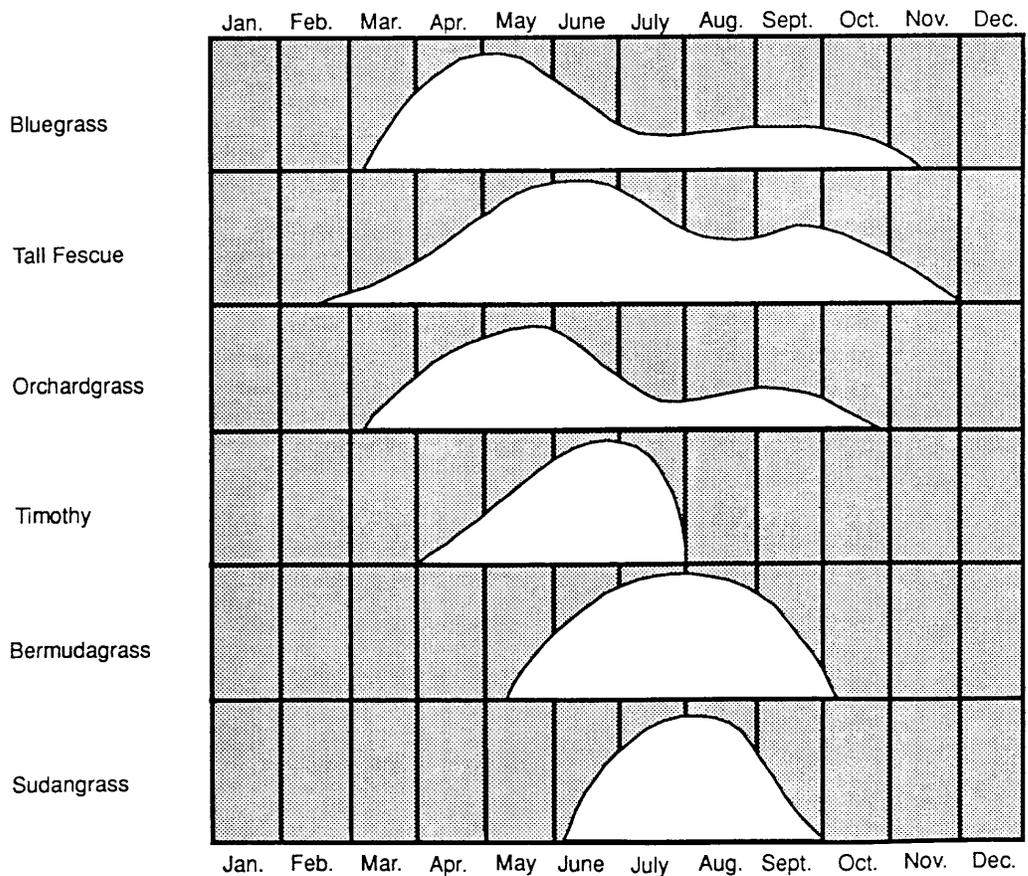
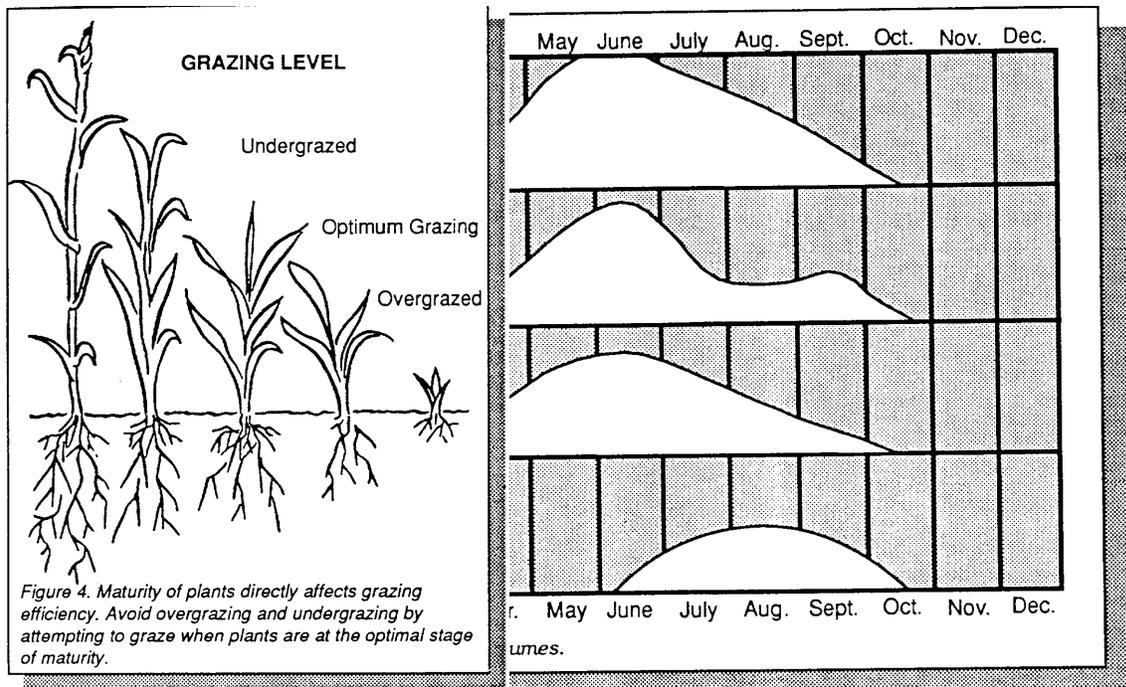


Figure 2. Production curves for six common grasses



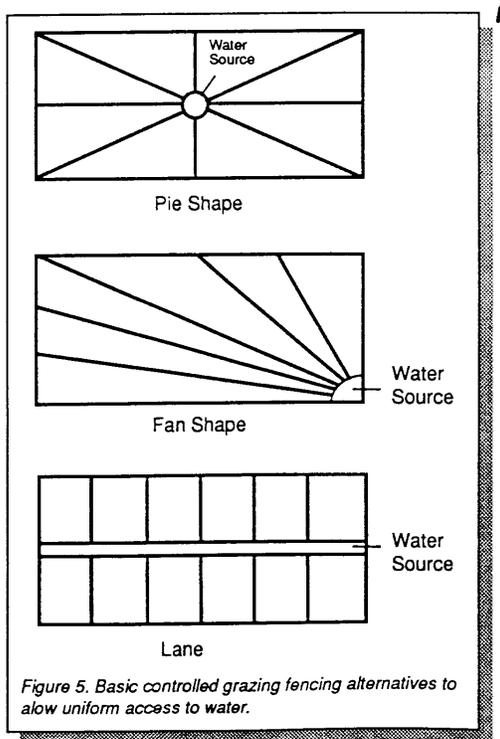
A system of controlled, rotational grazing will give pasture plants time to resupply their store house and rebuild their "factories". Controlled grazing is a system in which the pasture area is fenced into four or more sub-pastures, each of which is grazed in regular order with varying rest periods. Suggested alternatives for dividing pasture into sub-pastures (paddocks) for rotational grazing are seen in Figure 5.

Repeated removal of top growth by grazing causes a corresponding reduction in the plant root system. Top growth that is kept small cannot feed a large root system; neither can a stunted root system supply enough raw material to support a large growth of stems and leaves. A pasture that is overgrazed does not make efficient use of soil moisture and nutrients. As a result, it does not provide the maximum amount of livestock feed.

Several advantages often given for controlled grazing over continuous grazing of grass-legume pastures are:

1. Forage yields are usually higher.
2. Grazing can be accomplished at the best stage of growth of the forage crop involved for the type of livestock used.
3. The forage crop can be grazed to the desired height in a short period of time.
4. Less forage is wasted by trampling.
5. Intensity of grazing can be controlled.
6. The rest periods allow the forage crop to regain its vigor and to store the food reserve.

To obtain optimal gains, it is recommended that pastures be fertilized according to soil tests. Ask your agent for additional information about how to take a soil sample.



The Terminology of Controlled Grazing

Controlled grazing includes any system where the grazing pattern of livestock is determined by the manager instead of the animal. Controlled grazing is known by several names, including cell grazing, mob grazing and intensive grazing. Whatever the name, controlled grazing offers a method for improving production efficiency.

When a new management concept is developed, it is often accompanied by new terminology. This is the case with controlled grazing, but the terms are not difficult. Below are the words that are most commonly used in controlled grazing:

Continuous grazing - Animals are allowed to graze a given area without restriction.

Rotational grazing - Available pastures are divided into two or more portions and animals are moved according to pasture availability.

Controlled grazing (intensive grazing, cell grazing) - This term can be broadly defined as any system that controls the grazing patterns of animals. It is usually used, however, in reference to advanced systems of rotational grazing where pastures are divided into a substantial number of paddocks and animals are moved from one paddock to another under careful management.

Cell - Pasture area to be grazed, also called grazing unit.

Paddock - Individual fenced unit within the cell.

Animal unit - 1000 pounds of livestock.

Stocking rate - Animal units per acre in the cell.

Grazing density (grazing intensity) - Animal units per acre in a paddock.

Example: Assume a 20-acre area cell is to be divided into 10, 2-acre paddocks and grazed by 40 cattle weighing 500 pounds each, using intensive grazing technique.

Calculate animal units by: $500 \text{ lb/steer} \times 40 \text{ steers} = 20,000 \text{ total pounds} / 1000 = 20 \text{ animal units.}$

To calculate stocking rate: $20 \text{ animal units} / 20 \text{ acre cell} = 1.0 \text{ animal units/acre.}$

To calculate grazing density: $20 \text{ animal units} / 2 \text{ acre paddock} = 10 \text{ animal units per acre.}$

Two other terms should be understood in relation to intensive grazing. These are average daily gain (A.D.G.) and gain per acre (G.P.A.). Average daily gain is a commonly used term referring to the average amount of weight livestock gain each day. Gain per acre is the average amount of weight gained per acre within a grazing area.

Example: If 40 steers are grazed on 20 acres for 100 days and total gain is 6,000 pounds, calculate A.D.G. by:

$6,000 \text{ lbs. total gain} / 40 \text{ steers} = 150 \text{ lbs. gained by each steer,}$
 $150 \text{ lbs. gained by each steer} / 100 \text{ days} = 1.5 \text{ lbs. A.D.G.}$

Calculate G.P.A. by: $6,000 \text{ lbs. total gain} / 20 = 300 \text{ lbs. G.P.A.}$

In a grazing program both A.D.G. and G.P.A. may be utilized, but G.P.A. will be more useful for assessing the success of the

project.

For assistance in implementing a controlled grazing operation, contact your 4-H agent. The agent or another experienced adult will assist in planning the fencing arrangement, including how the calves will obtain water and shade. Plans will also need to be made concerning stocking rate, movement of calves and pasture management.

Fencing

A variety of fences are available for controlling the grazing patterns of animals. Electric fencing is most often recommended for dividing pastures into subdivisions or paddocks.

Ask your 4-H agent or adult leader for additional information about the best methods for constructing fences. Another good method for learning about fences is to visit local stores that sell fencing supplies.

Supplementing Pastured Cattle

Salt-mineral mixtures containing a minimum of 12 percent phosphorus are generally recommended for grazing calves. Commercial mixtures are available which are designed for use with pastured cattle.

Concentrate feeding is often advantageous if limited amounts are fed. A common practice is to feed one to two pounds of a high protein feed (such as soybean meal or cottonseed meal) each day. This can be hand-fed daily or mixed with approximately 10 percent salt and fed free-choice. Commercial mixtures are also available which may similarly improve gains. Avoid feeding supplements containing urea to calves weighing less than 500 pounds.

Include an ionophore (Rumensin or Bovatec) in the mineral and/or concentrate supplement.

Budgeting

The first step in starting a backgrounding project is to develop a budget. A budget is simply a financial plan that includes estimates of how much money you will spend on calves, feed, medicine, labor, interest, transportation and other items. It will also include estimates of the value of the calves at the end of the project.

By estimating production costs and the costs of purchasing the animals, it is relatively simple to calculate how much money it will take to conduct the project. By comparing the cost of producing the backgrounded calf with the estimated value of that calf at the end of the project, you can estimate the profit or loss of the project before you obtain the calves.

A budget (Table 1) is included in this manual to assist you in developing a financial plan. Ask your adult leader or 4-H agent to assist you in developing the backgrounding budget. Sample figures are included to assist you in developing the budget. Remember: The sample figures may or may not be accurate as applied to your situation. Do not use the figures in the sample budget unless you are certain they are accurate for you.

Obtaining Calves for Backgrounding

One of the advantages of the ADD-300 back-grounding project in most areas calves are readily available and may be easily obtained. Ask your parents, 4-H agent and adult leader to assist you in locating and purchasing calves for this project. Experienced advice is extremely important in

obtaining calves, because mistakes can be expensive.

The most important sources of calves for backgrounding are the home farms, other area farms, local stockyards and cattle buyers. Each of them is explained below:

1. Home-raised calves. This is one of the best sources of calves because there are fewer problems with sickness due to shipping, Using home-raised calves also allows you to take advantage of improvements in the management and genetics of your home cow herd.
2. Obtaining calves from other farms. Calves may occasionally be obtained from neighboring farms. This method requires only a short haul of the calves, so stress is kept to a minimum. A significant problem with this approach is establishing a price that is fair to both buyer and seller.
3. Purchasing at local stockyards. This method is one of the most popular and successful ways of obtaining calves. Calves are not usually very stressed, but the purchaser should be aware that there may be sick cattle at auctions. Watch carefully to avoid buying these.
4. Using a buying professional. The inexperienced person should consider using the services of a professional cattle buyer. A reputable dealer can offer experience and knowledge that is often worth far more than the fee that is charged.

**Table 1
Backgrounding Budget**

ITEM	DESCRIPTION	UNIT	QUANTITY	PRICE	AMOUNT
<u>Variable Expenses</u>					
Feeder Calf	Thinly Fleshed Steer	Lbs.	450	0.90	405.00
Feed					
Hay		Ton	0.5	65.00	32.50
Pasture		Acre	0.75	37.00	27.75
Grain		Lbs.	450	0.07	31.50
Salt & Minerals		Head	1	2.74	2.74
Veterinary/Medicine		Head	1	6.00	6.00
Marketing & Trucking		Head	1	9.00	9.00
Machinery					
Fuel & Repairs		Hr.	0.4	1.94	0.77
Total Variable Expense					515.26
<u>Fixed Expenses</u>					
Buildings and Facilities		Head	1	3.46	3.46
Fences		Head	0.4	2.16	0.86
Machinery		Hr.	0.4	1.83	0.73
Total Fixed Expenses					5.05
Total Fixed & Variable Expenses					520.31
<u>Interest</u>					
Feeder Steer					
12 percent interest for 170 days		Head	1	22.63	22.63
Buildings and Facilities					
12 percent		Head	1	3.18	3.18
Machinery					
12 percent		Hr.	0.4	0.94	0.37
Total Interest					26.18
Total Expenses					546.49
<u>Income</u>					
Calf		750 Lbs.		0.82	615.00
Death Loss		3 Percent			18.45
Total Revenue					596.55
Net Profit					50.06

Another aspect of obtaining calves is deciding what type of calf will be the best for you. Calves differ greatly. The differences are due to sex, inherited growth potential and previous management. The differences affect not only how cattle will perform in your project, but also the market value of the calves. These factors are discussed in more detail below:

1. Sex differences. In general, bulls grow faster than steers and steers grow faster than heifers. Bulls, however, are discriminated against in the commercial market because of behavioral and management problems and decreased value as slaughter animals. Therefore, steers and heifers are preferred in backgrounding projects. Heifers may usually be obtained at a lower price per pound than steers, but heifers are sometimes pregnant, which will decrease their value and could cause management problems. Discuss the advantages and disadvantages of using bulls, heifers and steers with your parents, 4-H agent and adult leader.
2. Inherited differences. Often the first consideration related to genetics is the breed to select. There are a variety of breeds available for using in a backgrounding project. No one breed is "best," and most breeds produce calves that will work for backgrounding. About 50 percent of the differences in growth rate of animals fed and managed alike is due to genetic differences in their ability to grow. Therefore, "fast" growing cows and bulls should produce "fast" growing calves. The potential for growth is inherited equally from the cow and the bull, which means a calf

sired by a "superior" bull but out of an "inferior" cow will not perform as well as his sire nor as poorly as his dam. Another genetic consideration is whether the calf is cross-bred or purebred. Crossbred calves are produced by mating cows with a bull of a different breed while purebred calves are from a dam and sire of the same breed. Crossbred calves have "hybrid-vigor" which makes them grow faster than straight-bred calves (approximately 5-10 percent). A combination of hybrid vigor and selection of calves from "fast" growing sires can result in 10 to 25 percent increase in daily gain. Crossbred calves of "inferior" parents cannot be expected to grow faster than straight bred calves produced by "superior" parents. Performance and value of calves is largely related to muscling and relative size or "frame." A feeder calf grading system has been developed by the United States Department of Agriculture that takes these factors into account.

3. Influence of previous management. Calves which come from a situation of long-term mis-management may do poorly in a backgrounding project. Some adult backgrounders prefer to buy and background mismanaged calves because they can often be purchased at a discount. This type of backgrounding program is risky, however, and requires a considerable amount of management skill.

Previous management may affect cattle performance in grazing programs. In general, calves which have been heavily creep-fed before weaning will be fatter. Calves that have been weaned and fed to gain rapidly

may also be fatter. Calves that are fat will not normally perform as well on grass as thinner calves. These calves should be avoided in grazing programs.

Backgrounding Health Program

A good health program is one of the most essential parts of a successful backgrounding project. If calves are purchased off the farm, a good health program should be implemented as soon as possible after calves arrive on the farm. Keeping calves healthy is one of the most important factors in determining the profits or losses of the project.

Step I in starting a good health program is a visit with your veterinarian. Let your vet assist you in working out a complete program. Obtain recommendations on what practices to plan for and the types of equipment and products that are needed. Many health-related products may also be obtained at farm supply stores or by mail order. The practices which may be recommended by your veterinarian include:

1. Identify with a visible tag or brand
2. Dehorn
3. Castrate
4. Vaccinate
5. Deworm
6. Treat for external parasites such as lice, grub and flies
7. Implant
8. Administer antibiotic

9. Administer probiotic (bacterial culture)

Of course, not all these practices will be necessary under all conditions. For example, the use of probiotics (bacterial cultures) may be very beneficial to stressed calves and of little or no benefit to home-raised calves.

If cattle are purchased, the first three to four weeks are critical, and calves should be closely watched during this time. If the slightest sign of sickness is observed, the affected calf or calves should be treated immediately. This treatment should be done by a veterinarian or someone with sick cattle experience.

Signs of sickness to watch for include a runny nose, watery and dull-looking eyes, head hanging down, coughing, heavy breathing, drooling, going off feed, stiffness, diarrhea or other abnormalities of the feces. Observe newly purchased calves a least three times a day, or more, if possible.

If a calf looks suspicious, do not wait to see if it becomes worse. Move it in the cattle working area for treatment as soon as possible.

One important method to assist you in determining the health status of a calf is take its rectal temperature. Any type of rectal thermometer can be used but the inexpensive digital thermometers are the quickest and most convenient. Normal temperature for a calf is around 101.5 to 102.5 . Anything above 103F is suspicious and should probably be treated.

Calves may be observed and treated more easily if they are confined to a small area for the first three to four weeks after they are purchased. Do not mix newly purchased calves with calves that have been on farm for

two to three weeks. Newly purchased calves should be provided with a good quality grass or grass-legume hay. They should also have access to clean water.

Newly purchased calves should receive a starter concentrate feed soon after arrival. This should be a high quality feed with a minimum of 14 percent crude protein. Many commercial feed dealers have starter feeds that are specifically prepared for feeding to newly purchased calves. These feeds typically contain feed additives that will help prevent sickness.

Additional tips for starting newly purchased cattle on feed include:

- Place feeders next to the fence in the arrival pen. This will allow the calves to find the starter feed more easily because newly arrived calves tend to walk the fences.
- Waterers should also be located beside the fence. It may help to let water overflow from automatic waterers or water troughs. This may help calves find the water more quickly.
- A sick pen for separating sick calves is good for closely observing unhealthy animals.
- A good working chute is extremely important for low-stress cattle handling. Plans are available from your 4-H agent for building or remodeling cattle handling facilities.

Marketing Backgrounded Calves

Tennessee has many excellent cattle marketing channels. Local livestock auction barns are often the most popular and convenient option, and usually have access

to buyers who will assure that calves receive a fair market price.

Other options for marketing calves include:

Private Treaty - Buyers are often available who will buy feeder calves directly from individuals on the farm.

Organized Feeder Calf Sales - In the spring and fall there are many organized feeder calf sales. These sales typically grade cattle and group them by weight, grade, sex and breed. This often makes the cattle more attractive to buyers.

On-Farm Board Sales - In this type of sale the cattle are typically video-taped and graded on the farm where they remain until they are picked up after the sale. The cattle are auctioned as in a regular auction, but the buyers are observing the video-tape instead of live cattle. The primary advantage of this type of marketing is that calves do not undergo the stress of being processed through an auction barn.

"Tracks" Record Keeping

To keep good records of your ADD-300 backgrounding project, obtain a copy of 4-H publication, "ADD-300 Backgrounding `TRACKS'." TRACKS stands for Tennessee Record And Cost Keeping System. Fill the "ADD-300 Backgrounding `TRACKS'" booklet out as completely as possible. Do not wait until the project is completed before you start keeping records. Instead, start the day the calves for best results.

Additional Management Tips

· Keep clean water available at all time. Ponds are often a poor source of water because cattle tend to stand in them and get them dirty, and they may freeze in the winter. If possible, fence cattle out of ponds and pipe water from the pond to a trough or waterers.

· Grazing cattle probably need shade during the summer, particularly on hot days.

· Calves will not perform as well under muddy conditions. Confined calves should be in lots with adequate drainage so that deep mud is prevented. Cattle should be removed from alfalfa or small grain pastures if it becomes muddy because the plants can be harmed if there is excess trampling in the mud.

Sources of Additional Information

Handbook of Livestock Management Techniques - RA. Battaglia and V.B. Magrose, authors; Burgess Publishing Company.

Beef Production and The Beef Industry - Robert E. Taylor, author; Burgess Publishing Company.

Glossary:

Annual - Plants which live for only one year.

Backgrounding - The growing of lightweight, weaned cattle to heavier weights; a system for turning weanling calves into feedlot-ready yearlings.

Baldy - A dark-colored calf with a white face. A black baldy is typically the result of crossing Angus and Hereford cattle.

Bovine - The species to which cattle belong.

Branding - Identifying cattle permanently with a hot brand or a cold brand.

Breed - 1) A distinct genetic group of cattle; 2) To mate.

Bull- A male bovine with testicles intact (see steer).

Calves - Cattle that have not been weaned.

Castrate - The removal of testicles.

Cattle - Animal belonging to the bovine species.

Cell- grazing area.

Controlled grazing - any system that controls grazing patterns.

Creep-fed (creep-feeding) - Providing feed to calves before they are weaned.

Dehorn - The removal of the horns of horned cattle.

Deworm - Using a product to remove stomach worms from cattle.

Ear tag - Any of several types of tags which are clipped or anchored into the ears of cattle; may be used for identification or for insecticide application.

Electric Fence - Fencing which gives livestock an electric shock when they touch it.

Feedlot - A confinement unit, generally for finishing cattle.

Finishing - The phase of cattle production where cattle are fed high-concentrate diets to fatten them before slaughter.

Frame - This refers to the skeletal dimensions of cattle. For example, large-framed cattle are taller than small-framed cattle.

Free-choice - Allowing cattle to consume as much as they desire of a particular feed or supplement.

Fly tag - An ear tag impregnated with an insecticide that controls certain kinds of flies.

Grubs - The larvae of the heel fly; the fly lays eggs on cattle which hatch into larvae. The larvae burrow under the skin and eventually erupt along the back.

Heifers - Female cattle under 2 years of age.

High-tensile fence - Smooth wire fence that is designed to be utilized in a fence that is maintained under relatively high tension.

Identification tags - Ear tags with numbers or other symbols used to identify cattle.

Intensive grazing - highly man- aged grazing.

Ionophore - A type of feed additive that

improves feed efficiency. Two are marketed under the trade names of Rumensin and Bovatec.

Limit-fed - Feeding a measured amount of a feed or supplement.

Medicated feed - A feed or supplement which has an added ingredient, such as an antibiotic or a dewormer, to improve livestock production.

Paddock - an individual fenced unit within a grazing area.

Perennial - A plant which lives for more than two years.

Polywire - A wire-polypropylene mesh wire that is designed for temporary electric fencing; often used for dividing paddocks in controlled, intensive grazing systems.

Preconditioning - A health and management program where cattle are weaned and worked through a health program prior to leaving the farm of origin, or before starting in a backgrounding or finishing program.

Probiotic - Microbial cultures which are administered to livestock to stimulate production or to speed recovery following stress or sickness.

Rotational grazing - a grazing system with pastures divided into subunits.

Weaning - Removing calves from their dam.

Suggested Activities

1. Visit a farm where cattle are backgrounded. Discuss backgrounding with the farm operator. Find out why backgrounding is practiced and details about the operation. Find out how calves are obtained and marketed. Write a report about the operation.
2. Prepare a written plan for a backgrounding operation. Include a budget using realistic figures for your area. Include a health plan with specific products and practices as recommended by a veterinarian or other experienced adult. Discuss the grazing or feeding plan. Discuss how you will obtain and market the calves.
3. Background a group of calves. Keep a detailed record using "ADD-300 Backgrounding TRACKS." It is permissible to background the calves on a cost-share or partnership basis with parents.
4. Present a demonstration about backgrounding. This can be presented at a 4-H Club meeting or some other group meeting. Use pictures to illustrate your points. Include budgeting alternatives.

NAME _____ ADDRESS _____

COUNTY _____ CLUB _____

AGE _____

1. What is backgrounding?
2. What are three reasons why backgrounding should be considered?
3. What are the two basic types of backgrounding?
4. What two types of forage are most often used in a winter backgrounding program?
5. Name three pasture forage plants that are used in Tennessee and discuss an important characteristic of each one.
6. What are three grazing systems that can be used in Tennessee?
7. What are the expense items that will normally be included in a backgrounding budget?
8. How can calves be obtained for a backgrounding program?
9. What causes differences in calves?
10. What health and management practices are generally recommended for newly purchased calves? Add-300 Backgrounding Study Record Include a report of the materials that you studied as you conducted your project.