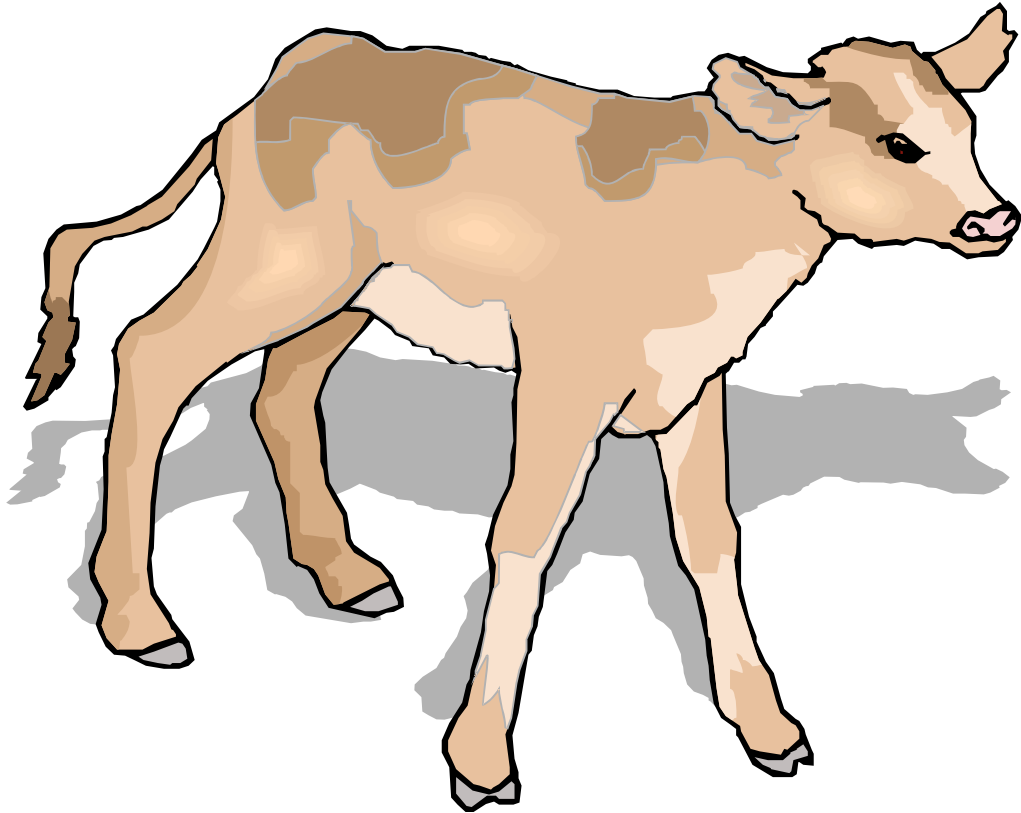


Beef Feeder Replacement

Dodge County Livestock Project Material



This project booklet belongs to:



University of Wisconsin-Extension
Dodge County Extension Office
127 East Oak Street
Juneau, WI 53039-1379
920-386-3790
920-386-3928 (fax)

Cooperative Extension
Dodge County Extension Office

Dear Beef Feeder Replacement Project Member:

Welcome to the Beef Feeder Replacement Project! The materials contained within this booklet were prepared by livestock industry and 4-H leaders to help you gain a meaningful experience.

The Beef Feeder Project is an animal project designed to teach you about the selection, management, and marketing of an emerging Dodge County industry. We hope you enjoy the experience.

Inasmuch as this is a new project, feel free to offer suggestions on how we may improve it.

Sincerely,

FEEDER REPLACEMENT PROJECT COMMITTEE

Bonnie Borden
Janet Arndt

GOALS

The goals of the new feeder calf program are:

1. To give youth an opportunity to gain experience working with and showing smaller beef animals.
2. To give youth a better understanding of the economics of production animal agriculture, and what costs are associated with raising their animal.
3. To have fun showing cattle in a competitive event.

PROJECT DESCRIPTION

The Dairy/Beef Feeder Replacement project is an attempt to teach project members basic husbandry and skills about an emerging Wisconsin industry.

Participants will be starting a bucket calf on or around April 1st. Exhibitors are expected to record start weights, feed records, and management practices. Calves are to be placed on high-energy diets until the Fair.

Project members are expected to attend training meetings and complete the record sheets. Record sheets are to be submitted at the Fair weigh-in.

FEEDER REPLACEMENT PROJECT GUIDELINES

- Bucket calves should be started in late March or very early April.
- Start weights, feed records, other costs, and gain data need to be recorded
(See *Meat Animal Project Form at the back of this booklet.*)
- Members can identify up to five (5) calves, but may only show one (1) calf per class.
- Members need to make regular Fair entries in the Feeder Replacement Classes (Beef Department).

TWO Classes will be available -- you may enter in BOTH:

*Lot 1 - *Single Entry Dairy Breed -- Shown at halter in the Show Ring*

*Lot 2 - *Single Entry Beef Breed -- Shown at halter in the Show Ring*

(Classes may be split by exhibitor age, if necessary.)

- **Exhibits must be castrated and dehorned.**
- Calves are to be clean.
- Calves will be graded and placed by the official judges.
- Ribbons will be awarded on the Danish System.

SCORING

Final placing is to be determined by a combination of 1/3 show placing, 1/3 rate of gain, and 1/3 cost of production. Any ties will be broken by show placing.

INDUSTRY SITUATION

Dodge County has 50,000-60,000 dairy cattle, an abundance of feed and the expertise in calf management. Traditionally, bull calves of feeder quality either went to supply the veal industry or out of state to be fed.

Producers increased awareness and consumer desire for leaner beef encouraged people to raise their dairy calves to market weight. Unfortunately, all people haven't the husbandry skills to raise the week-old calf successfully. Other persons, like feedlot operators, have their fiscal resources committed to feeding heavier feeders. They often lack the desire or knowledge to start calves.

The result is the development of a stratified production system where experienced calf raisers start the dairy bull calf on grain and resell the calves to feedlot operators to finish. The economic success depends heavily upon price (in and out), and calf survival. Higher death losses can eat up profits in a hurry.

PROJECT ANIMAL SELECTION

Good quality calves cost money, but poor quality calves can eventually cost you more! It is important to begin with calves that are healthy and thrifty in appearance. Calves should be larger framed and muscular. Breed consideration is important as markets often discriminate against some colored dairy breeds. Most important is buying a bull calf or calves that will fall into the suggested age and weight for Fair. Project members can purchase bucket calves (Late March or Early April).

Project calves can be purchased from sale barns, dairy farmers, or commercial calf producers. Each alternative has some advantages. The sale barn has a large number of calves, so getting one or more select number 1 calves of the correct weight and age is more likely. Farm-direct calves likely have been stressed less. Each choice of selection requires some knowledge about calf quality. Until you are familiar with the process, seeking the help of an experienced calf buyer or producer is beneficial.

TWO WAYS TO GET STARTED

- | | | | |
|----|---|-----------|--|
| I. | 1. Calves can be purchased at local stockyards (Lomira, Johnson Creek) | <i>OR</i> | II 1. Calves can be from farm herd or purchased direct from another farmer. |
| | 2. Start date and weight determined from yard receipt. | | 2. Start date and weight to be determined from spring weigh-in. (Date and Time to be announced.) |
| | 3. Calves to be tagged at yard with ear tag # to be written on receipt. | | 3. Calves will be ear-tagged at weigh-in. |
| | 4. Calves do not need to be reweighed for starting weight. | | <i>*Ending weight to be determined at Fair Weigh-in.</i> |

GETTING THE BUCKET CALF HOME

Transporting livestock from place of purchase to home can be a simple matter. Individual calves can be placed in a specially designed crate for their safety. *Remember to provide adequate protection for the calf from injury and undesirable climatic conditions.*

It is important that calves be raised individually at least 7 weeks old and weaned off milk. Individual rearing helps prevent the spread of disease and offers better observation of health problems.

Calves raised in individual pens within a building or in individual hutches each have similar environmental requirements. Drafts must be controlled and calves need to be kept dry. Well ventilated and bedded buildings or appropriately designed hutch systems will accomplish both. *(Hutch designs are available from the Extension Office.)*

HOUSING (Bucket Calves)

Calf hutches (*usually 4' x 8' plus 4' x 6' outdoors*) can be constructed of wood or purchased of fiberglass/plastic design. Calves can be tethered or penned when housed in hutches. Hutches should be placed on a permeable pad (*i.e. gravel*) spaced so calves have no nose contact, and orientated to accommodate climatic conditions. People often face them southerly in winter and northerly or easterly exposed in summer. Hutches require plenty of bedding, especially in winter to keep the calf dry. Some producers place the back of the hutch on bricks in summer to provide some air movement. Additionally, producers have found that placing hutches in a large shed in winter is quite acceptable. Investment cost per calf is reasonable, but more labor intensive. Future research questions focus on the efficiency of calf hutches for multi-source calves.

Calf crates (*stalls*) are another option for raising these calves. Much about their management has been gleaned from veal producers. Calf crates (*usually of hardwood construction*) are slotted floors, 22" wide, 4 to 5 feet long, and 17-18" off the floor. This production system depends heavily on the producer's ability to manage the environment (*temperature, drafts and humidity*). Calves are most often tethered to the front where feeding buckets are found. Crate systems require less space per head, labor and bedding, but have a greater initial investment and require environmental control.

Pen management for baby calves can be new construction or a retrofitted design implemented to make best use of an existing building. Lightweight calves require 20 to 28 square feet, adequate bedding, and often solid sides to reduce nose contact and eliminate drafts.

ENVIRONMENT and VENTILATION (Bucket Calves)

Performance relies heavily upon the environment in which the calves are reared. Research has demonstrated the effect temperature, wind and morbidity have on performance and, ultimately, on profitability.

Calf hutch management other than orientation and possibly providing a modified environment (*i.e. located inside a shed*) can do little about ambient temperature. Your best defense in management of environment with hutches is adequate bedding and a sound nutritional and vaccination program.

Inside pens and individual stall systems offer opportunities to control temperature, humidity and drafts. Most warm housed units start calves at temperatures around 60-65° and some units reduce temperature over the feeding period to just above freezing (*i.e. 40 degrees*) if calves are to be housed outside in winter after weaning. Although not totally convinced the 60-65° is absolutely necessary, it is recommended because multi source calves under 200# should not experience stress just after transport. Hot house calves under 200# should not experience more than a five degree temperature difference in a 24 hour period. Temperature fluctuations greater than 10-15° have been shown to stress calves.

Air speeds through slot ventilation inlets of 600 to 1000 feet/minute yield a potential mix incoming fresh air with more moisture laden facility air without causing drafts. Room air speed over calves is critical, as a 60 fpm draft lowers the effectual temperature to the calf 8-14°. Four week old calves should not experience air speeds greater than 30 fpm. Ventilation systems are designed to expel high relative humidity air (*over 65%*) and replace it with fresh, lower relative humidity air. Increased relative humidity wets hairs and decreases the hairs insulation ability. When utilizing mechanical ventilation 10-15 cfm/hd is required for these lightweight bucket calves in winter and summer ventilation values as high as 130 cfm/head may be required.

FEEDING EQUIPMENT (Bucket Calves)

Feedings is most often individualized. Some companies have developed free choice ad lib milk replacer feeding systems for veal. These systems mix the replacer, maintain temperature and provide calves with replacer whenever desired. Several management concerns do need to be addressed when using them: calves may luxury consume product, suck on each other, equipment can be expensive and when housed in groups good management is required to observe all animals daily for health status. Advantages of these systems are that weight gain on calves are acceptable, and labor costs reduced. These systems, however, do not encourage dry feed consumption. Because we are attempting to get calves on dry feed as soon as possible, having free choice milk replacer may be defeatist.

Individual feeding has been the management choice most practiced. Pails are commonly used as calves become conditioned to eating (*both liquid and dry feed*) from this equipment. Nipple bottles and nipple pails work just fine; however, they each are more difficult to clean thoroughly than the bucket. Feeding milk replacer can be done with a portable mixer or a central mixing center and hose system in warm confinement buildings.

MILK REPLACER FEEDING (Bucket Calves)

When calves first arrive, they do not need additional stress. Give them some water and let them settle down. Some commercial calf growers feed an electrolyte solution the first feeding. Mix milk replacer at 140-160° F temperature and try to feed at 100-110°F. Mix and feed at manufacturer's rates. Usually milk replacer is fed at 8-10% of body weight daily. Twice a day feeding is 4-5% of body weight each feeding.

Feeding a high quality milk replacer is important. Higher calf mortality and lower performance are the price you can pay for feeding a cheap quality replacer. The replacer should be contained at least 22% protein and 20% fat. The protein and carbohydrates should come from properly processed milk products such as dried skim milk or buttermilk, or dried whey or whey concentrate. Some other proteins can be utilized by the calf in limited amounts.

Overfeeding milk replacer is undesirable for several reasons. First is the increased incidence of digestive upsets and secondly dry feed consumption is decreased. Try to feed calves at 12 hour intervals and always have fresh water available.

DRY FEED (Bucket Calves)

Begin offering small amounts of starter within the first week. The sooner the calf is on dry feed, the less digestive problems that are encountered. The newborn calf has a nonfunctional rumen, and liquid feed is not intended to go into the rumen. It is the dry feed that develops the rumen. That is why it is important that we offer a quality starter to calves early. Offer only slightly more than you expect the calf to eat and keep it fresh.

Most calves are weaned from milk replacer at 5 to 7 weeks of age. But dry feed consumption is the most important criteria in determining when to wean the calf. Although sources do not agree exactly, a healthy calf that eats at least 1½# of dry feed each day for a week can usually be successfully weaned.

Starter palatability and texture is important to calves. Starter diets coarse in texture (*cracked and pelleted*) are desirable. Also, the addition of liquid molasses at a rate of 3-5% aids in consumption. Starter diets of at least 18% protein are helpful. (*Examples of starter diets can be obtained from your feed industry representative or the Extension Office.*)

THE STARTED CALF (After Weaning)

Continue to offer starter diets to newly weaned and grouped calves for the first week. Beginning with the second week, blend the grower diet with starter at about 15% per day. After one week, weaned and group housed calves will be switched to a 16%-17% grower diet.

Weaned calves are often moved to loose housing in small groups (under 40 head) for acclimation. Other farms have had success in placing them in groups of 100 head. Because of new found competition, observation on behalf of the manager becomes critical; observe carefully for calves that are falling behind. Good facility design and feeding equipment design can make the transition easier.

FACILITIES & EQUIPMENT NEEDS OF WEANED CALVES

Weaned calves, whether in large or small groups, require specific resting and feeding areas. Housing needs are again a draft-free environment and most likely naturally ventilated. Because calves have access to feeding and resting areas, space consideration needs are to be given to both. Sources vary, but roughly 15 to 25 square feet inside of quality resting area and 20 to 30 square feet outside are need to be provided on solid floor. Slotted floor confinement systems would require substantially less square footage; however, placing these lightweight calves on slats at this age can create other management problems.

Naturally ventilated facilities should be open to the south, have an open ridge and floors pitched from back to front at 1/8 inch/foot to 3/16 inch/foot. Building sidewall heights of 8' minimum (9' to 10' is better) are needed for air diffusion, and building depths no less than 28 feet in this climate. Pen dividers may be necessary in winter to cut horizontal air movement. Drop curtain or drop vent doors are essential summer ventilation and insulation adds a measure of comfort in summer. Provide 1 water hole/40 head, throat heights of bunks approximately 18" and no wider than 18" for one-side feeding or 36" for both-side feeding.

Feeder space provided depends largely on how often and what you are going to feed. Fresh weaned calves may not be very competitive and extra feeder space is better than short changing them. Again, sources disagree somewhat. If you are hand-feeding what they will clean up once or twice a day, 1 foot of bunk space per head may be needed. Grain self-feeder spaces for cattle at these weights need to provide 6-9 inches/head.

HEALTH CARE and VACCINATIONS

It is very important to obtain as complete a health and vaccinations history as possible when you acquire your calves. Even if you purchase calves, investigate the vaccinations their mothers have had, as well as those the calves have received immediately after birth. If you cannot obtain a history, it is best to assume they have received nothing.

Establish a good working relationship with your veterinarian in order to formulate a sound health program. It is beyond the scope of this booklet to discuss all the various vaccination possibilities that could be used in the many disease problems that could affect your calves. These situations and the proper therapy are best dealt with in consultation with the veterinarian of your choice.

The following is a program example that many minimize health problems. *Always consult with your Veterinarian.*

Birth (2-6 hours of age)

- Good quality colostrum
- E-coli K-99 product
 - Genecol-99
- Intranasal IBR-PI-3
 - Nasalgen
 - TSV-2
- Oral Rota-Corona vaccine
 - Calf-Guard
- Dip Naval (use Tincture of Iodine)
- Vitamins A, D & E (Vital E-AD)
- Supplemental Iron

8-10 Days of Age

- Vaccinate for IBR-PI3, BVD-BRSV (modified live or killed)
 - CattleMaster 4
 - Triangle 4
 - Horizon 4
 - Discovery 4
 - Tandem 4
 - Pyramid 4
 - Bovi-Shield 4

*** *Caution: Do not use modified live IBR-BVD vaccines on farms that also have pregnant cows/heifers on premises. In these cases, do NOT use Bovi-Shield.*

- Dehorn
 - Surgical removal
 - Burn
 - Buddex free
 - Dehorning paste

15-17 Days of Age

- Castrate
 - Surgical removal
 - Rubber band
 - Burdizzo (Veterinarian to insure castration)
- Implant

*** *Sale Committee recommends Ralgro to assure calves are all implanted the same.*

20-22 Days of Age

- Vaccinate for Clostridial agents
 - Ultrabec 7 or 8
 - Vision 7 or 8
 - Alpha 7
 - Pasturella vaccine
 - One Shot
 - Prepsone
 - Once pmH

35-40 Days of Age

- Booster IBR-PI3 BVD-BRSV
- Booster Clostridial agents

35-45 Days of Age

- Wean

(Calves must be eating grain starter, otherwise delay weaning SEE TEXT)

40-70 Days of Age

- Recommended a coccidiostat be in grain starter
 - Deccox
- Deworm for roundworms
 - TBZ
 - Ivomec
 - Valbazen
 - Panacur

**Several trade names have been used for demonstration purposes. Their inclusion on this list is not an endorsement, or the absence of a trade name is not a condemnation, of a similar product.*

HUSBANDRY SKILLS

Certain management activities accompany each type of livestock production. These production activities are called husbandry. Feeder calf production involves several needed husbandry skills.

All exhibits must be dehorned and castrated. Removing the horn mechanically, burning, or putting caustic paste on the horn needs to be done prior to weaning. Weaned calves get more difficult to handle. The larger the calf, the more stressful it becomes. For dehorning and castrating, doing it early is best.

Remember, change is stressful to the calf. Try to spread husbandry out over a couple of weeks. The cumulative impact of tagging, dehorning, castration, and weaning to group housing all in the same week can spell disaster.

BREAKING THE CALF TO LEAD

Getting the calf accustomed to a halter can be done quite easily when they are smaller. Begin by placing a halter on them and tying them up for 20 minutes twice each day for a week. Observe them carefully so they do not become entangled or injure themselves. After a week or two, the amount of time they are tied can be extended. Handle them gently and get them accustomed to you.

Once the calf gets used to being handled, begin teaching them to lead. Initially, having an adult assist you is probably the best. Lead them only a short distance at first and gradually extend the length.

Calves should be taught to stand quietly, with feet placed squarely underneath them. A show stick is helpful, but not necessary.

SHOWING AT THE FAIR

Calves are to be brought to the fair grounds on Tuesday of the fair, and will be left at the fairgrounds until the release time on Sunday.

Show time is Wednesday morning, after the Beef Breeding Stock show. All calves should be clean when shown. *CAUTION: Using very cold water may chill them unnecessarily.* If you wash them, use a mild soap, moderate water temperature and rinse thoroughly. Don't forget to clean the hoofs. Showing will be very much like showing steers. Lead your calf in a clockwise direction and from the left side of your animal.

Pull, facing forward, the direction you want your calf to move. Keep your right hand near the animal's head and hold the extra lead (and show stick, if desired) in your left hand.

Follow the ring persons' directions. When the judge or ring person requests you to stop circling, they will hold one or both hands up. This is the time to set your animal up so the judge can view your exhibit. The judge or ring person will eventually call you into the placing line. Do so promptly, and line your exhibit up in line with the other cattle.

Remain in line until all cattle have been placed. Remember -- ALWAYS keep your eyes on the judge and BE ALERT!

**DODGE COUNTY EVALUATION
DAIRY FEED REPLACEMENT EXHIBITS**

GENERAL APPEARANCE:

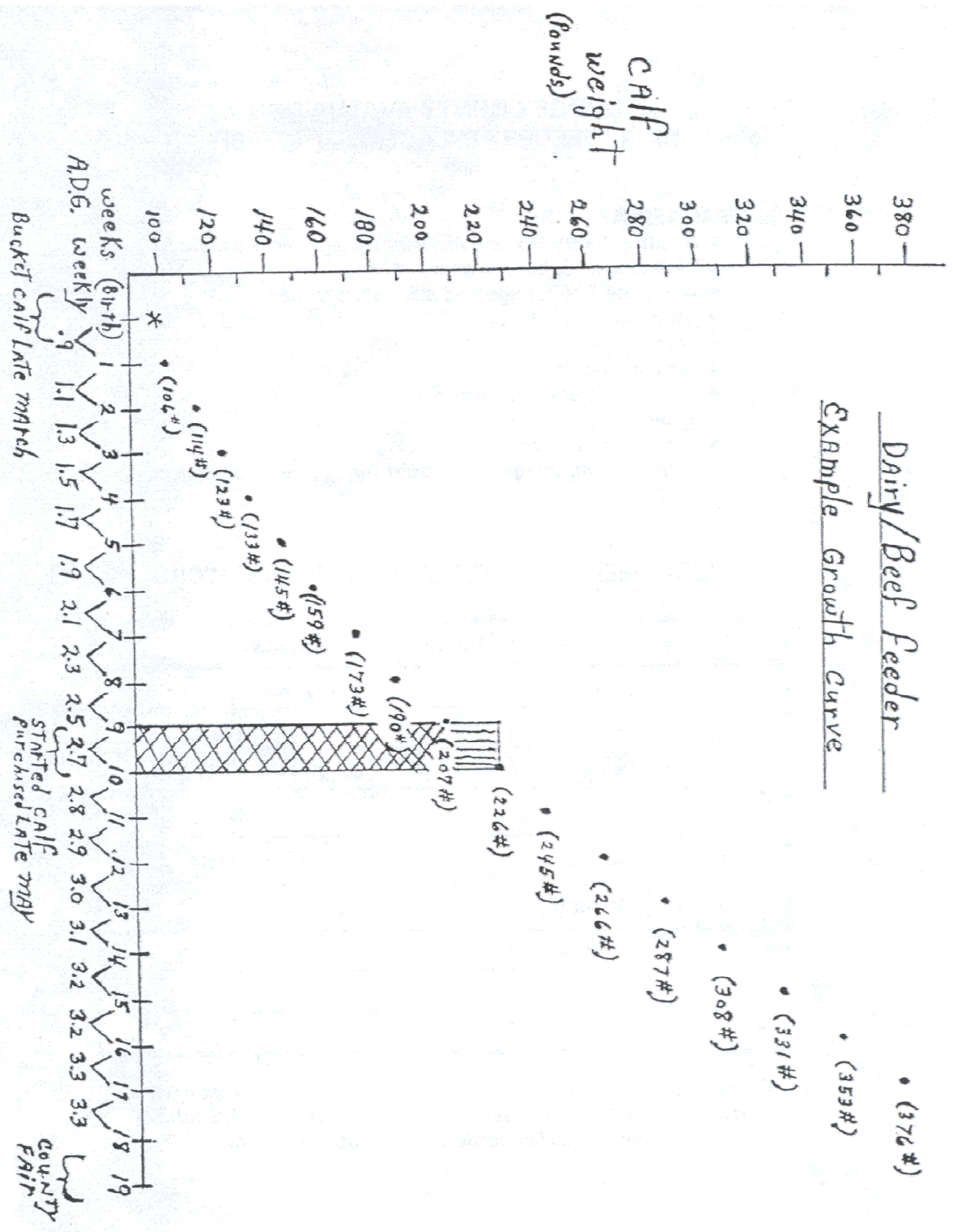
- Healthy (*Entry fits within weight & age requirements*)
- Well balanced, heavily muscled
- Adequate size for age and substance of bone
- Long, straight topped
- Trim middle
- Well sprung rib
- Shoulders blend well into neck
- Straight legs
- Pliable hide and clean hair/coat
- Entry fits within age and weight requirements of project

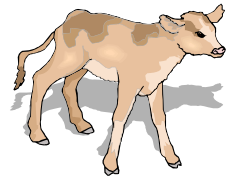
USDA FEEDER CATTLE EVALUATION FACTORS

	FRAME	9 pt. Scale	Thickness	
L	Large +	1	Very Thick	1
	Large	2	Thick	
	Large -	3	Slightly Thick	
M	Medium +	4	-	2
	Medium	5	-	
	Medium -	6	Narrow	
S	Small +	7		3
	Small	8		
	Small -	9		

Cattle, which are diseased, etc. or have any condition that must be corrected before they can perform normally are grade US Inferior. Double muscled cattle also fall into this grade.

Dairy/Beef Feeder
Example Growth Curve





DAIRY / BEEF FEEDER PROJECT - EXPENSE WORKSHEET

EXHIBITOR _____ ANIMAL I.D. # _____

Start Date: __/__/__ Start Weight: _____ End Date: __/__/__ End Weight: _____

A. Animal's Original Purchase Price/Cost*
(Attach receipt/published cost *with starting weight*)

B. Housing Cost/Value..... \$5.00

C. Bedding:Quantity Used _____.....Cost/Value _____

D. Milk Replacer or MilkQuantity Used _____.....Cost/Value* _____

E. Starter GrainQuantity Used _____.....Cost/Value* _____

F. Any Other GrainQuantity Used _____.....Cost/Value* _____

G. HayQuantity Used _____.....Cost/Value _____

H. ImplantQuantity Used _____.....Cost. _____

I. Other Vet Expenses..... _____

J. Equipment Costs (Bottles, Pails, Etc) \$3.00

TOTAL COST..... _____

**Attach Receipt/Proof of Value.*

This page must be completed and turned in at the fair weigh-in. Failure to complete this form accurately will result in a last place penalty for this portion of your score.