Replacement Heifer Project Informational Guide

Amador County Fair
26th District Agricultural Association
P.O. Box 9
18621 Sherwood St.
Plymouth, CA 95669
209-245-6921
rev. 09-30-2026

TABLE OF CONTENTS

Introduction……. 1

Objectives of Beef Replacement Heifer Project…… 1

Economics, Financing and Recordkeeping……..…… 1

Selection of Heifer……..…… 2

Facilities and Tack (Equipment)……..... 4

Feeding/Nutrition…….……...……...……..... 4

Feeding Guidelines……..…..…….. 5

Breeding……..……..……..……..…….. 6

Temperament of Heifer…..…….. 6

Insurance……..……..……..…… 6

Health……..……..…….. 7

Fitting and Showing……..…… 7

After Sale……..…… 7

Following Fair…….……. 7

Beef Cattle Terms You Should Know…….……. 8

Introduction

Raising a replacement heifer project gives 4-H, Future Farmers of America (FFA), Jr. Grange and independent youth an opportunity to expand their knowledge in a breeding project related to commercial cattle production. Because of the difference between raising breeding heifers and market beef, this guide, as well as several publications mentioned later, are recommended reading for anyone planning to raise or supervise a replacement heifer project.

Objectives of the Replacement Heifer Project

The objectives of the Replacement Project are the following:

1. Learn basic management practices of the beef cattle breeding business
2. Learn the economics of raising a beef replacement heifer
3. To select and raise quality heifers that meet the requirements of local commercial cattle producers in order to expand and/or upgrade existing herds

Economics, Financing and Recordkeeping

Before purchasing a heifer, find out the prevailing market price for beef heifers. Since most of the heifers from this project will go into commercial herds, it is wise to buy heifers at reasonable prices.

The income from commercial cattle is not expected to be high enough for commercial cattlemen to justify paying inflated prices as is sometimes done for registered breeding animals and market animals. When selecting project calves from the top of the herd, however, it may be necessary to pay more than market price.

Exhibitors should formulate a budget of expected expenses before starting the project. Project rules require that accurate recordkeeping be done and kept updated and current.

Project loans, which may be obtained from commercial banks, help you pay your bills as they are incurred and provide practical business experience for members. Whether a loan is needed, members should formulate a budget of expected expenses before starting the project. Project rules state that accurate records be kept up to date always.

Selection of Heifer

In deciding which breed or cross breed heifer to buy, take the following factors into account:

- ✓ Rate of gain per day
- ✓ Size of breed
- ✓ Disposition of breed
- ✓ Fertility
- ✓ Optimum breeding age
- ✓ Milk production

Larger breeds eat more, usually reach sexual maturity at a later age, and are heavier in weight than smaller breeds. They may also be more difficult to handle, especially for smaller and/or younger exhibitors.

High-milking breeds raise fast gaining calves, but they also require more feed to maintain regular reproduction, a possible disadvantage on dry range conditions.

Try to avoid heifers that are extreme in size. Pay attention when choosing your heifer to be aware of the preference(s) of the commercial cattlemen that make up your market.

Reproductive efficiency is more important than anything else to be successful in the beef cattle business. A heifer should be selected from a herd with a high calf crop percentage (as close to 100% as possible). Ask to see the calving dates of the heifer's dam. If the dam has a record of late calving compared to other cows in the herd, be cautious about choosing the heifer. A feminine appearance usually means reproductive efficiency. Avoid coarse, masculine looking heifers. Check the heifer's dam to see if she looks feminine.

Carefully look at the heifer’s conformation and structural soundness. A heifer with good conformation has just enough muscle but not too much. See figures on the following page for examples of conformation. Do not select a heifer that is heavily muscled. Heifers should possess a feminine appearance, weigh at least 650 lbs., and be 12-14 months old at breeding time. Replacement Heifers must weigh a minimum of 900 pounds at fair weigh-in to be eligible for show and sale.

Remember that you must train your heifer to lead and to be calm around crowds. Try to avoid selecting a high-headed or “wild” heifer. Halter breaking should be done in a humane manner. Leaving halters to drag on the ground could result in injuries which could be deemed inhumane.

Obtain a bill of sale and brand inspection certificate at the time of purchase, as you will need these documents when submitting your project agreement and when you take your heifer to the Fair.

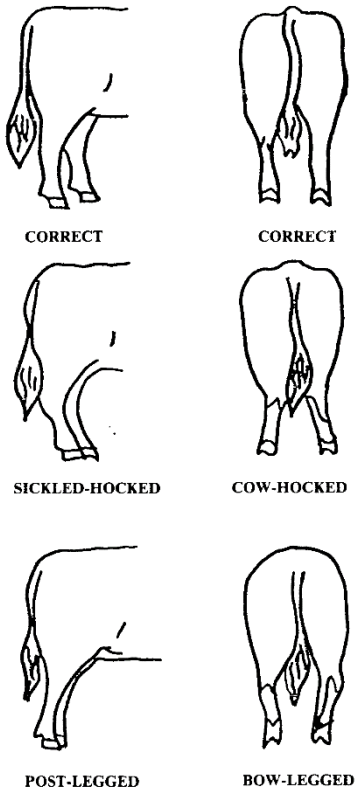


FIGURE 3
EXAMPLES OF CORRECT AND INCORRECT LEG SET

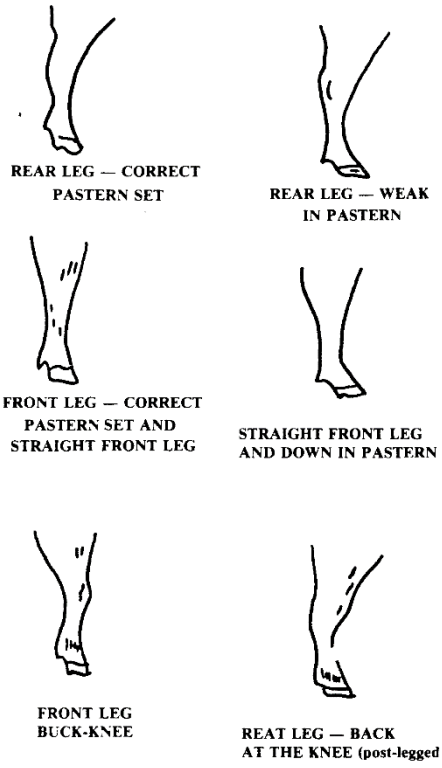
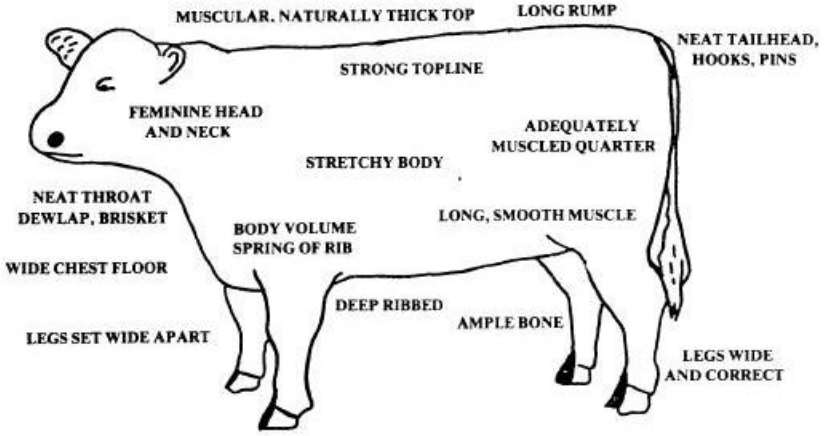


FIGURE 4
EXAMPLES OF CORRECT AND WEAK PASTERN AND KNEES



Facilities and Tack (Equipment)

If you keep your heifer in a pen, allow about 900 square feet for adequate exercise area. Be certain it is sturdy enough to keep the heifer enclosed.

If a shelter is used to protect your heifer from winter storms and summer sun, a shed, lean-to, or box stall measuring 10' x 10' should be large enough for one heifer, with additional pen space for pasture. Make sure it is well ventilated.

Cattle require equipment or tack. There are many different types of show tack and grooming supplies that you can purchase. Check with your leader/advisor/parent regarding what grooming supplies you will need or may be allowed to use at the fair. Some required tack/equipment includes:

- ✓ Strong rope halter
- ✓ Water and feed troughs
- ✓ Brush and combs
- ✓ Show halter
- ✓ Show stick

Feeding/Nutrition

There are many ways to feed your heifer. Some are more efficient than others but may not be available to you where your heifer is being kept.

If you graze your heifer on irrigated pasture, about half an acre of good pasture will support her during the best growing season, March through October. Additional feed will be needed for the remainder of the year. Remember, it is easy for the heifer to become too fat on irrigated pasture, be careful not to supplement the heifer too much.

Rangeland is also a good feed source, but it will take two (2) to ten (10) acres of rangeland, depending on soil and rainfall, to carry the heifer during the green season (about January to May). Although animals on the range are more independent than those in enclosed pens, exhibitors should work with all project animals regularly to train and fit them for the Fair, and also monitor their health and nutritional condition.

Heifers not on rangeland or pasture will need about two (2) to two (2) ½ pounds of alfalfa hay or a mix of grass or grain hay and alfalfa per 100 pounds of body weight. Oat, barley, or grass hay, when substituted for part of the alfalfa hay, can help reduce scours. Additionally, prevent your heifer from becoming too fat as this can impair calving and milk production. Unlimited access to irrigated pasture can lead to an overly fat condition.

Cereal hay or grass hay can be fed free choice combined with ½ pound of cottonseed meal and one (1) to one (1) ½ pounds of barley, rolled or ground. If alfalfa hay makes 50 percent or more of the hay ration, the cottonseed meal can be eliminated. If the heifer gains too rapidly and starts to get too fat, reduce or eliminate the barley.

Feeding/Nutrition *continued*

If good range or irrigated pasture is available, no other feed is necessary. When range becomes dry, a protein supplement, such as, one (1) to one (1) ½ pounds of cottonseed meal fortified with vitamin A, is needed. Vitamin A can also be injected.

Replacement Heifer projects ***should not*** be fed out like market beef projects. Consult your breeder, leader/advisor and/or veterinarian for information regarding proper feeding and nutrition.

Heifers should be managed to maintain a continuous rate of growth not exceeding about one (1) to one (1) ½ pounds per day, depending on breed and skeletal size until about 60 days before the fair. At that this time, feed should be increased to allow for a weight gain of one (1) ½ to two (2) pounds per day. This will add some extra "bloom" and conditioning which will give the heifer increased "eye appeal" at the show and sale. Be careful and do not allow your heifer to get fat. If a heifer gains over 2.0 pounds per day during this period, she will probably get too fat which may hurt her future productivity. The amount of extra feed needed to put this extra gain and bloom on the heifer will vary, depending on the available pasture and the condition of the heifer.

Replacement Heifers must weigh a minimum of 900 pounds at weigh-in at the fair to qualify for the replacement heifer class.

Feeding Guidelines

- ✓ Feed at regular times (once or twice daily)
- ✓ Feed at the same time each feeding
- ✓ Keep feed and water troughs clean always
- ✓ Do not change types/brands of feed suddenly
- ✓ Have plenty of fresh clean water available always

Breeding

The rules for this project specify that heifers ***must be bred*** to calve between September 1 and October 31 following the fair. Assuming 283-day gestation, the heifer should be bred between November 23 and January 22.

Heifers that calve prior to Amador County Fair Replacement Heifer show will be disqualified and ineligible to show or sell through the Replacement Heifer show and sale.

Heifers may be bred naturally or by artificial insemination. The heifers should be bred to low birth weight, ease of calving (or calving ease) bulls to reduce calving difficulty.

It is recommended that the bulls be semen tested for fertility. Leaving a heifer with bull(s) for 45 days or more should cover at least two (2) estrous cycles.

The heat period, the time when your heifer will breed, will usually last from 12 – 24 hours. The heifer will usually repeat the heat period about every 21 days until in calf. As a rule, a heifer should be inseminated within 12 – 24 hours after first being observed in heat.

The gestation period, the time after breeding until the calf is born, is about nine (9) months, or 283 days, depending on the breed.

Owning and managing a replacement heifer is not without risk. Several factors can delay or prevent conception and calving. Some of the causes include diseases, nutrition, sexual immaturity, genetic defects, and physical injury. Should you have any questions regarding your replacement heifer and her ability/inability to breed, contact your leader/advisor, your breeder, and your local veterinarian.

Temperament of Heifer

Heifers must be gentle, halter-broke, and can be led by the exhibitor. If it is determined that the beef entry may endanger other exhibitors and the fair-going public, the fair management reserves the right to disqualify, as ineligible for show competition, and order the removal of any replacement heifer project entry from the fairgrounds, that is not gentle and properly halter broke to lead.

Heifer must be halter broke by March Preg Check.

Insurance

Consider buying insurance for your heifer project while at the fair. Insurance is available through the fair office.

Health

There are many common cattle diseases that exhibitors should be aware of. At the start of the project, exhibitors should consult with your veterinarian for vaccination and health management recommendations to avoid common diseases. Certain vaccinations can only be administered by licensed veterinarians. California State law requires that beef heifers over 12 months of age show evidence of calf hood brucellosis vaccination if they are sold within the state for breeding purposes.

Treatment for stomach and intestinal worms may be beneficial, especially for heifers on irrigated pasture. A fecal count for worms is suggested, if feasible.

Be aware of possible infestations of parasites such as grubs, lice, ticks, face flies, and horn flies. If treatment is necessary, carefully follow the directions on the label of the product being used.

Ensure your Replacement Heifer project hooves are healthy and trimmed prior to coming to the fair.

Fitting and Showing

4-H, FFA, and Grange project manuals have detailed information on the fitting and showing of beef cattle. The internet also has many references available for viewing or downloading.

Heifers that are not registered should be without horns. Scurs are acceptable, Dehorning may be necessary. The same hair clipping procedure used for market steers is acceptable for replacement heifers.

After Sale

Exhibitors are required to ensure proper feed and water management to their heifer until the project leaves the fairgrounds. Coordinate with your buyer(s) to determine responsibility and feeding/watering schedule if your heifer project is not leaving the fairgrounds immediately after the sale.

Following Fair

Since the successful end of the heifer replacement project is a healthy calf at weaning time, it is important that the exhibitor acquire follow-up information on calving and weaning from their buyer, if possible.

Beef Cattle Terms You Should Know

Term	Definition
Average Daily Gain (ADG):	The total pounds of gain divided by the number of days needed to make the gain.
Bloom	The general appearance of a healthy, clean, lustrous hair coat.
Bovine Viral Diarrhea (BVD-PI)	Bovine viral diarrhea is a viral disease of cattle and other ruminants that is caused by the bovine viral diarrhea virus (BVDV). The most common consequences of BVDV infection are respiratory and reproductive problems.
Brucellosis	An infectious, contagious disease that can cause abortions and reproductive failure in cattle, sheep and goats. It is commonly called Bang's disease. It also causes undulant fever in humans.
Clostridial diseases	These are acute infectious diseases which usually kill cattle. Unvaccinated cattle six to 24 months of age are most susceptible. There are four types of bacteria that cause these diseases. Clostridium chauvei causes blackleg; Clostridium Movyi causes black disease; Clostridium Septeceium causes malignant edema; and Clostridium Sordelli causes a severe muscle disease.
Conformation	The general build of an animal influenced by muscling or structural shape.
Feed Efficiency	The number of pounds gained per pound of rations fed.

Beef Cattle Terms You Should Know

Term	Definition
Forage	Efficiency Feed for livestock, often made up of coarsely chopped stalks and leaves of corn mixed with hay, straw, and other plants.
Heritability	That part of a cow's performance that is influenced by the genes she received from her parents. The higher the heritability of a trait, the greater the rate of genetic improvement will be for that trait.
Purebred	An animal whose parents are of the same breed and are recorded with the breed registry.
Registered	An animal whose name, along with the names and numbers of its sire and dam, have been recorded by its breed association.
Reproductive Efficiency	A measure of a beef cow herd's ability to have calves. It takes into consideration rebreeding on schedule and number of calves weaned compared to number of cows that were in the herd during the breeding season.
Weaning Ratio	A percentage figure for each calf, designed to help compare the adjusted 205-day weight of each calf to others in its group. A ratio of 90 means a calf is 10 percent below average, while a ratio of 110 would be 10 percent above average.