

Raising Calves and Heifers

The Brown's Way

Calves and heifers are the future of your herd / business! Don't risk that future treating them poorly early in life. Brown's replacement and feeder calf programs emphasize the use of home grown forages and Brown's high quality feeds to start calves quickly and grow them economically.

Calves - Day One to Forty

1. **Calf Care Starts Before Birth** - Calves should be born in a clean draft-free area, or on a small grass filled lot near the barn or house. The dam must be on a nutritionally balanced feeding program, providing adequate energy, vitamins, minerals, and the correct blend of soluble and undegradable proteins. Many customers have successfully used **Brown's 30 DC Balancer Pellets** and prefresh program to accomplish this mission. Any nutrient deficiency can lead to weak calves and high death loss. Be sure the dam has adequate opportunity to get exercise, and is near a source of clean, cool water at calving.
2. **Observe Calving Area Regularly** - Render assistance if needed, but pulling a calf too soon may harm both the calf and the dam.
3. **Dip the Navel** - Use a 7% tincture of iodine solution to coat and seal the navel immediately following birth. This simple procedure, often overlooked or ignored, can contribute greatly to calf health.
4. **Feed Colostrum Immediately** - Calves can only absorb the antibodies in colostrum early in life. Hand feed at least two quarts and as much as four quarts within one hour of birth. Continue to feed 4 pints (4 lbs) of colostrum daily, if available, for the next three days. It is advisable to freeze extra colostrum from healthy mature cows to feed to calves out of first lactation dams and calves from sick cows. If Johne's Disease is present in your herd be sure colostrum is from Johne's free dam. Don't pool colostrum from several cows. This increases the risk of spreading Johne's which can be passed to calves via milk or colostrum.
5. **Observe Calves Regularly** - Dairy calves should generally be separated into individual hutches or pens within three days of birth. Beef calves or feeder calves can be left with the dam or housed and fed in group pens according to the management system used. Remember, if calves are housed in groups observe calves carefully after feeding to be sure that they do not suck each other.
6. **Provide A Source of High Quality Milk** - While the dam's milk is normally considered the optimum source of nutrition, this is not always the case. Often it is economically

infeasible to provide marketable milk to dairy calves. Whole milk is deficient in several important trace minerals and vitamins rapidly growing calves need. Calves left with the dam in dirty pens can also ingest pathogenic organisms from the dam or environment. Waste milk should be pasteurized before feeding. Mastitis organisms may spread to and infect calves or lay dormant until the calf becomes a cow before exploding into a future problem. Thus, for various reasons milk replacer may be the optimum method of feeding calves. Brown's offers three milk replacers to choose from:

- A) **BROWN'S 20/20 QUICK START** - A high energy, high protein "All Milk" replacer which mixes easily and is consumed quickly when offered to calves. It is the best choice where calves are raised in hutches or cold environment calf housing. Quick Start contains Bovatec to prevent/treat Coccidiosis and Lactobacillus Acidophilus, a live intestinal microbial product.
 - B) **BROWN'S 22/18 MILK & MORE** - Higher in protein and lower in energy than 20/20 Quick Start, Milk & More contains NeoTec 4 and Bio-Mos at a recommended level to combat common calf scour organisms. The combination of NeoTec 4 and Bio-Mos gives Brown's 22/18 Milk & More the ability to treat scours without the risk of using a medicated milk replacer that requires weeks of withdrawal. In addition, this milk replacer contains Sel-Plex Selenium and is "Instantized" to go into solution quickly and not separate out while calves consume it.
 - C) **BROWN'S 20/18 CALF NURSER** - An economical milk replacer formulated with a balance of milk and plant amino acid sources. It mixes easily and is consumed quickly. It contains 90% milk protein and 10% soy protein concentrate and Bovatec for coccidiosis control.
 - D) **AKEY 26/17 PINNACLE** - Pinnacle represents a new generation of high protein milk replacers. This non-medicated milk replacer has higher protein levels to stimulate rapid growth, and lower fat levels to encourage more Calf Cox-Guard intake. Calves can be weaned as early as 5-6 weeks of age.
7. **Mix and Feed Milk Properly** - Generally, a calf needs about 400 lbs of milk from birth through weaning. This is roughly equivalent to the amount of milk replacer made from a fifty pound bag of milk powder. A quick comparison indicates feeding milk replacer saves between \$20 and \$40 per calf. For a 100 cow herd where fifty calves are raised, a savings of between \$1000 and \$2000 per year can be seen compared to feeding marketable milk. Offer milk replacer at a rate of 8% to 10% of body weight. A 100 lb calf should receive eight pints (1 gallon) or about 8-1/2 lbs of milk daily. This increases to about 10 pints by the fourth week of age, then decreases till weaning. Be sure the solids content of this mix is correct. Mix 8 to 10 oz of milk powder to 2 quarts of warm water. Density of milk replacer varies based on processing method. Cups are included to give approximate measures, but to insure consistency top calf raisers generally use a small scale to get accurate weights. Do not interchange cups between various types of products since cup size is specific for the particular process used.

During times of extreme cold stress, density of the mix can be increased by up to 25% more solids (10 to 12 oz/ 2 qts) to help maintain body temperature and energy. It is always beneficial to offer additional water to young calves on a free choice basis. This is doubly important when temperatures exceed 85 degrees. Adding too much water to milk replacer results in a dilute mix which does not digest properly. Make mix adjustments gradually over several days.

If scours develop it may be necessary to reduce milk solids by one-half for a short period (1 to 2 days) and in severe cases eliminate milk completely. Be sure during such periods to compensate by providing plenty of liquid and essential electrolytes. During extended periods of scouring it is necessary to supplement energy by feeding glucose or lactose. Karo Syrup is an excellent source of glucose. Commercial stress packs with sources of vitamins, minerals, and energy are also available to feed scouring calves. If whole milk is being interchanged with milk replacer, be sure it is of equal nutrient content. Colostrum should be diluted by 25% when substituted to calves adapted to milk replacer.

8. **Feed Brown's Calf Cox Guard Early - Brown's Calf Cox Guard** contains 20% protein and is highly palatable. Offer it fresh and in small amounts from three days on. Gradually increase amounts up to eight weeks of age. At this age a minimum of three pounds should be consumed daily. This feed contains Bovatec and will treat/prevent cocci outbreaks during periods of stress.

Brown's calf feeds use only natural plant protein sources and contain no meat products or urea. Optimum, not maximum, levels of molasses are applied to increase palatability and reduce fines. **Brown's Calf Cox Guard** will not become excessively gummy or lumpy, will flow in creep feeders, and is less attractive to flies. Only quality ingredients are used in Brown's calf feeds and ingredient amounts do not vary. Calves eat each bag/batch readily, and thus can be weaned earlier. All corn used in Brown's calf feeds is steam-treated which makes the starches it contains more digestible and available to the calf.

9. **XP Yeast** - Brown's has included Diamond V XP Yeast in the **Calf Cox Guard** and **Grow-N-Glow** formulations since it was first made. Penn State research presented at the 2001 American Dairy Science Meeting proves the merit of this recommendation. Calves fed XP Yeast ate more grain, grew faster and had better developed rumens than control calves fed the same grain without XP Yeast.
10. **Feed High Quality Leafy Hay and Clean Water** - From seven days on, hay and water should be provided at all times. Choose a leafy grass or mixed hay, but not pure alfalfa hay. Hay stimulates rumen growth and cleans the developing rumen wall. Feeding excessively finely ground feed has been shown to cause rumen ulcers in calves as young as 12 weeks of age.

We do not recommend a pelleted calf starter as a sole calf feed. Where it is difficult to

offer hay because of mechanical reasons, the coarse oats and corn in **Brown's Calf Cox Guard** and **Grow-N-Glow** will provide a minimum level of "Scratch Factor" will help maintain health of the rumen wall.

11. **Dehorn at 7 to 21 Days of age** - Use an electric dehorner as soon as the horn button can be felt at the top of the poll. Hold the dehorner on the button until a dark brown ring forms around the button which cannot be pulled off with your finger nail. If the calf is older and the horn has already emerged, a Barnes Dehorner will do a cleaner and more satisfactory job. If you cut the horn, use iodine or furox powder to coat horn buds and prevent infection.
12. **Vaccinate and Remove Extra Teats** - Work with your veterinarian to set up a routine schedule of vaccination. IBR, BVD, PI3, Haemophilus, and 7-way Clostridium should be included. E. Coli, Brucellosis, Pasturella, Pink-eye, and BSRV are also recommended in certain areas. Prior to breeding, heifers should receive a 5 strain Lepto vaccine and a booster shot for IBR, BVD, PI3, Clostridium and Haemophilus. Remove extra teats as soon as they can be properly identified.

From 40 days to calving or finishing feedlot

1. **Establish Weight and Age Goals** - Age and weight goals for Holstein and Swiss heifers have been 1350 lbs at 24 months. Recent research and "on farm" results have shown that this weight can be reached by 21 months with no decrease in performance or herd longevity, by properly balancing feeding programs for energy, undegradable protein, and minerals. For calves going into a finishing feedlot, determine desired rates of gain and develop a feeding program which allows you to reach that gain while maintaining healthy calves.

Our standard **Calf Cox-Guard** and **Grow-N-Glow** precisely match the nutrient requirements needed during the first five months to achieve accelerated growth goals. In older heifers and feeder calves **Brown's Nutri-Blend Pellets** or one of our amino acid balanced feeds such as **34 Amino Plus** or **40 Milkmaster** often is required to reach optimum growth goals.

2. **Group By Size** - Keep calves in pens where they can be watched daily, and where size and body condition are uniform.
3. **Control Coccidiosis** - If coccidiosis is a problem, Brown's offers six feeds available for this problem. These include **Brown's 20% Calf-Cox Guard**, **16% Grow-N-Glow**, **16% Top Heifer B**, **13% Hef-R-B100**, **40% Hef-R-B300** or **B-Booster 1440** mineral pack. Also, be aware of cryptosporidiosis which produces symptoms similar to coccidiosis, but has no known prevention or cure. A 1993 USDA study found Crypto organisms on 90% of farms

studied and in 22% of the pre-weaned calves.

4. **Wean Calves Gently** - Calves should be weaned by forty to sixty days, or as soon as they are consuming 1.5 to 2 lbs. of **Calf Cox Guard** daily. After weaning, keep calves on **Calf Cox Guard** for at least two more weeks. House them individually during this period or move them into a group pen with a limited number of animals of the same age/size two weeks after weaning. Switch from **Calf Cox Guard** to **Grow-N-Glow** or **Top Heifer B** and increase feeding rate gradually to 4 to 5 lbs per calf per day, or 2 to 3 lbs **Nutri-Blend Pellets** plus corn, oats or a grist mix.

Continue feeding at this rate until five months of age or as body condition dictates. If calves become fat, it is often an indication that the proper balance of total or undegradable protein is not available to match the amount of energy being fed. Proper minerals are required for optimum growth at this age.

5. **Keep Calves Growing** - To freshen at 1350 lbs a heifer must gain 1.7 lbs per day for 24 months, or 2 lbs per day for 21 months. Avoid excessive body condition; calves must be tall, not just heavy! At breeding time a Holstein should stand at least 50 inches tall, and have shown several good standing heats. Breeding can occur as early as 12 to 13 months. Achieving several heat cycles before breeding appears to be a key for optimum development of udder secretory tissue.
6. **Develop A Parasite Control Program** - Parasites can significantly reduce the growth rate of calves and heifers. Develop a routine worming program for all heifers in the spring and fall. **BROWN'S WORM-ALL PELLETS** with Fenbendazole (Safeguard) is a highly effective wormer. Research indicates that worming heifers in the spring about three weeks after turning them out on pasture and a second time 21 days later provides optimum protection over the summer pasture season. A final worming in the fall and target worming "poor doers" will help. In one 120 day study, improved average daily gains of as much as .1 lb per heifer per day were observed using this procedure. Worms affect calves and heifers to a much greater degree than mature cows.
7. **Brown's Heifer Rations - Seven to Choose From** - At five to six months heifers should be switched from **Grow-N-Glow** to a ration precisely tuned for the desired rate of gain and forage quality available. At this point the rumen is developed and can provide much of the heifer's nutrient needs from forage sources.
 - a. **16 TOP HEIFER-B** - A 16% coarse textured heifer feed for heifers on low protein forages. This feed contains Bovatec, which helps improve the efficiency of forage utilization and increases rate of gain. It is a palatable economical source of both protein and energy. It is available only in bulk and in 2 ton increments.
 - b. **14 FITTING RATION** - A 14% coarse textured, flaked feed designed to provide heifers and dry cows with a concentrated source of vitamins and minerals not

normally available in high enough levels in standard dairy feeds or grist mixes. The palatability of this feed makes it popular with customers who move cattle to shows and sales.

- c. **13% DRY COW AND HEIFER RATION** - An economical 13% crude protein feed which can be used to supplement better quality forages.
 - d. **HEF-R-B100** - A 13% Bovatec feed designed specifically for growing heifers. Feed at the rate of 3 lbs per heifer per day to obtain 150 mg of Bovatec. At this level Bovatec will improve growth rate 10%, allowing heifers to reach breeding/calving size quickly.
 - e. **40 HEF-R-B300** - A popular 40% protein heifer concentrate with Bovatec designed to be fed at the rate of 1 lb per heifer per day. 40 Hef-R-B300 can be fed as a topdress or mixed into a grain mix.
 - f. **30 DRY COW BALANCER PELLETS** - Feed at the rate of two pounds per day for the last two months before and the first week after calving to obtain maximum recommended rates of important vitamins and trace minerals including selenium. Drop to 1 lb for the second week after freshening as you phase in the lactating feed program at full rates.
 - g. **B-BOOSTER 1440** - This Bovatec mineral pack is used for both heifers and feeder calves when forage quality is excellent and no additional protein or energy is required. It is also an excellent product to mix with home raised soybeans. Feed at the rate of 3 oz to 8 oz per day depending on desired gain and Bovatec level. See tag for mixing and feeding directions.
8. **Provide Adequate Protein To Achieve Desired Growth** - Energy intake controls weight gain. Optimum protein balance regulates whether that energy is directed toward fattening, growth, or muscle development. Supplements high in rumen undegradable protein such as **BROWN'S 34 AMINO PLUS PELLETS** and **BROWN'S 40 MILKMASTER PELLETS** can be added to existing rations to optimize growth. This is particularly critical in the 5 to 15 month age range.
 9. **Mineral Nutrition Critical** - Rapidly growing heifers need adequate levels of calcium, phosphorus, magnesium, copper, selenium, and other trace minerals for proper bone formation. This is particularly critical in early freshening programs. Often poor foot growth and brittle bones are blamed on pushing heifers "too hard" when the actual problem was lack or imbalance in these important minerals.
 10. **Pastures Should Be Supplemented** - Mid-summer pastures are usually low in both protein and energy. Supplementing rations with one of the above grain mixes will keep

heifers growing during hot weather.

11. **Breed At Optimum Height and Weight** - Not Age - Large breeds should average 750 to 800 lbs at breeding time and be 50 inches at the withers. Small breeds should be at least 500 lbs and 44 inches at the withers. Don't waste a generation, breed heifers to either high quality AI Sires or to young bulls with known performance pedigrees.
12. **Check For Pregnancy** - Don't feed a heifer for two years then learn she isn't pregnant. A pregnancy check at forty to sixty days after breeding can save both time and money.
13. **Feed Bred Heifers Correctly** - When heifers are diagnosed pregnant don't forget them! Keep them growing, but avoid over-conditioning. At two months before freshening start introducing some of the feeds that the milking herd is getting. Two to three weeks before freshening add them to the Pre-Fresh group. Also remember that most of the growth of the fetus occurs during the last two months of gestation and feed accordingly.
14. **Calve Heifers In A Clean, Dry Area** - Approximately 10% of all first calf heifers have calving problems. If your percentage is higher, it could indicate your heifers are not grown out well enough prior to calving, or that your pre-freshening ration/program is not in balance.