



# Keeping Your Calf Healthy

Oklahoma Cooperative Extension Service • Division of Agricultural Sciences and Natural Resources

**David Pace** – Oklahoma State University  
Assistant Extension Livestock Specialist, 4-H and Youth

The 4-H Bucket Calf Project is designed to introduce youth 7-12 years-old to beef and dairy 4-H projects. By allowing younger children the experience of working with a smaller less intimidating size of animal, they become comfortable with beef and dairy cattle as they grow. This is designed to be a short-term project with calves purchased in May and finalized with showing at the local county fair.

A bucket calf is an orphan or newborn calf purchased when they are one to ten days old. The calves may be male or female, beef or dairy. The calves are started on a bottle (or bucket) and nipple. For more information read: 4-H publication No. 135 [Feeding A Bucket Calf](#).

Calves should be purchased between May 1 and May 30 of the current year. Calves may be purchased off the farm from dairy or beef producers. Also, livestock auctions sell newborn to week old calves. Contact your Extension Educator for more ideas.

## THE BASICS

### First things first

Make sure the calf has had colostrum after being born. Colostrum is the first milk produced by cows at calving time. It is essential to the well being of the newborn calf because colostrum contains antibodies, which are things that prevent certain diseases. Unless the calf receives at least 2 quarts of colostrum within the first few hours after being born, the calf will likely become sick and may die. At the time the calf is separated from its mother, injections of vitamins A, D, and E are recommended. The recommended amounts are: 500,000 I.U. of A, 75,000 I.U. of D, and 50 I.U. of E. These vitamins will help give the newborn calf a good start in life. OSU Fact sheet F-3358 [Disease Protection of Baby Calves](#) has excellent information on passive immunity.

### Shelter

Calves should be kept in separate pens that are disinfected and provide clean, dry, and draft free, shade and shelter. Pen space does not have to be that large. An 8'x 8' area is adequate for a calf hutch and pen. See 4-H publication No. 137 [Bucket Calf Housing](#).

### Feed

You will start your calf on milk replacer, which may be purchased at most farm supply stores. Follow mixing directions for the milk replacer. Read 4-H publication No. 135 [Feeding A Bucket Calf](#) to make sure your calf is nursing and getting adequate nutrition. This will help your calf maintain its built in disease resistance. The next step is weaning, which is changing to dry feed, and this can be a stressful time for calves. Clean the bottle or bucket between every feeding and clean the feed trough daily when you switch to dry food.

### Water

Calves should have access to clean fresh water daily. After you start providing dry feed (hay and calf starter), water should be available at all times. Clean the bucket and replace with fresh water every day.

### Health Care

There are many things to know about keeping your calf healthy. Get to know your veterinarian. He/she is specialist in animal health care and should be an invaluable partner in any livestock enterprise. There are many activities that will require their expertise.

### Vaccinations

Calves need help in resisting diseases. Colostrum provides resistance for a time after birth, but as the calf gets older it needs to start developing resistance to disease on its own. Vaccinations help the calf by introducing a weakened or killed virus to its system.

The weakened diseases are much easier for the calf's immune system to fight and resist. Once the disease has been resisted the calf should be able to continue to fight the disease on its own. This is called immunity.

OSU Veterinarians recommend the following vaccinations for your calf. See OSU Fact Sheet F- 9123 [Immunizations for Oklahoma Cow-Calf Herds](#) for more information.

### **Calves — 2 months of age:**

1. Clostridial bacterin (4-way)
2. IBR-PI<sub>3</sub> nasal vaccine
3. 5-way Leptospira bacterin
4. Pasturella leukotoxoid

### **Calves — 4-6 months of age:**

1. Booster clostridial
2. Modified live IBR-PI<sub>3</sub>-BVD
3. Booster Pasturella leukotoxoid
4. Brucella strain 19 – (heifers)

Contact your local veterinarian for help and advise with vaccinations.

### **Parasite Control**

Flies, lice, ticks, and worms are all pests, which affect the health of your calf. Lice and ticks are small blood sucking skin irritants and may be controlled with sprays or pour-on chemicals. Worms are internal and may be treated with injectable, pour-on, or mouth application anthelmintics (worm killers). Spray for fly control on both the calf and in the pen.

### **Castration**

This involves the neutering of male calves by removing their testicles. Castration can be done at any age; however, the younger a calf is the less stress on the animal. Bull calves are neutered because steers tend to have calmer dispositions and are easier to handle. Furthermore, consumers prefer meat from steers because of quality. Contact your veterinarian and read 4-H publication No. 351 [Dehorning and Castrating](#).

### **Dehorning**

Some breeds of cattle grow horns (and some do not), which have no practical use in most commercial beef cattle herds. An exception would be the Longhorn breed, which is prized for its horns. Calves should be dehorned early in life, preferably before two months of age, to decrease stress. Horned cattle can be dehorned by means of surgery, heat, or chemicals. Contact your veterinarian and read 4-H publication No. 351 [Dehorning and Castrating](#).

## **IS YOUR CALF SICK OR WELL?**

### **What is normal?**

If you think your calf is sick, it is a good idea to make the following checks before you call the veterinarian.

• **Respiration** (breathing rate) – Simply watch the animal breathe and count the number of breaths per minute. Normal breaths per minute for cattle range from 20 to 28.

• **Pulse** (heartbeat) – you can check the heartbeat by holding your ear against the lower left side of the calf's chest and listen to the beats. Or, you can feel the pulse with your fingers, by putting your finger on the artery that crosses the jawbone at the middle edge of the lower jaw. Normal heartbeats per minute for cattle range from 60 to 70.

• **Temperature** – For a small amount of money you can buy an animal rectal thermometer. Be sure and tie a string to the end of the thermometer to maintain control. Shake the mercury down below 98 degrees, and then insert it in the rectum. When the thermometer has been inside the calf for one to two minutes, pull it out and wipe it off with a paper towel or dry rag. Then read the temperature. Normal temperature is 101.5 °F. Be careful not to take these tests right after your calf has been excited or overheated. Also, outside temperature should be taken into consideration along with activity level.

### **Appearance and Behavior**

How does your calf look? Is it bright eyed and bouncing around the pen? Look at the hair coat, nose, and eyes? Are they all shiny, clear, and clean? Does your calf have a good appetite? How does it act? Healthy animals act differently than sick animals. It is important that you learn to recognize the different ways a healthy and a sick calf act. And since animals are unable to talk, we must be very good observers.

### **How does a sick calf look?**

#### **What is not normal?**

A calf that does not feel well can't tell you what is wrong, but by watching and comparing to normal activity we can notice some common signs. Things to look for include: droopy ears and head; dry, crusty, or snotty nose; will not drink or eat; rapid breathing; bloated stomach (protruding left side); diarrhea (runny stool); humped back; disoriented; watery eyes; elevated temperature.

### **Call your veterinarian immediately!**

Once you determine that your calf is sick (if you have no previous experience with sick calves) call a veterinarian immediately. The quicker you involve someone with animal health expertise the better the chance your calf has of a quick recovery. Young calves get sick very easily and with a quick response and challenging the disease, you increase their chance of survival. Also, different diseases require different medicines for best results. Your veterinarian will be the most up to date on medication for specific infections.

### **Scours**

One of the more devastating problems with young calves, scours may be caused by: bacteria, viruses, and nutritional or environmental factors. Diarrhea causes dehydration, a loss of water and minerals from the body.

An irritation to the digestive tract caused by one of the above factors results in inefficient digestion of food. Scouring calves are usually losing body weight because of dehydration, and are unable to digest their food well enough to maintain or gain body weight.

The greatest concern for a scouring calf should be to replace the loss of minerals and avoid body weight loss. Therefore, the immediate treatment should be to replace the lost minerals by feeding an electrolyte solution in addition to milk or milk replacer.

Effective electrolyte powders for mixing with water are available from your veterinarian. The electrolytes should be mixed according to instructions and fed 10 to 15 minutes after the milk or milk replacer. It is important not to feed the

electrolyte solution immediately after the milk, since the solution will dilute the milk too much and will affect the digestive enzymes.

Since a scouring calf's digestive system is upset, the feeding schedule should be changed to avoid overloading the system. Milk or milk replacer should be fed at the rate of 1 percent of the calf's birth weight, but this total amount should be divided into four equal feedings. A good feeding schedule would be: morning, noon, evening, and bedtime. The same amount of electrolyte solution should be fed approximately 15 minutes after the milk.

When the scouring condition begins to subside, the number of feedings can be reduced to three times per day and then two times per day. Finally, the use of the electrolyte solution can be withdrawn during a three-day period.

## Records

Keep good records of all events. One good way to do this is to write on a calendar or in a diary, what you do each day with your calf. Keeping track of all medicines that your calf receives is very important. Record the date, type of treatment, amount of medicine, who gave the medicine, kind of medicine, and any withdrawal date. This information will help your veterinarian determine if a different method of treatment is necessary.

## Disease Terminology

**Bangs (Brucellosis)** Heifers kept for replacements must be vaccinated for this disease, at six months of age, which causes abortions in cattle. Oklahoma is a Brucellosis free state.

**Blackleg** is a bacterial disease that can be picked up from spores in the soil. Signs include: swelling in neck, hip and shoulder, along with fever, lameness, and depression.

**Bloat** is a nutritional disorder that causes excess gas to be trapped in the rumen (stomach compartment). A visible swelling of the left side above the flank is the primary signal.

**BVD (Bovine Viral Diarrhea)** is a viral disease transmitted through contact. Clinical signs include: diarrhea, fever, sores on lips and gums, lameness, and dry cough.

**Clostridium Toxoids** are bacteria (including Blackleg) that destroy tissue cells. Vaccination for control of these bacteria may be given ( 2-way to 8-way) for immunity.

**Coccidiosis** is transmitted in feed or water and is characterized by diarrhea, dehydration, loss of appetite, depression, and weakness. Keep pens and feed bunks clean and dry.

**Diarrhea** involves many aspects including nutrition, environment, and infectious agents. Fluid loss results in: dehydration, electrolyte imbalance, loss of appetite, coma, and death.

**IBR (Infectious Bovine Rhinotracheitis)**, also called Red Nose, is a viral disease of the respiratory system. Clinical symptoms are elevated temperature and crusty nose.

**Lepto (Leptospirosis)** is a bacterial disease of animals and humans. Transmitted by contaminated feed or water it causes fever, bloody urine, loss of appetite, and anemia.

**Pinkeye** is caused by any number of irritants (weeds, flies) to the eye. The eye turns reddish and fluids drip from the corner. If left untreated, a white film eventually forms causing blindness.

**Pneumonia** is caused by any number of viral or bacterial agents. Shallow rapid breathing, listless appearance, and high temperatures characterize pneumonia.

**Scours (diarrhea)** cause extensive fluid loss and sudden death. Immediate treatment with an electrolyte solution will help prevent dehydration.

**Ringworm** causes unsightly patches on the skin. Ringworm is caused by microscopic molds or fungi and can easily be transmitted to people.

**Warts** are skin tumors caused by a virus that enters the skin through an abrasion in the head, neck, or shoulder area. Minor surgery or vaccines may be used to treat warts.

## Reference

Adapted from the Kansas Dairy Leaders Notebook.

## The Oklahoma Cooperative Extension Service

### *Bringing the University to You!*

The Cooperative Extension Service is the largest, most successful informal educational organization in the world. It is a nationwide system funded and guided by a partnership of federal, state, and local governments that delivers information to help people help themselves through the land-grant university system.

Extension carries out programs in the broad categories of agriculture, natural resources and environment; family and consumer sciences; 4-H and other youth; and community resource development. Extension staff members live and work among the people they serve to help stimulate and educate Americans to plan ahead and cope with their problems.

Some characteristics of the Cooperative Extension system are:

- The federal, state, and local governments cooperatively share in its financial support and program direction.
- It is administered by the land-grant university as designated by the state legislature through an Extension director.
- Extension programs are nonpolitical, objective, and research-based information.
- It provides practical, problem-oriented education for people of all ages. It is designated to take the knowledge of the university to those persons who do not or cannot participate in the formal classroom instruction of the university.
- It utilizes research from university, government, and other sources to help people make their own decisions.
- More than a million volunteers help multiply the impact of the Extension professional staff.
- It dispenses no funds to the public.
- It is not a regulatory agency, but it does inform people of regulations and of their options in meeting them.
- Local programs are developed and carried out in full recognition of national problems and goals.
- The Extension staff educates people through personal contacts, meetings, demonstrations, and the mass media.
- Extension has the built-in flexibility to adjust its programs and subject matter to meet new needs. Activities shift from year to year as citizen groups and Extension workers close to the problems advise changes.

Oklahoma State University, in compliance with Title VI and VII of the Civil Rights Act of 1964, Executive Order 11246 as amended, Title IX of the Education Amendments of 1972, Americans with Disabilities Act of 1990, and other federal laws and regulations, does not discriminate on the basis of race, color, national origin, sex, age, religion, disability, or status as a veteran in any of its policies, practices or procedures. This includes but is not limited to admissions, employment, financial aid, and educational services.

Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Samuel E. Curl, Director of Oklahoma Cooperative Extension Service, Oklahoma State University, Stillwater, Oklahoma. This publication is issued by Oklahoma State University as authorized by the Dean of the Division of Agricultural Sciences and Natural Resources. 0402 JS.