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Building and Managing Calf Hutches

Calf death losses exceeding 20 percent are common in many dairy herds. These losses often result from pneumonia and other respiratory diseases caused or aggravated by an unhealthful environment in poorly ventilated dairy or calf barns.

In some herds, calf losses are so great that sufficient herd replacements cannot be raised. Moreover, surviving animals may have permanently damaged lungs due to pneumonia. The productivity of these animals may be severely limited when they enter the milking herd.

Many dairymen have solved their calf raising problems by abandoning their "warm" facilities and raising calves in calf hutches. Because of prolonged low winter temperatures, calf hutches are not recommended in the northern half of Minnesota during the coldest part of winter. Experience has shown, however, that calves that are well supervised and housed in properly designed hutches do well in southern Minnesota. The primary objection to the use of calf hutches is usually made during adverse weather conditions by the calf caretaker who must feed the calves twice daily.

CONSTRUCTION

The calf hutch illustrated below can be built easily from 3½ sheets of plywood and 2 x 4's for framing members. It is 8' long and 4' wide. The front height is 4' and the back height 3'6" to allow for drainage of rain and snow melt away from the open front. Side panels are beveled accordingly. Design is such that the sides can be assembled on the ground. Note that the 2 x 4 supports are on the outside of the plywood.

To assemble a unit, place the two sides in the proper vertical position. Temporarily nail the front 2 x 4, which is in contact with the ground, to the vertical supports. Place the upper 2 x 4 between the vertical supports and nail it in position against the back vertical supports.

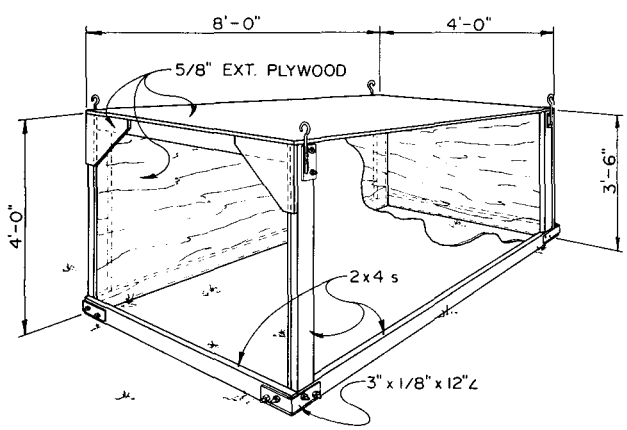
Next, nail the front plywood braces, which have a side and top length of 10", into position. Make sure that the front of the hutch is plumb. Then nail the back 2 x 4 on the outside of the panel. Next, bolt the 4 angleiron braces as shown. Finally, attach the roof using #4 wood screws 1½ inches long spaced about 8 inches apart. For extra strength, use a 2 x 4 at the upper edge of each panel. Hooks that project above the roof can be fastened to each corner. This facilitates moving the hutch with a front end loader using chains and spreader bars.

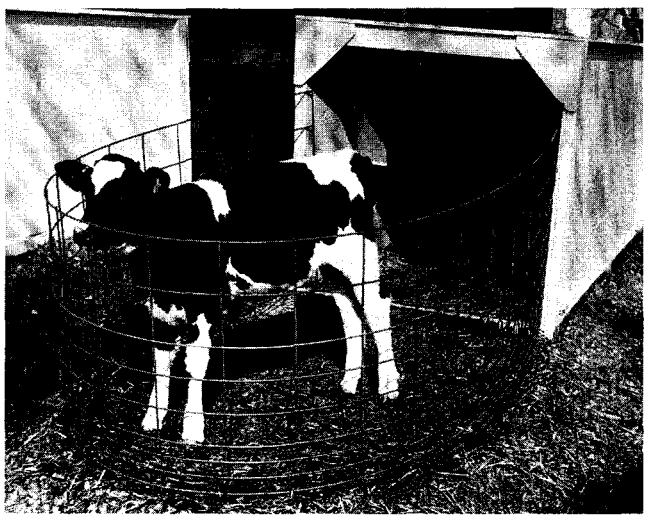
Calf hutches of premolded fiberglass are commercially available. Our research comparing these with wood hutches shows them to perform equally well under the same conditions of management.

LOCATION

Locate calf hutches on a well-drained site away from the barn or cow yard. If possible, take advantage of a grove of trees or other suitable windbreak. Do not locate them too close to any building that will subject them to water runoff from the building's roof. Never locate them near a barn exhaust fan because disease organisms shed by chronic-recovered, pneumonia-carrier cows may be present in the air stream that could infect the calves.

When hutches are located on flat land, place at least 6 inches of gravel fill beneath the hutches so that surface water will not flow into them. Use plenty of bedding to provide a dry surface on which calves may lie down. In summer, gravel in the fenced area in front of the hutches permits improved drainage and helps control flies. Dry gravel inside the hutch in





The drawing above shows construction details for an open front plywood calf hutch. A 2 x 6 can be used across the base at the open front if desired as a further aid in retaining deep bedding in winter. In the accompanying photo, note the grain box on the interior wall. In fair weather, the calf spends much time outside the structure.

summer with no bedding has been shown to aid fly control as well.

MANAGEMENT

Good calf health begins with sanitary maternity quarters. Preferably, freshening pens should be located outside the milking barn to prevent the non-immune calf from being exposed to mature cows that may be chronic-recovered disease carriers. An alternative is to separate them from the main barn with a tight partition and supply a separate ventilation system for that area.

For reasons of construction and management, however, freshening pens are usually located in the barn with the milking herd and share the same environment. In this case, it is essential that the ventilation system be planned so that air movement is from the box stalls toward those stalls occupied by the milking herd. Admit fresh air to the box stalls, but do not locate exhaust fans near the stalls. Where a solid wall is not practical, a solid partition 4½ feet high is recommended on the sides of box stalls adjacent to permanently occupied cow stalls.

The calf should receive an adequate supply of first milk (colostrum) soon after birth. A first feeding of 2 quarts of colostrum for Holstein calves (3 pints for Jerseys or Guernseys) and a similar amount at a second feeding before six hours has elapsed is recommended. The colostrum should be milked from all four of the cow's quarters since varying levels of colostrum are produced among quarters.

A navel clip should be applied to the calf's navel immediately following birth. This prevents infections from entering and resulting hernias from occurring.

Properly managed calf hutches are excellent isolation facilities. The young calf should be placed in a clean, well-bedded hutch soon after it has been dried off. This isolation from both older animals and other calves is an excellent way to prevent the spread of disease.

Never, under any circumstances, should the front of a calf hutch be covered with any type of material. This prevents air exchange and thereby the removal of moisture expired in the breath of the animal and the moisture excreted in the urine and feces. The result is a contaminated environment that predisposes the calf to sickness. Frost will form on the walls and ceilings of the hutch under low temperature conditions. When this melts, the bedding and particularly the haircoat of the calf become wet, increasing heat loss. Consequently, the animal experiences a drop in body temperature and will die unless properly managed.

A calf hutch that is entirely open at the front provides a variety of mini-climates for the calf. Only during periods of extremely bad weather will the calf be observed in the back portion of the hutch. On cold, sunny days, calves normally will lie immediately inside the hutch opening. On warm winter days, they spend much of their time in the outside pen.

Make sure the back portion of the hutch is tightly constructed to prevent air movement through it in winter. This will reduce draft on the animal and minimize snow drifting into the hutch. If the hutch is used in summer, it is desirable either to elevate the rear of the hutch slightly or to install a small door in the rear near the ceiling. This can be opened to permit air movement through the hutch for greater calf comfort and to improve fly control.

Calves in hutches are isolated from each other as well as from older animals. They are not isolated, however, from the farm cats that are always in search of a warm environment and milk. Cats can carry disease organisms that cause calf pneumonia (Pasturella sp., etc.), so they should be prevented from cohabitating in the hutches with the calves.

FEEDING MILK

Proper nutrition is essential. During extended periods of extremely cold weather, a young calf's energy requirements increase markedly when housed outside compared to being housed in a warm environment. The preferred ration for young calves is whole milk. If milk replacer is used, however, it should be a high-quality replacer with 20 to 22 percent protein, 20 percent fat, less than 0.25 percent fiber, and *no antibiotics.*

The calf's requirements in sub-zero weather may be increased from 10 to 50 percent or more. During prolonged periods of extreme cold, nutritional demands may be nearly doubled. Increase the ration gradually as the cold weather intensifies and persists. A rapid increase in food intake may cause nutritional scours, which can predispose an animal to other disease conditions.

Calves housed outside should be examined daily during feeding. To do this, place your hand on the rib cage and loin area to make sure the calf is maintaining a sufficient covering of muscle and fat and is properly hydrated. An animal's haircoat grows rapidly during cold weather, and its apparent body condition can be misleading.

Starvation brings about a drop in body temperature (hypothermia) with a drop in blood sugars (hypoglycemia) and, unless corrected, quickly results in disease and death. A daily assessment of the calf's condition can quickly detect an inadequate ration.

SUMMARY

Properly managed calf hutches are an asset to a dairy operation in the form of reasonably priced isolation facilities. Depending on their location in relation to the milkhouse, the feeding of the calves may require slightly more labor. Moving the hutches to a new location at least once yearly, and preferably twice, facilitates cleaning and insures a healthy environment.

Reduced calf death losses, along with a resulting increase in numbers of herd replacements that have an improved production potential, can increase profits on the dairy farm.

BILL OF MATERIALS

No.	Description
4	5/8" x 4' x 8' B-C ext plywood
3	2 x 4 x 8'-0"
5	2 x 4 x 4'-0"
16 in ft	42" high welded wire fencing
1 lb	6d galv nails
4	3" x 1/8" x 12" anglebraces
32	3/8" x 3" bolts
4	3/16" x 2-1/2" x 9" plates
4	1/2" x 6" eye bolts

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