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Beef Buildings and Equipment: a catalog of plans
Michigan State University
Cooperative Extension Service
James S. Boyd, Department of Agricultural Engineering
Harlan D. Ritchie, Department of Animal Husbandry
April 1977
4 pages

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FARMING KNOW-HOW
Guidelines to Better Family Farming

Beef Buildings and Equipment: *a catalog of plans*

COOPERATIVE EXTENSION SERVICE
Michigan State University
EXTENSION BULLETIN E-1059 SF5 APRIL 1977

James S. Boyd, Department of Agricultural Engineering
Harlan D. Ritchie, Department of Animal Husbandry

THE PLANS LISTED HERE are generally adapted to Michigan conditions. Most animals can tolerate cold weather as long as they are protected from rain, snow and wind. For a small number of animals the building should not be enclosed tightly but should have openings so air can move through to remove the moisture produced by the animals and from the manure.

Most of the structures shown can be built from a variety of materials. Home-grown native wood is plentiful and works well for most of the plans.

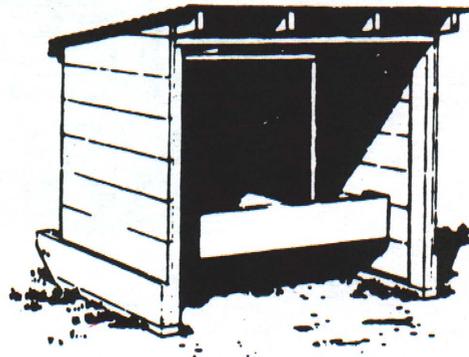
Where wood is in contact with the ground, pressure treated wood is desirable. Examples are skids, and poles set in the ground.

The following are suggestions to make buildings more usable and prevent problems.

1. Find out if there are any municipal zoning ordinances or other regulations that prohibit or govern keeping livestock in your area.
2. Locate structures on a well-drained site that is conveniently accessible.
3. Provide adequate space for other animal needs and activities around the barn such as grooming areas, riding rings, pastures, paddocks and corrals.
4. Determine how many animals are to be handled and provide needed facilities and buildings.
5. Plan and provide for adequate feed storage and a water supply and distribution system. This may be around lots or out in the pastures.
6. Select gate or door latches or locks that provide the level of security needed for both animals and equipment.
7. Have a plan for manure management and fly control.

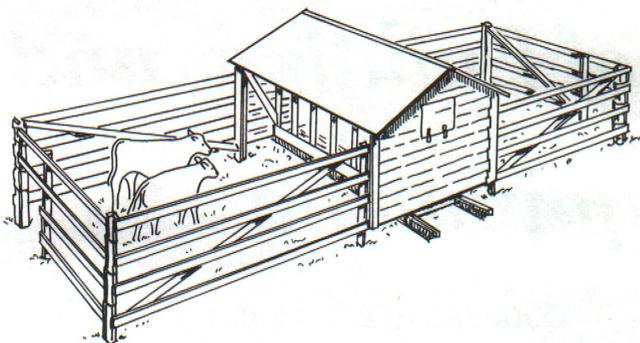
8. Determine what fire protection service is available and provide emergency protective equipment on premises.
9. An overall land-use plan and building location plan will help to obtain a convenient arrangement and present a pleasing appearance. This is becoming important where the lots are visible to the public.

The plans shown here and others may be obtained through your county Extension office or from the Department of Agricultural Engineering, Michigan State University, East Lansing, MI 48824.



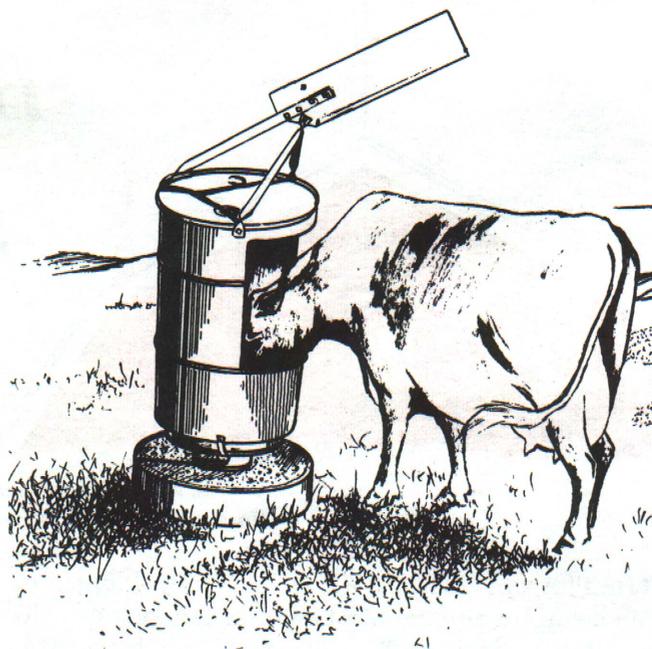
SALT AND MINERAL BOX 5759—1 sheet, free

This portable wooden mineral feeder is 5' x 6' and is made on skids so it can be moved by tractor from one field to another.



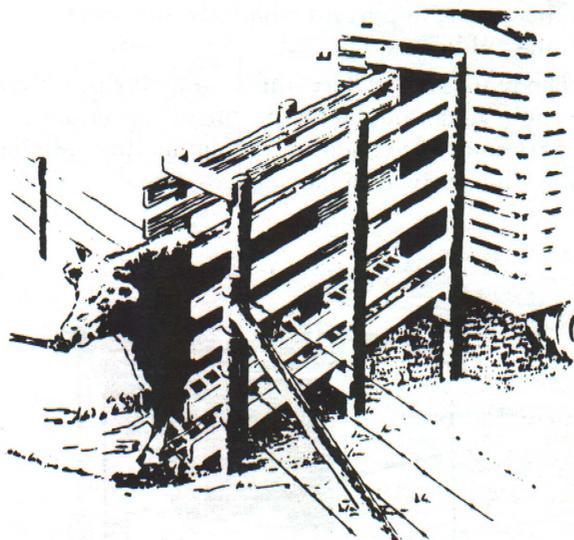
MOVABLE CALF FEEDER WITH ATTACHED CREEP 5763—1 sheet, free

This calf feeder may be filled with grain or ground feed through the end doors without entering the enclosure. It has a 35-bushel capacity, large enough for about 30 calves. The creep fence is made in sections that are supported by the feeder and wired to corner stakes. This arrangement permits the fence to be easily taken down for moving.



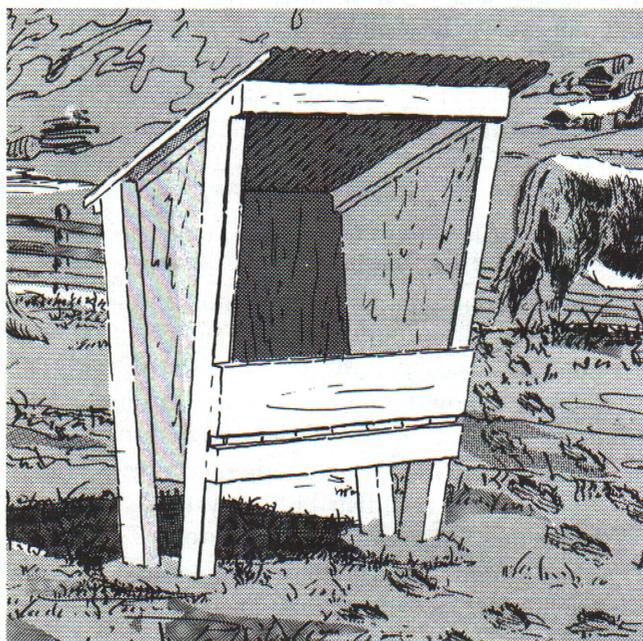
"WEATHERVANE" MINERAL FEEDER FOR CATTLE 5844—1 sheet, free

This mineral feeder swivels so that the opening faces away from the wind. It is assembled from a 55-gallon drum, an old automobile front wheel and axle assembly, and other odds and ends around the farm.



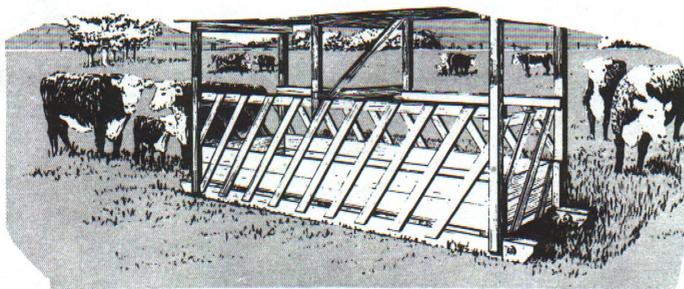
LOADING CHUTES 5793—1 sheet, free

This plan shows four different types of loading chutes: (1) portable wooden chute on wooden skids, (2) stationary chute made of wooden poles and wooden deck, (3) wooden chute made of poles with steps rather than a sloping floor, and (4) stationary chute with an earthen floor.



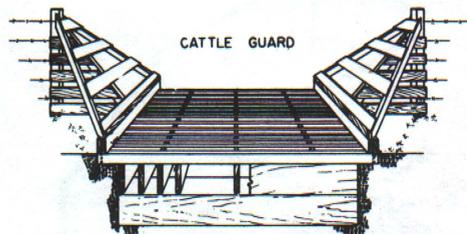
MINERAL FEEDER FOR CATTLE 5906—1 sheet, free

This feeder is suitable for use in pasture or feedlot, or on the open range. It should be erected on a readily accessible spot that has good drainage. The box is sturdy but since livestock will use it as a scratching post, a gravel back-fill on the posts is preferred to an earth one.



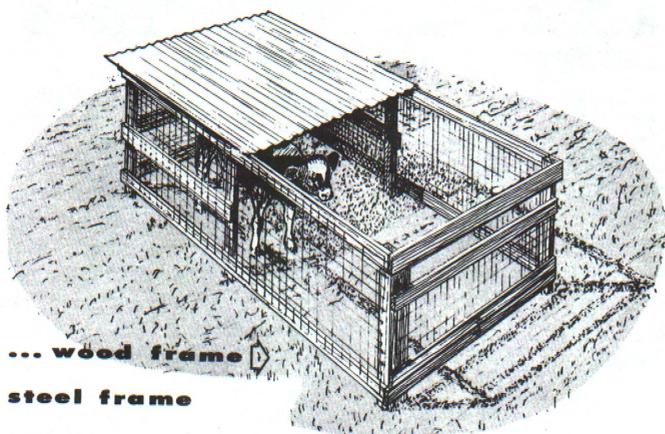
CATTLE FEEDING RACK FOR HAY AND SILAGE 5925—1 sheet, free

This portable slanted-bar feeding rack was developed for feeding roughage to dairy cattle in pastures or open lots. It is better than the vertical-bar rack in three ways: more economical, structurally stronger and lighter in weight. Each rack will accommodate about 25 head of cattle fed free choice.



CATTLE GUARD 6051—2 sheets, \$1.00

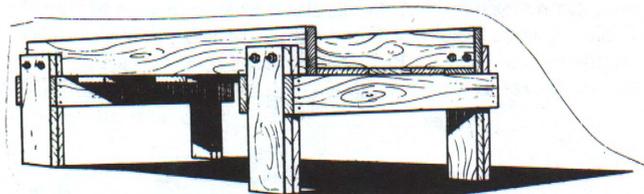
Cattle guards can be used in place of gates to make it easier to drive through without having to get out of the tractor. This plan shows one guard made of steel pipe and concrete and one guard made of wooden plank and concrete.



... wood frame
steel frame

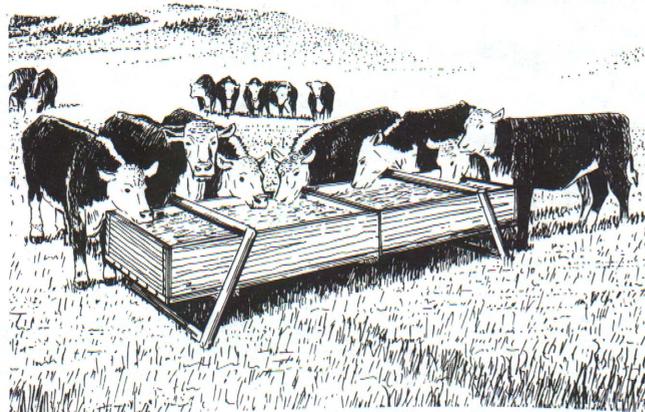
PORTABLE CALF PENS 5933—1 sheet, free

Research has shown that healthier deacon calves can be raised in a portable open-pen than in an enclosed barn. This plan presents two types of pens—steel and wood—that fulfill the requirements for the open-pen system.



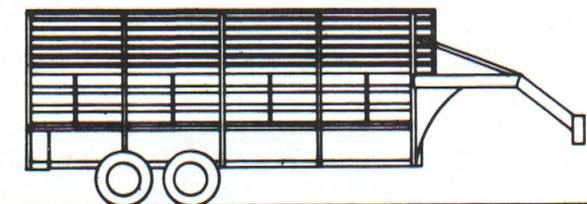
SILAGE BUNK 871-AI-19—1 sheet, free

This 3' x 10' silage bunk can be used in the pasture or in the lot. It is made of dimension lumber so it will withstand hard usage. It can also be picked up and moved with a fork lift on the front of a tractor.



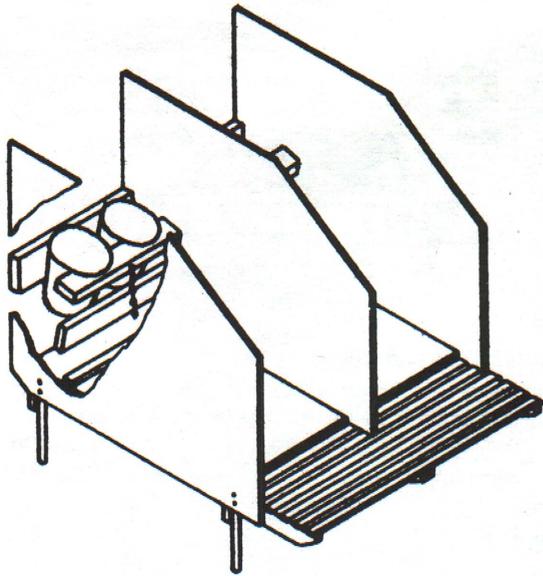
CATTLE FEEDERS 6066—1 sheet, free

This plan shows the construction details for two types of cattle feeders: one is a portable bunk and the other a permanently installed feeder for supplements. The feed bunk is about 3' x 12' with removable legs. The supplement feeder holds about 400 pounds of feed.



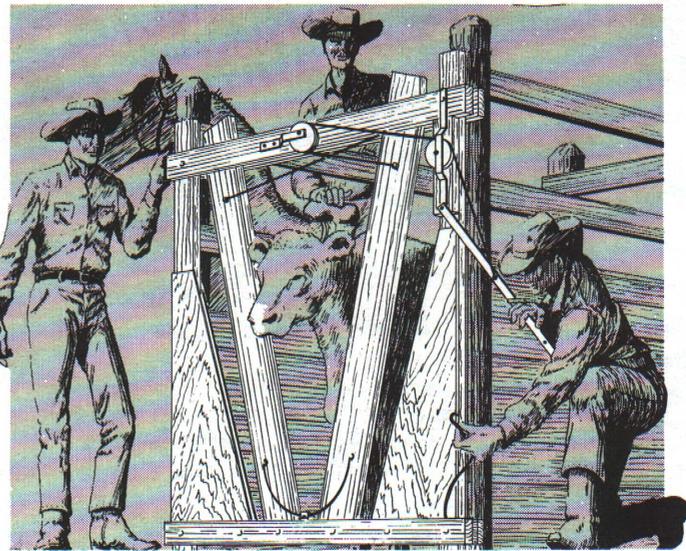
TRAILER FOR CATTLE, GOOSENECK TYPE 6141—2 sheets, \$1.00

Stockmen are always looking for a fast, easy method of loading and transporting farm animals. These two needs are successfully met in this trailer. The gates at the back, opening to the full width of the trailer, allow the animals to be loaded quickly. A fender on each side enables the operator to have ready access to animals that may need a bit of prodding.



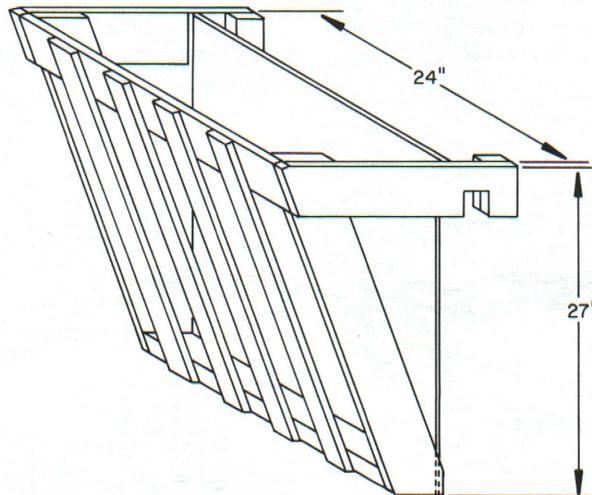
PORTABLE STALLS FOR CALVES 6138—1 sheet, free

Deacon calves should be isolated. This plan is for stalls that can be set up in any building which is protected from drafts. Stalls are 2' x 5' and made of plywood. The stall bottom is 15" above the floor and the back portion is slotted so manure can be forced through and collected underneath the slats.



HEADGATE FOR CATTLE, WALK-THROUGH TYPE 6077—1 sheet, free

Some cattlemen and veterinarians feel that hinged headgates should not be used when working cattle because of the possibility of injury to the operators when unruly or frightened animals are being released. This walk-through gate is intended to reduce the reluctance of animals to move forward, to hold them securely for treatment, and to release them quickly—without risk to the operators.



CALF HAY RACK 871-AI-23—1 sheet, free

This hay rack is made of wood and is designed to hang on the gate or pen partition. It is meant to be used for very small calves as they start to eat hay.

BEEF HOUSING AND EQUIPMENT HANDBOOK MWPS-6—84 pages, \$2.00

This book emphasizes planning and presents the many factors involved to help you make the right decisions with regard to your cattle.