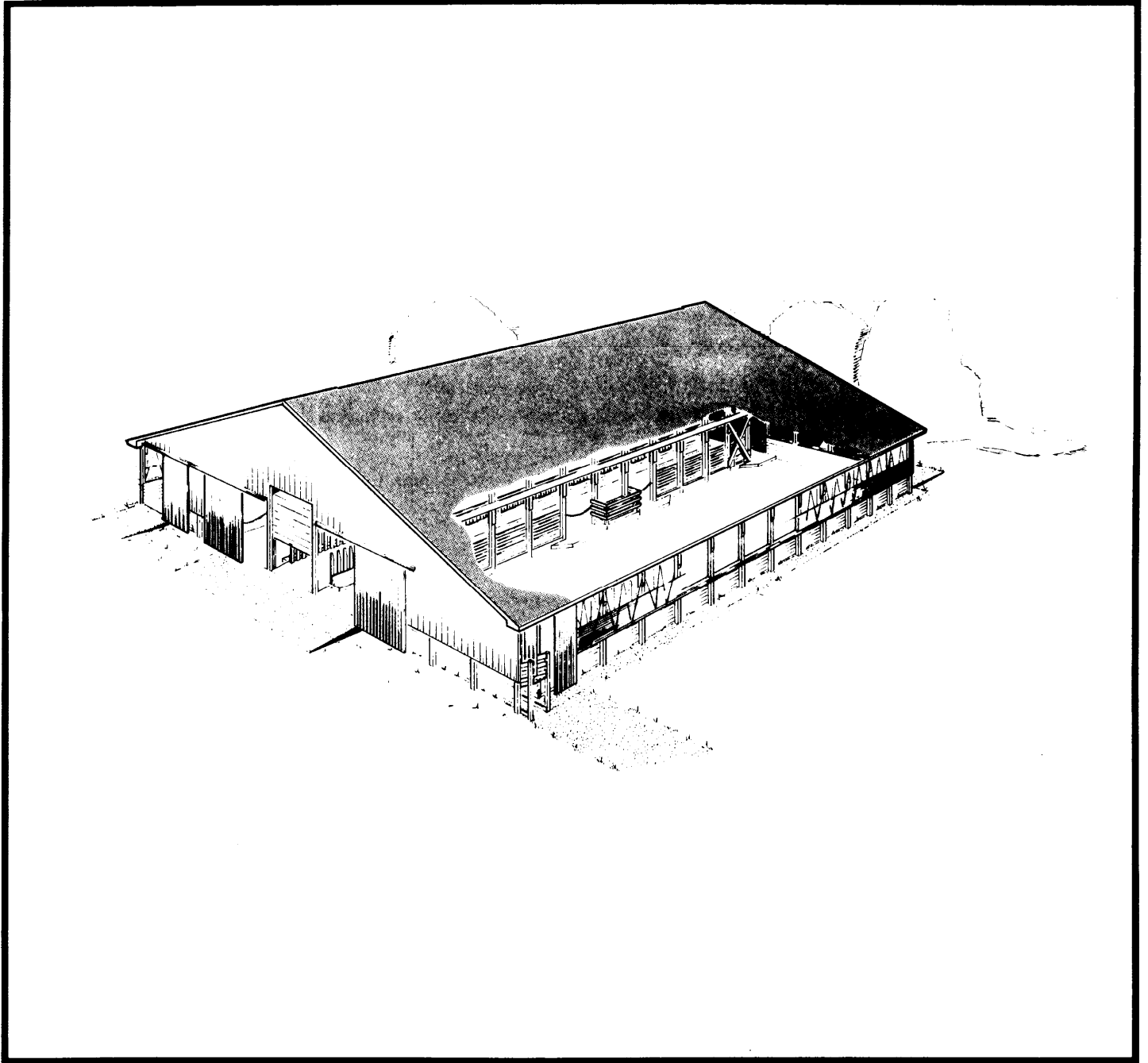




OPEN-END BEEF BARN, DRIVE-THROUGH FEEDING



The Canada Plan Service prepares detailed plans showing how to construct modern farm buildings, livestock housing systems, storages and equipment for Canadian Agriculture.

This leaflet gives management information and describes one of these detailed plans. To obtain a copy of the Canada Plan Service detailed plan, contact your local provincial agricultural engineer or extension advisor.

OPEN-END BEEF BARN, DRIVE-THROUGH FEEDING

PLAN M-1114 REV. 06:05

This is a plan for a totally covered feedlot unit 29.2 m (97'-4") wide. The length can be any multiple of 2.4 m (8 ft).

It has a cattle resting area with deep manure pack on each side of a central feeding area with feed fence and drive-through alley. The barn is of lightly insulated construction providing a 'modified' environment. Based on growing and finishing beef cattle on full feed, the barn capacity is rated as follows:

Type of cattle	No. of cattle per unit of bldg. length	
	per ft	per m
Growing animals 180-340 kg (400-750 lb)	4	13
Finishing animals 340-500 kg (750-1100 lb)	3	10

CONSTRUCTION FEATURES The building is poleframe construction with two rows of interior poles separating the feeding and resting areas on each side.

The roof is supported by single-slope trusses over the resting areas and gable roof trusses over the central feeding area.

The floor of the feeding area on each side of the central feed alley is concrete. In the resting areas (under manure pack) it may be compacted earth (unless experience indicates that the ground cuts up when resting areas are cleaned out- in which case a concrete floor is required).

The feeding area contains a central drive-through feed alley with fenceline feed bunk on each side. This fits in particularly well with silage and/or grain feeding and makes use of a self-unloading wagon or mobile mixer for feed distribution.

The feeding system can be used with either horizontal or vertical silos.

CATTLE PENS AND HANDLING Cattle are naturally divided into two groups by the central feed alley. Further divisions on each side are possible by the use of partitions across the resting areas and corresponding gates across the feeding area. One such division across the building will provide pens for up to four lots of cattle. Further lateral divisions may also be made. This unit is designed to be used without an outside cattle yard (total cattle confinement).

The plan shows a minimal working chute, cutting gate, scale, headgate and loading ramp along the rear wall and tied into the feeding area so that the feed alley along one side of the bunk may be used as a cattle holding area.

MANURE HANDLING In the resting area, bedding is applied as required (two to three times a week) to develop a manure pack and keep the resting area clean and dry. Bedding is stored in another location.

In the feeding area, no bedding is used. The concrete floor is scraped clean periodically (usually two to three times a week). This manure (a semi-liquid) may be stored on either an above-grade walled slab or a below-grade tank.

VENTILATION AND INSULATION This barn is not intended to be operated as a warm barn in winter. The sloping ceiling should be insulated enough to maintain an inside temperature only a little above outdoors (2° to 7°C is typical). This ceiling insulation also serves to prevent condensation and dripping when cold winter nights are followed by warm, sunny days. The ceiling/roofing structure may be insulated in a variety of ways, but it is suggested to lay out a plywood ceiling on top of the roof trusses, followed by vapor barrier, roof purlins on edge, fiberglass insulation and steel roofing.

The barn is naturally ventilated by means of adjustable sidewall curtains (plan M-9351) and an open ridge slot. In a dry, cold climate this ridge slot may be simply a 300 mm (1 ft) wide slot made by stopping the roofing before it reaches the roof ridge. In climates where heavy drifting snow is a frequent problem, vertical baffles on both sides of the ridge slot help to keep out snow. The addition of a flat ridge cap at least 300 mm (1 ft) above the vertical baffles also helps to reduce rain penetration. Regardless of how this ridge slot is finished, there will inevitably be some wetting of the roof trusses. Therefore it is essential to soak the exposed truss joints with a good penetrating wood preservative.

The wall at the south end of the feeding area is usually left open to aid air movement, although it may be closed off with sliding doors during bad winter weather.