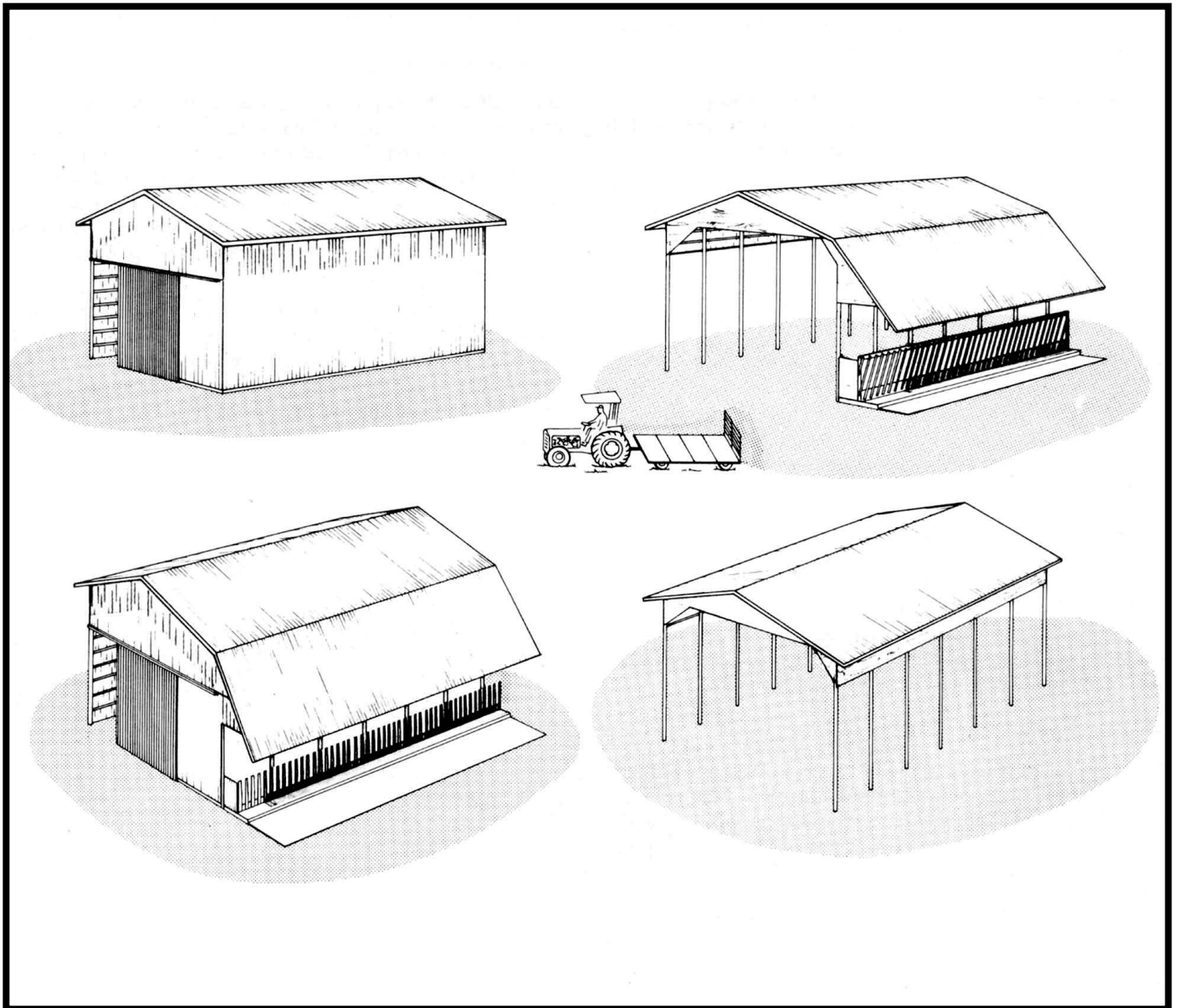




# OPEN / CLOSED HAY STORAGE

## POSTS AT 8 FT and TRUSSES AT 8 FT



DEVELOPED BY CANADA PLAN SERVICE

## HAY STORAGE WITH TRUSSES SPACED 8 FT

CPS

PLAN 7602

NEW 78:3

This plan set of five sheets gives complete details for building a clear-span, pole-frame hay storage barn. Building length and width can be adjusted to suit; clear spans of 24, 30 or 36 ft can be obtained by building or buying trusses to match the width. A span of 36 ft provides the most efficient storage.

Sidewall poles are spaced at 8 ft on center, so the length may be any multiple of 8 ft. This plan differs from **372-24** (CPS 7601) in that the roof trusses are also spaced at 8 ft on center, and the roof purlins are fastened on edge to span the wider space between trusses. In areas of lighter snow loads this roof arrangement may save some framing material, and there is more headroom for leveling and handling bales when the barn is almost filled up. Be sure that your roof trusses are designed for this 8-ft spacing, or use doubled trusses at each wall pole location.

Storage capacity based on baled hay at 250 ft<sup>3</sup>/ton, stacked to 18 ft deep (1 ft below the trusses) can be taken from this table:

span ft	Hay capacity (tons) for length of					
	48 ft	56 ft	64 ft	72 ft	80 ft	96 ft
24	83	97	111	124	138	166
30	104	121	138	156	173	207
36	124	145	166	187	207	249

The hay storage can be built in four styles as shown on the front of this leaflet. The simple roof without walls is popular in areas of low snowfall. For heavier snow areas, walls may be enclosed with wood girts and siding. Note that bigger poles may be required to resist windstorms if the walls are closed in. Sheet 3 of the plan set gives design charts and an example solution to show how to select concrete pole footings, pole sizes, and plate beam size for your local soil condition, design wind load and design snow load. See your provincial extension engineer for building code requirements in your area.

### Suggestions for Building

The plate beams that support the roof trusses and optional feeder roof must be notched into the top of the wall poles for support. This notching operation is hard to do after the poles are erected; a better way is to accurately measure the poles from the bottom, cut the notches and the top of the poles before erecting them. Even the hole for bolting the trusses to the pole can be predrilled if desired.

This whole operation is much easier if all poles can be cut and notched to exactly the same length, which means that all concrete pole footings must be poured exactly level. Auger the postholes to the required diameter, allowing extra depth for the concrete footings. Set up a builders' level, and tamp the top of all concrete footings to an exact level line 4 ½ ft below the datum 'floor level'. Precut poles when erected into the post holes will then guarantee a level roof line. Note that if the walls are closed with siding and doors, concrete backfill is also required around the poles for extra wind resistance.

### Self-feeding from Storage

One wall of the hay storage can be located along the feedlot perimeter, with a roofed feeding fence added to shelter and control the feeding. The idea of the feeding fence is to provide a comfortable arrangement for cattle to reach through the fence and feed from a platform just a few inches above the concrete apron where they stand; the fence dividers prevent cattle from backing out to chew each mouthful, thus controlling waste.

Two styles of feeding fences are shown; both are very effective for controlling feed waste and for keeping cattle out of the hay barn. Do **not** use preservative-treated planking for the feed fence; there is some risk of dangerous chemicals getting into the cattle through licking the planks or eating contaminated feed.