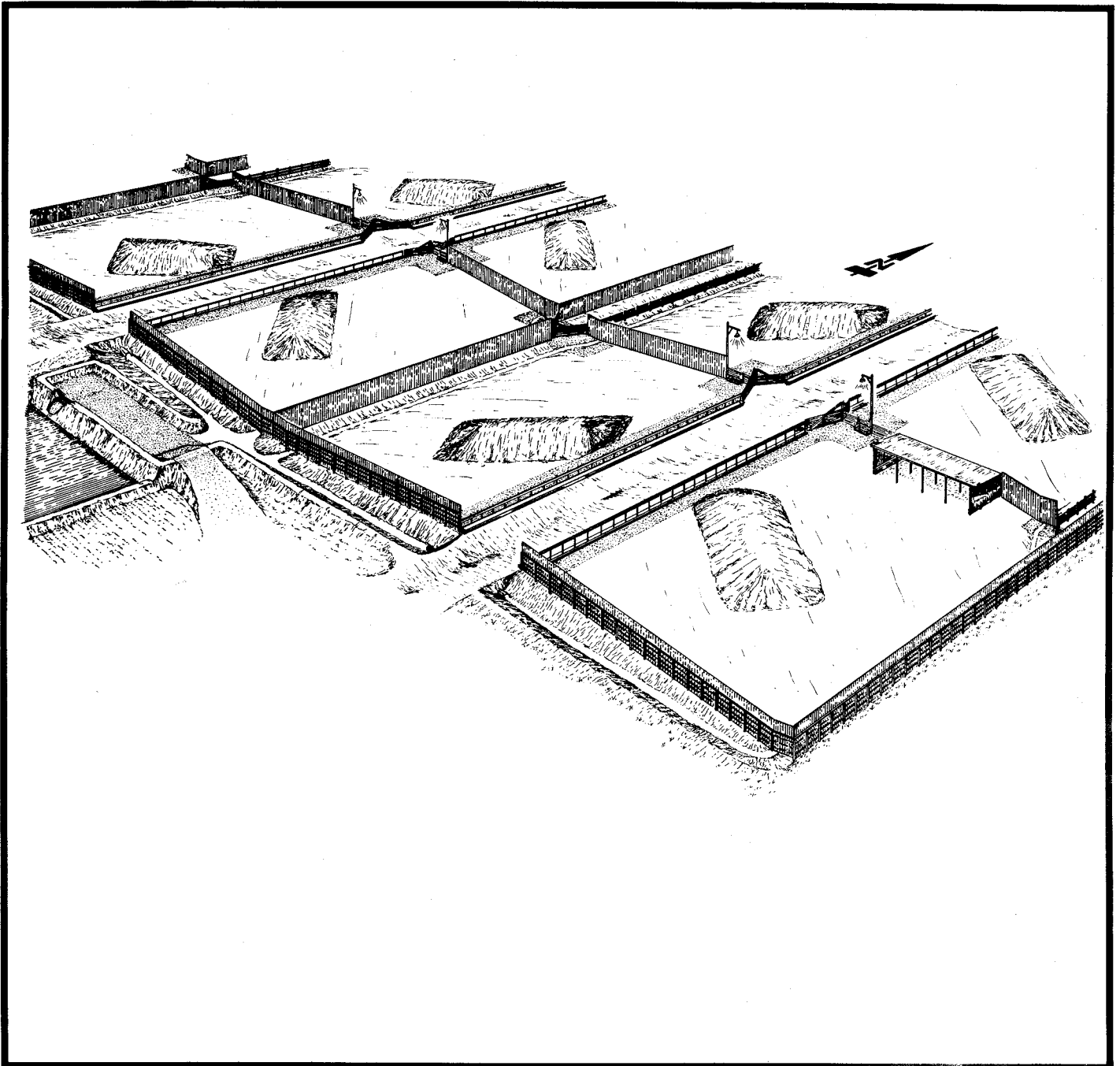


## WESTERN FEEDLOT FOR SOUTH-FACING SLOPE



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.

## **WESTERN FEEDLOT FOR SOUTH-FACING SLOPE**

PLAN 1453 REVISED 4:76

This is a plan for a dryland beef feedlot, expandable in two directions in lots of 100 cattle. Mostly unpaved, this plan is for regions where annual precipitation is less than 20 inches.

Each lot is about 150 x 200 ft, based on 100 feeder cattle at 300 sq ft of lot area and 2 ft of feed bunk length per head. Lots could be made shorter and wider to reduce feed bunk length if cattle are to be full-fed.

This plan illustrates a list of good ideas and sound feedlot management principles collected from successful western feedlot operators and experienced advisers.

### **Feedlot Drainage**

Unpaved feedlots drain faster and dry better if the ground slopes 4 to 8% away from feeding and bedded resting areas. This plan is laid out for location on a rounded hill or south-facing slope. Feed bunks run face-to-face along a feed alley at the highest side of each lot; this provides the best drainage at the front of the lots. Run the feed alleys generally north-and-south so that no part of the feeding areas or roadway is continuously shaded from the winter sun. Make the double feed alleys at least 40 ft wide to make room for plowing snow away from the feed bunks before feeding.

Before building perimeter fences, feed bunks etc., shape the site for drainage. A bulldozer, road maintainer or even an earth-mover may be required if large amounts of fill must be moved. For sites sloping uniformly to the south, landscape to a hill-and-valley pattern as shown in the plan; if necessary, emphasize front-to-back slope within the lots at the expense of outlet slope to the south. Each lot has the greatest slope running diagonally; the bedded mounds should run parallel to this greatest slope to prevent ponding.

### **Collecting Feedlot Runoff**

All provinces have laws regulating the discharge of feedlot runoff into surface and groundwater supplies. To control pollution build shallow diversion dykes and ditches around the outside; this keeps "clean" runoff water from surrounding fields and roadways out of the lots. Shape shallow ditches to collect runoff near the back of each lot, and lead these into a holding system. Spread topsoil and seed grass on all ditch and bank areas that are outside the cattle pens.

A two-stage runoff holding system works best. This has a shallow sediment basin followed by a deeper holding basin. Runoff stops first in the sediment basin, then the liquid part trickles through a trash screen or narrow vertical slot into the holding basin. After drying, scrape up the solids remaining in the sediment basin, pump out the holding basin, and spread all the material back onto cropland as fertilizer.

Contact local authorities for specific design requirements of the runoff holding system.

### **Fence line Feeding**

The plan refers to other leaflets giving ways to build fence line feed bunks, for mechanical feeding from a self-unloading forage wagon or mixer truck. It is recommended that a strip be paved along the feed bunk to eliminate mud holes in the lot. This strip should be a bit wider than the cleaning tractor, but at least 6 ft wide. In wetter regions (over 20 inches annual precipitation), the width of the paving may be increased and the total depth of the feedlot reduced accordingly.

Paved areas are shown also around the heated water tank and where cattle must cross the drainage ditches to enter 12-ft sorting alleys at the back of the lots.

### **Wind and Snow Control**

Research shows that 20% porous windbreak fencing is better shelter than solid fencing; it can reduce the wind speed at the ground to a downwind distance of 20 times the height of the fence. For lots sized as shown, 10-ft windbreak fencing is recommended.

In exposed locations with snow, add snow fencing or a tree shelter-belt about 150 ft upwind from the feedlot windbreak fence.

### **Bedded Areas**

A bedded mound in each lot gives cattle a dry place to bed down. Some operators, especially in wetter regions, add a pole shed with front or end completely open to the south, for protection from winter rains and snow and from summer heat. The open-end shed, being deeper, gives more protection from wind and snow but doesn't let in as much winter sunshine as the open-front shed. Both designs drain roof water away from the open south side, an important feature.