



# MILKHOUSE, OFFICE AND WASHROOM

MILKHOUSE SIZING			
No. of COWS	40 - 60	60 - 80	80 - 100
W	4800	4800	5400
X	2400	3000	3600
hallway	1200	1200	1200
<b>TOTAL WIDTH</b>	<b>8400</b>	<b>9000</b>	<b>10200</b>
L	6600	7200	7800



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.

## MILKHOUSE, OFFICE AND WASHROOM

PLAN N-2513 REVISED 84:01

This plan is for a bulk milkhouse, office and washroom to be attached to a tie-stall dairy barn. This arrangement provides a sheltered entrance to both the barn and the milkroom. Two self-closing doors separate the milkroom from the barn to help keep out flies, odor and dirt.

For the convenience of the bulk milk trucker, a hose port opens through the outside wall near the bulk tank outlet. Some trucks also require an outdoor 220-volt electrical outlet (with an inside switch) for their milk pumps. Check hose port and electrical requirements with your trucker.

In case the bulk tank must be installed or changed after construction, the plan shows a removable window combined with an insulated panel below. For easier removal and replacement of the window and panel, secure the casings with screws instead of nails. Do not fasten the window frame directly to the wall studs.

**MILKROOM SIZE** The milkroom should be sized to accommodate necessary equipment and provide adequate working space. A table of recommended milkroom dimensions in relation to herd size is shown on the front of this leaflet and in the plan.

**WALL AND ROOF CONSTRUCTION** If the building is fully insulated, waste heat from the milk cooler together with some supplementary electric heat can easily maintain milkroom temperature. Wood framing makes fully insulated construction easier since it utilizes the same economical 150 mm friction-fit insulation used in modern houses.

The conventional stud wall construction used here includes an insulated concrete perimeter foundation extending below frost and a sill of pressure-treated wood at the base of the wall studs. Rigid polystyrene foam board at grade insulates the outside perimeter of the concrete foundation, and a layer of cement-asbestos board protects the insulation from damage and rodents.

The gable roof is framed with wood trusses to support the insulated ceiling and the roofing.

Secure interior wall and ceiling surfaces with dip-galvanized nails. Seal all interior panel joints with a top-quality flexible caulking (or sealing tape). If a plywood lining is used, finish inside with a smooth waterproof coating such as polyurethane or epoxy enamel.

**CONCRETE FLOORS** The milkroom floor must be easy to keep clean, but not polished so smooth that it becomes slippery when wet. The floor supports the loaded bulk milk tank, so it should be laid on well-compacted granular fill and reinforced with steel rebars or weldmesh to prevent unsanitary cracks. Concrete should be top quality (at least 30MPa.) and 'wood float' finished to a non-skid surface.

**MILKROOM DRAINAGE** The entire floor should slope to an oversized floor drain complete with a slotted cover, sediment bucket and gas trap. Locate the floor drain adjacent to the outlet end of the bulk milk tank and at least 600 mm from the outlet valve. Inexpensive commercial cast iron floor drains are usually too small to be effective here; a large sump is recommended, formed in the concrete floor with a cheap rectangular plastic dishpan.

Milkroom wastes, including floor washings and sink drainage, may be drained to a sedimentation tank, thence to a tile disposal bed, if the subsoil is coarse and well-drained. Pump this sediment tank out regularly to dispose of solids, otherwise the tile will plug.

With a liquid manure system, a better way to dispose of milkroom drainage is to pipe the waste to the liquid manure storage tank. The milkroom wash water provides the necessary dilution for easier pumping of the manure.

**WASHROOM DRAINAGE** A separate septic tank and disposal bed is required to treat the washroom wastes because the disinfecting and cleaning chemicals used in the milkroom destroy bacterial action in the septic tank.

**VENTILATION AND HEATING** This plan shows a separate cooling compressor located in the mechanical room; summer ventilation for this unit is provided by a louvered screened opening through the outside wall, and an additional fan. This opening and the fan can be closed off in winter with insulated panels.

For winter, the plan shows an optional small intake fan to maintain ventilation with a slight positive pressure; this helps keep out barn odors. Run the fan after milking and cleanup operations to dry out the milkroom.

A 4 to 5 kW fan-forced electric heater with thermostat usually gives enough heat in winter to supplement waste heat from the cooling compressor.

**LOCAL REGULATIONS** This plan meets the requirements for most authorities having control of farm milk handling. However, you should obtain approval for your plans from proper local authorities before construction is started.