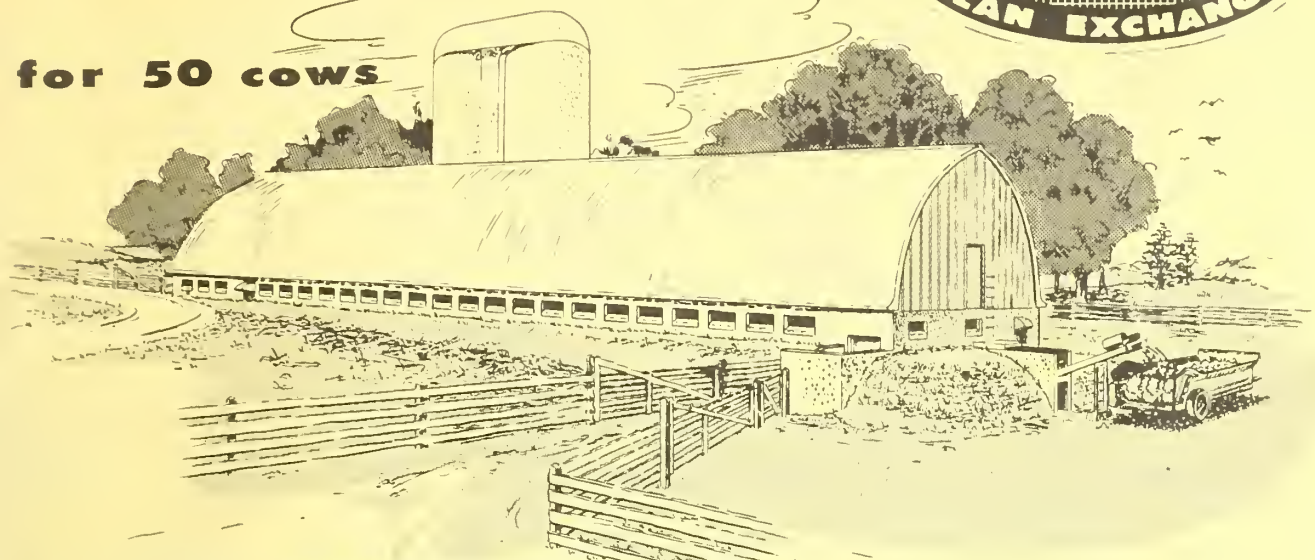


File 957

FALLOUT SHELTER STALL BARN

**COOPERATIVE
FARM BUILDING**
Plan No. 5953
(5 - SHEETS)
PLAN EXCHANGE

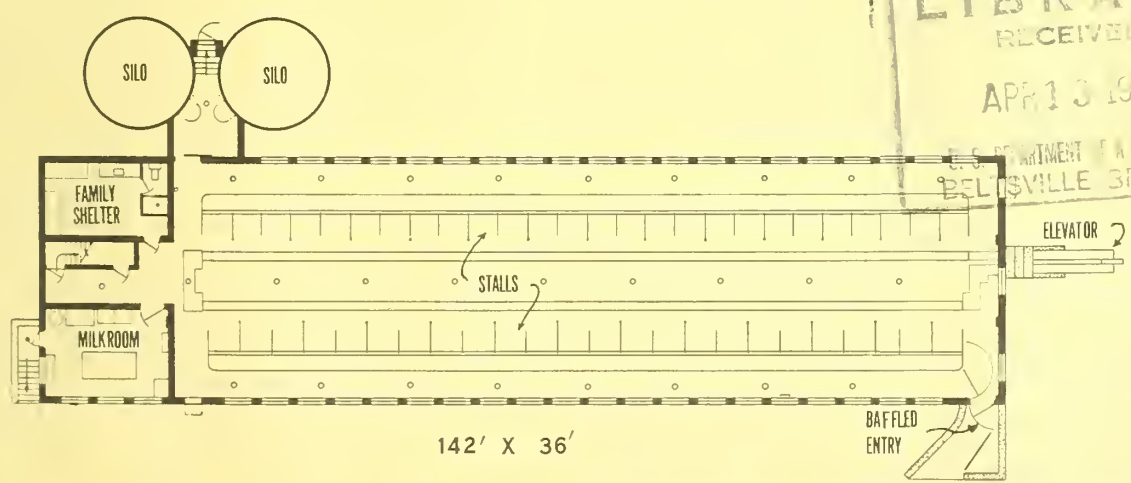
for 50 cows



... with family quarters

This dairy barn closely resembles the conventional stanchion-type dairy barn. Natural lighting comes through limited areas of fixed plastic sash. The circles on the plan below indicate the location of electrical ceiling outlets to provide artificial lighting throughout the barn. Two fans in the stable area exhaust air from the barn. Screened slot intakes above the windows distribute incoming air. An additional smaller fan blows into the milk room and shelter for the caretaker or the family to insure that odors from the stable are kept from these areas.

The mass of earth backfill, construction materials, and stored feed are used to the fullest possible extent to protect the people and cattle from gamma radiation emanating from fallout. The family shelter at the end of the barn next to the silos has a protection factor of about 160 when the concentrate bin above the shelter is about half filled. Earth banked to the eave line on this corner of the building and shielding provided by the silos increase the protection in the family shelter. The stanchion area has a protection factor of about 66 when baled hay is about 14 feet deep in the mow (19 without hay).

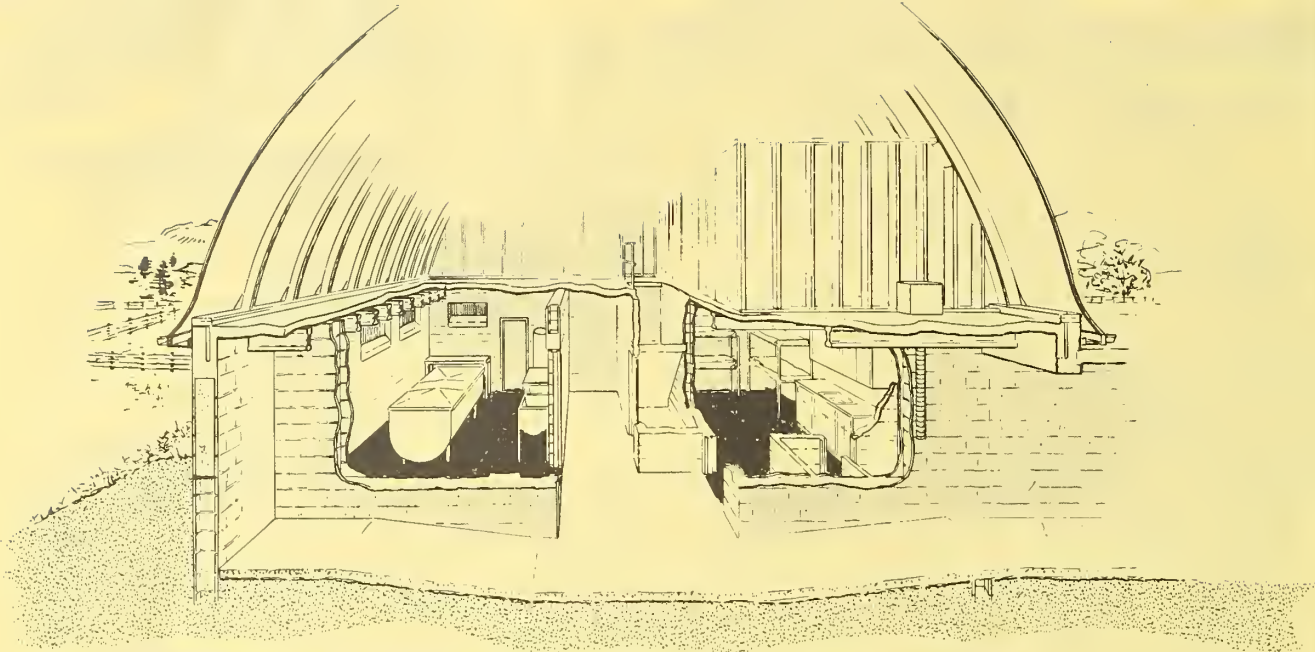


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CUTAWAY PERSPECTIVE SHOWING THE MILKROOM AND FAMILY SHELTER

EMERGENCY POWER

The standby generator needed for lighting, ventilation, and milking can be placed in the space beneath the stairway to the mow. This space must be ventilated to keep the motor from overheating, and the exhaust from the engine must be gastight to be absolutely sure that poisonous exhaust fumes are not released inside the building. Fuel supply for the generator should be piped from the farm supply, preferably an underground tank.

WATER

Circles in the plan view at the right indicate floor drains. A floor drain may also be installed close to one side of the bulk milk tank if desired. Normally a 50-cow dairy operation requires 1,500 gallons of water per day if no water is used for cooling milk. At least 12,000 gallons should be available for a 2-week period. Water can be provided either through emergency power supplied to a deep well pump, or through an intermediate water storage tank that feeds into the barn by gravity.

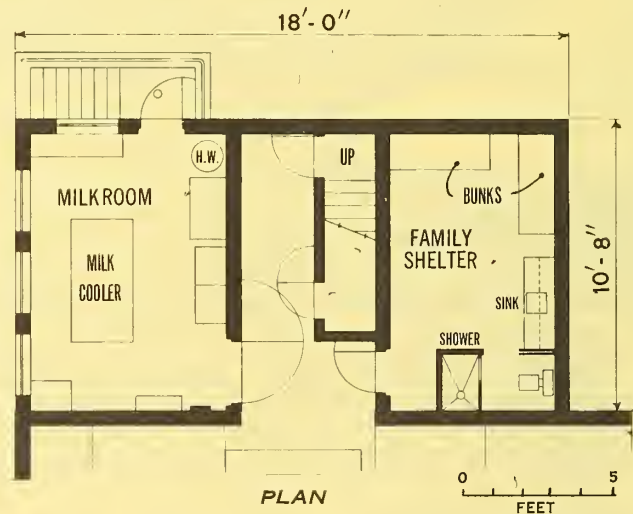
CONSTRUCTION

Concrete block walls (12 inches thick), concrete floors, and concrete block interior partitions furnish massive, fire-resistant construction.

The gothic roof is framed with commercial laminated rafters and sheathed with plywood.

The plan calls for windows of reinforced corrugated plastic, but fixed sash or glass blocks may be substituted. If local regulations permit, the omission of all windows will increase the protection factor.

Working drawings of this barn give complete details of the reinforcing and methods of construction.



Complete working drawings may be obtained through your county agent or the extension agricultural engineer at most State agricultural colleges. There is usually a small charge.

ORDER PLAN NO. 5953, FALLOUT SHELTER STALL BARN

If the working drawings are not available in your State, write to the U.S. Department of Agriculture, Agricultural Engineering Research Division, Plant Industry Station, Beltsville, Md. The U.S. Department of Agriculture does not distribute drawings, but will forward your request to a State that does distribute them.