

The Essentialist

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Refrigeration Without Electricity

Root Cellar

Many foods can be stored long-term in a root cellar (typically 32 - 45°F). Dairy products keep best below 40°F, which may not be possible in the summer; see below for colder options. Of course, in winter, the whole world is a refrigerator and you merely need a spot where things won't freeze.

A root cellar can be as simple as an insulated box below ground, or as elaborate as an insulated room either below or partially above ground. Ideally, it is fairly humid (90-95% humidity for root crops & leafy veggies); add a shallow pan of water if needed. Maximize the amount of the cellar below ground level, as the ground maintains a fairly stable temperature below the freeze-line. It should have adequate ventilation for air circulation (to prevent mold and chill the room).

Example root cellars:

- ✓ A box/structure sent into side of a hill; e.g., concrete manhole, airtight container, or wood box;
- ✓ A structure (similar list as above) built underground, with a ground-level cellar door for access
- ✓ An insulated box, such as an old freezer, buried in the ground with access to the lid
- ✓ A corner of a basement, with an insulated common wall

Colder Options:

Cold Spring or River

Utilizing a spring or river, into which you submerge a basket/box of foods, is perhaps the simplest method of keeping foods cool. If the stream moves too fast, you can either dig a small back-water pool to hold your basket, or tie your basket to a post.

A lidded basket with a secure clasp will help keep animals from disturbing your food.

Spring House

A spring House is a small, insulated building set over a source of cold water. It can be built to span an outlet, creek, etc.; or constructed with two of the corner posts set into the stream and two on the bank.

The interior walls are equipped with shelves on which you stack your butter, milk, and other perishables. The center of the floor is open to the water below; a walkway is left open between the opening and the shelving. A tower of wire is constructed in the hole; burlap is hung from the wire, to drop into the water. The water saturates the burlap, bringing cooling up into the house.

See <http://en.wikipedia.org/wiki/File:Springhouse.jpg> or www.nps.gov/archive/tapr/virtualtour/vtspringhouse.htm for photos of old spring houses.

Well House

Similar to a spring house, but set over a well. A bucket or hand-pump is used to bring cold water up into a pool of water below the opening in the floor. (See ESP flyer: Hand Pump Suppliers)

Ice Box

An ice box is a well-insulated cabinet with shelves for storage and a bin for a block of ice, which keeps the box cold. But where would you get the ice in summer without a freezer? The ice house!

Ice House

After collecting winter ice from ponds and lakes, you store it in an ice house. A properly insulated ice house will keep ice until the beginning of the next winter. These sites provide ideas:

- Photos of the old limestone ice house at the Tallgrass Prairie National Reserve: www.nps.gov/archive/tapr/virtualtour/vticehouse.htm
- Ice house design in new England and Virginia; discusses siting, construction, and harvesting of ice: www.off-grid.net/2006/01/04/building-an-ice-house/ and www.motherearthnews.com/Do-It-Yourself/1972-09-01/Build-An-Ice-House.aspx
- Plank construction with roof; insulated with sawdust: www.oldandsold.com/articles11/miscellaneous-recipes-20.shtml <http://planetgreen.discovery.com/home-garden/build-ice-house.html>
- Brick construction, cone shape (from 1828 article); includes sketch: www.gardenhistoryinfo.com/gardenpages/icehouse.html

Sources

- Root Cellaring, by Mike and Nancy Bubel

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