HOME GARDENERS ROOT CELLARS

Small is beautiful

WHY HAVING A HOME ROOT CELLAR?

- The ability to store food over the Winter months makes us more sustainable

- Locally grown food, produced without chemicals and stored without preservatives, has superior nutritional value compared with food grown, stored and transported over long distances

THREE PARAMETERS FOR STORING FOOD

1- TEMPERATURE

Between 0 and 5C (32-40F)

2- HUMIDITY

Between 80-95%

3- VENTILATION

To keep temperature and humidity at the desired levels, move away molds and bacteria as well as ethylene gas, --the ripening gas-- .

HOW TO MAKE IT WORK?

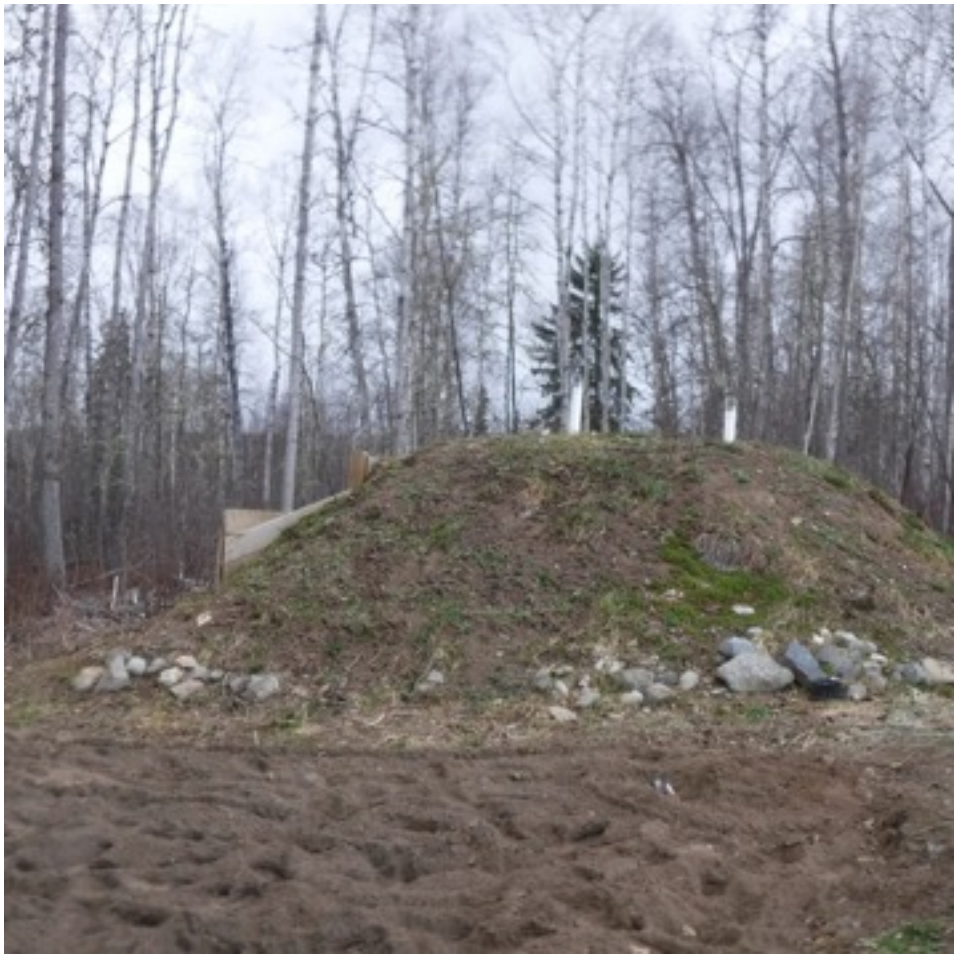
- The design aims at controlling the 3 parameters
- Cellars can be buried below the frost line (4ft in our area) and covered with earth material.
- A storage room in a basement or a shed above ground may achieve the same results with heavy insulation in the roof and walls (18 to 24”).
- A pipe from the outside to the ground brings cold air and an opening in the ceiling vents the warm air
- Humidity can be added by leaving pails of water with cloth hanging above to wick the moisture, and/or with a wetted layer of sand and gravel on the floor

MORE SIMPLE DESIGNS

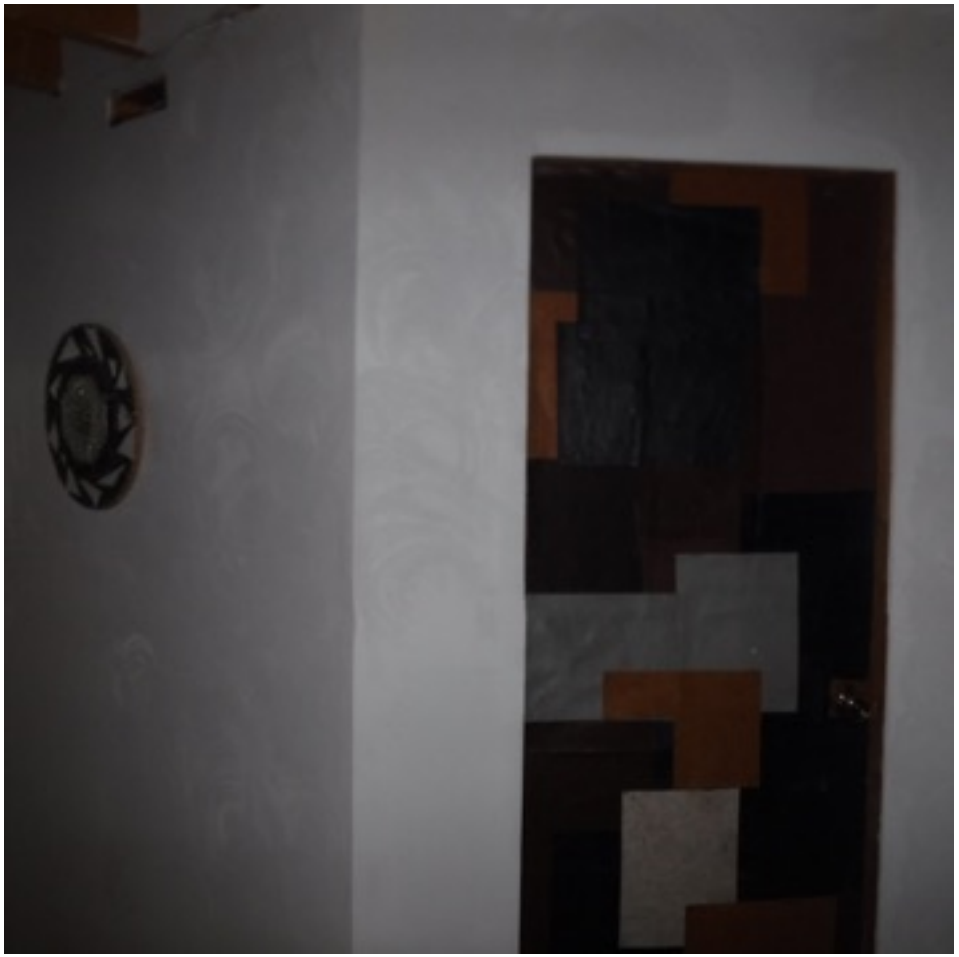
- A garbage pail buried underground
- A platform suspended in a well

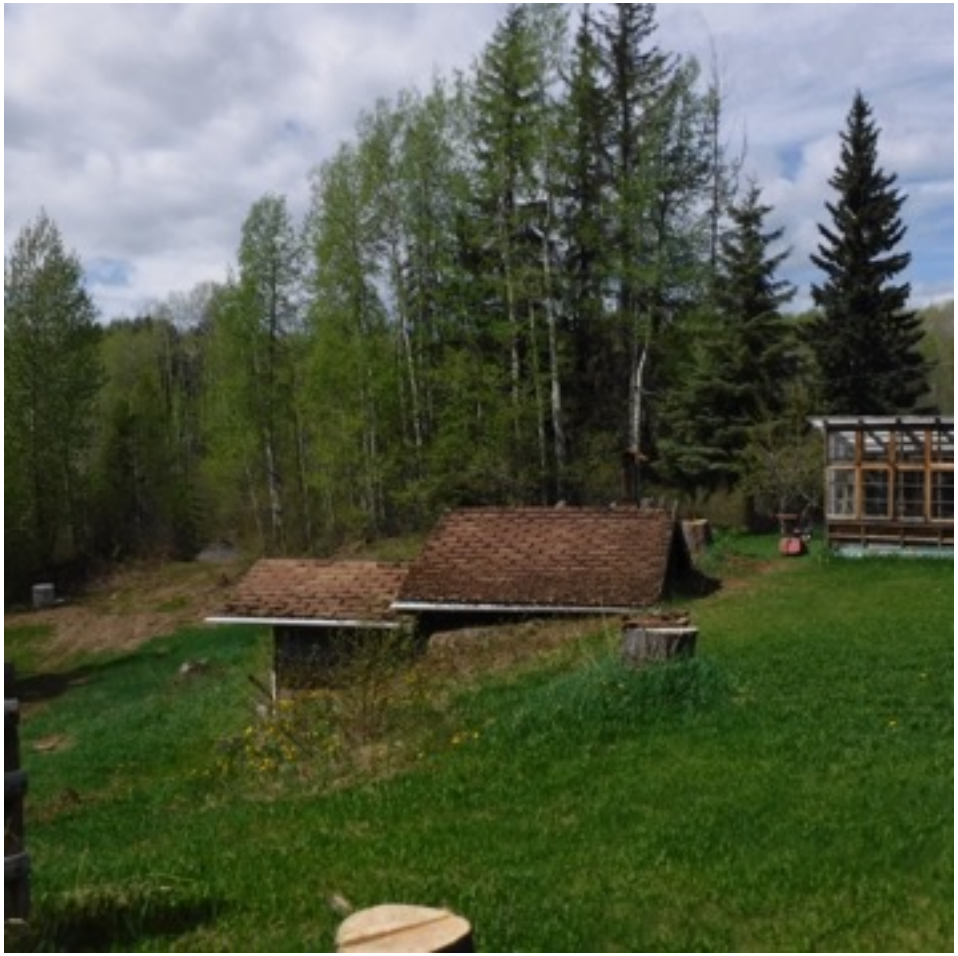
Imagination is the limit

TYPICAL EARTH BURRIED ROOT CELLAR

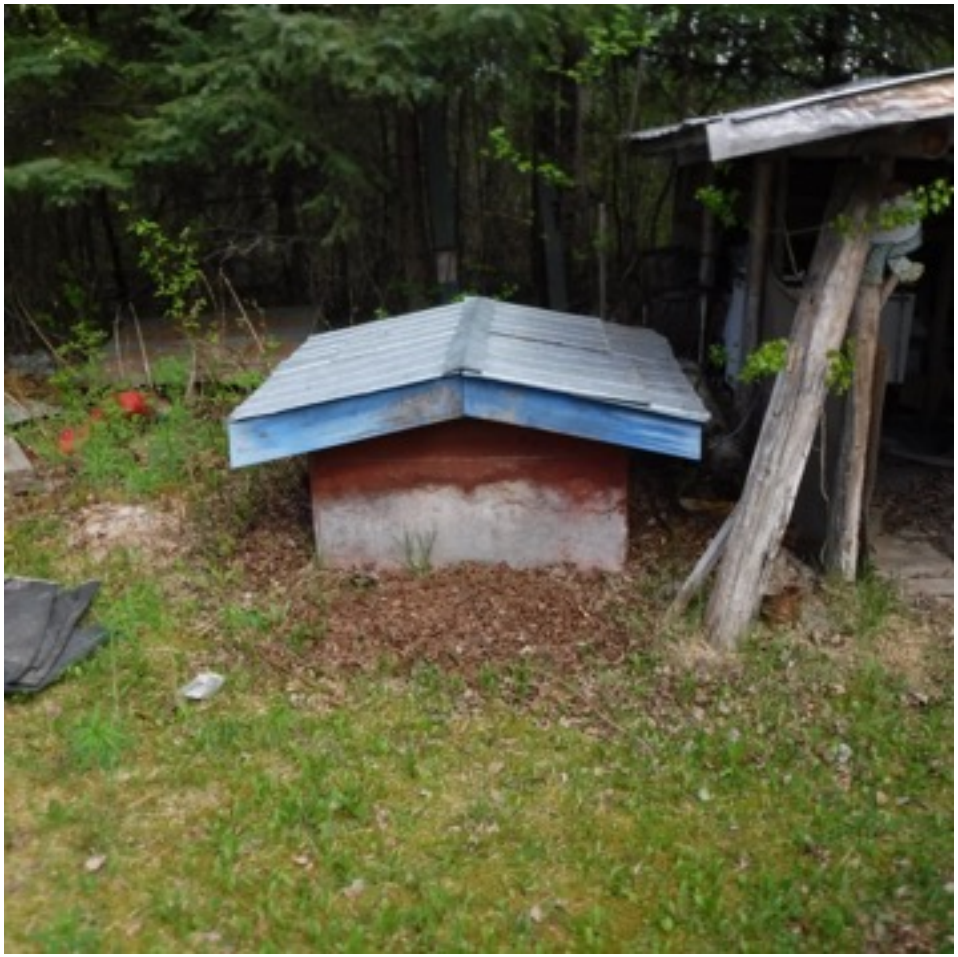


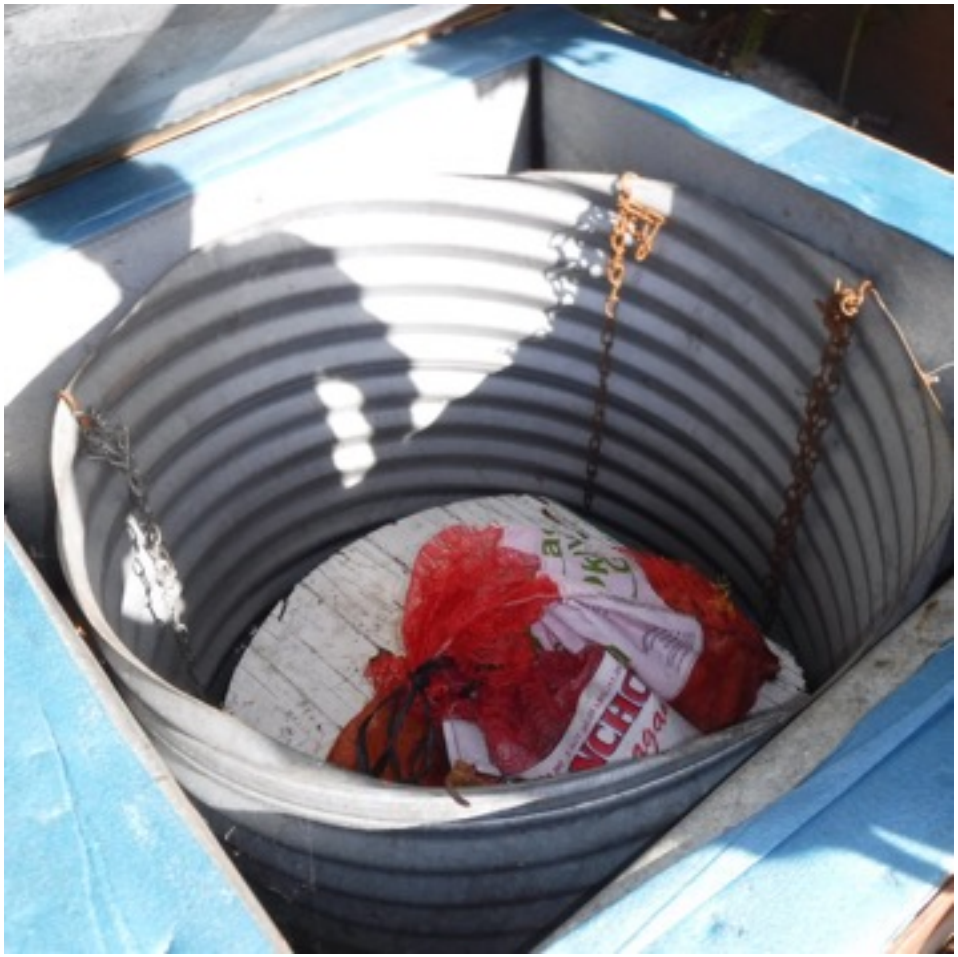
BASEMENT STORAGE ROOM





Suspended platfotm in a well





TEMPERATURE REQUIREMENTS

- Ideal temperature for a root cellar is 0 to 4-5C

- Garlic and potatoes tolerate **up to 10C**, while sweet potatoes, pumpkins and squash range is narrower from **10C minimum to 15C maximum.**

HUMIDITY REQUIREMENTS

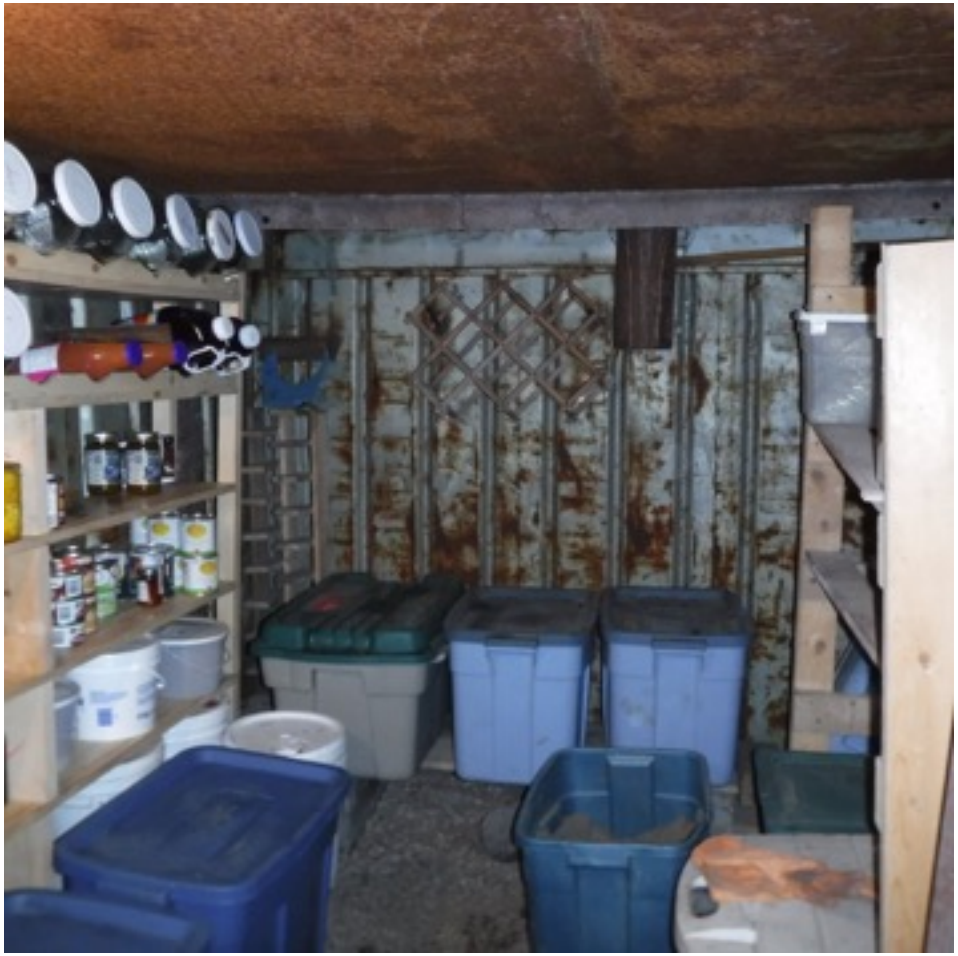
- Most vegetables require 90-95% humidity

- Garlic and onions prefer **60-75%** while pumpkins and winter squash should be stored in dryer conditions **30-70%**

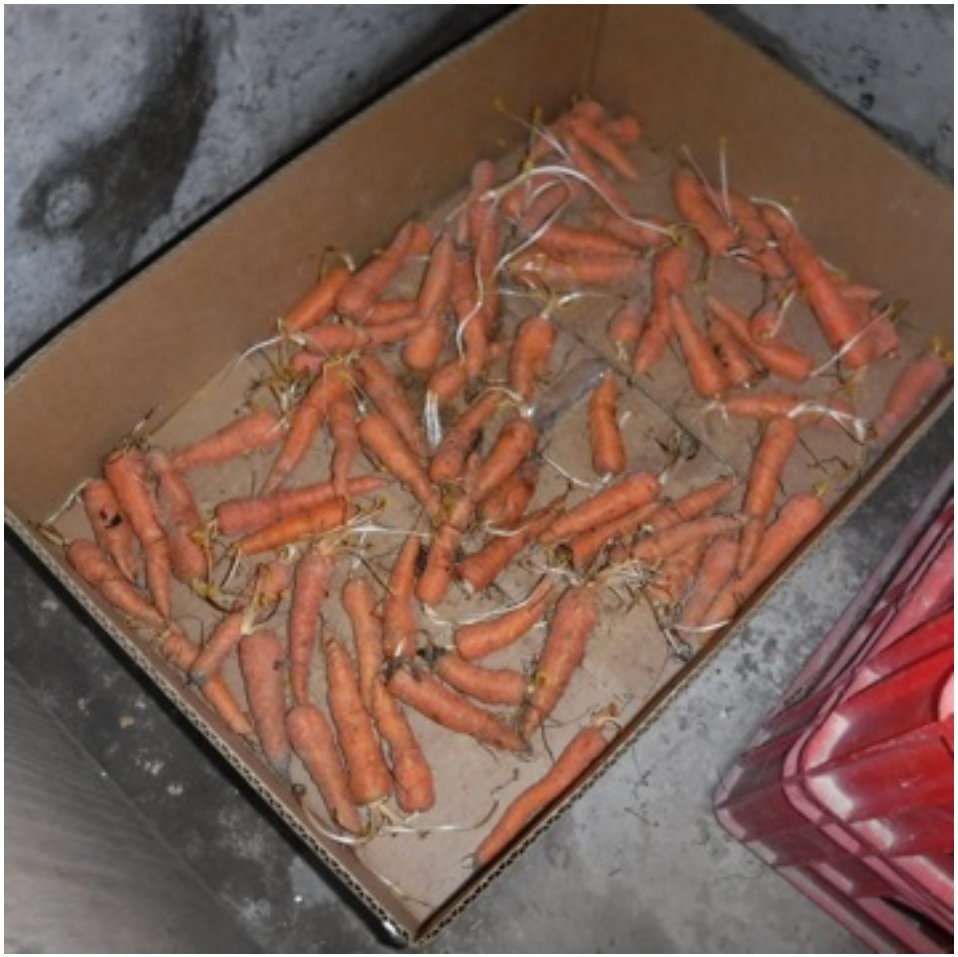
ETHYLENE - THE RIPENING GAS

- Certain vegetables and fruits produce ethylene for their ripening and may affect other products stored nearby
- Apples, cabbages, garlic, leeks, onions and pears produce ethylene
- They should be stored separately or near the higher level ventilation opening

THE REWARDS



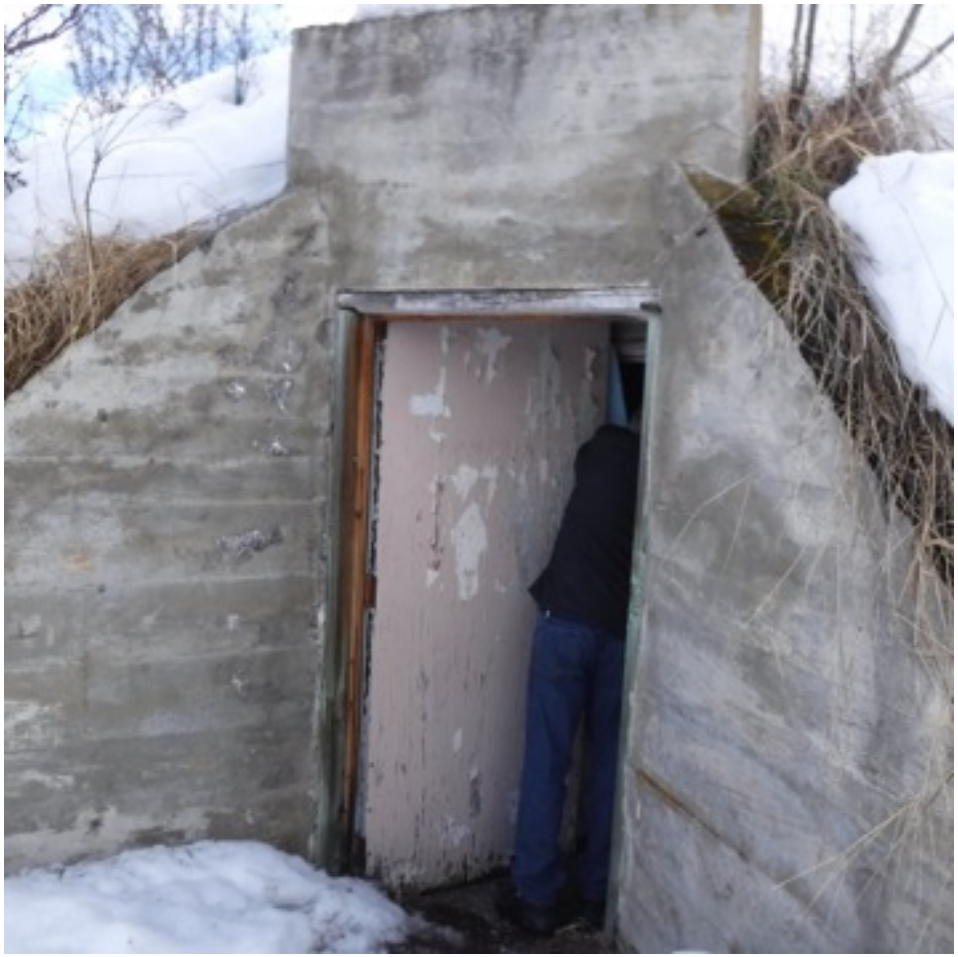
THE REWARDS



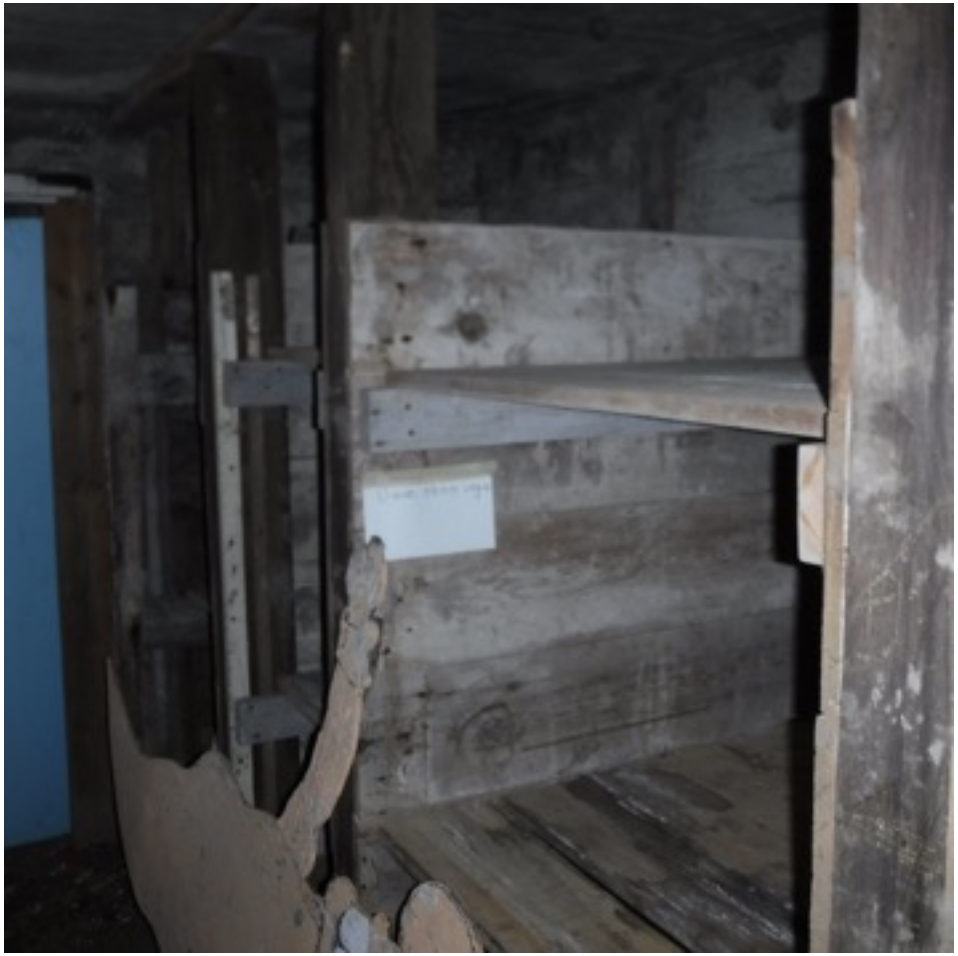
COMMUNITY ROOT CELLAR

- The Smithers Experimental Farm had a community root cellar which was well used in the 50ies
- It consists of a larger building divided in stalls, each about 4 ft wide
- This concept requires users to be respectful of food storage principles like not storing or removing quickly moldy products and separating those producing ripening gas in a different section or on an upper shelf.

SMITHERS EXPERIMENTAL FARM COMMUNITY ROOT CELLAR



SEPARATED STORING AREAS FOR COMMUNITY MEMBERS



CONCLUSION

- Root cellars are essential components of food security
- They give the opportunity to produce more local food, hence increasing sustainability
- The local food stored without much handling and transportation is of better quality
- Root cellars can be shared between neighbours
- Community gardens could be associated with community root cellars

ORGANIC GARDENING, FOOD SECURITY HEALTHY EATING WORKSHOP

July 25-26-27, 2018

At Soaring Spirits Camp – Kitwanga B.C.