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# COMMUNITY ROOT CELLARS INVENTORY

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with Laurie Gallant and Josette Wier

Northwest Food Security Forum, Smithers BC May 2018

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# PROJECT OVERVIEW

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- recognizing there is a range of needs and solutions for cold storage, we looked at residential and commercial designs
  - research consisted of primary research: site visits, telephone interviews, and requests for feedback on social media and also secondary research: internet, books
  - more information available than presented in this short session and we can host a separate event for Root Cellars.
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# HOUSTON COLD STORAGE

(private business for sale)



Jantina Meints - Re/max Bulkley Valley

March 6 · 🌐

👍 Like Page \*\*\*

2895 5th Street W, Houston, BC \$429,900

8694 sq. ft. cold storage warehouse located on a 1.05 acre lot in the Houston Industrial Site. 18 foot ceilings, 2 large refrigerated storage areas, another storage area, office and 2 loading/unloading docks. 30 x 40 cover-all building located behind the main building. Lots of parking. Zoned M-1, light industrial. Price includes 4 compressors, cooling fans & electric forklift.

<https://liveinSmithers.com/.../2895-W-5TH-STREE.../C8015855/292/>



**Origins:** started out as cold storage for tree seedlings in the eighties; this is still the primary use today.

**Size:** 9000 square feet

**Power:** 220v/120v; runs on BC Hydro grid.

Compressors use a fair bit of power. There is a 2 week threshold for power outages for the trees since they come frozen. They would rent a reefer truck if power outage was a threat.

**User Profile:** mostly silviculture; no farmers have used it in the last 15 years; has been used for mushrooms and for meat.

**Business model:** rates are based on volume, length of time stored, and temperature (because compressors control temperature and this affects power costs).

Example of a customer and cost: Hams from the local grocery store were stored for 2 weeks at 4 degrees and this cost \$250.



# DEEP ROOTS FOOD HUB

Non-profit near Ottawa, Ontario



Connecting small-scale farmers, families & local food

“The biggest challenge to date has been identifying a location. With any luck we'll be ready to take willing customers this fall.”

- Richard Tovell, Co-Chair

- **Design:** large culvert approximately 25ft by 15ft which can be easily extended.
- **Capacity:** 37,500 lbs of product. (100lbs/sqft floor space)
- **Market:** small to medium market/CSA gardeners looking to store roots over the winter season to allow them to extend their selling season.
- **Business Model:** under development; will consult with local farmers on fee structure
- **Advice:** install a monitoring system and track results over a single season to get more buy in from local farmers



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NORTHWEST PILOT PROJECT PROPOSAL

# THE FARMERS' ROOT CELLAR

using a shipping container (sea-can)





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# PILOT PROJECT QUICK FACTS

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- **Business model for pilot:** Options for ownership include co-op, non-profit as part of the NWFSP, or incubated business and then sold to landowner; users pay a quarterly rental fee based on weight and space; fundraising and grants are used for start up costs.
  - **Target Market:** Small-scale farmers, grocers needing a back up plan, Emergency Response Teams
  - **Growth Potential:** Can become a "franchise"; system is modular and replicable, one outlet in each community?
  - **Spin-off/Trickle Potential:** 1. New or expanded farming 2. New or expanded food processing related to emergency food cache supplies 3. New or expanded shared infrastructure projects such as Food Dryers and Packaging 4. New or expanded cooperative marketing of root cellar contents 5. New or expanded residential root cellar design, construction, and education 6. Food preservation workshops
  - **Start up costs:** Estimate \$8000-\$12,000 for a 20x8 or 40x8 single container system (\$3500 for 20 x 8, plus transport, excavation, modifications, monitoring system, entrance beautification, access improvement etc) - depends on site.
  - **Pilot project:** Single season to understand design and costs, monitor temperature and humidity, conduct market research, and make recommendations for next steps. We have a willing host with Hazelton Hops located 10 minutes off Hwy 16 and 10 km from New Hazelton; they are a registered supplier with RDKS ESS.
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# WHY SHIPPING CONTAINERS?

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- Modular and many sizes
  - Easy design to tweak and replicate for niche storage system needs (e.g. shelving, storage bins, walls to separate non-compatible produce)
  - Good availability in northwest BC due to ports and railway; resellers have offered to do modifications at their yards and have transport services.
  - Simple engineering reduces project timelines: site preparation and excavation (preferably sandy, north facing slope), add cement or gravel foundation, seal outside of container to make waterproof and prevent rust, add supports and ventilation
  - Building Permit and zoning simplicity (eg. In RDKS, building permit application not required if accessory structure and  $<10\text{m}^2$ ; No surveyor required if  $>25\text{m}$  from property line.
  - Watertight and animal (and rodent) proof
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# NORTHWEST INNOVATION CHALLENGE



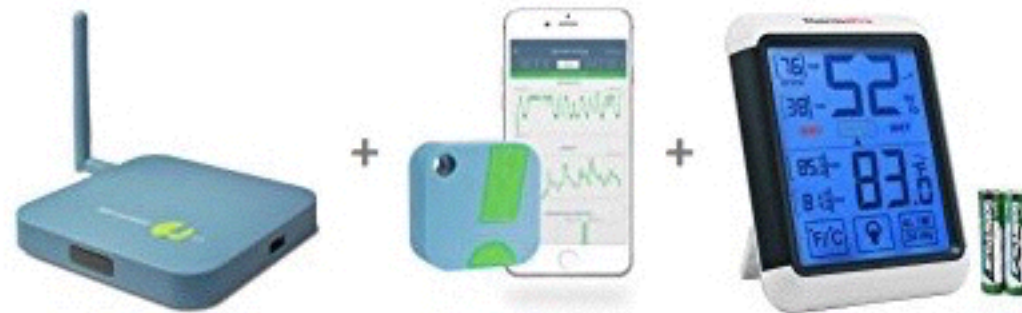
Panel of Judges chose our project for the “Rock Prize” of \$1000

Judges recommended back up fan system for cooling and wanted to know more about our regional food security strategy

Interactions with public reminded us to acknowledge long history of root cellar use and honour elders with first-hand knowledge



## ENVIRONMENTAL MONITORING SYSTEMS



Total price: **CDN\$ 223.87**

Add all three to Cart

- ✓ **This item:** SensorPush G1 WiFi Gateway - Access your SensorPush Sensor Data from Anywhere via the Internet **CDN\$ 133.91**
- ✓ SensorPush Wireless Thermometer / Hygrometer for iPhone / Android - Humidity & Temperature Smart... **CDN\$ 69.97**
- ✓ ThermoPro TP55 Digital Hygrometer Indoor Thermometer Humidity Gauge with Jumbo Touchscreen and... **CDN\$ 19.99**





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# WE NEED FEEDBACK

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- Where does this root cellar pilot project fit into our framework for prioritizing projects?
  - What should our siting criteria be? Suggestions: Affordability, Accessibility, Capacity of users/property owners for education and reporting, Proximity to users and market (service area radius?), Security/Risk management.
  - Process for signing up users and recruiting a team for pilot project design and management?
  - Quality control measures?
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