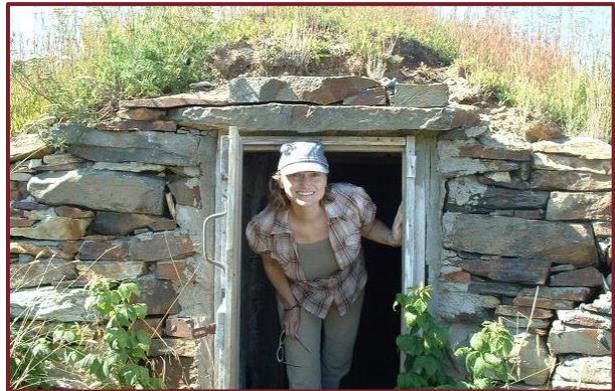


Root Cellars Rock

Food Skills Workshops

A Resource for Community Organizations in
Newfoundland & Labrador

Preserving: Root Cellars





Prepared by:

Food Security Network of Newfoundland and Labrador
Sarah Ferber, Root Cellars Rock Project Coordinator

www.foodsecuritynews.com

44 Torbay Road, Suite 110

St. John's, NL A1A 2G4

Phone: 709.237-4026

Fax: 709.237.4231

info@foodsecuritynews.com

With funding support from:

Provincial Wellness Grant Program, Health Promotion and Wellness Division,
Department of Health and Community Services

Job Creation Partnership Program, Department of Human Resources, Labour
and Employment

2012

Preface

The 4Ps of local food are planting, picking, preparing, and preserving. Together they encompass how to grow food, harvest it, make healthy meals from it, and preserve it for future use. Based upon the 4Ps, these workshops were created by the Food Security Network of Newfoundland and Labrador (FSN) as part of the Root Cellars Rock project. They are intended to assist community groups across the province in fostering knowledge, capacity, and engagement with healthy, traditional food skills in their communities. The workshop kit outlines what community groups will need to know in order to successfully host their own workshops on the 4Ps.

These workshops have been created in consultation with the Root Cellars Rock Advisory Committee and other local food champions from across the province. The inspiration behind the workshops was the ongoing success and growth of community-based food security initiatives province-wide and a need identified by those groups for Newfoundland and Labrador focused resources. FSN surveyed community-based food security groups to find out what topics were of most interest to them and how they thought the workshops should be designed. The Root Cellars Rock Food Skills Workshops are the result of their input and ideas. Groups surveyed across the province include community gardens, farmers' markets, community kitchens, family resource centres, regional wellness coalitions, environmental organizations, and food security working groups, to name a few.

These workshops are meant to be a living resource. Through ongoing input and evaluation, FSN hopes to update and improve the materials to ensure their continued appropriateness for local groups. For further information on how to provide input and evaluation on the workshops, see page 13.

FSN would like to thank the many individuals, agencies, and community groups that supported the creation of this resource.

Acknowledgements

Ongoing support was provided by staff of the Food Security Network NL:

- **Kristie Jameson**, Executive Director
- **Rick Kelly**, Communications Coordinator
- **Laura Nelson-Hamilton**, Office Manager

The author would like to thank the Root Cellars Rock Advisory Committee for providing inspiration, ideas and editing towards all of the workshops:

- **Kimberley Armstrong**, Burin Peninsula Environmental Reform Committee (BPERC)
- **Laurie Leehane**
- **Shawn Meredyk**
- **Matthew Middleton**
- **Morgan Murray**
- **Donna Nolan**, Regional Nutritionist, Eastern Health
- **Katie Temple**, Blow Me Down Community Garden
- **Kim Todd**, thegreenrock.ca
- **Faeterri Silver**
- **Mark Wilson**, NL Organics

Thanks go to the following individuals and organizations that have contributed to the completion and success of this project:

- **ACORN-NL**
- **Jill Airhart**, Food Security Working Group Happy Valley- Goose Bay
- **Rachelle Batstone**, Community Garden Alliance, FEASt
- **Maureen Bethel**, Daybreak Parent and Child Centre
- **Crystal Braye**, MA student Public Folklore, MUN
- **Brighter Futures Coalition**
- **Burin Peninsula Environmental Reform Committee (BPERC)**
- **Andreae Callanan**, FEASt
- **Central Health**
- **Central Regional Wellness Coalition**
- **Sonya Clarke-Casey**, MacMorran Community Centre
- **Community Sector Council**
- **Sarah Crocker**, NEA REDB, Seed to Spoon
- **Eastern Health**
- **Environmental Policy Institute, Grenfell Campus**
- **Family Outreach Resource Centre**
- **Father Val Power Learning Centre**
- **Food Education Action St. John's (FEASt)**
- **Grand Lake Centre of Economic Development**
- **Lori Heath**, Common Ground, St. John's Safer Soil
- **Humber Economic Development Board**
- **Intangible Cultural Heritage, Heritage Foundation of Newfoundland and Labrador**

- **Costa Kasimos**, FEASt
- **Labrador Grenfell Health**
- **Michelle LeBlanc**, Chinchéd Bistro
- **Lower Trinity South Regional Development Association**
- **Marla MacLeod**, Food Action Committee of the Ecology Action Centre
- **Aida Mashari**, St. John's Fruit Tree Project, Common Ground
- **Sarah Macaulay**
- **Jill MacEachern**, Eat Great and Participate
- **Paula Mendonça**, FEASt
- **Sue Mercer**, Exploits Valley Community Coalition
- **Multi-Material Stewardship Board (MMSB)**
- **MUN Botanical Garden and all its staff**
- **Martha Muzychka**
- **Newfoundland and Labrador Environment Network (NLEN)**
- **Newfoundland and Labrador Federation of Agriculture (NLFA)**
- **Cathy Parsons**, MMSB
- **Julie Pomeroy**, Agricultural History Society of NL
- **Dan Rubin**, Perfectly Perennial Herbs and Seeds
- **Vanessa Sheppard**
- **Smallwood Crescent Community Centre**
- **Marg Snook**, Father Val Power Learning Centre
- **St. John's Farmers' Market**
- **Sister Mary Tee**, Mercy Centre for Ecology and Justice
- **The Greenhouse/ Thistle's Limited**
- **Amanda Warren**, MacMorran Community Centre
- **Leonard Vassallo**
- **Vibrant Communities**
- **Western Environment Centre (WEC)**
- **Jill Wheaton**, Central Health Regional Nutritionist

Photo contributions for the Introduction and Appendices:

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| <ul style="list-style-type: none"> • Cover Page: (Clockwise from top right) Helga Gillard, Sue Drodge, Intangible Cultural Heritage Archive, Martha Muzychka • Page 9: Rachelle Batstone • Page 10: Sarah Crocker • Page 11: Sarah Ferber • Page 13: Fran Boase • Page 14: FSN | <ul style="list-style-type: none"> • Page 15: Rick Kelly • Page 16: Fran Boase • Page 17: Sue Mercer • Page 18: FSN • Page 20: Fran Boase • Page 21: FSN • Page 22: FSN • Page 23: Fran Boase • Page 34: Rachelle Batstone |
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Acknowledgements of photos used in the workshops can be found at the end of each workshop section.

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Introduction

Food Security Network NL (FSN)

The Food Security Network of Newfoundland and Labrador (FSN) is a provincial, membership-based, non-profit organization initially started in 1998 in response to growing levels of hunger and poverty in the province. Since then, FSN has been at the forefront of food security work in the province - fostering awareness, dialogue and action around food security issues.

FSN's mission is to actively promote comprehensive, community-based solutions to ensure physical and economic access to adequate and healthy food for all.

Root Cellars Rock is one of several projects that FSN administers in order to advance that mission. For more information, visit www.foodsecuritynews.com

Root Cellars Rock

The Root Cellars Rock project aims to stimulate healthy local food production and consumption across the province by celebrating Newfoundland and Labrador's agricultural heritage and fostering growth in agriculture and local food self-sufficiency.

Why Root Cellars? Root cellars were once an integral part of our provincial food system. Cold storage in root cellars allowed people to preserve harvests and to eat locally grown foods for more of the year. Subsistence living in Newfoundland and Labrador was not easy and many communities added to their imported food supplies by growing gardens, fishing, hunting, and foraging wild foods, all of which would have been preserved to last the winter without refrigeration.

Root cellars are used as a symbol of Newfoundland & Labrador's unique food heritage and potential for increased self-sufficiency. For more information on root cellars, refer to the **Root Cellars** workshop.

These workshops are one aspect of Root Cellars Rock. Other activities include:

- Resource sharing through the Root Cellars Rock blog and social media;
- Building partnerships with and assisting community groups that are fostering Newfoundland and Labrador's local food system; and
- Participating in the development of resources that promote access to healthy local foods in the province.

To learn more about Root Cellars Rock activities, visit www.rootcellarsrock.ca.

The 4Ps of Local Food

The concept of the 4Ps of Local Food was coined by Neil Tilley, who was a Newfoundland and Labrador community organizer, organic farmer, and advocate for environmental stewardship. FSN respectfully uses the 4Ps of local food in his memory. The 4Ps of local food are: Planting, Picking, Preparing, and Preserving.

Planting: How to Grow Food

Planting includes all aspects of growing healthy food up until the time when plants are ready to be harvested. Planting can refer to household or community gardening, sprouting, and agricultural cultivation of products like vegetables, fruits, and herbs. The two workshops under Planting are:

1. Container Gardening
2. Composting



**A raised bed
container garden**

Picking: How to Harvest Cultivated & Wild Foods

Picking includes all aspects of harvesting food, both foods that have grown in the wild and those that are cultivated in a garden or on a farm. Picking includes harvesting foods derived from animals as well as plants. Raising backyard chickens and other livestock, beekeeping, hunting, fishing, as well as harvesting vegetables, or gathering wild plants all fall under Picking. The two workshops under Picking are:

3. Seed Saving
4. Edible Wild Plants

Preparing: How to Prepare Healthy Meals

Preparing describes the process of making healthy meals that will be eaten soon after they are prepared. Cooking skills, meal traditions, and information about ingredients are all included under Preparing. The two Preparing workshops are:

5. Preparing Local Vegetables
6. Using Culinary Herbs

Preserving: How to Store and Preserve Food

Preserving incorporates the various methods for storing and preserving food to keep it for future consumption. Root cellars and cold storage, canning (bottling), pickling, drying, salting, freezing, fermenting, and smoking are all techniques under Preserving. The two workshops for Preserving are:

7. Canning/Bottling
8. Root Cellars



The Food Skills Workshops

Why Host a Food Skills Workshop?

Hosting a Food Skills Workshop can have several cultural, health, environmental, educational, and financial benefits. Participants will:

- Help to preserve traditional food skills and knowledge;
- Learn practical, hands-on food skills that promote healthy eating and are part of an active lifestyle;
- Meet and connect with other like-minded individuals that care about creating supportive local food communities;
- Gain awareness of ways to live sustainably with minimal impact on the environment;
- Build confidence through recognizing the value of the skills and knowledge that they and other local people already have;
- Connect with organizations and groups in the area that offer valuable services and opportunities;
- Discover affordable ways to enjoy locally produced, healthy foods year-round; and
- Become better connected with their food system and gain a greater understanding of community food security.

Who Should Host a Food Skills Workshop?

Any individual or community group that is interested in promoting food skills can host a workshop. Throughout the workshops, the term *facilitator* is used to refer to the people organizing and presenting these workshops in communities.

Facilitators do not need to be experts in these topics. The workshops are meant to be introductory learning experiences, both for participants attending the workshops and facilitators preparing them.

Included in each workshop is background information on the topic, supplementary resources, and detailed activity plans. After carefully reading through these materials, facilitators will hopefully feel confident hosting their own workshop. For additional information contact info@rootcellarsrock.ca

How to Use the Workshops

The eight workshops can be hosted individually or also work well when offered as part of a series. For example, a farmers' market might host a few workshops from each of the 4Ps over the course of the market season, to showcase the products that farmers are selling.

A community garden may choose to host two workshops from Planting and Picking, to inspire gardeners at the start of the growing season and to bring their group together during harvest.

A community kitchen may find the Preparing and Preserving workshops useful for introducing participants to new ingredients and techniques and building confidence with those.

There is no set rule on how to use these workshops; they are intended to be flexible and applicable for a variety of different purposes. Connect with local people to find out what workshops will be most valuable to community members and host a workshop in a location appropriate for the local community.

All eight workshops follow the same user-friendly format and include the following sections:

- Preparation
- Introduction
- Roots of our Local Food
- Digging In
- Activities
- Conclusion
- Supplementary Materials



The workshops begin with a section titled '**Preparation**' which introduces facilitators to important details to consider before hosting the workshop, such as gathering materials, finding a location, recruiting participants, setting a timeline, and workshop safety.

The **'Introduction'** section provides instructions for facilitators to introduce themselves, any hosting organizations, and share important information that will make the workshop experience comfortable for all participants.

The next section, **'Roots of our Local Food'**, provides an icebreaker activity. An aspect of Newfoundland and Labrador's food heritage is highlighted to give participants an idea of how food skills and knowledge have been established in the province. There are suggested questions for facilitators to ask participants in order to start a discussion, put participants at ease, and connect the workshop topic back to people's personal lives and the province's food roots.

The section titled **'Digging In'** provides the information that facilitators will use to introduce participants to the topics. This information was collected by FSN through literature reviews and interviews with local food champions. It is up to facilitators to decide how much and what parts of the information are relevant to their group. Facilitators may find some aspects especially useful and decide to leave others out, or may decide to use the extra resources provided to delve a bit deeper into particular concepts of interest to their group. It is recommended that facilitators try to find interesting ways to present the Digging In information besides giving a presentation. Displays, games, discussions, small group interactions, brainstorming lists, slideshows, and videos are all good ideas for relaying information.

The fun really begins with the **'Activities'** section of each workshop. A variety of options are presented for facilitators to choose from for hands on, interactive, and enjoyable activities that they can lead their group through. Depending on the amount of time that is available for the workshop, participants may enjoy doing more than one of the suggested activities. Facilitators decide where to fit the activities in the agenda they create.

Each workshop is then wrapped up in a **'Conclusion'** section where facilitators check back with participants to ensure that their questions have been answered and provide participants with further resources to take home for continued learning.

Included with each workshop are also **'Supplementary Materials'** which facilitators will share with participants. At each workshop all participants should fill in an evaluation form and be encouraged to add their name to the FSN E-News sign-up sheet. As well, a resources page is included with each workshop that provides sources for further learning. The resources page also lists possible videos that could be used by facilitators during the workshop.

Quick Tip

When possible, it is a good idea to present the activity options to participants before the workshop, and have them choose which they would find most interesting.

Evaluation and Follow-up

FSN plans to adapt, improve, and expand these workshops over time to ensure that they are kept as up-to-date and user-friendly as possible. Community groups, facilitators, and participants are asked to please provide input about their experience using these resources by filling in and returning to FSN the evaluation form which is included in the supplementary materials of each workshop. Groups that plan to host more than one of the workshops may find it useful to keep photocopies of the evaluation forms so that feedback can also be used to improve future workshops.

Evaluation forms should be sent back to FSN by email, fax or mail:

Email: info@rootcellarsrock.ca

Fax: (709) 237-4231

Mail:

Food Security Network of Newfoundland and Labrador
44 Torbay Rd., Suite 110
St. John's, NL
A1A 2G4

Consider documenting your workshop experiences with photos or videos. Those photos and videos can be very useful to community groups for supporting future funding requests, promoting upcoming events, and showcasing the successes of a workshop or project. FSN greatly appreciates receiving copies of photos and videos to use for promotion of the workshop kit and to publicly highlight the food security initiatives happening across the province. **Appendix E: Sample Registration Form** (page 31) includes a question requesting consent from participants to photograph or film workshops.



Container gardening workshop

Things to Keep in Mind

Get to Know Participants

Getting to know workshop participants and understanding their expectations before the start of a workshop can go a long way towards ensuring that everyone has a positive experience. The questions in the '**Roots of Our Local Food**' section are meant to help facilitators gauge where participants' interests lie and how familiar participants are with the topic. Organizers may also choose to ask a few questions during registration to get more familiar with participants. Refer to **Appendix E: Sample Registration Form** (page 31).

Depending on your location and resources, consider whether you may need to put a limit on the number of participants that can attend a workshop. These workshops are recommended for a maximum of fifteen participants. However, with adjustments to the agenda and content, they could accommodate larger numbers. Using your budget, planned activities, and venue as guides, decide what participant numbers will work best at your workshop.



Introducing a workshop

These workshops are designed for adult participants. While many of the activities could be enjoyed by younger participants, the content of the workshops, safety recommendations, and other planning measures have not been written for children or youth. For alternate resources to connect children and youth with healthy local food skills, refer to the Children & Youth section on the Root Cellars Rock blog (www.rootcellarsrock.ca/children-youth).

Build a Welcoming Space for Adult Learners

The following are principles for adult learning to keep in mind when facilitating workshops in order to create a comfortable environment for adults to learn in (adapted from the Community Kitchen Best Practice Toolkit - www.foodsecuritynews.com/resources):

Draw upon learners' experiences as a resource. Adults have a wide experience base. Facilitators can help participants share their own experiences and create an environment where participants are encouraged to learn from one another. By focusing on the strengths learners bring to the workshop, learners are able to connect new learning with prior knowledge.

Foster a spirit of collaboration. Collaborative learning focuses on the interdependence of each member. Learners collaborate with facilitators and with each other by working together to answer questions and perform activities.

Involve learners in the planning and implementation of learning activities. Adults are interested in things that are relevant to their lives. Adults' past experiences, their current learning goals, and their sense of self will influence what they want to learn and how they learn it. The facilitator can create a situation in which participants can share in the planning, implementation, and evaluation of workshops.

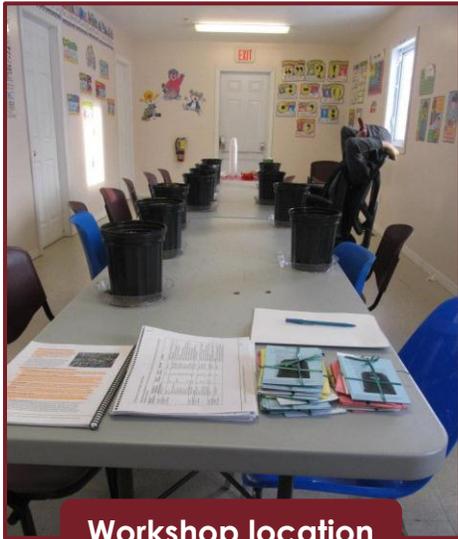
Create a climate that encourages and supports learning. Adults have a sense of personal dignity. They must be treated with respect at all times and never feel humiliated or laughed at before others. A safe atmosphere where learners can admit confusion and express different opinions is one that enhances learner self-esteem and reduces fear.

Cultivate self-direction in learners. In a supportive and safe learning environment, the facilitator can become a mentor to adult learners. They can help learners to develop skills that lead to self-direction, independent learning, and empowerment. Facilitators can encourage learners to continue to seek out knowledge and experiences related to the topic beyond the workshop.



Outdoor workshop

Location



Workshop location

There are several things to keep in mind when choosing a workshop location:

Availability: Be sure to book the space well in advance to ensure that it will be available at the time of the workshop. Check back with the venue in the days leading up to the workshop to confirm the booking.

Traveling distance: Choose a location that is within easy travel distance for participants. Keep in mind whether they are likely to be walking, driving (and require parking), or taking public transit. If many participants will be walking or taking public transit, consider concluding workshops before dark or offering carpools.

Affordability: Choose a venue that is within budget for the workshop, keeping in mind other expenses like materials. Consider approaching venue operators to see if they are willing to donate the space for free or search out spaces that are always free such as community rooms at local recreation centres or libraries.

Accessibility: Consider the mobility of participants. Where possible choose venues that have few stairs or provide wheelchair access. Arrange work spaces and choose equipment that will be comfortable for all participants.

Equipment & resources: Be sure that any necessary equipment or resources are available on-site such as a kitchen, audio or video equipment, internet access, appliances, kitchen tools, and running water. Some of the workshop activities are messy so cleaning equipment should also be available.

Seating: Think about how the participants will be organized in the space. Will everyone be around a table or in a circle? Or will the facilitator be in the front facing seated participants? However you envision the lay-out, ensure that there are adequate chairs, tables, and workspaces.

Agenda & Timing

Each workshop in its entirety is set up to last about two hours depending on the activities that are chosen. It is recommended that the workshops be done in their entirety with all the associated sections. However, if you do not have that much time with participants, consider adapting the workshops to fit your timeline. For example, you could use the **'Roots of Our Local Food'** and **'Digging In'** sections together and provide a shorter presentation and discussion. Or use the **'Activities'** section alone for a quick hands-on session and then send resource materials home with participants for further learning.



Community garden

Each workshop comes with a recommended agenda. Facilitators can adapt the agenda to make it appropriate for their workshop and should display it at the workshop or hand out copies for participants to follow along with. The agendas do not include break periods; however facilitators can ask participants if they would appreciate a break. If the workshops are scheduled to go beyond two hours then it is recommended that breaks be added to the agenda.

Activities will often take longer than expected, especially when participants are enjoying themselves. Keep this in mind when planning your schedule. One of the best outcomes of hosting community workshops is the networking and socializing that result, so allow time for this to happen.

Schedule workshops for times when participants are most likely to attend. Find out if the intended participants prefer days, evenings, or weekends. Many people are unavailable in the summer, so higher turnout might be likely during other times of the year. If you plan to host an internal workshop for your community group perhaps host it after or in lieu of a regular meeting at a time that participants are already comfortable with.

For workshops directed at parents or caregivers, keep in mind possible child care commitments or restricted evening schedules. Consider offering child care at workshops in exchange for a donation or running supervised children's events at the same time as the adult workshop.

Schedule workshops with adequate time to complete planned agenda items. The '**Activities**' generally take place at the end of the workshop and they are extremely important for providing hands-on and interactive learning experiences. Be sure that your timeline leaves enough room that activities are not cut short.

If a workshop is going to take place during a meal time, consider providing food or hosting a potluck. Providing food is an effective way to increase attendance for a workshop or event. If you will be providing food, include that in your budget and adjust your agenda to allow time for participants to eat.

Appendix E: Sample Registration Form (page 31) and the evaluation forms included in the supplementary materials of each workshop can be used as resources to find out the best times for hosting workshops.

Materials & Budget

These Food Skills Workshops have been designed to keep expenses low by recommending affordable and reused materials for workshop activities where possible. That being said, it is easy to spend more than anticipated to host a successful workshop. Consider making a budget at the start of the planning process to help monitor expenses. Refer to **Appendix B: Budget Template** (page 27) as a resource.

Once you have an idea of expenses, cost out the price per participant for the workshop and decide whether that amount is manageable within the resources of the group. If not, refer to **Funds to Host a Workshop** (page 19) for ideas to cover the costs of hosting a workshop.



Workshop materials

Funds to Host a Workshop

These workshops are meant to be inexpensive for facilitators to host but will still require some funds for materials, venue, and printing. Consider the following options for ways to finance workshops in your community:

Fees

Charging participants a small and accessible fee can help to cover the cost of hosting a workshop. There are different fee types to choose from, including flat rate, sliding scale, suggested donation, and pay-what-you-can.

Flat rate: A set fee is required from all participants. It could reflect the cost per participant to cover the workshop expenses or could be set a bit higher to fundraise for the group hosting the workshop.

Sliding scale: Participants are categorized in some way and are required to pay a fee that reflects their income level, involvement in the hosting group, or role at the workshop. This type of fee structure can create incentive for participants to join a group's membership or volunteer so that they are able to pay a discounted fee. Some examples of sliding scale categories are:

- employed individuals, unwaged individuals
- adults, students, seniors
- non-members, members
- regular participants, participants who volunteer

Suggested donation: A donation amount is suggested and participants decide what they can reasonably afford to donate based on that amount. For example, suggested donation may be \$5 but some individuals will choose to donate \$10 and others may donate \$2.

Pay-what-you-can: Participants are asked to pay some money towards the workshop but there is no limit or suggestion on what that amount should be so participants decide what is reasonable for them.

Fundraising

A fundraiser could be held to raise money for hosting workshops. The fundraising process is also a good opportunity for promoting the upcoming workshop in the community. Keep in mind that sometimes fundraisers can take up more volunteer time than is reasonable considering the amount of money they raise. Try to come up with fundraising ideas that are easy to organize and will not require too many resources to succeed. Consider the following fundraising options and be creative when brainstorming other ideas:

- host a bake sale or sell beverages at a community event like a farmers' market or fall fair
- sell raffle tickets for donated prizes
- host a garage sale or plant sale



Donations

The costs associated with hosting a workshop can be greatly lessened if your group seeks out donations of materials or in-kind donations like free access to a venue or equipment. Consider approaching the following local businesses and groups for assistance:

- gardening and landscaping businesses
- grocery stores
- town councils
- service and church groups
- community centres
- farmers
- hardware and home stores
- restaurants
- local businesses
- libraries

Grants

Grants are funds distributed by an organization (like a government department, business, or foundation) to assist in the creation of community projects that fit within the funding organization's mandate. Grants usually involve an application process and follow-up reporting and may take several months to process. Most grants require that applicant groups be either registered not-for-profits or charities in order to apply. Usually individuals cannot apply to grants.

For information on becoming incorporated as a not-for-profit or gaining charitable status visit the Community Sector Council Newfoundland and Labrador website: <http://communitysector.nl.ca/voluntary-sector-resources/starting-nonprofit-or-charity>. Refer to **Appendix J: Grant Opportunities** (page 38) for a list of grants and grant databases.

Safety

Safety is very important when hosting a workshop. Keep in mind the wellbeing of everyone in attendance when planning out venues, materials, food, activities and other considerations. Hosting activities outdoors and at gardens creates safety considerations that are unique from indoor workshops. Refer to **Appendix G: Garden Safety** (page 33) for things to keep in mind for garden workshops.

Serving and/or preparing food at a workshop can really improve the experience for participants, but it means that food safety precautions need to be taken. Refer to **Appendix H: Food Safety** (page 35) for provincial food safety guidelines to follow when hosting a workshop.



Be safe while using tools

Promotion

Try to promote workshops as much as possible in your community well in advance. Use **Appendix E: Sample Registration Form** (page 31) and **Appendix F: Registration Tracking Template** (page 32) as resources to keep track of how many people will be attending and to decide how much more promotion should be done to fill up available spaces as the workshop date gets closer.

The following are a few tips for successfully promoting an upcoming workshop:

- **Use the FSN E-News:** Send your event listing to FSN for inclusion in the monthly E-News. The E-News is an email newsletter packed full of events, opportunities and resources and it goes out to individuals and groups across the province. Email your event to e-news@foodsecuritynews.com before the first Monday of the month to be included in that month's e-news. Sign-up to receive the E-news at www.foodsecuritynews.com
- **Promote the event through Root Cellars Rock:** Email info@rootcellarsrock.ca to find out about putting notices up on the Root Cellars Rock blog, Facebook, and twitter.
- **Spread the word:** Everywhere you go, tell people about the great workshop you are hosting and ask them to pass the word on. It's helpful to have a handout with the workshop information or a website address that you can direct people to so they will not forget the details later.
- **Share with your network:** Send emails out over listservs, put a blurb in newsletters, post notices on community boards, make a Facebook event, promote the workshop on twitter, and post the details on group websites.
- **Use free local media:** Make a radio public service announcement (PSA) or create a press release and distribute that to local media to generate interest for articles and news stories.
- **Connect with local groups:** Brainstorm about other local groups that have members that may be interested in attending and then ask if you can promote the workshop through them. For example, if you are doing a workshop on container gardening then perhaps local community gardens, horticulture clubs, community centres, seniors groups, or schools would be interested in promoting the event.



Leading a workshop

- **Use local events calendars:** Often your municipality, local newspaper, or tourism centre will have online or on-location community calendars that you can post events on for free.
- **Promote the activities:** Activities are the hands-on part of the workshops and they are a great draw for attracting interest. For example, advertise that you are hosting a composting workshop, but be sure to mention that you will be making a vermicompost bin as a group.
- **Promote the event through the venue:** If you are hosting at a community centre, library, farmers' market, or other public space then put up posters, use on-site calendars and newsletters, and ask venue operators to spread the word.
- **Make a poster:** Making posters and handouts can be time consuming, but are great when used effectively. Rather than putting up posters everywhere, think about who you are trying to reach and poster where those people go. Use **Appendix D: Sample Poster** (page 30) as a template.
- **Promote the workshop at other events:** Ask to attend the events and meetings of related groups to tell people about the workshop.
- **Start early and finish late:** Give people lots of notice when workshops are being hosted and then send out reminders right before the workshop. Often those last minute reminders convince people to attend.



Having fun at a workshop

Preparedness

Before planning a workshop, carefully review the materials in this kit. Thoughtful review of the materials and adequate preparation will ensure that you organize the right venue, materials, content, promotions, and activities and host a highly successful workshop. Use **Appendix A: Are You Ready? Checklist** (page 26) as a planning resource.

FSN Resources

When organizing workshops, feel free to contact FSN with any questions or feedback. FSN can also put you in contact with other groups across the province that have done the same workshops already and can share resources and lessons, which may be helpful in organizing your workshop.

FSN has many resources in addition to these workshops. Explore the links below and print or forward any resources that could benefit workshop participants. For more information visit www.foodsecuritynews.com or contact FSN at info@foodsecuritynews.com and (709) 237-4026.

Root Cellars Rock online:

- The Root Cellars Rock blog (rootcellarsrock.ca) is an interactive online space for learning about the 4 P's of local food. It includes posts from across the province, recipes, links, resources, event listings and a forum to share tips and ask questions.
- The Root Cellars Rock YouTube channel features a collection of linked videos to help build food skills. (www.youtube.com/user/RootCellarsRock)
- For daily local food tips, resources, and opportunities visit the Root Cellars Rock Facebook page (www.facebook.com/rootcellarsrock) and Twitter (twitter.com/#!/rootcellarsrock)

E-News: FSN distributes a monthly e-newsletter featuring funding and volunteer opportunities, news, events, and resources. Sign up at www.foodsecuritynews.com or use the sign-up sheet found in the supplementary materials of each workshop. To advertise your project or events, email e-news@foodsecuritynews.com before the first Monday of the month.

Food Security Pamphlets and Fact Sheets:

FSN created a series of fact sheets filled with easy to understand information about food security. You can find these online at www.foodsecuritynews.com/resources

10 Ways to Eat Local Food

- 1. Learn What's in Season**
Knowing which local foods are in season will help you know what to look for at the farmers' market or grocery store. Experiment with local foods that you don't normally eat. Visit Root Cellars Rock for lots of local food resources. www.rootcellarsrock.ca
- 2. Find a Farmer**
Find local farms by using Root Cellars Rock's Local Food Links www.rootcellarsrock.ca Food Security Initiative Inventory www.foodsecuritynews.com Buy Local! Buy Fresh! Avalon Region Map www.northeastavalonredb.ca Keep it in Kitchikwa www.kitchikwa.nl.ca Atlantic Canadian Organic Regional Network acornnl.wordpress.com
- 3. Visit a Farmers' Market**
Farmers' markets are growing across the province. More than just a place to find local meat and vegetables, they are community centres where people gather to socialize, eat, hold workshops, and celebrate local food. See the Food Security Initiative Inventory to find a farmers' market near you. www.foodsecuritynews.com/resources
- 4. Join a Community Supported Agriculture Program**
Customers commit up front for an entire season and in return the farmer provides a weekly box of fresh produce and preserves. The produce varies according to what's available. It's a great way to give farmers more financial security.
- 5. Start Gardening**
If you don't have space for a garden in your own yard, try growing some fresh herbs in a window, or join a community garden. Use the Food Security Initiative Inventory www.foodsecuritynews.com/resources to find a community garden near you.
- 6. Go Berry Picking**
There are many edible wild berries in the province. A U-Pick, where you pick your produce yourself, is a great way to get some berries that aren't as common in the wild. Use 2. Find a Farmer to find a berry U-Pick near you.
- 7. Wild Harvesting**
Hunting, fishing, and trapping are traditional ways we have acquired local food. Visit the Department of Environment and Conservation, Wildlife Division for information about licences. www.env.gov.nl.ca/env/wildlife
- 8. Preserve the Harvest**
There are many ways to preserve fresh local food. Canning, cold storage, bottling, freezing, pickling, salting, drying, and fermenting are all ways you can preserve local vegetables and fruit for months. For resources see the U.S. National Center for Home Food Preservation (www.uga.edu/nchfp) and Bensara's home canning recipes (www.homecanning.ca).
- 9. Support Restaurants & Retailers that Source Local Food**
A growing number of restaurants are choosing to support local farmers and fish harvesters, or even grow their own vegetables and herbs in a restaurant garden. Ask your favourite restaurant to source locally and use the Food Security Initiative Inventory to find restaurants and retailers that sell local food. www.foodsecuritynews.com/resources
- 10. Sprout!**
Seeds such as lentils, peas, alfalfa, sunflower, and broccoli can all be sprouted to make delicious fresh greens all year long. All you need is seeds, water, and a few days to grow these nutritious foods any time, right in your own kitchen. Visit www.foodsecuritynews.com/resources for more information.

Food Security means that all people at all times have physical & economic access to adequate amounts of nutritious, safe, and culturally appropriate foods.

Contact FSN for more information on how you can take action.
www.foodsecuritynews.com

Food Security Network
Nurturing & Celebrating
Food for All!

FSN Fact Sheet

Best Practices Toolkits: FSN developed four Best Practices Toolkits for community organizations which feature step-by-step guides and resources for starting and maintaining community gardens, farmers' markets, community kitchens, and bulk buying clubs. Contact FSN to get copies or find them online at www.foodsecuritynews.com/resources.



Food Security Initiative Inventory: FSN maintains an online directory of Food Security Initiatives in Newfoundland and Labrador, including: food banks, shelters, meal programs, community gardens, community kitchens, bulk buying clubs, farmers' markets, local farms, local food retailers, and more. It is available on FSN's website at www.foodsecuritynews.com/resources.

Teleconference Series: FSN holds regular teleconferences on topics related to food security, such as community gardening, nutrition, farm direct marketing, farmers' markets, land use, and food policy. Previous teleconferences are archived as power point presentations, audio recordings, and written summaries on FSN's website at www.foodsecuritynews.com/teleconferences.html. Sign up to the E-News to hear about future teleconferences.

Appendices

Appendix A: Are You Ready? Checklist

Use this checklist to make sure that you are ready to host a Root Cellars Rock Food Skills Workshop. As you complete each task, check it off.

- Carefully read through the introductory materials to get familiar with how to host any of the Root Cellars Rock Food Skills Workshops.
- Decide which workshop you would like to host.
- Keep accessibility in mind throughout all planning.
- Read through the workshop of your choice carefully.
- Identify who will facilitate the workshop.
- Decide what information you want to present from Digging In.
- Decide what Activities you want to do.
- Develop your agenda for the workshop.
- Create a budget for your workshop.
- Organize funds to cover workshop costs.
- Choose a date and time.
- Book an appropriate venue.
- Promote the workshop to the community.
- Create a materials list.
- Gather donated, reused, and purchased materials.
- Register participants.
- Print the following:
 - 1 copy of the FSN E-News Sign-Up Sheet
 - Evaluation Forms for each participant, volunteer and facilitator
 - Resource sheets for each participant
- Check to make sure all the equipment you will use works.
- Remind participants of the workshop by email or phone.
- Have fun at your food skills workshop!** Take photos and videos to share.
- Return the completed FSN E-News Sign-Up Sheet and Evaluation Forms to FSN immediately following the workshop.

Quick Tip

Involve potential participants in planning and decision-making so that you host a workshop that is well-attended, fun for everyone, and best reflects the interests in your community.

Appendix B: Budget Template

Workshop Title:

Date of Workshop:

Organizers:

Estimated Expenses

Description	Amount	Notes
Venue		
Activity materials (Refer to Appendix C, page 29, for more details)		
Refreshments & food		
Photocopying		
Other*:		
Total Estimated Expenses	\$	

*'Other' might include things like transportation, child care, honourariums, thank you gifts, etc.

Estimated expenses ÷ estimated # of participants = cost per participant
 _____ ÷ _____ = _____

Estimated Funds Available

Description	Amount	Notes
Fees from participants		
Donations		
Grants		
Group's workshop funds		
Other:		
Total Estimated Funds	\$	

Estimated funds - Estimated expenses = Estimated surplus or deficit

_____ - _____ = _____

Appendix D: Sample Poster



**JOIN US FOR A
FOOD SKILLS
WORKSHOP
ABOUT:**

DATE:

TIME:

LOCATION:

CONTACT:

DETAILS:



WWW.ROOTCELLARSROCK.CA

Share ideas,
experiences, interests,
and learn new skills!

Appendix E: Sample Registration Form



Return completed forms to:

Food Skills Workshop Registration Form

Please fill in this registration form to the best of your ability. It will be kept private and used only to ensure your spot in the upcoming workshop.

Name:

Phone

Number:

Email:

1. Do you have any food restrictions that organizers should be aware of, including allergies?

2. Photos and videos may be taken at the workshop. Do you consent to being photographed and/or filmed?

Yes No

3. Please rank and circle your prior understanding of the workshop topic, where 1= little understanding and 5= very knowledgeable:

1 2 3 4 5

3. What do you hope to learn or gain by attending this workshop?

4. Please share any additional comments or suggestions that would assist in making this a positive workshop experience for you:

Appendix G: Garden Safety

The following is a list of safety tips to keep in mind when gardening or using garden tools at a workshop. Share this information with participants as needed.

1. Protect yourself from sun overexposure, exhaustion and injury:

- wear a hat and adequate clothing for the weather
- apply sunscreen
- take breaks in the shade
- drink enough water to stay hydrated
- eat enough healthy food to maintain energy
- pace yourself and be aware of your physical limits
- stretch after vigorous activity or keeping to one position for a long time
- avoid straining your back, neck, and knees
- have a first aid kit on site and when possible, someone trained in first aid

2. Stay safe when using garden machinery and tools:

- wear sturdy gardening gloves, footwear and clothing that covers skin
- choose equipment that is the right size and weight for you to handle
- When you are unsure of how to use something, ask for guidance
- keep equipment clean and rust-free
- store equipment in safe, dry places
- maintain a tidy work space
- be aware of possible tripping hazards
- place sharp equipment like rakes sharp-side-down
- do not leave equipment unattended
- keep equipment in good working order with tune-ups and repairs
- read and follow manufacturer's instructions for all equipment
- do not work with electrical equipment in wet or damp conditions
- use extension cords that are rated for outdoor use

3. Be cautious when using fertilizers (even organic), pesticides, and chemicals:

- keep skin covered by wearing long clothing and sturdy gloves
- remove garden shoes and brush off clothing before going indoors and consider keeping separate clothing to be worn only during application
- read and follow manufacturer's instructions closely
- store fertilizers, pesticides and chemicals in safe places away from food, children, and pets



Raised bed with bricks

4. Ensure food safety in the garden:

(Adapted from the University of Maine Cooperative Extension
<http://youtu.be/o3z1q9BdoGY>)

- choose a garden site that is away from septic systems, manure piles, and areas where animals frequent
- if using surface water (streams, ponds, etc.) or rain barrels to water your garden, apply water to the base of plants at the soil level
- if using well water, ensure that the water is regularly tested for safety
- use potable water to clean soil and residue from foods
- harvest foods with clean hands/gloves and tools
- harvest foods into clean, food-grade containers
- if putting foods into storage, be sure to handle them gently to avoid creating damage that could eventually rot
- ensure that harvested foods are adequately dry before storing
- be aware of potential soil contamination and consider having your soil tested, refer to St. John's Safer Soil (<http://safersoil.ning.com/>) as a resource
- if growing food in containers, do not use pressure treated wood, painted materials or heat/water sensitive containers that could degrade and leach contaminants into the soil

Appendix H: Food Safety

For more information on food safety visit:

www.health.gov.nl.ca/health/publichealth/envhealth/foodsafetyinfo.html

**FOOD SAFETY
SERVED HERE**

FOOD SAFETY DON'T BE THE CAUSE OF FOODBORNE ILLNESS!

The following information provides an overview of food safety practices which can reduce the risk of food poisoning in your home or business.

Handle perishable foods safely

Perishable foods must be stored at controlled temperatures. In addition, foods must be protected from contamination. Please follow these recommendations:

Avoid the temperature danger zone!

- Cold foods need to be stored below **4°C (40°F)**.
- Hot foods need to be stored above **60°C (140°F)**.
- The only way to know is to use a thermometer!
- Do not store any perishable foods in the **danger zone** between **4°C and 60°C**, where bacteria can grow. (ex. On the kitchen counter)

Cross contamination control:

1. Keep raw meats and poultry away from other foods during storage and preparation.
2. Keep separate cutting boards for raw meats and vegetables to avoid cross-contamination.
3. Keep foods covered.
4. Make sure the refrigerator is set at **4°C (40°F)**, and keep the freezer at **-18°C (0°F)**.
5. Serve foods **right away** so they do not **linger** at room temperatures where bacteria can grow.
6. Remove food from the stove, serve it and put the rest in the fridge immediately.
7. Keep cooked and ready-to-eat foods separate from raw foods, and surfaces that raw meats have contacted. This will prevent the bacteria that live on raw meats from contaminating food which will not be cooked again.

Thaw frozen food safely

- In a refrigerator.
- In a microwave oven.
- Under cold running water.
- In cold water that is changed often enough to keep it cold.
- Never thaw at room temperature.

Cooking food thoroughly

It is necessary to kill harmful bacteria that may be present in or on the food. This is very important for poultry and ground beef.

More food safety tips

- Wash **all produce** thoroughly before cooking or eating.
- Cook **poultry dressing separately**. Never inside the bird.
- Cook **poultry or roasts all at once**. Never cook partially on one day to finish cooking on the next day.
- Use a **thermometer** to find out the internal temperature of cooked items. (See Table for internal temperatures.)
- Place **all hot food items** in **several shallow or smaller pans** in a **refrigerator** for "quick chilling".
- Avoid the **use of home canned or preserved food** items when serving large numbers of people.

Food Safety Awareness

Most foodborne illness can be avoided by following these simple food safety tips:

CLEAN:

Wash your hands frequently with soap and water.

- Before handling food or eating.
- After handling raw meats, using the toilet, touching pets/animals and changing diapers.

Wash counters, utensils, cutting boards, and other surfaces after they come into contact with raw meat.

COOK

- Cook all meats, poultry, and eggs to a proper internal temperature, as listed in the table.
- Keep all hot foods at 60°C (140°F) or more, to prevent the growth of bacteria.
- Use a kitchen thermometer to check cooking and storage temperatures.

CHILL

- Chill all leftovers promptly to keep them out of room temperature.
- Refrigerate all perishable foods at 4°C (40°F) or less, to prevent the growth of bacteria.
- Thaw frozen foods in a refrigerator, cold water, or a microwave oven, not at room temperature.

SEPARATE

- Use separate cutting boards for raw meats, and raw fruits and vegetables.
- Store raw meats below ready-to-eat foods, on lower refrigerator shelves, to prevent contamination caused by dripping.

Action	Temperature required
Refrigeration	4 °C (40 °F) or less
Freezing	Minus 18 °C (0 °F) or less
Cooking	
Food Mixtures containing Poultry, Eggs, Meat, Fish or other potentially hazardous foods	Internal Temperature of 74 °C (165 °F) for at least 10 minutes
Pork, Lamb, Veal, Beef (whole cuts)	Internal temperature of 70 °C (158 °F)
Rare Roast Beef	Internal temperature of 63 °C (145 °F) for 3 minutes
Poultry	Internal temperature of 85 °C (185 °F) for 15 seconds
Stuffing in Poultry	74 °C (165 °F)
Ground Meat	71 °C (160 °F)
Eggs	63 °C (145 °F) for 15 seconds
Fish	71 °C (160 °F)
Reheating	74 °C (165 °F)
Holding Hot Foods	60 °C (140 °F)
Cooling	60 °C (140 °F) to 20 °C (68 °F) within 2 hours 20 °C (68 °F) to 4 °C (40 °F) within 4 hours



Department of Health and Community Services
 Department of Government Services
 Regional Health Authorities
 Revised January 2011

Food Safety Awareness

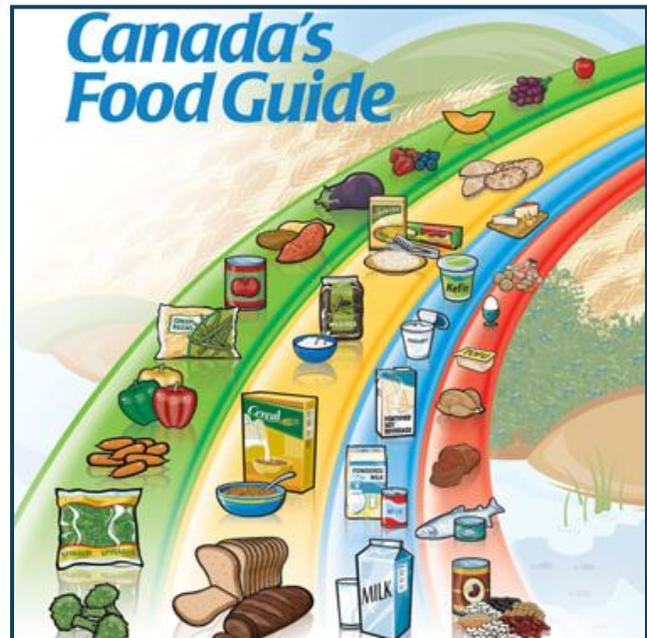
Appendix I: Nutrition

Canada's Food Guide provides recommendations on daily consumption from each of the four food groups: vegetables and fruit, grain products, milk and alternatives, and meat and alternatives. It can be used as a resource when preparing for workshops or given out to participants to take home for further reference.

Health Canada also produces a complementary food guide tailored to reflect the food traditions and choices of First Nations, Inuit and Métis. To access copies of Canada's Food Guide or Canada's Food Guide for First Nations, Inuit and Métis, visit the Health Canada website (www.hc-sc.gc.ca/fn-an/food-guide-aliment/index-eng.php) or your local public health office.

Key messages from Canada's Food Guide:

- Eat at least one dark green and one orange vegetable each day.
- Choose vegetables and fruit prepared with little or no added fat, sugar or salt.
- Have vegetables and fruit more often than juice.
- Make at least half of your grain products whole grain each day.
- Choose grain products that are lower in fat, sugar or salt.
- Select lower fat milk alternatives.
- Have meat alternatives such as beans, lentils and tofu often.
- Eat at least two Food Guide Servings of fish each week.
- Select lean meat and alternatives prepared with little or no added fat or salt.



Appendix J: Grant Opportunities

Grant Databases

Search these databases to find many different grants and funding opportunities:

- **Canadian Heritage Funding Programs:** www.pch.gc.ca/eng/1268917737337/1268917925906
- **Charity Village:** <https://charityvillage.com/topics/fundraising/funders.aspx>
- **Farm Grants:** <http://farmgrants.wikispaces.com/>
- **Newfoundland and Labrador Environment Network funding database:** www.nlen.ca/resources/funds-grants-and-foundations/

Grants for Charitable Organizations and Not-for-Profits

These grants support projects addressing a number of different topics. Review the application requirements for each grant to see if your group qualifies.

- **Aviva Community Fund:** www.avivacommunityfund.org
- **Carrot Cache:** <http://carrotcache.com/>
- **Community Foundation of Newfoundland and Labrador:** www.cfnl.ca
- **Community Youth Network, St. John's- Special Project Grant:** www.thrivecyn.ca/main.php?sid=31
- **Nature's Path Gardens for Good:** www.facebook.com/naturespath/app_401418026549919
- **New Horizons for Seniors Program:** www.hrsdc.gc.ca/eng/community_partnerships/seniors/index.shtml
- **NLEN Member Support Program:** www.nlen.ca/resources/member-support-program/
- **Provincial Wellness Grant:** www.health.gov.nl.ca/health/wellnesshealthyliving/provincialwellness.html
- **Regional Wellness Coalitions:** For more information on funding opportunities contact the Regional Wellness Coalition in your area. www.health.gov.nl.ca/health/wellnesshealthyliving/wellnesscoalitions.html
- **Shell Fuelling Change:** www.shell.ca/home/content/can-en/environment_society/fuellingchange/
- **Small Change Fund:** <http://smallchangefund.org/>

- **TD Friends of the Environment:** www.fef.td.com
- **VOCM Cares Foundation:** www.vocmcares.com
- **Walmart-Evergreen:** www.evergreen.ca/en/funding/grants/walmart.sn

Employment Support Programs

If your group is trying to hire staff or create an internship then these employment programs may be of help:

- **Career Focus:** For more information contact the Service Canada Centre in your area and visit <http://www.servicecanada.gc.ca/> for a list of Service Canada Centres.
- **Community Enhancement Employment Program:** www.ma.gov.nl.ca/ma/emp_support/ceep.html
- **Graduate Employment Program:** www.aes.gov.nl.ca/students/graduate.html
- **Job Creation Partnership (JCP):** www.aes.gov.nl.ca/lmda/jcp.html
- **NL Works:** <http://www.aes.gov.nl.ca/findajob/nlworks.html>
- **Student Employment Program (Level I, II, III):** <http://www.aes.gov.nl.ca/students/studentemployment.html>
- **Student Work and Service Program (SWASP):** www.hrle.gov.nl.ca/hrle/students/swasp.html
- **Targeted Initiative for Older Workers:** www.hrsdc.gc.ca/eng/employment/employment_measures/older_workers/index.shtml

Appendix K: Garden Crops in NL

* This is only a general guide. Please keep in mind variations across the province and talk to local gardeners for growing and harvesting tips unique to your area. This list also includes some commonly harvested wild plants such as berries and mushrooms that could also be cultivated.

	Harvest Season
	Cold Storage (E.g. Root cellars)
	Preserved (Canned, Dried, Frozen, Fermented, etc.)
	Unavailable, try indoor gardening instead.

Type of Produce	Month											
	J	F	M	A	M	J	J	A	S	O	N	D
Anise												
Apples												
Artichokes												
Asparagus												
Bakeapple (Cloudberry)												
Basil												
Bay												
Beans- green												
Beans- shell												
Beets (incl. greens)												
Blackberry												
Blueberries												
Borage												
Broccoli												
Brussel Sprouts												
Cabbage												
Cauliflower												
Carrots												
Celery												
Chamomile												

Type of Produce	Month											
	J	F	M	A	M	J	J	A	S	O	N	D
Cherries- Sour												
Chevril												
Chard												
Chives												
Collard Greens												
Coriander (Cilantro)												
Corn												
Cranberries												
Crowberry												
Cucumber												
Currants												
Dandelion Greens												
Dill												
Endive												
Garlic (incl. scapes)												
Gooseberries												
Green Onion												
Honey												
Jerusalem Artichoke												
Kale												
Kohlrabi												
Lavender												
Leeks												
Lettuce												
Mints												
Nasturtiums												
Nettles												
Onions												
Oregano												
Parsley												

Type of Produce	Month											
	J	F	M	A	M	J	J	A	S	O	N	D
Parsnips	█	█	█	█	█	█	█	█	█	█	█	█
Partridgeberries	█	█	█	█	█	█	█	█	█	█	█	█
Peas	█	█	█	█	█	█	█	█	█	█	█	█
Peppers	█	█	█	█	█	█	█	█	█	█	█	█
Plums	█	█	█	█	█	█	█	█	█	█	█	█
Potatoes	█	█	█	█	█	█	█	█	█	█	█	█
Radish/ Daikon	█	█	█	█	█	█	█	█	█	█	█	█
Raspberries	█	█	█	█	█	█	█	█	█	█	█	█
Rhubarb	█	█	█	█	█	█	█	█	█	█	█	█
Rose hips	█	█	█	█	█	█	█	█	█	█	█	█
Rosemary	█	█	█	█	█	█	█	█	█	█	█	█
Rutabagas	█	█	█	█	█	█	█	█	█	█	█	█
Sage	█	█	█	█	█	█	█	█	█	█	█	█
Salad Greens	█	█	█	█	█	█	█	█	█	█	█	█
Saskatoon Berries	█	█	█	█	█	█	█	█	█	█	█	█
Savoury	█	█	█	█	█	█	█	█	█	█	█	█
Sorrel	█	█	█	█	█	█	█	█	█	█	█	█
Spinach	█	█	█	█	█	█	█	█	█	█	█	█
Strawberries	█	█	█	█	█	█	█	█	█	█	█	█
Tarragon	█	█	█	█	█	█	█	█	█	█	█	█
Thyme	█	█	█	█	█	█	█	█	█	█	█	█
Tomatoes	█	█	█	█	█	█	█	█	█	█	█	█
Turnips	█	█	█	█	█	█	█	█	█	█	█	█
Wild Mushrooms	█	█	█	█	█	█	█	█	█	█	█	█
Winter Squash	█	█	█	█	█	█	█	█	█	█	█	█
Yarrow (tea)	█	█	█	█	█	█	█	█	█	█	█	█
Zucchini- Flowers	█	█	█	█	█	█	█	█	█	█	█	█
Zucchini	█	█	█	█	█	█	█	█	█	█	█	█

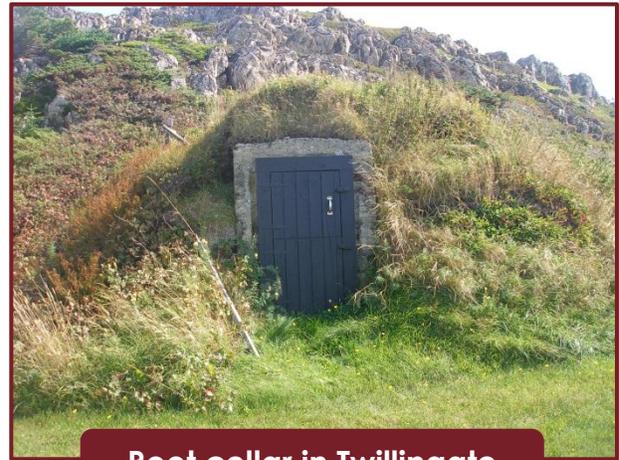
Preserving

8. Root Cellars

8.1. Preparation

Facilitation

It is recommended that there be one facilitator (or assisting volunteer) to every five participants attending this workshop. Multiple facilitators are able to divide the presentation content, which makes the workshop more manageable to host and more interesting for participants. Volunteers and facilitators can organize participants into smaller groups of five or less during the hands-on activity to make facilitation easier and give participants more attention.



Root cellar in Twillingate

Materials

- 1 copy of the **FSN E-News Sign-up Sheet** (page 95)
- Evaluation forms photocopied for every participant, volunteer, and facilitator (see **Evaluation Form**, page 89)
- Agenda – either one copy to post or several to hand out to participants (see **Sample Agenda**, page 88)
- Photocopies of the **Resources** sheets (page 91) for each participant
- Pens or pencils
- White board or chart paper (optional)
- Markers (optional)
- Materials for chosen activities (see **Activities**, page 78)
- Name tags for participants and facilitators

Location

This workshop can be done indoors or outdoors depending on which activities are used. If outdoors, choose a covered area out of the wind and with comfortable seating for all participants.

Participants

This workshop is recommended for a maximum of 15 participants. Review the **Activities** section (page 78) and choose participant numbers based on availability of materials for everyone to participate in the chosen activities. Keep in mind that a large group of participants leads to a longer workshop so that everyone is allowed time for participation.

Timeline

This workshop has been created to fill a 2 hour time period, without breaks. A sample agenda is provided in the **Supplementary Materials** section (page 88). Once you begin organizing the content and activities of your choice, you may find that more or less time is needed and the agenda can be altered to suit those needs.

Note: Digging In

The information in this section can be shared through a traditional presentation, but participants may enjoy themselves more if creative techniques are used. Consider organizing games, discussions, small group interaction, demonstrations, or displays to convey the information. There are lots of lists in the workshop and rather than reading them, try to brainstorm ideas first with the group. If the required equipment is on-site, showing videos or photo slideshows can also be great. Links to several videos are in the **Resources** section (page 91).

Safety

Refer to **Appendix H: Food Safety** (page 35) and **Appendix G: Garden Safety** (page 33) for tips on handling garden vegetables.

Content

Carefully review all materials in advance of the workshop. Decide on the appropriate number of participants and facilitators/volunteers to invite to your workshop after considering all materials.

This workshop has six main sections. Refer to **How to Use the Workshops** (page 11) for a description of each section.

From the **Digging In** section (page 49), choose what information you want to present based on participants' experience and interests, timeline, and available materials. If you are following the agenda included here, Digging In has been allotted

45 minutes to complete. Keep that in mind when choosing your content to ensure that the information you want to cover will fit into your schedule.

Digging In provides introductory-style information on root cellars. To go into more depth on the topic, refer to the **Bibliography** (page 86) and **Resources** (page 91) sections for more sources to check out.

The **Activities** section (page 78) offers four options for hands-on, interactive activities that you can organize for your group. Participants really enjoy these activities so try to leave lots of time for going through them. This is the part of the workshop where participants are able to learn in a hands-on way, and the activities will really help them engage with the topic. Read activities over carefully prior to the workshop, choose which you want to do, and then assemble any necessary materials.

To save on costs you could also ask participants to bring in some materials themselves such as items that are readily available in people's homes.



**Concrete block cellar,
Bryant's Cove**

It's up to you when in the agenda to put the activities. In our **Sample Agenda** (page 88) they are at the end but activities can be used:

- At the beginning to get people excited about the workshop and motivated to learn more
- Throughout the workshop for demonstration
- At the end of the workshop as a tool for pulling everything together
- In more than one place during the workshop; do several activities

During the **Conclusion** (page 85) participants can ask questions and the facilitator should refer back to any unaddressed information from the list created at the beginning of the workshop of what participants want to learn. During this time the evaluations should be filled in and participants will each be given a resources sheet to take home.

8.2. Workshop

Introduction

(10 minutes)

Step 1: Introduce yourself to participants. You may want to provide a bit of background on your experience with root cellars. Remember, you do not need to be an expert to host these workshops. If you are new to the topic, that is alright. Everyone will learn more together throughout the workshop.

Step 2: Introduce any local groups that are hosting the workshop:

- Give their names and briefly describe what they do
- Explain why they think it is important to promote food skills and why they chose the topic of root cellars

You can also take this opportunity to promote the group's upcoming events, contact information, volunteer opportunities, or other information that may be of interest to participants. Representatives of the group in attendance at the workshop may wish to do this introduction themselves.

Step 3: Read or put into your own words the following, to introduce participants to FSN and Root Cellars Rock:

Read to the Group

The materials for this workshop were created by The Food Security Network of Newfoundland and Labrador (FSN) through its Root Cellars Rock project. FSN is a provincial organization that promotes comprehensive, community-based solutions to increase access to healthy food for all. To learn more about FSN visit www.foodsecuritynews.com.

Today's workshop is one of eight that have been created based on the 4Ps of local food: planting, picking, preparing and preserving. These workshops aim to build food skills and create a space to share traditional food knowledge. To learn more about all eight workshops visit www.rootcellarsrock.ca.

Step 4: Pass the **FSN E-News Sign-up Sheet** (page 95) around for participants to sign-up. The FSN E-News is a monthly email packed with resources related to food security across Newfoundland and Labrador.

Step 5: Review the agenda for the workshop with participants. Either post it on the wall or hand out photocopies to the group. You can find a **Sample Agenda** (page 88) in the supplementary materials.

Step 6: Go over any logistics that will make the workshop experience comfortable for everyone, such as:

- washroom locations
- food and drink availability
- safety rules
- weather precautions, if outdoors
- breaks

Quick Tip

Let participants know if they can jump in at any time with questions and discussion items or if they should save those for a specific time during the agenda. Decide which option works for you based on your comfort with improvising while speaking publicly and redirecting focus back to the agenda items as needed.

Roots of our Local Food

(10 minutes)

Step 1: Let participants know that you are going to share a short passage with them and then read the **Roots of our Local Food Quote** in the box on the following page (page 48).

Step 2: Going around the group, ask participants to share the following:

1. Their names
2. Did anything stand out to them from the passage?
3. What do they want to learn today about root cellars?

Step 3: As participants say what they want to learn, write those down on a piece of chart paper or on a white board for the group to see. At the end of the workshop the list can be revisited and any remaining questions unanswered can be addressed and further resources provided so that participants can continue to search out information.

Roots Of Our Local Food Quote

This excerpt is from the book *Rough Food: Seasons of Subsistence in Northern Newfoundland* by John T. Omohundro and it gives us a glimpse into the food preservation traditions of Newfoundland & Labrador:

“One afternoon in October 1992 Meg and Peter were serving us tea in their kitchen in Conche, a fishing outport on the Great Northern Peninsula. On the table were home-made bread and squashberry jam, cabbage pickles, some crackers, and molasses for Peter’s tea.

‘Do you like this rough food?’ Peter wondered. I asked what that meant.

‘Rough food is your staples, your winter diet,’ Meg said, ‘the things you got in the fall to see you through ’til spring.’

Before the road was built into Conche in 1969, Meg and Peter bought nearly all their staples in bulk using the income Peter made selling salt fish and salmon.

‘When the schooner came in the fall you bought your flour, sugar, and salt in sacks, Barbados molasses in butts, puncheons of butter, big chests of tea, barrels of salt meat and salt pork,’ Meg said.

These few essentials were supplemented with produce from large gardens, wild fruits, meat and dairy products from sheep, fowl and cows, and game and fish. Dried, pickled, hung, frozen, bottled or cellared, these victuals fed Peter’s family of seven until the schooner could nose through the ice in the harbour in April or May.”

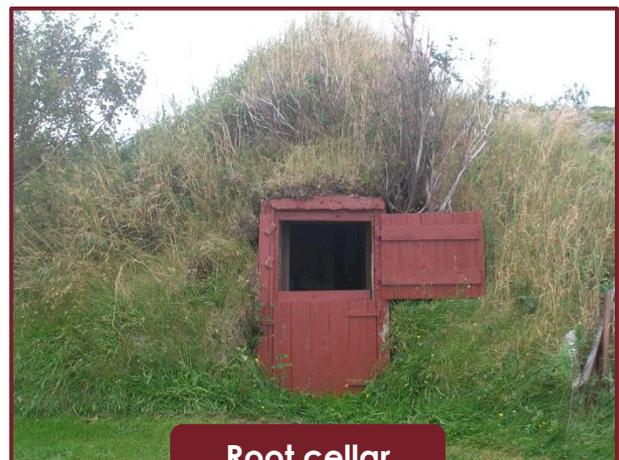
Digging In

(45 minutes)

Present the information you have chosen to use from this section. This is the main content on root cellars. Share the information in your own words and in the style that you think is best suited for your group. You do not need to cover everything here; pick and choose based on what you think is most useful for the participants of your particular workshop. Refer to the **Resources** section (page 91) for links to videos or photos that you could show along with your presentation and to gather more in-depth information on any aspect of the topic. Be creative in how you present this information! Split the content up amongst several facilitators to avoid one person needing to speak for an extended length of time. Consider hosting learning activities like small group discussions, games, displays, or demonstrations as alternative ways to share knowledge. Use the lists in the workshops as starting off points for group brainstorming or discussion.

What are Root Cellars?

Root cellars are underground structures designed to create a cold and humid environment that is ideal for the safe storage of fresh vegetables and fruits for several months. They are usually used during the winter, drawing on cold natural surroundings to create the right conditions to preserve produce, although there are techniques for extra cooling that can extend the storage season later into the spring and even summer (e.g. ice blocks, cooling equipment). Root cellars usually work without any energy. “(A root cellar) will keep working through the deepest winter and the longest power failure. We overlook the miracles it offers because it is so simple and unpretentious.” (Coleman, 1992, p. 109)



Root cellars are the common name for many different styles of cold storage structures, not all of which are cellars and many of which preserve more than root crops. “The terms ‘root cellar,’ ‘cold cellar’ and ‘cold room’ are often used interchangeably. ‘Root cellar,’ however, evokes memories of the underground room great-grandpa dug in his yard before the days of refrigeration, while ‘cold cellar’ tends to refer to an unfinished part of a basement” (Sampson, 2010).

Despite design differences, root cellars generally have in common that they keep food between about 0-5°C, with relative humidity above 80%, the ideal range for most storage crops. Any spot that fulfills those conditions can be converted into a root cellar. In Newfoundland and Labrador there are a wide variety of root cellar designs to compare, that each suit the unique terrain, climate and needs of the people in the areas where they are built. To find out more about the variety of cellars in this province, refer to the Intangible Cultural Heritage Root Cellars Traditions archive: www.tinyurl.com/ichrootcellars

Note: Small-scale Cold Storage (Without a Root Cellar)

Not everyone that is interested in root cellars will have access to one, but there are lots of other options. Use the books *Root Cellaring* by Mike and Nancy Bubel (chapter 12), *Stocking Up* by Carol Huppung, this Adventures in Local Food post (<http://adventuresinlocalfood.wordpress.com/2010/12/15/vegetable-and-fruit-hideaways-root-cellar-redux/>) and this Backwoods Home Magazine article (www.backwoodshome.com/articles/deblois47.html) to find designs and tips for small-scale cold storage. Examples are trenches, keeping closets, buried barrels and boxes, clamps, buried freezers, storage under stairs, in window wells, in porches and other small hideaways. Those designs can be ideal if you don't have the time or resources to build a root cellar or if you live somewhere temporarily and want to be able to move your cold storage. Many of the tips in this workshop can be applied to small-scale cold storage as well. You may have attended this workshop with a plan to build a large root cellar, but perhaps something smaller is ideal to start with instead?

This workshop provides an introduction to the fundamentals of root cellaring for home use. It uses the term root cellar to refer to larger-sized home cold storage structures, either outdoors or inside buildings. Beginners that are newly curious will enjoy this workshop, but it should also be useful as a refresher for people that have been cellaring for years. Step-by-step building instructions for new cellars are *not* provided because each cellar should be tailored to its unique context;

one design will not fit all. Instead we have included links, tips, inspiration and resources so that you can get started researching, designing and building the right root cellar for your home after attending this workshop.

Reasons to Keep a Root Cellar

- **Fresh local food year round:** With the help of a root cellar it's possible to access fresh food year-round and make locally sourced meals even in the middle of winter. Root vegetables, cabbages, apples, pears, onions, garlic and squash are all common storage crops, but in today's root cellar you can also sometimes find less common fruits and vegetables, nuts, seeds, dried fruit, dried beans and peas, homemade wine, beer, and cider; any foodstuff that safely maintains its freshness in cold and humid storage. Root cellars are even used for indoor gardening as places to grow sprouts and start spring seedlings.
- **Lower environmental impact:** Most of us take our fridges and freezers for granted as an accepted part of the home, but it wasn't that long ago that they were not a common sight. Root cellars are a way to store food year-round without using any electricity or fuel, lowering home energy consumption. Root cellars also enable you to purchase or grow larger quantities of local produce, so you don't need to buy as much imported food that has travelled thousands of kilometers with the use of fossil fuel.
- **Ability to grow more:** Home gardeners are limited in what they can harvest based on what they can eat, preserve and share before food goes bad. Without a root cellar either less can be grown or a lot of work needs to be put into other methods of food preservation (canning [bottling], drying, etc.). Root cellars allow home gardeners to grow an abundance of food and access it easily all winter long.

Quote

"I think of my root cellar as a secret underground garden into which I spirit away many of my crops when winter threatens. The crops don't grow in this garden. They just sit there respiring quietly and looking beautiful. For them, the most delightful place to spend the winter is not some sunny tropical isle but a cold, damp, dark cavern. If that's what they like, that's what I try to provide. It couldn't be easier."

– Eliot Coleman *Four-Season Harvest*, p. 109

- **Support for local farmers and farmers' markets:** When we support our local farmers we put food dollars in the hands of local people that are working to preserve and build this province's agriculture, making a difference where we live. Farmers' markets, farm stands, and community supported agriculture programs (CSA) help us to connect in our neighbourhoods and learn more about the food we eat. Keeping a root cellar makes it possible to buy from local farmers in bulk or year-round, rather than being limited to smaller purchases during the growing season.



Vegetables for sale at a farmers' market

- **Self-sufficiency:** Being able to store and access food in your own home year-round can be a real source of pride and personal food security. Like the animals in the forest, you've set aside what you need to get through the long winter. No more last minute trips to the grocery store for fresh ingredients and less concern about the cost of food when prices rise or when supply is interrupted. There can be comfort in the sense of preparedness that root cellars provide.
- **Simplicity:** There are lots of fantastic ways to preserve food, all with their own merits. **Canning/Bottling** is described in another of these workshops and food can be preserved through drying/dehydration, salting, freezing, smoking and fermentation too. What makes cold storage ideal is its simplicity. After the initial set-up building a cellar, few supplies or equipment are needed and most can be made from reused materials. Once you get the hang of how to store food in a root cellar, it will hopefully become a low-intensity part of your annual routine.
- **Connection with our heritage:** Newfoundland and Labrador is known for its abundance and quality of root cellars. We're home to Elliston, the root cellar capital of the world (see **Note: Elliston, Root Cellar Capital of the World**, page 77). Root cellars have put us on the map as an innovator in sustainable living and local food self-sufficiency. Preserving heritage cellars and building new root cellars are ways that we can connect with the practices of past generations and get a taste for what living from the land and sea was like. Root cellars are acknowledged as an important part of our cultural heritage. To find out more visit the Intangible Cultural Heritage Root Cellars Traditions collection in the MUN Digital Archives: www.tinyurl.com/ichrootcellartraditions

Quote

“Some of the best root cellar advice I received was to think like a root vegetable. Root vegetables grow underground where it is cool, dark and damp. You want your root cellar to mimic those conditions.”

– Ecology Action Centre, 2010

The Key Factors

Temperature

Most root cellar crops like to be cold, but kept just above freezing. For the most part 0-4°C is the ideal temperature range. The section **Storing Common Vegetables and Fruits** (page 60) provides more specific details about temperature preferences of different crops.

Put a thermometer in your root cellar and use it to figure out what the temperature is throughout the cellar at different times of the year. That will help you decide what crops to safely store. Place a cup with water in the coldest part of the root cellar. If the water freezes, the cellar has gone below 0°C which is too cold for produce. Avoid

opening the cellar door when it isn't necessary because that can have a big effect on the temperature inside.

Take advantage of cooling temperatures in the fall and let outdoor air into the cellar via the door or vents. Let the cellar cool until it reaches just above freezing and then close it, only opening vents occasionally throughout the winter as needed. A well-insulated cellar can maintain cool temperatures inside even as outdoor air drops well below freezing. However, if you live in an area where severe freezes are likely and you depend on the food in your root cellar, you may want to invest in extra insulation or a thermostat with an exterior alarm that will alert you to freezing temperatures inside.

Maintaining a Root Cellar (page 74) has more information on what to do if a root cellar becomes too warm or cold throughout the storage season.

Humidity

Most produce is made up of about 80-90% water. When the air around produce has less humidity, moisture will leave the produce to enter the air. For some crops that is good because they dry out a bit and last longer. That's why onions, garlic and winter squash should be stored at humidity below 80-90%. However, many storage crops, including most root vegetables, prefer to be kept above 90% humidity so that they stay crisp and fresh. The ideal humidity range of different crops is outlined in the section **Storing Common Vegetables and Fruits** (page 60).

Fruits and vegetables lose the most moisture soon after being harvested. Ideally get them into a moist, cool cellar as soon as possible and then maintain that humidity and coolness. The exception to this is crops that need to be cured (dried) before going into storage.

A hygrometer is a tool that measures the relative humidity of the air. Relative humidity is how much water there is in the air at the current temperature and under the current conditions. Put a hygrometer in your root cellar and use it to find out what the humidity is throughout the cellar year-round. That will help you decide what crops to store. Hygrometers can be purchased at hardware stores and garden centres.



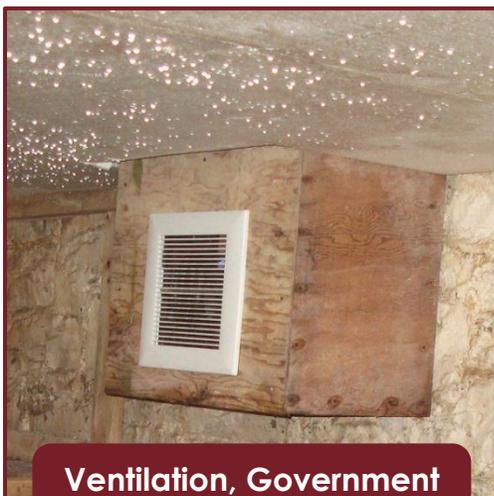
Thermometer/hygrometer

Humidity can be adjusted in a cellar if it is not naturally in the ideal range. **Maintaining a Root Cellar** (page 74) has more information on what to do if the cellar becomes too humid or isn't humid enough.

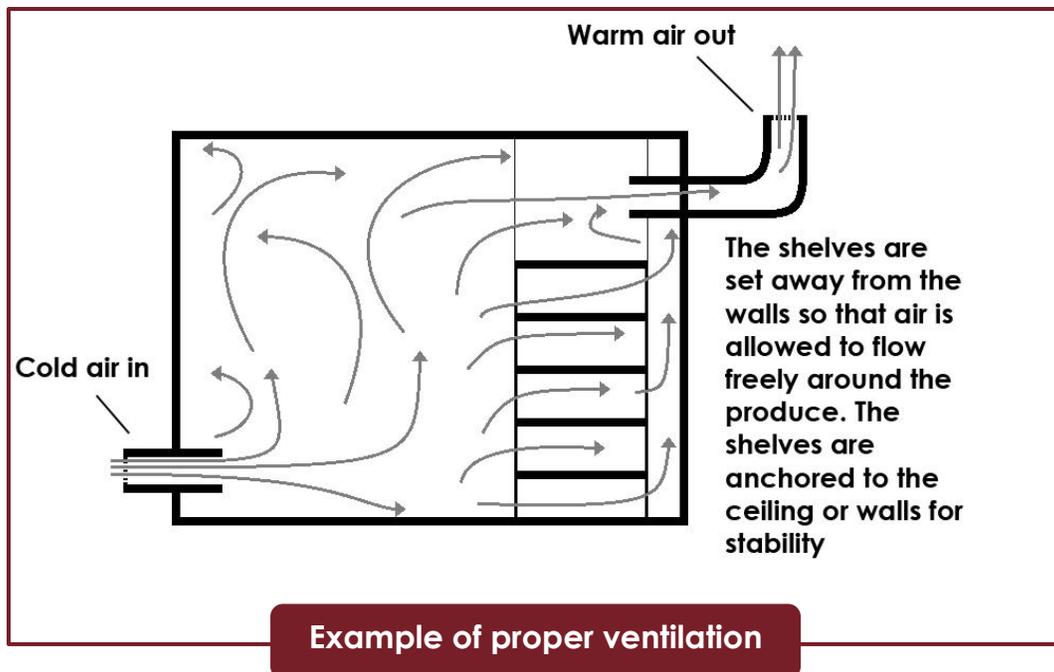
Ventilation

Ventilation and good air circulation are necessary to maintain and adjust both temperature and humidity in root cellars. Ventilation also allows odours and ethylene gas given off by produce to escape outdoors.

All root cellars need ventilation to the outdoors. Most cellars have a ventilation intake (to let fresh, cold air in) and an output (to let warm, stagnant air out). The intake and output can be as simple as pipes or vents leading to the outdoors. Because warm air rises, the ventilation intake is usually placed down low to let cold air in and the output is up high directing warm air out. For outdoor cellars ideally install two different ventilation holes, one originating near the ceiling and one originating near the floor, preferably on opposite sides of the cellar. In basement cellars where there is usually only one vent or window to the outside, use two pieces of pipe or duct to divide that access hole up and direct the air, one piece directed up high and the other down low from the window or vent.



Ventilation, Government House cellar, St. John's



“For root cellars six by eight feet or smaller, use a vent pipe with a four-inch diameter. Cellars larger than six by eight will often function better with a six-inch pipe.” (Bubel, 1991, p. 142) To adjust airflow as needed, the indoor pipe ends can be covered with a removable stopper or have valves in them. Put screen over the exterior openings of vents to keep rodents out.

It is important to place food containers and shelving away from direct contact with the walls and ceiling to allow air to flow around the whole space.

Darkness & Lights

Keep cellars dark to preserve food longer. Block sunlight from windows in an indoor cellar. Avoid leaving the doors open to an outdoor cellar during the day, letting sunlight pour in. An awning over the entrance will help.

Light is needed to work by in a cellar, but turn it off when leaving. If the cellar has electricity, put in a simple light but perhaps set it on a timer to shut off if someone forgets. Where there isn't electricity a headlamp works well because it is hands-free, or use a lantern or flashlight.

Pest-proofing

Pests can be a problem in root cellars, particularly rodents and insects. Root cellars are cozy, well-provisioned places for them to live. Before you store anything, check the food carefully to make sure it is not infested. Only store the very best of your crops. Put screen over vents and block any cracks or gaps open to the outdoors. Use pest-resistant containers, hang some food from the ceiling or place it up high on shelves, and check on food often.

Refer to **Maintaining a Root Cellar** (page 74) for tips on what to do if pests are discovered.

Accessibility

A root cellar can't do much good if it isn't used. Cellars that are inconvenient, uncomfortable or unsafe will not meet your needs.

Locate root cellars close to the kitchen and garden and in a location that is convenient to walk to. Make the doorway big enough and the flooring appropriate for transporting food in and out easily. If you will be using wheelbarrows and carts, make sure they fit through the doorway and add a ramp if necessary. Repair and clean anything that becomes damaged or mouldy as soon as possible to avoid safety concerns.



Basement root cellar

Basement root cellars are usually accessible inside the house and are easy to go in and out of. However, outdoor root cellars in winter can get blocked in by snow and become difficult to use. Shovel the cellar entrance as a regular part of your winter routine. When designing, find ways to avoid stairs, doorways and hatches becoming buried, slippery or dangerous. Consider putting an awning over the cellar entranceway to cut back on snow build-up. Some root

cellars even have walled or fenced walkways or tunnels leading up to them, to protect the entrance from weather. Many cellars in Twillingate also have a Dutch/stable style exterior door to make access easier in snow.

Drainage

"You want your root cellar to be damp, it is true, but you don't want it to be waterlogged." (Bubel, 1991, p. 144). Drainage is not usually a problem in basement cellars unless the basement already has a tendency to flood. If possible, locate your root cellar in a part of the basement that has existing drainage. In cellars with dirt floors a layer of gravel spread on top will help with drainage. If necessary, concrete troughs in the floor and drainage pipes can be installed.

It is ideal to keep all produce off the floor, to stop water and pest damage, allow for air flow and improve food safety. For more information on how to elevate storage containers refer to **General Storage Tips** (page 67).

Growing and Harvesting Crops for a Root Cellar

To grow crops for your root cellar, keep these considerations in mind:

- **Start simple:** In the first few years plan to store just a few crops that you're comfortable growing and will definitely eat. Get the hang of using your root cellar before you invest a lot of garden time or money into stocking it. Take note of what works and what doesn't and how long things tend to last before they're used up or go bad. A spreadsheet or logbooks are useful tools for tracking cellar use. Slowly add more food varieties and expand your cellar's capacity as you become comfortable.
- **Maturity:** Most crops should go into storage when they are at their peak ripeness (maturity). To find out when your crops are ripe and ready, refer to your seed instructions, gardening guides or ask local gardeners what visual cues they use. Choose crops that work with your growing season and will be mature in late fall.
- **Timing:** Plan harvests so that crops go into the cellar when it is sufficiently cooled down. Putting crops in a warm cellar will speed up decomposition. Some crops (carrots, beets, parsnips, Brussels sprouts) actually get sweeter after a frost and a few frosts will give your root cellar time to cool down. Most root crops are fine in the garden under protective mulch or row cover until hard frost, so if the cellar is still warm, leave them there. Pumpkins and squash are more susceptible to frost damage, so be sure to get them out of the field in time. You can speed things up and artificially cool a cellar by using a fan to blow in cold air at night or a Coolbot (<http://storeitcold.com/>) hooked up to an air conditioner.
- **Storage crops:** Many plants have been bred especially for storage and are called storage varieties or winter keepers. Some characteristics of storage crops are late harvest, smooth skin, cold hardiness, and high concentrations of sugars and nutrients which help them to last longer and still taste great. Look for seeds and seedlings labeled as storage varieties. But don't give up your other favourite varieties that aren't bred specifically for storage; put those in the root cellar too and eat them first because they may not last as long in storage. Remember the first point about maturity and work with your growing season. It is better to put a



Digging for spuds

non-storage variety that is mature into the cellar than to store an immature storage variety.

- **Harvesting the best:** Only the best produce should go into a root cellar. Don't store anything that is damaged or rotting, even with small bruises or cuts. One bad apple can spoil the whole bunch! Don't cut the stem off plants too close to the fruit or vegetable, creating an open wound. Leave a few inches of stem attached.
- **Field warmth:** In the garden crops take on the warmth of the day and the soil. If you put a lot of warm produce into a root cellar it will cause the cellar's temperature to rise. Wait for a cool, dry day to harvest and store produce or harvest warm produce in the afternoon and then let it cool off in the evening after the sun sets before bringing it into the cellar. Washing crops with cool water will also bring down field warmth.
- **Curing:** Some crops (e.g. garlic, squash, onions, potatoes, dried beans and peas, popping corn) need time to dry out (cure) before they can be put into storage. Use seed instructions and gardening guides to find out which crops need curing and how to best do that.
- **Dirt or no dirt:** Root cellar enthusiasts sometimes disagree about whether vegetables should be put in the cellar dirty or cleaned. Dirt on vegetables helps them retain moisture, but cleaned vegetables can still do very well. Choose what will make it most likely that you'll use food from the cellar, because that's the main goal. To clean food before storage, rinse it lightly in clean water or use a dry and soft cloth to gently rub dirt off. Be sure to let the produce air dry completely before putting it into storage. Spreading produce out on a screen can help it dry more thoroughly. You can store cleaned produce in damp sand, sawdust or newspaper to help it retain moisture. Produce should be cleaned again immediately before eating regardless of whether it was cleaned when it was put into storage.



Carrots just out of the ground

- **Healthy soil:** In *Root Cellaring* the authors point out that rich, healthy soil will grow crops that are more successful in storage. Healthy soil has more of the beneficial microorganisms in it that protect plants from disease and infestations. It also produces vegetables and fruits richer in nutrients that prolong storage time. Boost the health of soil by amending it with compost and manure, use green mulches, or plant cover crops in the off season.

Note: Season Extension

It can be difficult to time harvests perfectly to match up with when a root cellar is cool enough and it is also difficult to grow some crops in Newfoundland and Labrador with our short growing season. Season extension techniques are your best friends to solve both those problems! Season extension techniques protect plants from cold weather to give them extra time to grow or just stay in the garden until the cellar is ready. Cold frames, row cover, greenhouses, plastic and natural mulch, high and low tunnels and cloches (transparent containers covering individual plants) are all great to try. Refer to Eliot Coleman's book *Four-Season Harvest* and the FSN teleconference *Community Garden Season Extension* for more information: www.foodsecuritynews.com/teleconferences.html

Purchasing Crops for a Root Cellar

If you plan to purchase storage crops, rather than growing them, here are some handy tips to keep in mind:

- **Don't buy early.** It's easy to get caught up in the excitement and start stocking a cellar when the first root vegetables show up at market. However, a better plan is to take your time and check the temperature and humidity of the cellar to be sure that they are ideal before putting food away. To enjoy those first fall crops, buy them to eat immediately or try other preservation methods like freezing, canning (bottling) and pickling.
- **Ask farmers which crops are good for storage.** Many farmers plan to sell their produce beyond the end of the growing season, which means that

they will need to store the crops as well. Find out what varieties they grow for longevity and good storage and then buy those to stock your cellar.

- **Get tips from farmers about storing the crops you buy from them.** Tell farmers that you are planning to put their produce in a root cellar and see what they recommend. They'll have lots of experience storing crops.
- **Let the farmers or retailers store produce for you as long as possible before you buy it.** Your root cellar is great but it's likely not as efficient or closely monitored as the larger-scale cold storage units that farms and retailers use. Wait as long as possible before buying storage crops to extend their longevity. Some local produce can be purchased all winter long to replenish cellar supplies often.
- **Only buy the best.** A root cellar isn't the place to put slightly damaged or overripe discount produce. That produce is better used for freezing or other preservation methods. Only store high quality, just ripe crops in a cellar.



Field of fennel, potatoes and rhubarb

- **Handle the food with great care in transit.** If you plan to purchase a lot, make arrangements with farmers to drop the produce off at your home because they are experts at transporting their produce safely. Try to pick up food in the same containers you will use to store the food in the cellar so that it doesn't need to be handled or transferred more than necessary.
- **Talk to a CSA farm about storage crops.** If you are part of a Community Supported Agriculture program (CSA) maybe you can pick up part of your share later in the season and let other people have first choice of the earlier crops. Hardy storage varieties may not be in high demand but farms could be willing to include them in your share. You can also suggest the idea of a winter CSA to your farm if they do grow a lot of late season food. An example of a winter CSA is Green Being Farm in Ontario: www.greenbeingfarm.ca/winter-csa

Storing Common Vegetables and Fruits

Vegetables and fruits prefer certain ranges of humidity and temperature. But temperature and humidity will not be consistent throughout the whole cellar; there will be different zones with slight variations. Use a thermometer and hygrometer to figure out what the different zones are in your cellar to know

which produce will like it best where. Remember that warm air rises and water falls. So the top of a cellar is more likely to be warm and dry and the floor cool and moist. In an outdoor cellar “usually the coolest, most humid area is near the door on the floor. The warmest, driest area is at the ceiling near the back.” (*Country Wisdom & Know-How*, p.150). This will differ indoors if what's around the cellar is a heated building. The coolest part will likely be wherever the window or other ventilation is to the outside.

Note: Greens on Storage Vegetables

Many vegetables have green tops that are edible but aren't the part of the plant that gets stored. For example, the green tops of beets, carrots, celery, kohlrabi and radishes are all edible and great for salads, stir-fries or soup stocks. To store crops with edible leafy tops, trim off those tops first leaving about 1-2 inches of stem or stub attached to the vegetable. Do not cut the tops off right at the vegetable because you risk leaving a gash or scar that can rot in storage. Use the leafy parts right away or preserve them by blanching and freezing. For more information on freezing vegetables, refer to this Root Cellars Rock post:

<http://rootcellarsrock.ca/2011/10/ice-ice-veggies/>

If you don't want to eat the greens then they are also great for compost (see the workshop on **Composting**) or as feed for backyard livestock.

Crops can be grouped together under a few useful headings. The following guidelines are adapted from Tarrah Young's Agriwebinar titled *Root Cellars*, Carol Huppig's book *Stocking Up III*, and Mike and Nancy Bubel's book *Root Cellaring*. Refer to those resources for individual listings with more detail on each particular crop you plan to store.

These guidelines include crops that are likely to last at least a month to several months in a root cellar. There are other crops whose shelf life can be extended by a few days or weeks in a root cellar, but they are not included here. For more information on short term storage crops (e.g. asparagus, broccoli, cauliflower, lettuce, kale), refer to this fact sheet from Cornell Cooperative Extension: www.gardening.cornell.edu/factsheets/vegetables/storage.pdf

Cold & Very Humid

0-4°C, 90-95% Relative Humidity

Ideal crops: beets, Brussels sprouts, carrots, celeriac, celery, collards, horseradish, Jerusalem artichokes, kohlrabi, leeks, parsnips, rutabagas, turnips, winter radish

Remove most of the greens from the tops of root vegetables but leave about 1-2 inch stubble. For tips on using those greens, refer to **Note: Greens on Storage Vegetables** (page 61).



Beets

Several sources recommend layering root crops with filler material in containers to keep in moisture, deter pests, and limit the spread of strong smells to other crops. Examples of filler material are damp sand, damp sawdust, peat, newspaper, sphagnum moss, dry leaves, shredded paper and straw. Remember that damp sand will be very heavy. Damp sand or sawdust work well where there isn't a lot of relative humidity, like in basements. Putting the vegetables in-between layers of filler material can ensure that if one layer goes bad, the other layers may be protected. Be sure to compost or dispose of filler materials at the end of each season and get new stuff for next year so that any mould or bacteria isn't carried over. For more information on using filler packing material to maintain humidity, refer to **Maintaining a Root Cellar** (page 74).

Note: Biennials

"The great majority of the vegetables we store for the winter are biennials- plants that form seed during their second growing year. Onions, leeks, the cabbage family, and root crops like carrots, beets, parsnips, and salsify are all biennials. Nature *intends* biennials to keep well so that they can go on to bloom and bear seed after laying low all winter. It's not just our idea, then, to keep these vegetables in good shape until spring. Winter survival is in their genes."

- *Root Cellaring* (Bubel, 1991, p. 42)

Rutabagas and turnips can give off strong smells in storage so keep them away from celery and fruits that tend to absorb smells.

Leave the roots on celery, Brussels sprouts, leeks and horseradish and plant them in buckets of damp sand or soil in storage. They will continue to grow and can be harvested from the plant indoors. Keep the roots moist by watering occasionally throughout the winter.

Tip: Garden Seeds in the Cellar

Gardeners often start seeds indoors early to get them ready for spring planting. A root cellar may provide an ideal place to do that in the beginning when seeds are sprouting and do not require light.

Keeping seed-starting mix, seed trays and small tools together in the root cellar is a convenient way to store them so that they're easily on hand in the winter.

Seeds can be stored in a root cellar as well. They will appreciate the dark, cool conditions. Be sure to keep them protected from humidity in a tightly sealed, rust-proof container. Biennials for replanting, spring bulbs, and overwintering herbs that need to be kept above freezing can all be stored in root cellars as well.

Jerusalem artichokes have a thin skin that will dry out once they are harvested. Store them in plastic bags or damp sand to maintain moisture.

The best tasting kohlrabi for storage are small bulbs from summer plantings. Trim off the roots and leaves and store kohlrabi in damp sand or sawdust.

Summer radishes will not keep in storage so choose hardier winter varieties. Winter radishes should be stored with a damp filler material like sawdust, moss, or sand because otherwise they will dry up quickly.

Rutabagas lose moisture easily and prefer to be stored in damp sawdust or sand.

Cold & Humid

0-4 °C, 80-90% Relative Humidity

Ideal crops: apples (85-90% relative humidity), cabbage, Chinese cabbage, crab-apples, cranberries (2-4°C), endive (escarole), grapes (4 °C, 80% relative humidity), pears (85-90% relative humidity), potatoes (2-4°C, 90% relative humidity)

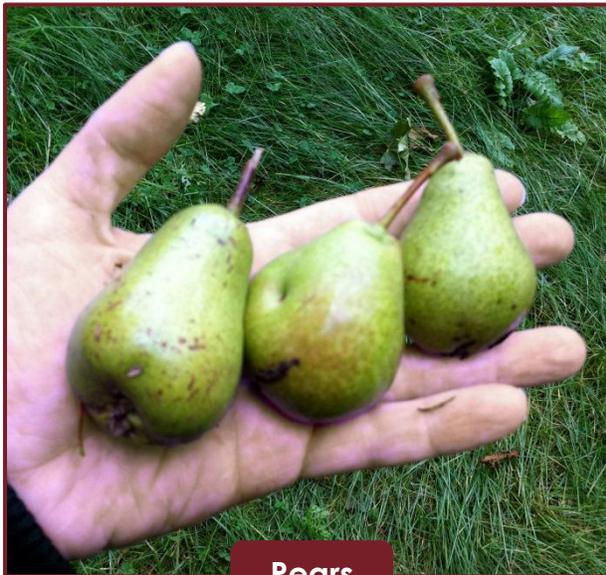
Smooth, green cabbages store best. Choose the most solid, heavy cabbages. Remove the outer leaves before storing. Cabbages can give off a strong smell in storage so keep them away from celery and fruits that tend to absorb smells. The strong smell cabbages give off may be a deterrent for storing them in basement cellars.

There are a few different ways that cabbages can be stored and the Bubels recommend trying each out until you find out what works best in your cellar's conditions: 1) leave the roots and stumps on cabbages and plant them in buckets of damp sand or soil, keeping the roots moist, 2) put the cabbage heads on slatted shelves with lots of room around each, 3) layer cabbage in containers wrapped in hay or newspaper, 4) leave the roots on the cabbage

and tie a string to them to hang the cabbage upside down from the cellar ceiling.

Potatoes prefer to be between 2-4 °C rather than colder. When they are in colder temperatures some of their starches turn to sugars which can affect how they taste. However, if you let them sit in a warm room for a week or two before eating them that will reverse the sugars back to starch. Potatoes do best in complete darkness. Ideally, potatoes should be stored away from apples.

When possible, store apples and pears separate from other crops (See **Note: Storing Apples & Pears**, page 65). Layer them with newspaper, dry leaves, or shredded paper to protect their skins, and handle them with great care. Keep the layers shallow, apples and pears don't like to be piled deep. Leave the stems on to avoid damaging the skin. They prefer to be stored closer to 0°C and warmer temperatures will shorten their storage time. Apples are probably the best storage fruit and some storage varieties can last all winter.



Pears

Pears are an exception to the rule about harvesting crops for storage when they are fully mature. Pears should be harvested when they appear immature (unripe) and the dark green skin is just starting to lighten in colour. They will stay hard and green in storage. When you are ready to eat them, bring them into your kitchen to ripen at room temperature.

Crab-apples can be kept similarly to apples or hung from the cellar ceiling in net bags.

Right after picking, cool grapes to about 10°C or lower. Spread them out in a single layer and let them sit until the stems shrivel up a bit. Grapes can then be stored in trays in the cellar at about 4 °C. Handle them carefully and don't pile them more than one bunch deep. Refer to *Root Cellaring* for descriptions of two other grape storage methods: in a boxed shelf and on a grape mobile . Keep grapes away from vegetables with strong smells, particularly the cabbage family.

Note: Storing Apples & Pears

Ethylene is a hormone naturally found in plants that causes their flowers to blossom, fruit to ripen and leaves to fall off. Interestingly, ethylene is part of the gas sprayed by produce companies to artificially ripen produce. Bananas and tomatoes are picked unripe, sprayed in transit, and then arrive at grocery stores ripe.

Apples and pears, the two most common storage fruits, naturally give off ethylene, causing other nearby fruits and vegetables to ripen faster. Many cellar owners report no problems, but to be sure you can keep your apples and pears separate from all other crops in storage. Try placing them in a different part of your basement or a partitioned part of a cellar. If that's not possible, just keep an eye on nearby produce for signs of over-ripening and take those items out of your cellar to eat sooner. Providing good ventilation will allow the ethylene to dissipate outdoors.

Cold & Dry

0- 4°C, 60-75% Relative Humidity

Ideal crops: dried beans, dried fruit, dried peas, garlic (prefers as low as 50% relative humidity), nuts, onions (fine up to 10°C), popping corn, seeds

Garlic and onions need to be cured (dried) before going into storage. Refer to **Growing and Harvesting Crops for a Root Cellar** (page 57) for more information on curing. Curing properly will have a big impact on how well storage crops last.

Onions and garlic need good air circulation and dry conditions. The lower part of your cellar will be more humid than the top. Use a hygrometer to see if the air is dry enough near the ceiling of your cellar for onions and garlic. If so, store them braided or in wire or mesh containers hanging from the ceiling. If the cellar is too humid, store onions and garlic in other parts of your home that meet the right conditions, like front or back porches, under basement stairs or in window wells.

Store onions and garlic in the quantities that you tend to use in one visit to the cellar so they're easy to grab and go. A great trick is to use pantyhose to bundle and hang them. Put a few onions or garlic bulbs into the foot of the pantyhose

and then tie a knot. Do the same thing above, bundling a few more together and tying knots until you get to the top of the pantyhose. Hang the whole thing from the ceiling. As you need onions and garlic, cut off one bundle just below the knot above and leave the rest hanging for later.

If onions and garlic start to sprout, use those sprouts like you would green onions in cooking. Remove sprouting onions and garlic from storage and use them as soon as possible.

Garden seeds, dried fruit, dried beans, dried peas and nuts should be sealed in rust-proof containers in storage to deter pests and moisture from getting at them. Put a few tiny ventilation holes in the containers.

Dried beans and peas are fine at any temperature but they need dry conditions.

Popping corn can be left on the cob or kernels can be removed. Store them in a sealed, rust-proof container.

Warm & Dry

10-15°C, 60-75% Relative Humidity

Ideal crops: dried chili peppers, pumpkins (70-75% relative humidity), sweet potatoes, winter squash

Winter squash needs to be cured (dried) before going into storage. Refer to **Growing and Harvesting Crops for a Root Cellar** (page 57) for more information on curing. Curing properly will have a big impact on how well storage crops last.

Squash and pumpkin like to be warm and fairly dry, so they are unlikely to last in most root cellars. Use a thermometer and hygrometer to find out if any part of your cellar has the right conditions for squash. If not, consider options in other parts of your home. Mike and Nancy Bubel write “We find an unheated side room just right. Attics, regular heated basements (far from the furnace), and spare bedrooms are often within ideal temperature range. Some folks stash them under the bed. Ruth Stout once wrote that she kept hers in a box under the kitchen table.” (1991, p. 80)

Tip: Green Tomatoes

If you still have green tomatoes on the vines and frost is imminent, then they can be brought inside for short-term storage. Green tomatoes stored between 12-21°C in moderate humidity will ripen within 4-6 weeks.



Green tomato

Note: Community Root Cellars

An excerpt from *Root Cellaring*:

“Several of the gardeners we visited shared their root cellars with other members of their family. If you live in a community of gardeners or homesteaders and have an especially good site for a root cellar, you might want to consider setting up a cooperative root cellar in which storage facilities and maintenance tasks would be shared by several families. Building the cellar could be a cooperative venture too. Or an individual owner could charge a small rent or accept produce or other bartered goods for a season’s storage space in a large-capacity privately owned root cellar. As with any cooperative enterprise, it’s a good idea to spell out the terms clearly before starting.”
(Bubel, 1991, p. 147)

An example of a community root cellar can be found at the Ecology Action Centre in Halifax:

<http://adventuresinlocalfood.wordpress.com/2011/12/05/filling-the-community-root-cellar/>

General Storage Tips

Below are a few tips for root cellar storage in general. Keep these things in mind when setting up your cellar and restocking it each year:

- Parts of the cellar will have slightly different temperatures and humidity because of how air and moisture naturally move through the space. Heat rises, so the lower part of your cellar is likely to be cooler. Observe storage crops and if you notice them going bad in one spot, try another. Crops that prefer cooler temperatures can be kept down low and ones that prefer warmer temperatures can be kept up high, even hung from the ceiling.
- Once you figure out what works, label the space. Don’t forget where a thing worked well by the time the next harvest comes. Put labels on shelves, stick markers into the dirt floor, or even spray paint on floors or walls to remember where the ideal spot is for each crop.

- Place shelving away from the walls slightly, and if need be secure it to the ceiling so that it is still sturdy enough. That allows air to flow all around the space so that there aren't any dead spots. It also keeps produce away from condensation that might build up on the walls. Shelves with slats or open backs are preferable to solid shelves, to accommodate air flow.



Carrots in sand

- Storage containers need to:
 - ✓ hold all the food you have
 - ✓ allow air to circulate
 - ✓ be food safe & clean
 - ✓ be easy to clean again
 - ✓ be affordable
 - ✓ last a few years

Wooden containers that are not rot-resistant should be avoided because they break down over time in the humidity. Refer to **Building Tips** (page 70) for more detail about choosing wood for use in root cellars. Try re-using containers like plastic buckets, polyethylene bags, mesh bags, milk crates, stackable bins, feed bags, rust-proof metal containers, garbage cans, Styrofoam chests, storage totes, tubs, barrels and baskets. Add ventilation holes or slats for air circulation. Avoid using materials that may not be food safe because they could leach chemicals; an example is pressure-treated wood. Avoid containers with stain or paint on them, and ones that have held toxic materials and have not been professionally cleaned.

- Don't put food containers right on the floor; find a way to keep them higher. That allows air to flow all around the produce and keeps food away from pests and contaminants on the ground. Pick up wooden pallets from warehouses or construction sites to re-use. Concrete blocks or large, flat stones also work

Note: Home Canning

Jams, pickles and other home canning (bottling) should not be kept out in the open in a root cellar. Cellar humidity can rust caps, causing seals to break, and potentially letting bacteria in. Instead pack canned foods into a box with a lid, insulated with packing material, and then put the box in the cellar. Refer to the **Canning/Bottling** workshop for more information.

well. Old benches, shelves or coffee tables can be picked up for free. Consult your municipality to find out when bulk garbage pick-up days are and go salvaging. Some crops prefer the warm, dry conditions at the top of a cellar and can be hung directly from the ceiling with hooks.

- When stacking containers on top of each other leave space in between for air flow. Stagger them as you stack, making a pyramid with gaps rather than a tower that goes straight up. Place boards or shims in between layers of containers.

Building Your Own Root Cellar

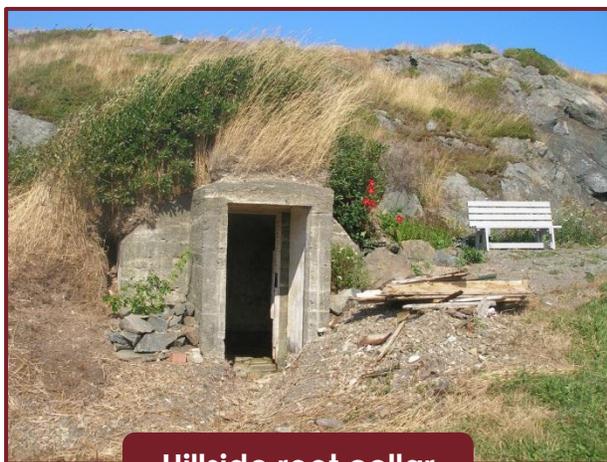
As mentioned at the start, this workshop does not include step-by-step instructions for building a root cellar because they need to be tailored to fit the unique conditions where you live, the resources you have available and the needs of the people that will be using them.

There are hundreds of good designs online and in books that you can use as guides for creating your own cellar. Doing a quick online or library search for root cellar designs will yield lots of results. We've also included a list of design links in the **Resources** section (page 91) that include plans, tutorials, and images.

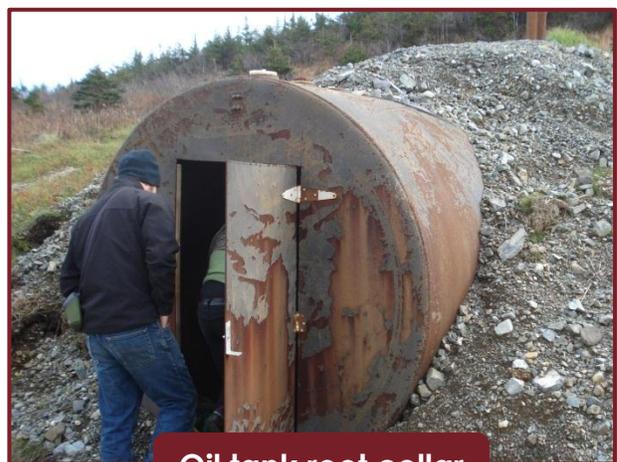
Make a list of the characteristics you think your cellar should have and then start searching to see what other people have done; you're sure to come up with lots of inspiration and guidance. The two most common kinds of root cellars that you will likely be building are:

Excavated Root Cellars

In-ground structures, containers, or rooms surrounded by soil. The surrounding soil insulates to create cool, humid conditions. Root cellars built into hills are a common example in Newfoundland and Labrador. Hills can also be artificially built up around cellars after they are built.



Hillside root cellar



Oil tank root cellar

Root Cellars in Existing Buildings

An area in a basement, barn or other building that is partitioned off can become a root cellar. Usually the northeast or northwest exterior facing walls in one corner are used and interior walls are built. Interior walls and ceiling should be insulated to block out heat from the building and ventilation to the outdoors is necessary.



Building Tips

- **Location** is extremely important. For indoor cellars try to choose a corner that already has 2-3 exterior facing walls (preferably northeast or northwest), the highest humidity, a window or vent to the outside, is away from the furnace, and if possible has a dirt floor or covered floor with drainage. Aim for all those things but use what you've got because factors can be improved or added in later. For outdoor excavated cellars look for a spot facing away from prevailing winds, in an area with good drainage, with ground that can be dug below the frost line and above the water table, away from big tree roots, and most importantly, easily accessible to your kitchen and garden.
- **Accessibility** may be the biggest factor for whether your root cellar is actually used. Whatever kind of cellar you choose, make sure that the design and location make it convenient to access. You may be visiting the cellar regularly in the worst winter weather, so if it's hard to get to, uncomfortable or dangerous, then it won't be useful. Consider accessibility to your garden for filling the cellar at harvest time and accessibility to your kitchen for retrieving the food throughout the year. Keep in mind the ways that you will be filling and emptying the cellar and make sure that they are safe.
- **Dirt floors** "take advantage of the naturally cool, even temperatures of the earth. They also cut costs and provide needed humidity." (*Country Wisdom & Know-How*, p. 447). Gravel floors do the same while also providing good drainage. Dirt floors may get muddy or develop puddles and any sitting water is a target for bacteria growth. To avoid this, lay down a layer of gravel for drainage and/or level the dirt floor and rake it to unpack it before the start of each storage season. Use flat stones or boards to walk on the dirt floor to avoid tracking dirt outside the cellar.

- **Wall materials** will make up the bulk of construction costs so try to find them affordably. Be sure that what you choose is structurally sound and provides the needed insulation. Concrete blocks have pockets of air inside that act as insulation when they are used for wall construction. Those air spaces can also be filled with insulating material for more insulation. Other



Covering cellar walls with reused natural plaster

possible wall materials are cedar logs and stones mortared together. Look for low-cost or salvaged building supplies for indoor cellar walls.

- **Salvaged materials** can save you a lot of money. Just be sure that all the materials you use are safe for handling and will not be harmful if they come into contact with your food. Visit the local dump or make contact with demolition and construction companies; you could be saving them disposal fees by taking unwanted materials. St. John's has a Habitat for Humanity ReStore that sells building supplies, with proceeds going towards affordable housing: www.habitatnl.ca/SitePages/Restore.aspx. Building supply stores sometimes sell off damaged, odd, or surplus materials at a discount.
- **Re-use containers.** Outdoor root cellars can be made by burying large containers in soil, rather than building structures from scratch. Look for containers that are clean and weather-tight except for ventilation holes (those can be added in). Examples are boat hulls, oil tanks, swimming pools (roof added), large freezers, shipping truck containers, new septic tanks, and even vehicles.
- **Rot resistant wood** that can handle high humidity is ideal if wood is used in the cellar. Otherwise wood will rot eventually and become target for rodents seeking entry, and bacteria and mould growth. Cedar, hemlock, oak and locust are more rot-resistant woods. Composite and resin lumber resist humidity well but may not be strong enough for the structure of a cellar. Glass infused pressure-treated lumber is available that is strong, rot resistant and non-toxic, but expect to pay more for it. Soft wood pieces will need to be replaced in about five years.
- **Water tables** are important. If you dig too deep then you might hit underground water and your cellar will flood. Keep drainage in mind

when you design. Contact your municipality or speak with well-owners to find out about the water table where you live.

- **Permits** could be required. You may need a permit to excavate land, to add new buildings to your property or to change the water and electricity set-up in your basement; contact your municipality before starting to build.

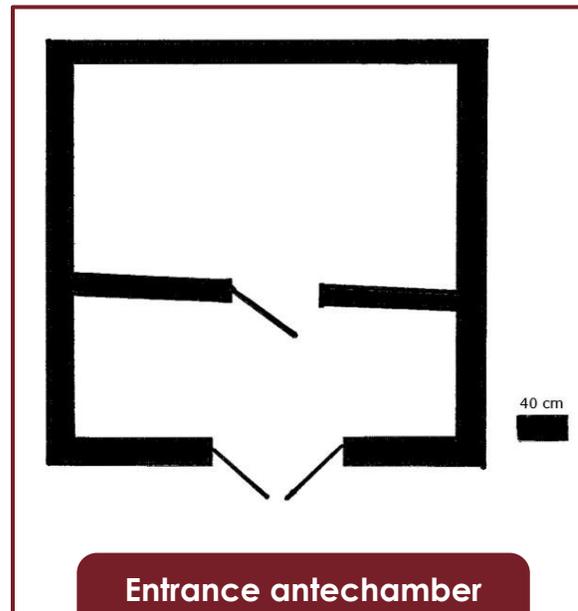


Side of root cellar with insulating soil

- **Borrow or rent tools and equipment.** Most of what you will need is available in the basic home workshop or can be affordably rented. Don't spend a lot of money on tools or equipment you will only use once; ask neighbours and friends to borrow things.
- **Insulate outdoor cellars with soil**, at least 1-2 feet well-packed. "Earth is the cheapest insulator, so don't stint on this step." (*Country Wisdom & Know-How*, p. 450). Plant ground cover on top of the soil and add compost and more seed as needed over the years to keep it healthy. Ground cover will keep the soil in place. Building a cellar into an existing hill or creating an artificial hill around a cellar are both good ways to insulate.

- **Cellar depth** will affect your costs for outdoor cellars because building larger walls requires more materials. You want to get below the frost line (dig at least 4 feet down) but not go so deep as to hit underground water. Some cellar designs are partially above and below ground while others are fully submerged. Choose a cellar height that you will find comfortable when moving around in there.

- **Doors and hatches** can be salvaged cheaply and re-used. Bigger doors allow more exposure to temperature change when opened, which can be problematic, but they may be preferable if you're moving carts or wheelbarrows in and out. Many of Newfoundland and Labrador's root



Entrance antechamber drawing

cellars have an antechamber in their entrance designs, which is a small space between an outside door and the inner root cellar door. Antechambers create a buffer to keep below-freezing winter temperatures and warm spring temperatures from affecting the cellar's contents. Enter the first doorway and close it behind you before going through the second door into the cellar, thereby limiting



Cellar below a shed,
Cape Broyle

temperature changes. Hatches

are good for maintaining root cellar temperatures because they are small and let little cold or warmth through, but they can be really inconvenient to get through in snowy weather if they are exposed outdoors. Cover cellar doors or hatches with awnings or roofs to keep them free of snow. Many hatch-style root cellars are located beneath sheds or other structures to allow easy access to the cellar through the building above. Figure out how you will be transporting food in and include ramps, ladders and drop buckets as needed. Be sure that it isn't possible for a person to get locked inside the cellar.

- **Insulate** root cellars so that they can maintain ideal conditions inside. Keep the high humidity of your root cellar in mind when insulating. Vapour barrier can develop condensation and mould inside over time. Spray insulation is more expensive but works well. The air spaces in concrete blocks act as insulation, particularly if filled with another lightweight material. Soil is an insulator around excavated root cellars. A skirt of insulation around the base of an outdoor root cellar will help to keep the frost away. Insulation in the interior walls and ceiling of a basement root cellar keep out warm air in a heated building. In this post the Ecology Action Centre talks about how they tore up a basement floor to build their root cellar and then re-purposed floor plaster to insulate walls: <http://adventuresinlocalfood.wordpress.com/2011/05/31/root-cellar-workshop-day-2/>. Earth bags are an eco-friendly form of insulation gaining in popularity: www.earthbagbuilding.com/index.htm as is straw-bale insulation: www.strawbale.com.
- **Adapt designs** that already exist in books and online to suit your space and resources. Try using Google SketchUp, a free online tool, to design your own root cellar: <http://sketchup.google.com/>

Maintaining a Root Cellar

The following are five things to keep in mind to maintain your root cellar:

1. Use and Check on the Food Often

Check on your food regularly. In the first few years you may want to check more often to get the hang of monitoring temperature and humidity. Eat a balance of what looks best and what is ripest.

Remove anything showing signs of over-ripeness or damage to either eat or compost. Most storage crops are still good if they accidentally freeze and thaw; just use them quickly in soups and stews. It's totally normal for some food to spoil before winter ends and that food can be composted; use the **Composting** workshop as a resource. Mike and Nancy Bubel point out that it's a good idea to put enough in storage that you won't miss the few things that spoil. However, if one-third or more of a crop goes bad you may want to look for ways to improve storage conditions for that crop before next year.

2. Keep an Eye Out for Pests

Look for signs that insects or rodents are getting into supplies. Insects may leave holes in produce or nibble through leaves. Signs of insect infestation are finding live or dead insects, shed skins, eggs, or cocoons. Watch for rodent movement when you first turn on the light in a dark cellar and look for droppings, scattered food, holes in containers, or nibbled food.



Vents covered with screens

Remove any infested food right away from the cellar. If you need to sort through it or compost it, do so in a place that is away from the cellar, so pests don't return. Fill or screen any holes where pests might be entering. If you have a cat, take them on trips to the root cellar with you. Dried bay leaves and mint are both said to be rodent deterrents. Put out traps or poison as needed. There are lots of different options, so talk to local retailers or other root cellar owners in the area to find out what will work best.

Keep food safety in mind and do not allow any pest control products to come into contact with food.

Food-safe diatomaceous earth can be purchased at garden centres. It is made of powdered fossils that are sharp and deter insects from standing or landing in

a spot. Try spreading diatomaceous earth around the perimeter of your cellar or containers where insects may be getting in.

3. Check and Adjust Temperature

Check the thermometer in the root cellar every time you go in to make sure food is still in the ideal temperature range. Place the thermometer in the coldest part of the cellar, probably near the floor.

If it's too warm, open a vent or door to let some cool air in and use a fan to direct that air if needed. You can also hook up a Coolbot to an air conditioning unit that will make it run at root cellar temperatures (<http://storeitcold.com/>). Traditionally ice blocks have also been used to cool root cellars, even throughout the summer.

If the root cellar is too cold open the door and vents on a warm day or carefully use 100 watt light bulbs, a kerosene lantern, or small heater to warm things up.

In the autumn leave vents open to gradually cool the cellar. Once outdoor temperature nears 0°C, partially or fully close the vents to prevent the cellar from freezing.



**Hatch entrance
in Portland, NL**

4. Check and Adjust Humidity

Put a hygrometer in the cellar to measure humidity. Check it every time you go in to make sure food is still in the ideal humidity range. Also use the appearance of the produce as a guide and take note if vegetables start to look dry and limp or have condensation on them and look mushy.

If the cellar is too humid, the easiest solution is to open the vents to let cold air in and warm air out which will lower humidity. Another option is to use a dehumidifier for a short time, but monitor the relative humidity closely so that you don't make the cellar too dry. You could also hang dry towels or sheets up; once they absorb moisture from the air, remove them from the cellar. A shallow container of calcium chloride or dry air-slaked lime will do the same thing. Don't let them touch food and take them out of the cellar once they have absorbed water.

Heavy condensation on the ceiling, walls or storage containers may indicate that the cellar is too cool, and warming the cellar up will return humidity to the air instead. If water is dripping from the ceiling, protect exposed food with layers of dry newspaper or burlap to absorb the water.

More likely the cellar will not be humid enough. In that case you can sprinkle water on the floor and walls, leave shallow bowls of water

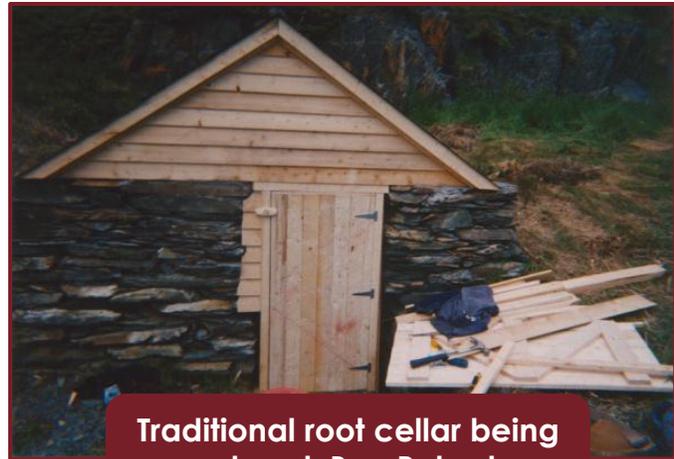
around to evaporate, or hang damp sheets or towels up. Try to avoid creating puddles on the floor, as they can develop bacteria. You may need to add moisture in these ways every time you enter the cellar to keep humidity up, particularly in the autumn. Eliot Coleman recommends a simple way to maintain humidity: 1) fill a bucket partway with clean water and take it in every time you visit the cellar, 2) sprinkle the water on the floor of the cellar and splash it on the walls, 3) fill the empty bucket with vegetables to carry back to your kitchen.

If you follow these tips and still find the cellar is not humid enough, then protect produce from drying out by storing it in rust-proof containers layered with damp sand, sawdust, peat, sphagnum moss or burlap. Re-moisten the filler material as needed through the winter, but don't let it get too sodden. Many people do this every year as a common practice rather than monitoring humidity so closely. Basement cellars are particularly prone to drying out and need extra attention.

5. Clean Out and Repair the Cellar Each Year

When the weather warms and produce has been used up, give the root cellar a thorough cleaning and airing out. Leave the doors and vents open in warm, dry weather for 2-3 days. Take all the containers and portable items outside to be scrubbed down with antibacterial soap and water and air dried. Sanitize indoor surfaces with a hydrogen peroxide solution.

Compost or dispose of packing materials; you'll add fresh ones in the autumn. Consider adding a new layer of whitewash or water-resistant bathroom paint to painted surfaces. Lime can be spread on dirt floors to deter mould and insects. Rake and level earthen floors and add more dirt or gravel as needed. Replace any supplies that have been damaged over the winter. Based on your observations from the winter, re-label areas or move things around for better storage conditions next year.



Traditional root cellar being restored, Bay Roberts

Note: Elliston, Root Cellar Capital of the World

"The weathered wooden door tucked into a hillside looks like a portal to Middle-earth. Inside, the stone-walled room is dark, cool, humid and hobbitfree, storing vegetables as it has for centuries. Entering a traditional root cellar feels like stepping back in time, but for a tiny community in rural Newfoundland, the structures represent the future of tourism and serve as a reminder that in some places, local food has never gone out of fashion.

Elliston, a scattering of houses on the Bonavista Peninsula, is the self-declared 'Root Cellar Capital of the World' ... Taking stock of its impressive 135 root cellars for 300 citizens, Elliston set about reinventing itself. It now hosts Roots, Rants & Roars, an annual festival showcasing the province's culinary heritage."

- Excerpt from the Canadian Geographic article *Vintage Fridges* by Sarah Musgrave.

Full article at:

www.canadiangeographic.ca/magazine/dec11/root_cellars.asp

To learn more about Elliston's root cellars, visit

www.rootcellars.com

To learn more about the Roots, Rants and Roars festival, visit

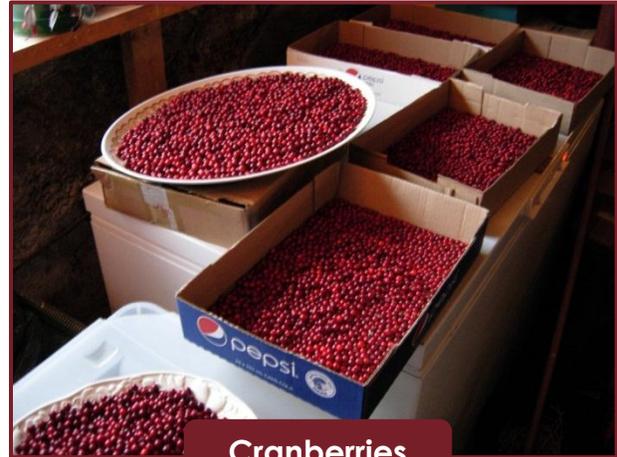
www.rootsrantsandroars.ca

Activities

(40 minutes)

Putting Food in Storage

This activity will work well indoors or outdoors. It can be done mid-workshop to help explain the content in the section **Storing Common Vegetables and Fruits** (page 60) or at the end of the workshop for review.



Cranberries

Materials

- Content from the section **Storing Common Vegetables and Fruits** (page 60)
- A variety of storage vegetables and fruits, either actual ones or pictures cut out of seed catalogues or magazines (Example: cabbage, carrots, potatoes, beets, apples, onions, garlic, turnips, dried beans, winter squash, seeds, cranberries, leeks, grapes, pears, etc.)
- Something canned, like a jar of homemade jam or pickles
- Four large containers (buckets or bins) to sort the produce into
- Labels for the containers: 1) Cold and very humid, 2) Cold and humid, 3) Cold and dry, 4) Warm and dry. You can choose to add more detail like the temperature and humidity ranges if you like.
- A pair of old pantyhose
- White board or chart paper
- Markers

Step 1: Review with participants that storage crops have different preferences for ideal temperature and humidity to help them last a long time. Some love the cold, damp conditions of a root cellar, but others prefer to be warmer and dryer and can be tucked away in a different part of your home instead, like a spare bedroom or under the stairs. Point out to participants the four categories that storage crops are usually placed in, that you've labeled on four bins.

Step 2: One at a time display each of the storage crops you have brought. Ask participants what they think the storage preferences may be for each crop and get participants to volunteer to sort them into the bins. Confirm with participants which bin each goes in and share some of the information from **Storing Common Vegetables and Fruits** (page 60). Make note of what should be done

with home canned foods (jams, pickles, etc.); information on that is in **Note: Home Canning** (page 68).

Step 3: When sorting the onions and/or garlic, demonstrate to participants how to store them in old pantyhose as described on page 65.

Step 4: When reviewing the different crops and how to store them, use the white board or chart paper to write down especially good tips or points from the discussion. Ask participants to share their own tips and experiences.

Step 5: To review everything that the group learned when sorting the produce, take out the items and place them on a table several meters away from the bins. Split the participants into teams. Divide the produce evenly among the teams. Have a race to see which group can sort their produce into the right bins first.

Step 6: Consider holding some kind of contest, raffle, or door prize to send home the fresh produce with participants. Or divide it equally among everyone in attendance, encouraging people to try storing and eating something they don't normally use.



Variety of winter squash

Finding Winter Keepers

This activity will work well indoors. It can be done mid-workshop to help explain the content in the sections **Growing and Harvesting Crops for a Root Cellar** (page 57) and **Purchasing Crops for a Root Cellar** (page 59) or at the end of the workshop for review.

Materials

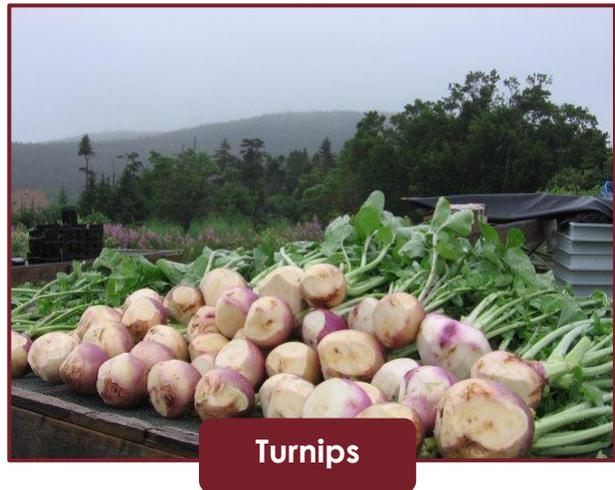
- Content from the sections **Growing and Harvesting Crops for a Root Cellar** (page 57) and **Purchasing Crops for a Root Cellar** (page 59).
- A selection of seed catalogues. They do not need to be current; ones from past years are fine. Order new seed catalogues by contacting seed companies to get them mailed for free. Allow a few weeks for postage. Seeds of Diversity has an inventory of Canadian seed companies that you can use to find catalogues: www.seeds.ca/sl/csci/ or ask local gardening groups and libraries if they have old ones to share.
- White board or chart paper
- Markers
- Pens or pencils
- Scrap paper
- Scissors (optional)
- Tape (optional)

Step 1: Review with participants the concept of storage varieties as described in section **Storing Common Vegetables and Fruits** (page 60).

Brainstorm as a group what characteristics might help a garden crop survive well in storage. Write down key points on the chart paper or white board.

Step 2: Talk about your own gardens and food. Are you already growing storage crops or buying them from local farmers? What do you tend to keep past the end of the growing season and how do you preserve it even if you don't have a root cellar? Do you think it would be worthwhile to change what you're growing or buying to have more for winter storage, why or why not? Highlight some of the tips found in **Growing and Harvesting Crops for a Root Cellar** (page 57) and **Purchasing Crops for a Root Cellar** (page 59).

Step 3: Divide up the seed catalogues, pens and scissors among the group. In small groups or pairs, go through the catalogues reading descriptions aloud and looking for seeds that seem like they would be good as storage crops. Look for



seeds labeled as storage varieties or “keepers”, but also look for ones that aren't labeled that way but have storage characteristics like late harvest, short growing season, tough skin, high sugar content, smooth skin, frost hardiness, cold tolerance, lots of flavour, pest resistance, etc.



Root vegetables at a farmers' market

Step 4: Participants can either circle their choices in the catalogues or cut them out, depending on whether the catalogues will be needed later.

Step 5: As a group, share what seed varieties you have discovered and talk about them. Why did you pick those seeds? Do you think they would work well in a backyard or community garden, why or why not? Has anyone tried them before and what were the results?

Step 6: If participants cut out the seed descriptions, tape them all up together on the white board or chart paper to make a master list, along with any notes that seem important. Copy that list and distribute it to participants after the workshop to use as a guide for what storage varieties they can try out. Consider meeting again next year to do a similar activity and report back on successes. The **Seed Saving Workshop** could also be used as another resource.

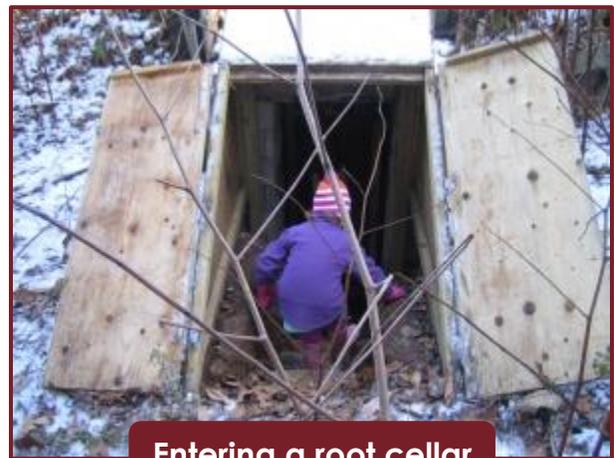
Tour and Stock a Root Cellar

Ideally this workshop will take place in the late fall so that demonstrations of crop storage can be done.

This activity should take place in a root cellar. You will need to have access to a nearby cellar that the owners are willing to show. You could even tour several if there is transportation available to visit more than one site. Refer to these posts from the Ecology Action Centre about their root cellar tours, for inspiration: <http://adventuresinlocalfood.wordpress.com/2010/12/03/my-sunday-spent-underground/> and <http://adventuresinlocalfood.wordpress.com/2011/11/30/on-the-root-cellar-route/>

A root cellar tour will be most interesting if there is food ready to be stocked or already stored in the root cellar. Visiting empty cellars is less informative.

The Intangible Cultural Heritage Root Cellar Traditions collection in the MUN Digital Archive may help you find root cellars nearby if you are in the Eastern part of the province: www.tinyurl.com/ichrootcellars



Materials

- Root cellar and its contents
- Produce to prepare for storage and required supplies (optional)
- Scrap paper
- Pens or pencils

Step 1: Arrange with a root cellar owner to tour their cellar as a group. In advance review with participants anything they should know for safety, courtesy, transportation, and personal comfort while visiting the root cellar. Use **Appendix E: Sample Registration Form** (page 31) as a resource to organize the group.

Step 2: Decide whether you will host the tour prior to, during, or after giving this workshop. A combination of those could also work if you divide up the content. This is a good opportunity to survey participants and find out what is best for them in terms of learning style and timing. Would they prefer to see a cellar first and then learn about root cellars or the other way around?

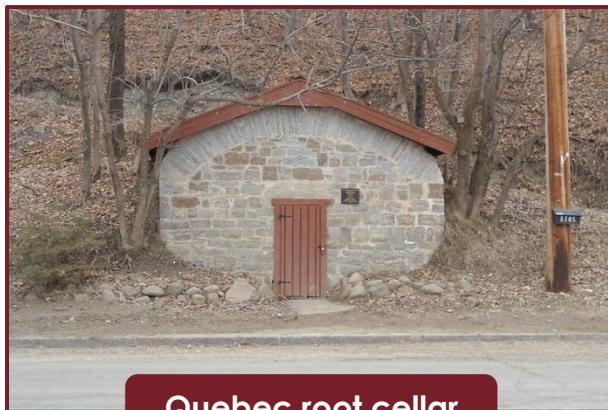
Step 3: Deliver this workshop and tour the root cellar(s). Encourage the group to ask the root cellar owners questions and encourage the cellar owners to share

their personal experiences and tips. Along the way try to highlight some of the elements mentioned in this workshop, such as temperature, humidity, storage containers, crop choices, ventilation, cleaning and maintenance, etc. It's totally fine if what the cellar owners are doing is slightly different from what is recommended in this workshop, as long as food safety is still maintained. Everyone learns through their own experiences and each root cellar is unique. That situation can provide great opportunity for reviewing and discussing the workshop material after the tour and trying to brainstorm what might work best in your context.

Step 4: Take pictures or make a video to record the tour experience.

Step 5: If the timing is appropriate with the growing season, ask the cellar owners to demonstrate how they store their crops. Allow participants the opportunity to do things hands-on if possible. For example, bringing crops in from the field, cleaning dirt off produce, packing produce in containers, hanging produce, adjusting temperature, humidity, or ventilation, labeling shelves and bins, etc. Ask the cellar owners if they have any jobs that they would appreciate assistance with and engage participants in those.

Step 6: Thank the cellar owners for their participation. Consider hosting a potluck that showcases everyone's favourite cellar vegetable recipes. Invite cellar owners to attend as a way to show appreciation.



Quebec root cellar

Step 7: Create an opportunity to review what was learned and talk about the tour experience at a follow-up workshop or meeting. Consider contributing a blog post to Root Cellars Rock, we'd love to see how your tour went! Email info@rootcellarsrock.ca for more information on contributing to the blog.

Design or Build

Designing and building a root cellar is a very ambitious project to do with a community group, but it can be done. Designing and building a cellar will likely take several days or weeks and should be done as part of a series of events, rather than a single-day event. It would be ideal to have a small number of people involved that are very committed. Refer to **Note: Community Root Cellars** (page 67) if building a cellar cooperatively is something your group is interested in.

Quite a lot of preparatory work goes into building a root cellar. Research, design, fund raising, budgeting, material gathering, logistical planning, and site preparation are all steps to keep in mind. Divide up the content from this workshop over several sessions and try to cover all of it if you will be building. Look for local champions in your area that have expertise that they can share



Salvaged steel door cut-outs used for exterior insulation of root cellar

with the group through presentations or participation. Refer to examples and resources like those listed in **Resources** (page 91).

Should you decide to design or build a root cellar in your community, please photograph or make a video of your experiences and share it with Root Cellars Rock. Email info@rootcellarsrock.ca to do so.

Conclusion

(15 minutes)

Some of these steps can also be completed during the activities if there is a lull in discussion.

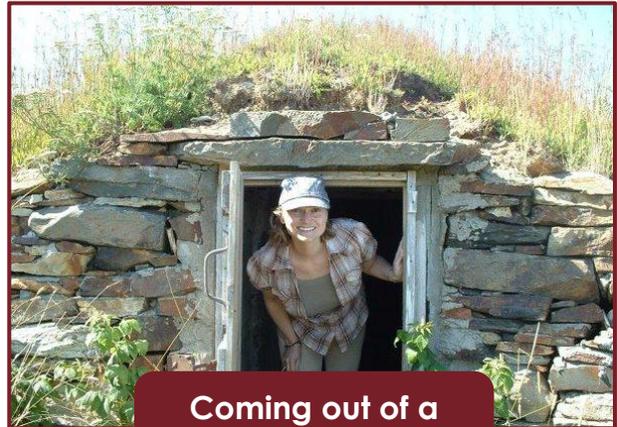
Step 1: Ask participants to share any plans they have for learning more about root cellars or using root cellars after the workshop.

Step 2: Read aloud the list of things participants wanted to learn from the beginning of the workshop. Have you covered everything? If yes, congratulations! If not, that's fine too because you will now hand out the **Resources** sheet (page 91) for participants to take home with links to websites and recommended books for further learning. You could also open any remaining questions up to the group and see if participants can answer the missed questions from their own experience.

Step 3: Hand out the **Evaluation Form** (page 89) and pens and ask that participants all fill them in before leaving. Completed evaluation sheets should be photocopied after the workshop so that you can keep a record to guide future workshops that you host. Send originals, along with the completed FSN E-News sign-up sheet, back to FSN as soon as you are able. For instructions on how to do that see **Evaluation and Follow-up** (page 13).

Step 4: Thank participants for attending and close off the workshop.

We hope you enjoyed the Root Cellars Workshop!



**Coming out of a
root cellar in Elliston**

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Photo Credits

- Page 43: **ICH Archive**
- Page 45: **ICH Archive**
- Page 49: **ICH Archive**
- Page 52: **Carol Best**
- Page 54: **Ecology Action Centre (EAC)** (top), **ICH Archive** (bottom)
- Page 55: **Food Security Network NL (FSN)**
- Page 56: **EAC**
- Page 57: **Chris & Maureen Peters**
- Page 58: **Sarah Crocker**
- Page 60: **Sarah Crocker**
- Page 62: **Helga Gillard**
- Page 64: **Chris & Maureen Peters**
- Page 66: **Chris & Maureen Peters**
- Page 68: **EAC**
- Page 69: **ICH Archive** (left), **Rick Kelly** (right)
- Page 70: **EAC**
- Page 71: **EAC**
- Page 72: **Leonard Vassallo** (top), **ICH Archive** (bottom)
- Page 73: **ICH Archive**
- Page 74: **EAC**
- Page 75: **ICH Archive**
- Page 76: **ICH Archive**
- Page 78: **Helga Gillard**
- Page 79: **Rick Kelly**
- Page 80: **Sarah Stoker**
- Page 81: **Carol Best**
- Page 82: **EAC**
- Page 83: **Rick Kelly**
- Page 84: **Leonard Vassallo**
- Page 85: **Sue Drodge**

Photos from the **Ecology Action Centre (EAC)** can be found in the Adventures in Local Food Blog: <http://adventuresinlocalfood.wordpress.com/>

To browse the **Intangible Cultural Heritage (ICH) Root Cellars Traditions Archive** visit www.tinyurl.com/ichrootcellars

8.3. Supplementary Materials

Sample Agenda

Workshop Agenda Root Cellars

A Root Cellars Rock Food Skills Workshop

Date:

Time:

Facilitator:

Location:

Hosting Group(s):

1. **Introduction** (10 minutes)
2. **Roots of Our Local Food** (10 minutes)
3. **Digging In** (45 minutes)
4. **Activity** (40 minutes)
5. **Conclusion** (15 minutes)

www.rootcellarsrock.ca



Evaluation Form



Return completed evaluation forms to:

Food Security Network
 44 Torbay Rd. Suite 110, St. John's, NL A1A 2G4
 Fax: 709.237.4026
 Email: info@rootcellarsrock.ca

Please fill in this evaluation to the best of your ability. It will be kept private and used only by the FSN and today's hosts to improve future workshops.

Your name (optional):	Date: Length of workshop: Time of day:
Location (venue and town name):	Facilitator(s):
Hosting group (s):	Topic of workshop:

1. Today, I was a (check all that apply):

- participant facilitator volunteer representative of a hosting group
 other _____

2. I would like to attend future workshops on the following topics:

- | | |
|--|---|
| <input type="checkbox"/> food security | <input type="checkbox"/> using culinary herbs |
| <input type="checkbox"/> container gardening | <input type="checkbox"/> preparing local vegetables |
| <input type="checkbox"/> composting | <input type="checkbox"/> canning/bottling |
| <input type="checkbox"/> seed saving | <input type="checkbox"/> root cellars |
| <input type="checkbox"/> edible wild plants | <input type="checkbox"/> other: _____ |

3. How did you find the length of today's workshop?

- The workshop took an appropriate amount of time.
 The workshop was too short.
 The workshop was too long.

4. Were the time and date of the workshop appropriate?

- Yes, it worked well with my schedule.
 No, I would prefer to attend workshops during these times instead:

5. Did you make any new contacts or learn of any new resources?

- Yes, I made new contacts but didn't learn of new resources
 Yes, I learnt of new resources, but didn't make new contacts

- Yes, I made new contacts and learnt of new resources
- No, I did not make new contacts or learn of new resources

Comments:

6. Please rate the balance of presentation, discussion, and group activity at today's workshop: (please circle all that apply)

- Good balance of presentation, discussion, and group activity
- Not enough group activity and discussion
- Too much presentation of material
- Other: _____

Comments:

7. Please rank the hands-on workshop activity in helping you improve your understanding of the topic:

Not helpful		Somewhat helpful		Very helpful
1	2	3	4	5

Comments:

8. Please rank your understanding of today's topic before attending the workshop:

Little Understanding				Very Knowledgeable
1	2	3	4	5

9. Please rank your understanding of today's topic after attending the workshop:

Little Understanding				Very Knowledgeable
1	2	3	4	5

10. What did you enjoy most about today, or what was the most interesting thing you learnt?

11. What could have been changed to improve today's workshop?

12. Please share any additional comments or suggestions.

Preserving: Root Cellars Resources

All content from this workshop is available at
www.rootcellarsrock.ca/workshops

Excavated Root Cellars

BC Ministry of Agriculture, Food and Fisheries, small root cellar with two roof variations www.agf.gov.bc.ca/resmgmt/publist/Leaflets/FruitVeg/331-50.pdf

Country Wisdom & Know-How by the editors of Storey Books, underground root cellar plans, p. 447-451

Ecology Action Centre, annual root cellar tour, various cellars, 2010: <http://adventuresinlocalfood.wordpress.com/2010/12/03/my-sunday-spent-underground/>

Hillside Cellar, Carbonear <http://seastrandsstudio.com/2012/05/29/a-carbonear-root-cellar/>

Greg Roberts, Mother Earth News, hillside cellar www.motherearthnews.com/modern-homesteading/build-a-root-cellar-zm0z80zsie.aspx

Homesteading edited by A.R. Gehring, root cellar in a hill and root house in a hole instructions, p. 267-268

ICH Root Cellar Traditions, archive of root cellars in Newfoundland and Labrador with photos and detailed descriptions www.tinyurl.com/ichrootcellars

Leonard Vassallo, oil tank buried in a hill: <http://rootcellarsrock.ca/2012/02/fill-it-up-again>

Mike Wells, Mother Earth News, hillside cellar www.motherearthnews.com/modern-homesteading/building-a-root-cellar.aspx

Pile of O'Melays, root cellar with rock wall and earth bag insulation, links in post to different stages of construction <http://omelays.blogspot.com/2008/10/root-cellar-rock-wall.html>

Root Cellaring by Mark and Nancy Bubel, several designs and examples

Root Cellars Agriwebinar (Tarrah Young, 23/03/2011), Carrot Cache Webinar Series, several designs and examples, registration required www.agriwebinar.com

Survivalist Spot, boat hull buried in a hole www.survival-spot.com/survival-blog/boat-in-a-hole-%E2%80%93-saga-of-a-root-cellar/

Survival Spot, links to several designs www.survival-spot.com/survival-blog/build-root-cellar/



Photo: Intangible Cultural Heritage Archive



Photo: Helga Gillard

FSN Links

Community Garden Season Extension Teleconference (FSN) www.foodsecuritynews.com/teleconferences.html

Freezing Fruits and Vegetables (Root Cellars Rock) <http://rootcellarsrock.ca/2011/10/ice-ice-veggies>

Root Cellars in the News (Root Cellars Rock) <http://rootcellarsrock.ca/2010/11/root-cellars-in-the-news>



Preserving: Root Cellars Resources

All content from this workshop is available at
www.rootcellarsrock.ca/workshops

Root Cellars in Existing Buildings

Ecology Action Centre, annual root cellar tour, various cellars, 2010: <http://adventuresinlocalfood.wordpress.com/2010/12/03/my-sunday-spent-underground/>

2011: <http://adventuresinlocalfood.wordpress.com/2011/11/30/on-the-root-cellar-route/>

Ecology Action Centre, basement community root cellar: <http://adventuresinlocalfood.wordpress.com/2011/05/30/root-cellar-workshop-day-one/>

Four-Season Harvest by Eliot Coleman, tips for building basement cellars with particularly good description of ventilation

ICH Root Cellar Traditions, archive of root cellars in Newfoundland and Labrador with photos and detailed descriptions: www.tinyurl.com/ichrootcellars

The Local Beet Chicago, basement cellar from converted photography dark room, other links in post to different stages of development www.thelocalbeet.com/2012/01/11/the-root-cellar-diaries-to-date/

Organic Gardening, basement root cellar plans www.organicgardening.com/learn-and-grow/building-root-cellar

Prepared Tompkins, basement root closet www.preparedtompkins.org/?p=138

Root Cellaring by Mark and Nancy Bubel, several designs and examples

Root Cellars Agriwebinar (Tarrah Young, 23/03/2011), Carrot Cache Webinar Series, several designs and examples, registration required: www.agriwebinar.com

Steve Maxwell, Mother Earth News, basement root cellars: www.motherearthnews.com/do-it-yourself/basement-root-cellar-zm0z04zsie.aspx

Stocking Up by Carol Huppig, basement storage room

Survival Spot, links to several designs www.survival-spot.com/survival-blog/build-root-cellar/



Photos: Ecology Action Centre

Websites

Canadian Seed Companies
www.seeds.ca/sl/csci

Coolbot <http://storeitcold.com>

Elliston, Root Cellar Capital of the World www.rootcellars.com

Example of a Winter CSA www.greenbeingfarm.ca/winter-csa

Root Cellar Q&A www.greenhomebuilding.com/QandA/storefood/rootcellar.htm

Roots, Rants & Roars Festival
www.rootsrantsandroars.ca

Short-term Storage Crops
www.gardening.cornell.edu/factsheets/vegetables/storage.pdf



10 Ways to Eat Local Food

1. Learn What's in Season

Knowing which local foods are in season will help you know what to look for at the farmers' market or grocery store. Experiment with local foods that you don't normally eat. Visit Root Cellars Rock! for lots of local food resources.

www.rootcellarsrock.ca

2. Find a Farmer

Root Cellars Rock! Local Food Links www.rootcellarsrock.ca
Food Security Initiative Inventory www.foodsecuritynews.com
Buy Local! Buy Fresh! Avalon Region Map avalonfresh.ca
Keep it in Kittiwake www.kittiwake.nf.ca
ACORN NL acornnl.wordpress.com

3. Visit a Farmers' Market

Farmers' markets are growing across the province. More than just a place to find local meat and vegetables, they are community centres where people gather to socialize, eat, hold workshops, and celebrate local food. See the Food Security Initiative Inventory to find a farmers' market near you. www.foodsecuritynews.com/resources

4. Join a Community Supported Agriculture Program

Customers commit up front for an entire season and in return the farmer provides a weekly box of fresh produce and preserves. The produce varies according to what's available. It's a great way to give farmers more financial security.

5. Start Gardening

If you don't have space for a garden in your own yard, try growing some fresh herbs in a window, or join a community garden. Use the Food Security Initiative Inventory (www.foodsecuritynews.com/resources) to find a

community garden in your area. Visit Root Cellars Rock! (www.rootcellarsrock.ca) for gardening tips.

6. Go Berry Picking

There are many edible wild berries in the province. A U-Pick, where you pick your produce yourself, is a great way to get some berries that aren't as common in the wild. Use **2. Find a Farmer** to find a berry U-Pick near you.

7. Wild Harvesting

Hunting, fishing, and trapping are traditional ways we have acquired local food. Visit the Department of Environment and Conservation, Wildlife Division for information about licences. www.env.gov.nl.ca/env/wildlife

8. Preserve the Harvest

There are many ways to preserve fresh, local food. Cellaring, cold storage, bottling, freezing, pickling, salting, drying, and fermenting are all ways you can preserve local vegetables and fruit for months. For resources see the Root Cellars Rock! website and Canning Workshop (rootcellarsrock.ca/workshops).

9. Support Restaurants & Retailers that Source Local Food

A growing number of restaurants are choosing to support local farmers and fish harvesters, or even grow their own vegetables and herbs in a restaurant garden. Ask your favourite restaurant to source locally and use the Food Security Initiative Inventory to find restaurants and retailers that sell local food. www.foodsecuritynews.com/resources

10. Sprout!

Seeds such as lentils, peas, alfalfa, sunflower, and broccoli can all be sprouted to make delicious fresh greens all year long in your own kitchen. Visit Root Cellars Rock! for sprouting resources. www.rootcellarsrock.ca



Food Security means that all people at all times have physical & economic access to adequate amounts of nutritious, safe, and culturally appropriate foods.

Contact FSN for more information on how you can take action.

www.foodsecuritynews.com





Our Resources

Monthly E-News

News, events, funding and volunteer opportunities.

Best Practices Toolkits

Step-by-step guides to start a community garden, farmers' market, community kitchen, or bulk buying club.

Provincial Food Security Teleconferences

Provincial discussions and presentations on food security topics. Visit our website for archived presentations.

Food Security Initiative Inventory

An online directory of meal programs, community gardens, community kitchens, bulk buying clubs, farmers' markets, local farms, and more

What Challenges Do We Face in Newfoundland & Labrador?

- Producing only **10%** of fresh vegetables
- **2 - 3** day supply of fresh vegetables
- Average age of farmers in the province is **55**
- **2%** of farm products in grocery stores are local
- Low consumption of **local seafood** products
- **Lowest** consumption of fresh vegetables in Canada
- Highest rate of **food bank usage** in Canada
- Highest rate of **obesity** in Canada
- Second highest rate of **diabetes** in Canada

Join Us to Take Action

The Food Security Network NL is a provincial non-profit organization that promotes community-based solutions to increase access to healthy food for all.

We support and work with community kitchens, farmers' markets, community gardens, bulk buying clubs, and more.

Visit our website to find out how to get involved.

Connect With Local Food Across NL!

www.rootcellarsrock.ca

- The Four P's of Local Food: Planting, Picking, Preparing, and Preserving
- Gardening, wild foods, events
- Local food recipes and resources
- Q&A forum



www.foodsecuritynews.com

