



GROWING FOOD IN PUBLIC SPACES

A START UP GUIDE

KAMLOOPS FOOD POLICY COUNCIL

<http://kamloopsfoodpolicycouncil.com>

***Public Produce: Growing Food in Public Spaces
A Start Up Guide***

Elaine Sedgman, 2013

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I was a young mom when I first read Rosalind Creasy's book *The Complete Book of Edible Landscaping* (1982). What an inspiration that book was! Ever since, I have tried to incorporate her ideas into my own garden. As an artist, I am fascinated by a growing number of individuals that incorporate edibles into their art practice. One such individual is artist/architect Fritz Haeg who created the *Edible Estates* project. Partnering with various arts organizations, Fritz Haeg turned front lawns across North America into edible gardens. As a Master Gardener in Kamloops, I've given talks on edible landscaping, encouraging homeowners to plant their own lawns with veggies. As a past preschool teacher, I am inspired by chef Alice Waters' *The Edible Schoolyard Project* that recognizes gardens, especially edible gardens, can enrich learning curriculum and children's lives. Darrin Nordahl's book, *Public Produce: The New Urban Agriculture* was published at a most fortuitous time providing the Kamloops Food Policy Council with background information and philosophy to take a chance on Public Produce in the City of Kamloops.

Many thanks to the City of Kamloops Social Planning Council, especially Jennifer Casorso who recognized the significance of Public Produce and its place in enhancing food security and food sovereignty within the City of Kamloops. A City of Kamloops Social Planning Grant allowed the Food Policy Council to bring Darrin Nordahl to Kamloops. His inspiration and support have been invaluable.

To the Interior Health Authority, a huge thank you for the initial grant that allowed us to create our first Public Produce garden. Thank you to the Thompson Shuswap Master Gardeners who helped initiate the project and to Casey VanDongen, the president of Tri-City Contracting, who donated the use of the lot on Victoria Street. As volunteers, Master Gardeners also helped to create and maintain the garden and offered advice.

We are so appreciative of the generosity of the citizens of Kamloops. Without the donors and volunteers, this project could not have been realized. I've mentioned only few by name in the forward of this document, but there were many, many others.

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Some of the information within the Start-Up Guide was published originally in the Kamloops Food Policy Council's *Public Produce Strategic Plan, 2012*. The strategic plan was a compilation of writings by members of the Public Produce Advisory Committee, edited by Kendra Besanger. The section, *Philosophy and Goals of Public Produce* was adapted from a piece written by Dylan Houlihan of the consulting firm Urban Systems. Dylan sat on our first advisory committee where he quietly and efficiently assisted in bringing Nordahl's presentation to fruition. Kendra was our amazing first Public Produce Project coordinator. Without her unflagging energy and youthful go-to style, this project would not have been as successful as it was. Amanda Hunter and Erin Edwards, our subsequent volunteers, moved the concept of Public Produce forward within the city of Kamloops with cheerful generosity.

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FORWARD

Kamloops is a small city of approximately 85,000 residents in south central British Columbia. Hot and dry in the summer and with mild winters, Kamloops was once considered an “Agricultural Eden”. However, economic trends led to the decline in local agricultural production and diversity. The 2009 Kamloops Social Plan recognized the need to enhance urban agriculture and to encourage demonstration gardens in order to increase food production.



Above: The Kamloops Victoria Street Public Produce site February, 2011.

Bottom: Kamloops Public Produce Stakeholder workshop May, 2011. *Photographs by Kendra Besanger*

The seed for the Kamloops Public Produce Project germinated in 2011 when the Kamloops Food Policy Council (KFPC) brought Darrin Nordahl to Kamloops with the help of a City of Kamloops Social Planning Grant. Nordahl is an American landscape architect and urban designer who strongly believes in edible landscaping on public land. In May, a

stakeholder workshop, *Designing Healthy Cities*, with Nordahl as keynote speaker and sponsored by the City of Kamloops, the Interior Health Authority, and Urban Systems Ltd., explored the opportunities for public produce in Kamloops.

Serendipitously, a narrow 15 foot by 120 foot lot fronting the 100 block of Victoria Street became available through a temporary donation by Casey VanDongen, the president of Tri-City Contracting. A food security grant was accessed from the Interior Health Authority to develop the project.

Project coordinator, Kendra Besanger organized a dedicated group of volunteers who planned and drew the design, estimated plant quantities, soil volumes and required mulch. Volunteers started seeds under grow lights in their homes and built raised beds. The big plant-in took place at the beginning of June, 2011. The Kamloops Public Produce Project became a temporary urban edible demonstration garden and the site of ongoing free gardening advice by the Thompson Shuswap Master Gardeners. Individuals, young and old, business owners, employees, and family groups, were curious about the garden and asked for advice for their own home gardens, balconies or worksites.

A surprising element of the garden was the appearance of native bees foraging on the sweet alyssum, lacey phacelia, oregano, thyme and sunflower blossoms. Other visitors to the garden were butterflies drinking nutrients from the mud and little sparrows landing on the sunflowers anticipating future seeds.

But what was truly exciting about this project was how the public at large came together to lend its support. Community commitments ranged from the United Way Day of Caring by the Royal Bank employees to the installation of an irrigation system by Painless Underground Sprinklers. Open Door Group's Gardengate Training Centre donated starter plants from its greenhouse. Shelaigh Garson of Everyone's Eden Garden Design calculated material estimates. Help also came from such dissimilar institutions as the Kamloops Regional Correction Centre and the Stuart Wood Elementary School.

The garden was harvested daily by a diverse cross section of the community from people of low income to the volunteers who worked across the street at the Royal Inland Hospital Thrift Store, to people of different ethnicities, garden volunteers, chefs, and just passers by. At the end of the season a large volunteer work party cleaned up the garden.

The success of the Victoria Street Public Produce Garden perhaps led to the City of Kamloops creating a line item in its budget in the fall of 2011 for the creation of an edible demonstration garden. In 2012, the City of Kamloops horticultural staff planted a beautiful public edible garden at the front door to City Hall. The staff also developed a permanent edible demonstration garden



The Victoria Street Public Produce Garden, July, 2011.

designed by Shelaigh Garson as a Communities in Bloom initiative at McDonald Park on the north shore of Kamloops.

In 2012, the KFPC Public Produce Steering Committee decided to continue with the Victoria Street site regardless of the development of the neighbouring lot. Would there be enough sun? What about safety issues? The public continued to use the Victoria Street garden as a place for harvesting as well as contemplation, despite the discomfort of noise and dust from large machinery in the neighbouring lot.

Workshops organized by Amanda Hunter, the 2012 Public Produce Coordinator, were split between the two sites, McDonald Park and Victoria Street. Topics included 'planting a vegetable garden', 'vermicomposting', 'gourmet from the garden', 'seed saving', and 'garden soils'. Near the end of the season, Amanda organized a Family Day at the McDonald Park Public Produce Garden that included activities for children (face painting, build-your-own-sprouter, colouring, plant-a-seed, and more) as well as snacks donated by organic farmers and tours of the garden.

To wrap up the summer and garden at the Victoria Street site a 'local food challenge' potluck was organized. Friends involved in the project came together for a last community meal that showcased the variety of dishes that can be created from local ingredients.

By the spring of 2013, undercutting of the raised beds at the Victoria Street Public Produce Garden made it unsafe for further use. The steering committee decided to decommission the site. ASK Wellness and friends moved the boxes and soil under the leadership of Erin Edwards, the 2013 Public Produce volunteer coordinator, to a site on the north shore donated by Missagh Manshadi.

Safety became an issue at the Victoria Street garden in 2013.





Decommissioning the Victoria Street Public Produce Garden.

Focus by the Kamloops Food Policy Council was now at the edible demonstration garden at McDonald Park. Planted in curved beds, the tree and berry orchard, shrubs, edible perennials, herbs and forage for pollinators and beneficial insects created a garden that was a welcoming gathering place for the public.

Interior Community Services, a not-for-profit organization that provides services to families, also organizes and manages community gardens in Kamloops. ICS gave permission for KFPC to use a plot in the adjoining community gardens for a demonstration planting of a vegetable garden. Other plots were used by Master Gardeners to demonstrate seed saving.

In 2013, the City of Kamloops planted a public orchard in Riverside Park, one of the most popular parks in the city. Incorporated in the design was a harvest table and a community bench to encourage interaction between visitors. Interpretive signage was also developed, indicating the types of fruits and nuts the trees would bear.

Together these gardens demonstrate best practices for sustainable agriculture within the City of Kamloops. They are a model for social change that can occur through education, community engagement and partnerships.

It is time now to consider the next goal of integrating edible trees, shrubs and herbaceous perennials into the landscape design of housing projects, through changes in city policies.

McDonald Park Public Produce Garden - an edible demonstration garden developed on the North Shore by the City of Kamloops.





Elm Street Public Produce at Tranquille and Elm Street , Kamloops - another public produce site on private land.

WHAT IS PUBLIC PRODUCE?

The term “Public Produce” refers to edible plants such as fruit and nut bearing trees and shrubs as well as vegetables and herbs that are grown in a public space and are freely accessible to the public, according to Wikipedia. Public Produce is different from traditional community gardens. Vegetables and fruit grown in community gardens are generally for those who tend the garden and not for public consumption. On the other hand, Public Produce is usually grown in true public space such as in parks, town squares, along the street, or on the grounds of public institutions such as city halls, courthouses, libraries, churches, schools and universities. Urban forests could easily be transformed into permanent edible public produce sites by replacing ornamentals with fruit and nut bearing trees and shrubs. Public Produce sites that utilize such permanent edible trees and shrubs are particularly suited to new urban developments.



Public produce sites that utilize permanent edible trees and shrubs are particularly suited to new urban developments.

Public produce at the front entrance of the City of Kamloops City Hall.

PHILOSOPHY AND GOALS OF PUBLIC PRODUCE

PUBLIC PRODUCE PROJECTS IMPROVE FOOD SECURITY & SOCIAL EQUITY

While Public Produce cannot and should not replace other food security initiatives within cities, it can support the evolution of food security within a community. Public Produce diversifies urban food supply sources and is critical to building resilience to ‘food shocks’ that occur in times of crisis such as earthquakes or road closures. Public Produce can also buffer Food Bank donation shortages during economic downturns.

PUBLIC PRODUCE PROMOTES SOCIAL CAPITAL

Public Produce is sustained by a broad partnership base consisting of volunteers, sponsors, and the public and private sectors. Through a cooperative process, community engagement and reciprocity, organizations and individuals learn to trust and learn from one another.

PUBLIC PRODUCE PROJECTS PROMOTE PUBLIC EDUCATION

Education about food systems and agriculture is a key component of Public Produce. Not only do children and adults learn how food is grown, they are also educated about the benefits of fruits and vegetables as part of a healthy diet along with the advantage of eating organic food. On site workshops bring people into the garden to share their knowledge. Garden associations such as Master Gardeners, Master Composters, Community Garden and Community Kitchen coordinators, artists and chefs are valuable advisors and sources for education.

PUBLIC PRODUCE PROJECTS IMPROVE ECOLOGICAL CAPITAL

Public Produce projects are organic, promoting a healthy environment with a diverse community of microscopic life, worms, insects, amphibians, snakes, birds and other wildlife. Planted with permanent trees and shrubs, these projects provide food and shelter for the garden community. Habitat for pollinators and other beneficial predator insects is enhanced through the planting of pollen and nectar rich edible and ornamental flowers. Organic gardens rotate annual crops and avoid monocultures.

PUBLIC PRODUCE PROJECTS CONTRIBUTE TO ECONOMIC CAPITAL

Locally grown food has tremendous value. Tourism, branding, and the sale of products such as honey produced by beehives on the City Hall green roof of the City of Chicago; olive oil by the University of California, Davis; garlic grown in Saskatoon, SK; or the University of British Columbia & Vancouver School Board Partnership “Think & Eat Green Project” in Vancouver schools.... these all provide a surprising source of funds for organizations, institutions and municipalities. In fact, research conducted in 2005 by UBC’s Design Centre for Sustainability, found that food is one the fastest growing resource based sectors in BC, employing more people than logging and more than mining and fishing combined, even when labour shortages are the biggest impediment to growth.

The City of Saskatoon’s goal is to become garlic self sufficient.
Photo by Trent Watts.





Organic practices nurture beneficial insects such as these lady beetles whose larvae forage on aphids.

ORGANIC GARDENING AND PUBLIC PRODUCE

Organic gardening does not use synthetic fertilizers, herbicides, fertilizers or GEO's (Genetically Engineered Organisms).

Because Public Produce is grown in true public space, where people are allowed to freely enter the space and consume the fruit and vegetables, it is imperative that organic gardening principles be followed. Risks of harmful effects from chemical pesticide and herbicide residues are greatly increased when the public congregates in spaces where these are used. This is especially true of the elderly, children, and those suffering from health ailments such as asthma or skin allergies. A growing body of evidence in published studies from the World Health Organization and US Environmental Protection Agency on the carcinogenicity of pesticides points to an increased risk of cancer to both adults and children such as leukemia, non-Hodgkin lymphoma, prostate, brain, and lung cancers.

As well as offering a healthy environment, organic gardening promotes an ecological management system that enhances biodiversity and biological cycles. An organic garden is viewed as part of a larger balanced ecosystem. Organic gardening relies on healthy soil, biodiversity and effective cultural practices to combat pest and disease problems. Organic gardening practices protect water resources and include responsible water use. Cultural practices include growing a diversity of plants that are right for a particular garden, avoiding excess fertilizer, using effective watering techniques, avoiding pesticides and attracting beneficial insects through habitat enhancement.

An ecosystem is defined as an interacting system of living organisms and their environment such as mammals, birds, insects, earthworms, microorganisms, fungi, and bacteria.

A. GETTING STARTED

1. IDENTIFY THE PROJECT

- Find others who share your aims and form a working group. Approach community groups, neighbourhood associations, schools and not-for-profit organizations located within close proximity to the location. Student, youth and family involvement encourages ownership and advocates for the garden. Food Banks and Food Policy Councils are particularly good fits.
- Link in with other issues such as healthy eating, exercise and education.
- Identify and connect with volunteers – a Public Produce project requires a significant amount of human labour to be successful. A mix of volunteer skilled and unskilled labour is necessary to implement and maintain the project.
- Establish organic, pesticide free guiding principles and philosophy.
- Establish guidelines for accepting grants and corporate sponsorships. For example, with organic guiding principles in place, would members have ethical qualms about accepting a grant from a company that markets pesticides?
- Identify potential Public Produce projects and decide on the scope and scale of the project.

Establish organic, pesticide free guiding principles and philosophy.



Interior Health Authority, Kamloops, BC promotes a healthy Public Produce garden at its site. Photograph courtesy of Rose Sonoff, Interior Health Authority.



- Consider initiating a small, simple pilot project using annual edibles that will create awareness and public understanding. Work on establishing precedents. A long-term project would include permanent edible plants such as fruit and nut trees, shrubs and perennials.
- Consider different models. The model described here is one that was successful in Kamloops, BC. At the end of this document other models are introduced.
- Identify possible locations: school grounds, park land, a seniors' complex, apartment or condominium landscaping, social housing, street-scaping, public building landscaping, or a private development.
- Set up a system of communication. Print, email, media releases, posters, twitter, facebook or blogs could all be part of a communication plan. Create a logo. Do this early, so as to communicate professionally and consistently with businesses and community groups.
- Encourage businesses within close proximity to the location to be involved.
- Establish a regular meeting schedule. Have fun at the meetings. Bring healthy food.
- Document the project.

A surprise Public Produce planting on Tranquille Road, Kamloops, BC.

2. MAKING PLANS AND ASSESSING RESOURCES

a. Establish a planning/working committee that will initiate and move the project forward - The working committee could include a mix of key stakeholders such as municipal staff, health professionals, gardening experts, not-for-profit organizations and technical experts on fundraising and public relations and finance. The committee will:

- Manage the project from start to finish.
- Establish a wish list for the project.
- Open a bank account with two co-signers.
- Secure a seed grant to kick-start the project.
- Plan for stewardship and maintenance.

b. Develop a comprehensive communication and marketing plan - a comprehensive communication plan will create awareness about public produce and the benefits it holds for the community. A strong communication plan will ensure that partnerships are created, volunteers are included, and the public is aware of the initiatives underway. See appendix for detailed communication strategies.

c. Establish community support - the working committee will establish broad-based community support from a variety of organizations and sectors including:

- **Community and neighbourhood associations** - it is important to connect with local community associations from the very beginning. Their support is crucial for success. Neighbourhood children will become your best guardians. Make friends with neighbours whose windows overlook the garden - they are the eyes on the garden. Convince the community to become stewards of the garden.
- **Non-government organizations** - engage with not-for-profit groups such as service organizations (e.g Rotary), social service agencies, churches, community interest groups such as gardening associations, and other organizations that can support the implementation of Public Produce projects.
- **Government** - the working committee will continually connect with various levels of government and associated agencies in the area including municipal government staff and Councillors, First Nations, School Districts, Health Authorities and Regional Districts. Resources from government agencies and involvement from city/town councils/ regional districts will be critical for the success of public produce projects. It is imperative to gain the support of municipal officials. They may be the most important allies to make and perhaps the most challenging. Find a champion

Connect with local community associations from the very beginning. Their support is crucial for success.



Interior Community Services Community Kitchens Coordinator demonstrates a healthy salad from greens harvested at the Victoria Street Public Produce Garden, Kamloops, BC.

within municipal government who can provide resources and act as an advocate.

- **Business Sector** - communicating the benefits of participation to the business sector is essential. A healthy urban landscape is beneficial to all businesses, particularly in the downtown core. Businesses that participate and support community-based initiatives extend their own social capacity and can potentially benefit widely from such support. Public Produce projects can transform derelict lots into functional spaces that add value to the neighbourhood.

d. Establish key partnerships - it is important to attract key stakeholders who will contribute to the success of Public Produce. Such undertakings should start with “easy wins” that create awareness and promote public participation. Community and neighbourhood associations, landowners, business owners, community and church groups, neighbourhood child care centres, preschools, senior centres or local schools are key to the success of these kinds of small projects. Having a not-for-profit organization such as a Food Policy Council, social service agency or charitable society as a lead or partner in the project is well advised – this gives better access to grants and credibility with other partners and the media.

Attract key stakeholders who will contribute to the success of Public Produce.

e. Secure stable funding – it will be critical to establish stable sources of funding and other resources for the maintenance and sustainability of Public Produce projects. Identify donors and sponsorships – while the need for materials will generally decrease as projects get implemented, it is still critical to have sponsorships to ensure the continued success of Public Produce. Sponsorships that might work are: landscape designers and maintenance companies, construction and contracting firms, irrigation companies, rental services, hardware and building suppliers and nurseries.

3. HUMAN RESOURCES

a. Project Adviser A landscape architect and/or designer, gardening or environmental expert who is knowledgeable with organic growing practices. This person will:

- Advise on design and prepares instructions for installation and care of the project.
- Advise on choice of plants and cultivars.
- Estimate costs.

b. Project Coordinator An excellent organizer who will assist volunteers and participants in planning, building, planting, and maintaining garden. This person will:

- Encourage people to join by providing information about the project.
- Liaise between the sponsors (e.g. those who provide soil, plants, tools, etc.), members of the steering committee and volunteers.
- Organize the creation of the public garden using volunteer labour.
- Maintain records for the public gardens such as costs, subsidies, and volunteer hours.
- Evaluate if the project is meeting the public's needs.
- Meet with and provide regular feedback to the planning committee.
- Communicate with the media.

The co-ordinator's position might be an internship for a university student – a way for a student to acquire unpaid work experience. However, a paid long-term coordinator or caretaker position should be your ultimate goal.



Victoria Street Public Produce Project
Coordinator Kendra Besanger.



Volunteers building the planting boxes at the Victoria Street Public Produce Garden.

c. Volunteers/donations of labour

- Requests for volunteers should be for specific actions and be time defined.
- Donations of expertise may include: local horticultural societies, garden clubs, Master Gardeners, environmental groups, city employees, landscape designers and installers. Other important talents are web development, design, photography and writing skills.
- Donations of labour may include: church groups, social service agencies, not-for-profit organizations, local service groups, university students, regional corrections, seniors, college and elementary to high school students, city employees, landscape designers and installers and the general public.

d. Installation and maintenance crews

- Prepare beds, build raised beds, plant beds and construct walkways.
- Installation crew may include a landscape contractor for work requiring heavy machinery or may include city staff.
- Install irrigation (may be a paid contract or a donation).
- Water and care for plants.

e. Donors - individuals, organizations and businesses who contribute money, materials or expertise to the project

- Keep your search local - there is a better chance of obtaining donations.
- Have your project plans finalized and be specific with your requests.
- If seeking material goods, draw up a wish list which might include a tree, a shrub, lumber, composted manure, the use of heavy machinery etc.
- Contributors like to associate something tangible with their donation such as a bench or tree or plaque.
- Try to have a few major fundraising events rather than many small ones.

4. SELECTING THE SITE

a. Guiding Principles for Site Selection

A guiding principle for site selection should be accessibility and visibility to the public. The site should be patronized by a diverse group of users, day and evening, weekday and weekend.

- Site is easily accessible, highly visible to the public and patronized by a diverse group of users: day and evening, weekday and weekend.
- The site receives at least 6 hours sunlight per day.
- The site should have healthy soil, which is the foundation for healthy plants that have resilience against pests and diseases. Healthy soil contains balanced minerals and organic matter that encourage the growth of beneficial soil organisms. If the soil is inadequate, it can be purchased or amended.
- Water is accessible. Irrigation is essential.
- Use principles of organic gardening.

b. Take an inventory of the site taking note of influencing factors

- Identify the owner of the land. Will a lease agreement or permit be required?
- Consider zoning and bylaws as well as use of utilities and services.
- Will you need liability insurance?
- What will be the cost to prepare the site?
- Are there underground utilities or overhead wires?
- What is neighbouring land use?
- Is there a source of water nearby? What will it cost to connect? Who will pay for water usage?
- Pests, diseases and wildlife should be manageable.
- Will you have to create a barrier or buffer zone to protect the organic garden from contamination as a result of neighbouring non-organic practices?

Choosing a site that is well used and accessible increases the success of Public Produce. The community gardeners at McDonald Park also have eyes on the adjacent public produce garden.





c. Specific factors:

Victoria Street Public Produce Garden
2012.

- What is the temperature range and plant hardiness zone?
- What are the moisture characteristics of the soil? Is the ground low and wet or sloped and dry? Sunny or shady?
- What is the texture of the soil like? Is it sandy, clay, silt?
- What is the drainage like? Do low areas hold water?
- What is the relationship of the site to its environment? Is there existing vegetation and wildlife?
- Have a soil test done for mineral nutrients and pH level (whether the soil is acidic or alkaline). Soil should be taken from a depth of 15 cm (6 inches). See appendices for nutrient testing labs in BC.
- Has the soil been tested for heavy metals? If there is contamination, consider the option of raised beds with soil from elsewhere.
- Are you using soil amendments such as rotted manure or compost? Manure should be tested for Aminopyralids (herbicide residues which do not break down easily). An easy test is to plant legumes such as peas or beans in test pots. If leaves are distorted, there is a possibility that a herbicide is present. Don't use!

5. PREPARING THE PLAN

The plan directs the intended project and may be prepared by a professional landscape designer, or a by a team of knowledgeable persons and interested volunteers. On a regular basis, seek feedback from the planning committee. Consideration for maintenance, aesthetics and food value should be priorities.

A site map should be part of the plan.

Include a detailed site map of the planting area drawn to a common working scale that might include planting beds, pathways, benches, tool shed, signage, lighting, a gathering area, food preparation, eating area and shelter from the elements. Things to consider:

- Pathways should be wheelchair accessible.
- Pathways should be made from permeable material such as screened crush.
- Plan for an irrigation system.
- Plan for an accessible storage area of woody pruning material so that it can be easily hauled away.
- Plan for a composting system that manages the decay process and takes into consideration bears and other vertebrates.
- Note the location of any existing features to be retained or removed.
- Plan for comfort and community interaction: provide for shade and inclement weather and comfortable seating. Consider places to cook such as a pizza oven.
- Determine a water source that can be used during planting and subsequent maintenance. Provide adequate hose bibbs, outdoor faucets and a hose pistol because access to these are important elements for pesticide free Integrated Pest Management.
- If lighting is an option, then locate the source of electricity.
- Plan for storage and maintenance facilities.
- Plan for space definition – create clear boundaries around the project with low fences without gates or with shrubs and raised beds.
- Plan for areas for pollinators and beneficial insects to overwinter. Because these areas might look somewhat untidy, they should be well signed for educational purposes. These areas could include piles of logs or a wildlife stack created from wood pallets, logs drilled with holes, bricks, hollow bamboo canes or straw. (Search the internet using the words “bug hotel” or “wildlife stack” for ideas.)
- Plan for spacing between plants and good air circulation.



Bumblebee collecting nectar.

6. PLANT SELECTION

Guiding Principles for Plant Choice

- Choose the right plant for the right place. Choose plants that are suitable to the site whether sun or shade, appropriate hardiness zone, drainage (some plants are more suited to wet sites), soil structure and pH.
- Choose trouble free, healthy cultivars that are tolerant and resistant to diseases.
- If aesthetics are a concern, choose edible plants with high ornamental value as well as food value. Place soft, squishy foods next to turf or groundcover areas, to avoid a mess when they fall.
- Choose easily grown cultivars that provide caloric value greater than the input needed to grow them. For example, plants that are grown outside their hardiness zone would most likely need winter protection, thus requiring high maintenance. Shrubs such as blueberries which prefer acidic soil will not do well on alkaline soil. The soil will need to be continuously amended to lower the pH.
- Choose compact or dwarf cultivars that are easily maintained and easily accessible for harvesting.
- Choose a diversity of plants, avoiding a monoculture that increases the likelihood of pest outbreaks.
- Overall, choose berries, fruit and vegetables that can be eaten without processing.
- Choose non-toxic plants. Parts of some plants, both native and non-native, can be harmful if touched or ingested. Some berries are toxic if they are not cooked first.
- For permanent sites choose shrubs, small trees and perennials that provide structure and interest year round.
- Plant ornamental and edible cultivars that provide forage for pollinators and will attract beneficial predator insects (ladybugs, syrphid flies and parasitoid wasps). A diversity of flowers with different shapes and colour that bloom from spring to fall is essential for the survival of pollinators. Lobularia, (sweet alyssum, a non-edible

There is no quick cure for plant health problems caused by poor soil health and inappropriate plant selection and management.

Flower pollen and nectar provide important forage for pollinators and adult beneficial insects whose larvae predate on harmful insects.





A simple laminated sign describing how to harvest the produce.

Plan for all kinds of signage – acknowledgment signage, communication boards, interpretive signs and plant labelling. The most important signs are the ones that identify each produce item, with lots of helpful tips. Add signs encouraging the public to harvest the food: “Please Pick Me!”

annual) is an excellent, easy choice. Flowering edible herbs such as dill, cilantro, mint, oregano, calendula, violas, borage and thyme also provide excellent forage. Nasturtiums (flowers and leaves are edible) could be used as trap plant, attracting aphids and other sucking insects.

7. SIGNAGE

- Acknowledge all volunteers and donors.
- Signage would include a map of the garden and the names of the plants and could be in the form of a pamphlet.
- Educational signs will explain the use of flowers to attract beneficial insects to the garden.
- Label cultivars with Latin and common names and with explanations of use and harvesting.
- For quick messaging – a blackboard might be useful.
- Create easy, inexpensive laminated signs that give tips on how to harvest.

8. ESTIMATING EXPENSES

- Determine the amount and cost for screened crush for pathways, soil and mulch for the garden, and cost of lumber or blocks for raised beds. Pathways should be at least 10 cm. (4 in.) in depth. See appendix for calculators.
- Some plants and seeds may be donated, however a certain amount

will need to be purchased.

- Budget for use of heavy equipment and other services, although this may also be donated.
- Does asphalt need to be removed? Will waterlines need to be installed? Will tools need to be purchased?

9. INSTALLING THE PROJECT

Careful planning is the secret for a successful ground breaking event.

Depending on the complexity of the garden, installation may take place all at once or over several stages. If the project is complex, divide the project up into manageable phases. This approach allows a schedule that allots adequate time for each phase and enables the project to run smoothly. Be mindful of tools that are required: shovels, wheelbarrows and powertools.

Phases might include:

- Site preparation: measure and mark out the site; heavy equipment might be needed for grading.
- Irrigation installation.
- Installation of planting areas and building of raised beds.
- Acquisition of soil, filling beds or adding amendments to existing soil.
- Acquisition of plants and seeds – make sure that all transplants are healthy, free of pests and wounds and are well rooted, not potbound nor have girdled roots.
- Planting seeds, annuals, perennials, shrubs and trees. This task might also be done in stages.
- Applying mulch. Use rough compost on a site using annual plants and use arborist wood chips on an area planted with permanent trees, shrubs and perennials. Mulch should be at least 10 cm. (4 in.) in depth.

Make sure that all transplants are healthy, free of pests and wounds. Plants should be well rooted but not potbound.



The roots on this potted root bound tree will have to be trimmed off and teased free. Otherwise, they will continue to grow in a circular manner, strangling the tree. Photograph by Greg Houghton, Arborist, City of Kamloops

The project coordinator or someone who understands the complexities of the project should oversee the installation. The coordinator will:

- Delegate! Recruit skilled community members to manage certain tasks within the various phases.
- Create a timetable for organizing volunteers in order to cover all tasks.
- Organize installation crews with specific jobs, ensuring that there are enough volunteers for each task.
- Organize tools and equipment, building materials, fasteners, piping, etc.
- Organize knowledgeable volunteers to demonstrate planting techniques. Many plants won't survive if improperly planted.
- Organize regular watering to thoroughly soak the root area of perennials, shrubs and trees.
- Keep track of and recognize all contributors: donators of time, money, materials and advice.
- Arrange for a visual document of the project.
- Keep detailed notes and receipts of expenditures.
- Arrange lots of press coverage.

10. PROMOTE

Try to excite more community members. Consider social media, like Twitter and Facebook to reach new citizens. Promote and explain the project with a website or blog. Encourage the public to learn about updates by subscribing to RSS feeds. If the site is managed by the municipality, consider promotional videos to be aired on the local government access

11. CELEBRATE!

Celebrate successes. At the end of the season have a potluck. Make it a neighbourhood party and invite children. Play games.

A community potluck is a great way to celebrate your success.



B. CARING FOR AND MAINTAINING THE GARDEN

1. HARVEST ON A REGULAR BASIS

- Promote the harvest of all ripe fruit and vegetables on a daily basis. Fallen produce can invite four legged pests such as bears as well as contribute to fungal and bacterial plant disease and insect infestations. At the end of the season, clean up and discard any diseased plants.
- Coordinator should schedule workdays that would include volunteers, partners and the neighbourhood. It's important to keep volunteers engaged. Work parties bring people together for a common purpose.
- Keep a list of major improvements that larger work groups could take on.

Promote the harvest of all ripe fruit and vegetables on a daily basis. Fallen produce can invite four legged pests such as bears as well as contribute to fungal and bacterial plant disease and insect infestations.

2. SET UP A REGULAR MAINTENANCE SCHEDULE

- Constant and regular monitoring of the garden is crucial to a healthy Public Produce site.
- Set up a small maintenance committee whose members are knowledgeable of natural insect, weed and disease control within an Integrated Pest Management plan.
- If practical and you are using municipal or school property, include one of their horticultural staff persons.



People passing by feel comfortable picking the produce.



Choosing disease resistant plants will reduce the likelihood of such problems as powdery mildew.

3. PRACTICE INTEGRATED PEST MANAGEMENT

Integrated Pest Management (IPM) is a broad based approach that integrates a range of practices for control of pests and diseases.

Organic IPM includes preventative cultural controls, physical and mechanical actions, biological controls and, as a last resort, least toxic pesticides.

Keep in mind that even organic pesticides can kill beneficial insects.

Integrated Pest Management includes the following aspects:

a. *Monitoring the garden on a regular basis*

- Identify correctly any problems that might occur.
- Learn all you can about the problem. Learn the lifecycle of the pest or disease. Observe patterns.
- Pest habitat determines where samples will be collected. For example aphids will feed on tips of succulent growth.
- Consider the time of day for collecting pests. For example earwigs feed in the morning, black vine weevils feed at night.
- Take notice of the effects of weather and environmental conditions. For example, powdery mildew develops rapidly in late summer and early fall when cool temperatures and overnight dew raise humidity.
- Set a threshold for tolerance. A single sighting of a pest does not necessarily mean there is a problem. In fact, a certain level of pests is needed as forage for beneficial predators.
- Take meticulous notes, recording date and damage. These notes will help the monitoring process in subsequent years.

b. Preventative cultural actions incorporate anything that promotes healthy plants. These techniques include:

- Using clean tools.
- Choosing disease resistant/ tolerant plant varieties.
- Planting the right plant in the right place. (eg Blueberries require acidic soil with a low pH of 4.5 – 5 and will struggle in alkaline soil with a high pH.)
- Starting with healthy transplants.
- Timing of planting which can be helpful in controlling certain pests. For example, planting potatoes later in the season will avoid the early lifecycle of the Colorado potato beetle.
- Planting trap plants such as nasturtiums and discarding the aphid covered leaves.
- Fertilizing less. Over fertilization, including over-use of compost, encourages succulent growth, attractive to chewing and sucking pests such as aphids.
- Incorporating organic amendments (OM) such as compost in annual gardens but adding only what is necessary to correct deficiencies and maintain OM at ideal levels, which are 5% by weight or 10% by volume.
- Top-dressing permanent installations with organic mulch such as wood chips. Mulch combats the spread of diseases. Do not incorporate organic amendments into landscapes that are planted with shrubs & trees.
- Allowing good air circulation by pruning judiciously.
- Rotating annual plants – when the same plants are grown in the same area year after year, insect and disease populations build up.
- Providing the appropriate quantity of water to maintain a healthy landscape.
- Watering in the morning which gives plants time to dry during the day. Excess water or moisture on plant foliage can increase the spread of disease. Don't work around plants when they're wet because this transfers disease.



Wood chip mulch helps prevent the spread of disease.

c. Physical and Mechanical actions might include:

- Hand- picking insects and larvae, crushing them or placing them in a jar of soapy water; shaking insects onto a sheet & destroying them.
- Hosing off insects with a strong stream of water (particularly effective for aphids)
- Pulling & destroying plants that have disease.
- Pruning to remove dead, diseased and damaged tree and shrub limbs.
- Identifying and scraping off egg masses of insect pests.
- Hanging sticky traps.
- Using barriers such as spun floating row covers. This is especially useful for prevention of carrot rust fly and their white maggot larvae in the carrot root or covering cabbages to inhibit cabbage loopers. Trapping for codling moths using a band of corrugated cardboard around the tree trunk.
- Mulching with a composted mulch suppresses soilborne disease organisms. Be certain that the compost is herbicide & pesticide free.
- Using arborist wood chips as mulch in the perennial area of the garden acts as a slow release fertilizer and helps to suppress germination of weed seeds.
- Using sticky barriers to catch climbing insects such as root weevils. Tie “footies/sockies” (those light socks that we are made to wear at the shoe store) over developing apples to limit accessibility to the codling moth. White paper bags work even better.



“Footies/sockies” act as barriers to codling moths and a new pest, the apple maggot , now found within BC on the lower mainland, the Islands and Prince George.



A habitat that attracts predator insects is crucial for IPM success.

d. Biological Controls might include:

- Creating habitats and enticing predator insects (hover flies, lady beetles and lacewings) and parasitoid insects (Tachinid fly, wasps) by planting highly attractive garden flowers. Umbels such as flowering coriander, dill and lovage are highly attractive. Small, flat flowers such as sweet alyssum, goldenrod, mustards and single daisies are also excellent insectary plants.
- Using microorganisms such as *Bacillus thuringiensis* (B.t.) for cabbage loopers.
- Using parasitic nematodes against root weevil larvae.
- Enticing beneficial animals (toads, frogs, snakes) to the garden by meeting their habitat needs.

e. Chemical methods for pest control raise concerns for the environment, human safety and toxicity to non-target organisms, especially pollinators and other beneficial insects. Organic gardens do not use synthetic pesticides. If you must use a pesticide, choose a non-synthetic pesticide that meets the following criteria:

- Least harmful to the environment
- Least toxic to the applicator
- Most specific to the pest
- Least harmful to beneficial organisms. Even “organic” pesticides can kill bees and beneficial insects.
- Meets City by-laws

See appendix for a list of the Least –Toxic Pesticides as recommended by Dr. Linda Gilkeson.

Chemical methods for pest control raise concerns for the environment, human safety and toxicity to non-target organisms especially pollinators and other beneficial insects. Organic gardens do not use synthetic pesticides.

C. SUSTAINING AND CULTIVATING PUBLIC PRODUCE PROJECTS

1. FUNDING THE PROJECT

a. Budgeting

- Maintain good records
- Create a yearly budget from the notes and receipts of expenditures. The budget might include replacement costs for trees or shrubs that might not survive.
- Budget mulch replacement on a regular basis, perhaps yearly in areas planted with annuals and every 4-5 years with arborist chips in permanent areas. Chips and mulch might be donated, but should be planned for.
- Budget for infrastructure improvements such as replacement of tools, hoses, trellises.
- Budget for signage. Signage and educational pamphlets need constant updating and renewal.

b. Fundraising/Grant Writing/Sponsorships

- A fundraising committee should be in place. Head of the committee should be a member of the steering committee.
- Clarify guidelines for accepting grants and corporate sponsorships.
- Develop a plan and then look for grants that meet your goals.
- Think long term and sustainability.
- Think locally first.
- Look out for many small grants rather than pinning your hopes on one large grant.
- Applications for project costs should include costs for research, writing, printing, distribution and advertising.

See appendix for specific ideas for grant writing.

2. MAINTAINING A STEERING COMMITTEE

- Does committee membership need to be rejuvenated? Do you have a regular meeting schedule? (Recommended minimum, twice a year).
- Have you got a balanced mix of stakeholders on the committee? Do you have a few business people on the committee?
- Do you have a fundraising committee in place? Is the head of fundraising committee a member of the stakeholders' committee?
- Re-evaluate common goals; renew your mission statement.
- Think about expanding Public Produce.
- Consider focussing on changing public policy. For example, encourage municipal governments to enact bylaws requiring developers to include edible plants within their landscapes.
- Direct your attention to municipal landscaping practices concerning pollinators and beneficial insects. Suggestions include planting of edible hedgerows and addressing city-wide use of pesticides)
- Examine the policy of land densification. Will landowners have enough garden area for productive food growing? Paving over front yards affects rainwater run-off that flows into street drains and then into creeks and rivers. The removal of vegetation creates a “heat island” affect. Fewer contiguous gardens affect pollinator forage and habitat.
- Consider developing Public Produce gardens on school grounds. What an amazing learning experience for children in our hard wired world.



Expand public produce to sites that are highly visible to the public and are used by a diverse group of people day and night. *Photo by Maren Luciani, City of Kamloops Public Orchard at Riverside Park.*

3. CONSIDER DIFFERENT PUBLIC PRODUCE MODELS

<http://www.calgary.ca/CSPS/Parks/Pages/Programs/Community-orchards-FAQ.aspx>

Establish public orchards in association with community gardens as Calgary has done. Volunteers from the community gardens act as stewards. Harvests are self-organized.

<http://communityorchard.ca/orchards-101-2/>

Community Orchards have been a part of the Toronto, Ontario scene for a number of years. This website provides a guide as to how they are managed there.

<http://www.ediblegardenproject.com>

Start up with a coalition of community and government organizations such as the Edible Garden Project in North Vancouver. Like Kamloops, they started small with planting of a city boulevard (2006) and now have a demonstration garden offering workshops as well as a community orchard and an urban farm.

<http://www.incredible-edible-todmorden.co.uk>

Organize a whole city! Todmorden, a small town in England did exactly this.

<http://urbanfoodforestry.org>

An excellent resource developed by Kyle Clark that includes his masters thesis on urban food forest gardens, a plant matrix and rationale behind the choice of trees and shrubs and urban food forest plans from around the world.

D. CONCLUSION

Instead of merely planting ornamentals within a public landscape, contemplate instead the idea of a Public Produce garden. A design consisting of layers of edible trees, shrubs and perennials is no more difficult to care for than an ordinary one of simply ornamental plants. A garden such as this does “double duty”. It is not only beautiful but also provides us with edible berries, nuts, flowers and leaves. A garden such as this acts as a place for learning. It introduces us to different foods and to unfamiliar cultures. It helps us to re-engage with a past gardening knowledge and to reconnect with the land. A garden such as this is ecologically more diverse and provides forage for pollinators and other beneficial insects. It also enhances our own health as we physically dig in the dirt and eat nutritious food that has no chemical residues.

Public Produce as a component of an urban agriculture plan, enhances food security and contributes to the sustainability of our city. For Public Produce to be effective and successful, it should be developed in partnership and with support from the community and local neighbourhoods as well as non-government organizations and government agencies. In Kamloops, there has been an incredible synergy between city staff, urban planners and the community at large. The result has been a steady progression of a variety of public produce models within Kamloops. We hope that this guide will provide readers with ideas to plant the seed for public produce within their own community. The simple act of planting a garden is a powerful way to engage people, connecting them to our larger ecosystem.

Clean up crew at the Victoria Street Public Produce Garden, fall 2011.





Vegetables planted in the front beds at the Kamloops Art Gallery and Library.

APPENDIX

RESOURCES

WEB SOURCES FOR SOIL TESTING AND AMENDMENTS

<http://www.certifiedorganic.bc.ca/rcbtoa/services/soil-testing-services.html>

Soil testing services available for organic growers.

http://www.agf.gov.bc.ca/resgmt/publist/600Series/631500-8_Nutrient_Testing_Labs.pdf

A list of laboratories that provide soil testing services for nutrient management in BC.

<http://ir.library.oregonstate.edu/xmlui/bitstream/handle/1957/22023/ec1478.pdf>

An excellent guide for interpreting soil analysis produced by the Oregon State University Extension department.

<https://attra.ncat.org/attra-pub/summaries/summary.php?pub=284>

A publication by the National Sustainable Agriculture Information Service that assesses soil amendments that are not standard agricultural fertilizers. You will have to pay \$0.99 for the pdf download.

<http://cmg.colostate.edu/gardennotes/234.pdf>

A Colorado State Master Gardener publication that assesses organic soil amendments.

WEB SOURCE FOR INTEGRATED PEST MANAGEMENT

<http://www.city.kamloops.bc.ca/ipm/pdfs/Chart-TreesPlantsGarden.pdf>

An excellent, concise one page IPM reference produced by the City of Kamloops.

<http://puyallup.wsu.edu/~linda%20chalker-scott/>

Horticultural myths and misconceptions that can lead to unsustainable gardening practices.

WEB SOURCE FOR COMMUNITY GARDENS

<http://kamloopsfoodpolicycouncil.com/wp-content/uploads/2013/07/Cultivating-Community.pdf>

Written by Shelaigh Garson for Interior Community Services, this informative document provides all the basic information needed to start a community garden. Excellent resource to use as a complement to the Public Produce Start Up Guide.

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<http://www.toronto.ca/health/tfpc/>

Toronto Food Policy Council

<http://kamloopsfoodpolicycouncil.com>

The Kamloops Food Policy Council acts as an umbrella for 20-30 food related associations in the Kamloops area. It emphasizes public education on food security issues as well as supports concrete food system projects.

<http://www.bcfoodsecuritygateway.ca/>

BC Food Security Gateway

A 'one stop' web source for food security practitioners and those who want to build food-secure communities.

<http://citystudiovancouver.com/wp-content/uploads/2013/01/UrbanOrchardFinalReport.pdf>

A must read report on Vancouver's first urban boulevard orchard pilot project, proposed by CityStudio students from Emily Carr University and University of BC. The report emphasizes the need for community support and the difficulties that can occur when community input has been overlooked.

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<http://www.ftpf.org/index.php>

Fruit Tree Planting Foundation - award-winning international nonprofit charity dedicated to planting fruitful trees and plants to alleviate world hunger, combat global warming, strengthen communities, and improve the surrounding air, soil, and water. Resources link - videos on pruning and planting.

<http://www.phillyorchards.org/orchards/permaculture>

Philadelphia Orchards Project with lots of “how-to” information.

www.usefulplants.org

Useful videos on how to plant.

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WEB RESOURCES: SCHOOL YARDS

The Schoolyard Habitat Movement - National Wildlife Federation

<http://www.nwf.org/Get-Outside/Outdoor-Activities/Garden-for-Wildlife/Schoolyard-Habitats.aspx>

Theory, how to transforms your school, integrating curriculum.
Evergreen

<http://www.evergreen.ca/>

Theory, how to transforms your school, resources, funding.

Green Teacher

<http://www.greenteacher.com/>

Toronto based not-for-profit organization, publications, newsletter, links to resources.

The Edible School Yard Project

<http://edibleschoolyard.org/>

Chef Alice Waters and restaurant Chez Panisse involvement in public education

Excellent teacher curriculum resource – check out ‘Sunflowers and the Fibonacci sequence’

National Gardening Association

<http://www.kidsgardening.org/>

Getting started, teaching resources

Canadian Biodiversity Institute

<http://www.biodiversityonline.ca/>

Schoolground transformation resources, how-to guide

Think and Eat Green @ School

<http://www.thinkeatgreen.ca/>

University of BC research project that looks at issues of regional food security, food system sustainability, and institutional adaptations to climate change within the context of Vancouver schools.

BUG HOTELS

<http://www.inspirationgreen.com/insect-habitats.html>

http://apps.rhs.org.uk/schoolgardening/uploads/documents/making_a_bug_hotel_770.pdf

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LEAST TOXIC PESTICIDES

EXCERPT FROM “WEST COAST GARDENING : NATURAL INSECT, WEED & DISEASE CONTROL”. LINDA A. GILKESON, Ph.D., 2013.

This list by active ingredient provides examples of Canadian registered products (2012); it is not a comprehensive list because product registrations change. Mention of a product does not constitute an endorsement. Most products listed are for residential use and have ‘DOMESTIC’ on the label; a few are currently registered for Commercial use, but Domestic products may become available (as they are in the US, where gardeners have a wider selection of products available to them). Products listed are not necessarily approved for certified organic growers.

INSECT CONTROL

Bacillus thuringiensis kurstaki [Safer’s BTK Biological Insecticide; Rona BTK; DiPel-Commercial]

- Contains a common species of soil bacteria; they produce spores and protein crystals that infect and kill caterpillars.
- Non-toxic to other insects, animals and people. Non-persistent, breaks down in a few days.
- Use to control leaf-eating caterpillars in greenhouses, food crop and gardens, and on ornamentals.
- Spray while caterpillars are actively feeding; caterpillars stop feeding immediately, but may not die for 2-5 days.

Horticultural (Supreme) Oils: Dormant & Summer Sprays [Green Earth, Wilson’s products]

- Contains highly refined petroleum or canola oil; acts upon contact, by suffocation and by disrupting other physical processes; there are no residual effects.
- Dormant oil controls overwintering eggs of aphids, some moths, mealybugs, pear psylla, pear and rose sawflies, scales, spider mites. Summer oil is more dilute; it controls mealybugs, rust mites, scales, spider mites, whiteflies.
- Use dormant oils on deciduous woody plants after leaves drop or before growth starts. Use summer oils on shrubs and trees during the growing season, but not in hot weather.
- Always check labels for list of plants that cannot tolerate oil sprays.

Insecticidal Soap [Safer’s, Scotts, Green Earth products]

- Contains biodegradable fatty acids; acts upon contact against insects and mites; no residual effects.
- Used on aphids, earwigs, mealybugs, pear and rose slugs, scales, spider mites, whiteflies and other insects; outdoors and indoors.
- Thorough spraying required; repeat applications may be necessary, but limit the number of times it is used on the same foliage as it can damage leaves.
- Phytotoxic to some plants (check labels).

Silicon Dioxide (Diatomaceous Earth) [*Insectigone; Green Earth, Scotts Ecosense, Safer's products*]

- Contains ground up fossilised shells of diatoms mined from natural deposits.
- Acts upon contact against insects by causing them to dry up; kills most insects that contact it.
- Non-toxic to people, animals, birds, fish, earthworms.
- Long residual effects, if kept dry and not dispersed; kills beneficial insects, therefore, limit use on outdoor plants to spot treatments.

Pyrethrins [*Safer's; Scotts Ecosense, Green Earth products; Doktor Doom Botanics*]

- Active ingredients extracted from pyrethrum daisies; a nerve toxin that acts upon contact.
- Used on crawling and flying insects on plants, pets, in structures, indoors and outdoors. Non-persistent.
- Moderate toxicity, avoid inhalation or contact with skin and eyes; may cause allergic reactions in sensitive people.
- A last resort pesticide.

Spinosad [*Conserve Domestic Naturalyte*]

- Controls many leaf eating caterpillars and beetles, thrips and other insects.
- Compound extracted from a soil bacteria. Fast-acting, remains active up to 4 weeks once sprayed on leaves. Highly toxic to bees and parasitic insects at time of spraying; low risk once spray residues dry.
- Do not apply to squash family plants. Avoid spray drift to water bodies.
- Limit the number of applications to any one plant to 3 times per year.

Azadirachtin, Neem Oil [Registered in US, but not Canada at time of writing]. Note that neem 'leaf shine' products are not registered insecticides; label directions to spray frequently lead to overuse of an insecticide.

- Low toxicity; controls aphids and other sucking insects, leaf eating caterpillars.
- Active ingredients derived from the neem tree.
- Repels and kills chewing and sucking insects. More effective on immature insects than adults.
- Not persistent, reapply after a couple of days. Once dry, sprayed area is safe for beneficial insects.

Kaolin Clay [*Surround Crop Protectant-Commercial*].

- Fine clay particles applied in a spray; forms a white barrier film when dry.
- Not registered or suitable for ornamentals.
- Clay barriers have repellent, anti-feedant effects on caterpillars,

- sawflies, fruit flies, tarnished plant bugs.
- Apply in spring or summer to actively growing weeds less than 12 cm tall (5 inches).
- Avoid spray drift onto desirable plants.

WEED CONTROL

Fatty Acid Herbicide [*Safer's Topgun; Safer's Superfast Patio Killer; Scotts Ecosense Pathclear*]

- Naturally occurring fatty acid compound, acts on contact to kill foliage of most plants; non-residual.
- Controls annual weeds, provides suppression or top-kill of some perennials.
- Apply in spring or summer to actively growing weeds less than 12 cm tall (5 inches).
- Avoid spray drift onto desirable plants.

Acetic Acid Herbicide [*Scotts Ecoclear, Ecosense products; Green Earth products*]

- Contains the same naturally occurring acid as in vinegar.
- Acts on contact to kill foliage; non-residual.
- Uses and timing the same as fatty acid herbicides (above).

Corn Gluten Meal Pre-emergent Herbicide [*TurfMaize; Scotts products; Wilson Weed-Out; WOW Without Weeds; Green It Liquid Bio-herbicide*]

- Granular or liquid form of corn gluten, suppresses germination of seeds.
- Registered to control dandelion and smooth crabgrass in lawns.
- Controls only germinating seeds, not established weeds; not for use on new lawns.

Chelated Iron [*Scotts Weed-B-Gon; Fiesta-Commercial*]

- Selective for broadleaved weeds, moss in lawns; unlike grasses, they take up toxic levels of iron.
- Fast acting; controls dandelion, English daisy, thistles, plantains, creeping buttercup, black medic, chickweed.
- May require 2 or more applications; do not apply to drought stressed lawns.

Sclerotinia minor [*Sarritor Selective Biological Lawn Weed Killer*]

- Biological control for dandelion and other broadleaved weeds in lawns.
- A native fungus that destroys top growth of susceptible plants; herbicidal effect appears to be from oxalic acid secreted by the fungus.
- Does not persist in the environment; requires moist conditions.

DISEASE CONTROL

Bacillus subtilis [*Serenade Garden; Green Earth Bio-Fungicide*]

- Contains biological control bacteria that attack common leaf disease fungi.
- Used for powdery mildews, Botrytis (grey mould) diseases, downy mildews, other leaf and stem fungi.
- Registered for many vegetables and ornamentals, including roses.
- Apply at first sign of disease infection and at 7-10 day intervals.

Sulphur [*Later's, Wilson's, Green Earth, Green Cross, C-I-L brands; Safer's Defender*]

- Sulphur particles bind with spores to prevent germination.
- Used on foliage for black knot, black spot, leaf spots, powdery mildew, rusts, apple and pear scab and others; also controls russet and rust mites.
- Use only on plants tolerant to sulphur or else leaf injury may result (check labels).
- No residual effects once dry, but toxic to beneficial mites.

Lime Sulphur [*Later's, Green Earth, Green Cross, C-I-L brands*]

- Contains a calcium sulphur compound; controls fungi, also mites and some insects; no residual effects.
- Used as dormant spray or growing season spray for fungal diseases; also for scales, spider mites, rust mites, aphids, mealybugs.
- Phytotoxic to most actively growing plants; use growing season sprays only on plants listed on label as tolerant of oil and use correct dilution rate.
- Moderate toxicity to mammals, bees, birds, toxic to beneficial mites.

Bicarbonate, Potassium or Sodium [*MilStop Foliar Fungicide-Commercial*]

- Contact fungicide for control of powdery mildew on agricultural crops and ornamentals.
- Acts on contact to kill fungi. Low toxicity and low environmental impact.
- Start applying at first sign of disease and every 1-2 weeks thereafter.

Copper (Fixed Copper, Copper Sulphate) [*Green Earth Bordo Copper Spray*]

- Bacterial leaf spot, powdery mildew, late blight and other plant diseases.
- Moderate toxicity. Can build up to toxic levels in soil if used frequently. Remains active on leaves for 1-2 weeks after spraying. Highly toxic to fish and aquatic organisms.
- Many plants are sensitive to copper (read labels). Avoid spray drift or runoff to water bodies.

- Broadcast small amount widely over the area--do not surround plants with the bait as it attract slugs to feed.
- Replace after prolonged heavy rain.

Slug & Snail Control

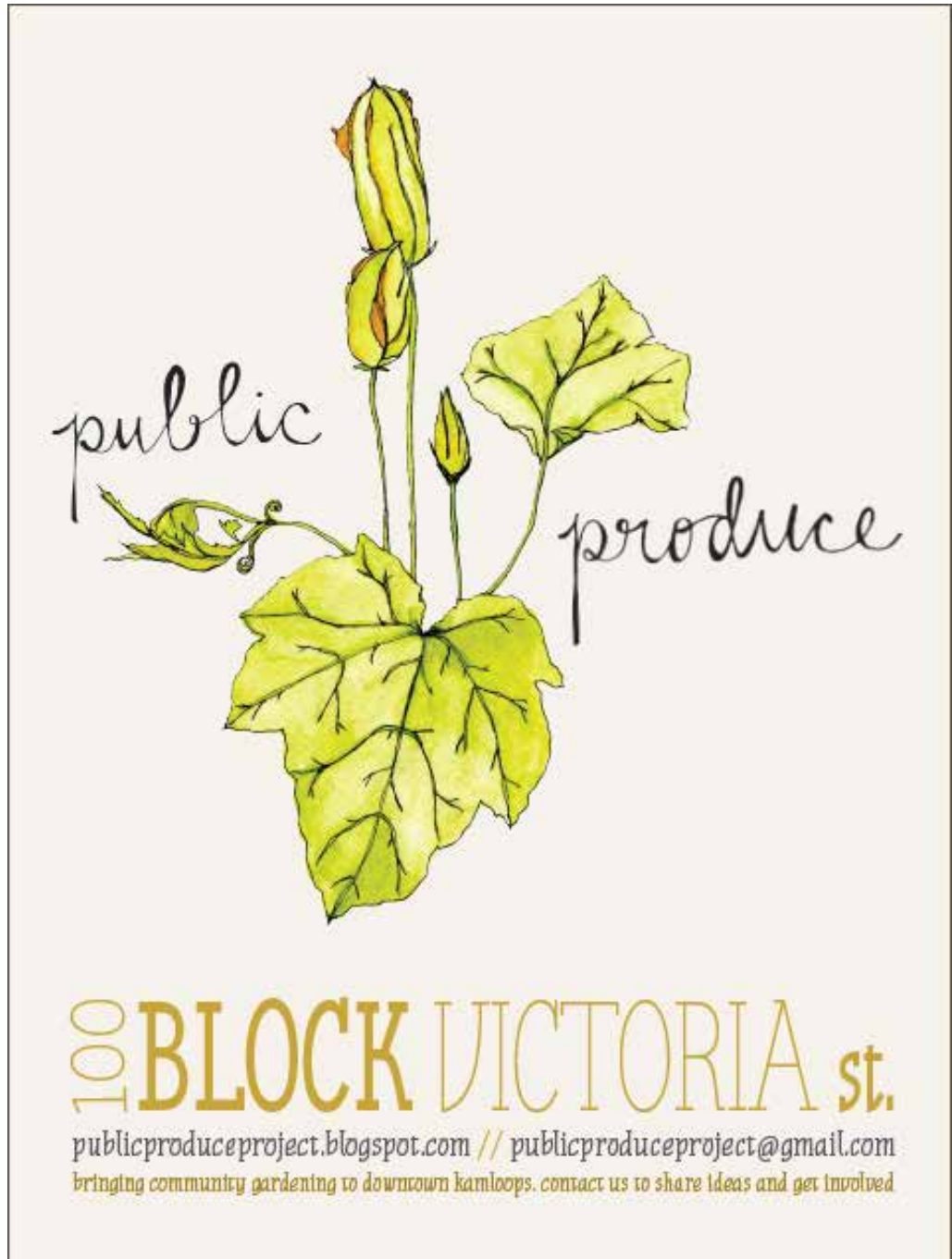
Ferric Phosphate/Ferric Sodium [*Safer's; Sluggo; Escar-go; Scotts EcoSense Slug-B-Gon*]

- Contains iron mixed in an attractant bait.
- Metal ions cause slugs and snails to stop feeding, dry up and die in 3-6 days.
- Non-toxic to people, pets, birds, insects, earthworms and other wildlife. Remains active for a week even in heavy rain.
- Broadcast small amount widely over the area--do not surround plants with the bait as it attracts slugs to feed.
- Replace after prolonged heavy rain.

Notes:

1. Rotenone is allowed in some jurisdictions that otherwise restrict pesticide use and for organic growers under some restriction, but I don't think it is safe enough to recommend, therefore have omitted it.

2. No combination products containing mixtures of insecticides and fungicides are included. It is unlikely that gardener would ever need both types of pesticide at the same time, therefore use of such products contribute to overuse of pesticides in the environment.



Generic poster designed by Emily Hope to advertise the Kamloops down town public produce garden.

COMMUNICATIONS PLAN

Adapted from “Reflections and Observations of the 2011 Kamloops Public Produce Garden” by Kendra Bessanger, Project Coordinator, Kamloops Food Policy Council Public Produce Strategic Plan 2012. This document can be found on the KFPC website.

a. Communication Strategies - designate someone to act as communications coordinator. Using a consistent format, this person will develop all the announcements, media releases and calls for volunteers. This coordinator will also make sure that information is released in a timely manner so that corrections are made and deadlines met.

- Develop an image or logo that can be used across all forms of communication such as letterhead, multiple web-based platforms and print-based media.
- Budget for printing costs for print based media such as posters, businesses cards & flyers. Include these costs in grant writing.

b. Media - cultivate strong connections with local media producers and individual reporters. Find someone who is interested in the topic and will take up your message and spread the word. Find the right person within the media outlet who will serve as a point of contact and who can ensure that your message is published in a timely manner. Make personal contacts by phoning or dropping by the media outlet.

- **Newspapers** - although web based communication is the common mode of communication, don't reject the power of print based media. Not everyone has Internet access or literacy. Local newspapers, either free community versions or the versions that are subscriber based, are read by a diverse number of people.
- **Radio** - local radio stations reach a very broad base of people. Radio interviews and radio media announcements are a powerful way for generating discussion and disseminating information. Talk to local radio producers about doing feature interviews about food security, urban agriculture, public produce, or any other related topic of interest.
- **Television** - local television programmes also reach a broad spectrum of the public. As with radio, feature interviews, demonstrations, and discussions about urban agriculture and public produce and the relationship with food security can create interest with the local project.

c. Business cards -the project coordinator and the communications coordinator should carry business cards. Business cards are a simple and inexpensive marketing tool that establishes a professional image.

- Cards would contain the project's email and blog addresses, phone numbers, addresses of physical public produce sites and other pertinent information.
- Business cards are essential networking tools that work well if you follow up with your network. Building strong relationships with business partners, community groups, media outlets, and members of the general public is a key component of your group's communication strategy.

d. Presentations and displays - talk to people about the project. Communicating with people face-to-face is tremendously effective as you can introduce the concept of public produce in an enthusiastic and positive manner.

- Visit farmer's markets and other local events. Be prepared to answer a wide range of questions in a thoughtful manner, as people may not support the concept of public produce when they hear about it for the first time.
- Develop a professional looking display board with photographs of the project.
- Develop a power-point presentation that can be taken to various venues and speaking events.
- Use examples of Public Produce projects that have worked in other cities.

e . Web-based communication - use various social media platforms for communication.

- Use a blogger platform to develop a blog post. The blog postings are particularly important as they form a history of the project. The blogger platform is one that is accessible and relatively self-explanatory, allowing volunteers to easily contribute content. Add an email address to the blog.
- Create a Facebook account. This account allows you to post updates about the garden and create callouts for volunteers.
- Share links with other community groups and other Public Produce initiatives.
- Share links, tips to and awareness of other related practices such as organic gardening, permaculture, and natural insect, weed and disease control.
- Sign up to related listserves to keep up to date with events and information that would be useful to the project.

f. Print-based media and communications - posters and flyers can be very effective modes of communication.

- Do not underestimate the ability of an eye-catching poster to draw people to your project. Bulletin boards such as those in public libraries and community centres are valuable spaces to advertise workshops and to call for volunteers.
- Other bulletin boards to keep in mind are ones placed in grocery stores, universities, daycare centres, senior centres, garden centres and community gardens.

In Kamloops, a generic poster was used as an opportunity to advertise the Kamloops Public Produce Victoria Street garden within the downtown community. It served as an introduction to local business owners, and helped create partnerships with businesses and organizations that supported the project.

An information kiosk that acts a communication hub was erected at the McDonald Park Public Produce Garden. It incorporated a map of the site that explains the difference between community gardens and Public Produce. It also incorporated a bulletin/communications board and slots for brochures. Brochures included one produced by The Kamloops Food Policy Council that conveyed information about organic gardening and public produce. Other brochures included one on pollination and one with a key and legend of the edible plants used in the Public Produce garden.

GUIDE TO WRITING A GRANT PROPOSAL

Adapted from Robert Lazzinnaro, “Public Produce A Start Up Guide”, 2011 (unpublished).

There are many opportunities for funding available to community groups working within a food security framework. Here are some initial tips to help you get started.

- Find and seek the advice of someone who is familiar with grant writing and has been through the process. Advice from someone experienced is invaluable. If possible, borrow a copy of a successful grant and follow its strategy.
- Refer to online resources regarding grant writing, as they can provide useful information.
- Clarify guidelines for accepting grants and corporate sponsorships with your committee. Public Produce gardens are organic and so seeking a grant from a company that produces pesticides does not make sense.

Plan ahead

- Is the grant appropriate for what you need? Don't try to make your proposal fit a grant, rather look for grants that are relevant to your proposal.
- Check the grant maker's website. The types of initiatives that the grant maker supports are usually listed on the site as well as eligibility and any restrictions.
- What has the grant maker previously funded? The answer to this question will give you an idea as to your 'fit' with its philosophy.
- Call the grant maker and if possible, create a relationship. Will they review the draft?
- Who are eligible applicants? Most likely you will need a legal entity such as a society or charitable organization. If your organization is neither, perhaps you can link up with a partner who is.
- Read the application carefully. Highlight all the questions you must answer and the support materials that the grant maker requires.
- Apply early and to more than one grant maker.

Keep it focused and simple

The reviewer of the grant will not be as expert as you, so provide the needed background. The project proposal should address the outcome. Preliminary data and research that strengthen the proposal should always be included. Only propose what can reasonably be completed in the granting period.

Prove that you can do it

Include a balanced budget, your success record, your partners and the resources available to you. These are all critical to prove that not only is the project feasible but that you can actually accomplish your goals.

A typical application should contain the following detailed information:

a. Executive Summary

The Executive Summary states the problem and describes what you want to accomplish. It is a clear, concise summary of your proposal. In a couple of paragraphs but not more than one page, answer the questions, “Who, What, Where, When, Why and How”. Goals, objectives, an action plan, staffing/administration, evaluation and sustainability create an interlocking picture of the total project.

- Who is spearheading the project and who is the target? Will it affect more than just the target? Are you collaborating with another group?
- What change is expected to happen in the target group?
- How is this going to happen? Is this project a pilot project, a service or is your group creating a resource?
- When is this going to happen?
- Where is this going to take place?
- Why is it important? Is this a new project or is it expanding on a programme that is already established? Is there proof that your proposal will work?
- How will the project continue once funding is finished?

b. Applicant

Describe your group and provide evidence that the group can achieve its goals. Is the project consistent with the your group’s mandate? Is the group eligible to apply?

c. Target

Describe who is going to benefit and how many people will be affected by this grant. Are they part of the planning for this project?

d. Outcomes

Describe the changes that are expected to occur. Outcomes must be measurable and should include a change in behaviour. The most common mistake in grant writing is listing the activity as an outcome rather than the change in behavior, notions or conditions in the target audience. For example, if you are applying for a grant to create a public produce garden, the outcome is not only the garden but also how the garden affects citizen’s lives.

e. Project Description

Describe the specific activities that you plan to undertake for the funding you are requesting.

f. Goals

Goals describe the big picture and are more broad and abstract.

EXAMPLE

The Public Produce garden will support the evolution of food security in downtown Kamloops.

g. Objectives

What do you hope the project will achieve?

Use the acronym ‘SMART’ (specific, measurable, achievable, realistic, time-specific).

EXAMPLE

The 2011 Public Produce garden on 100 block of Victoria Street will

- 1. Create a beautiful and contemplative space within a currently unused and derelict lot.*
- 2. Inspire citizens to include edible plants within their own gardens.*
- 3. Inspire citizens to consider growing vegetables in containers.*
- 4. Alter the public’s thinking about growing edibles in a sustainable way using organic principles.*
- 5. Give citizens an occasion to eat healthy vegetables as part of their daily diet.*

h. Staffing and Administration

Give details about the staff and volunteers involved in the project. Who will be the responsible for achieving the objectives? If an administrative fee is requested, what will the fee be used for?

i. Action Plan (Methods)

Describe the major activities that will be undertaken, especially how, when and why. Methods should be linked to the objectives. Can the action plan be completed realistically as stated?

j. Evaluation

Describe how will you evaluate success of the programme. To show how your project changed behaviour, notions or conditions, you will need to gather information before the project begins. Some tools that you might use to monitor your project are keeping track of numbers using the garden, collecting stories and interviews, keeping a project diary and holding a stakeholder’s meeting before the project’s inception and at its conclusion.

k. Sustainability

Describe how the project will support itself after the funding is ended. Many grant makers put a very high priority on sustainability.

1. Budget

Develop a budget that is realistic and clearly shows how money will be spent. Use a spreadsheet or a table to itemize all expenses as well as contributions. Be sure to include in-kind (donated) contributions. Understand the grant maker's stipulations for eligible expenses.

Other considerations when writing a grant:

a. Partnerships and Collaboration With Other Groups

Develop partnerships that are meaningful and provide tangible contributions. In your grant application, include letters of support written by partners that clearly outline their contribution to the project. Make sure that your project is not duplicating similar services provided by other organizations.

b. Ethics

Always keep in mind potential harm, risks, consent and confidentiality. Ensure that facts and information are accurate. This includes narratives as well as budgets. Consider the Logic Model method of evaluating a programme, creating a schematic flow that demonstrates the links between your goals, objectives, methods, and outcomes.

c. Appendix

Keep it short and to a minimum. Background material you may need are Constitution and Bylaws and a list of board members and their addresses.

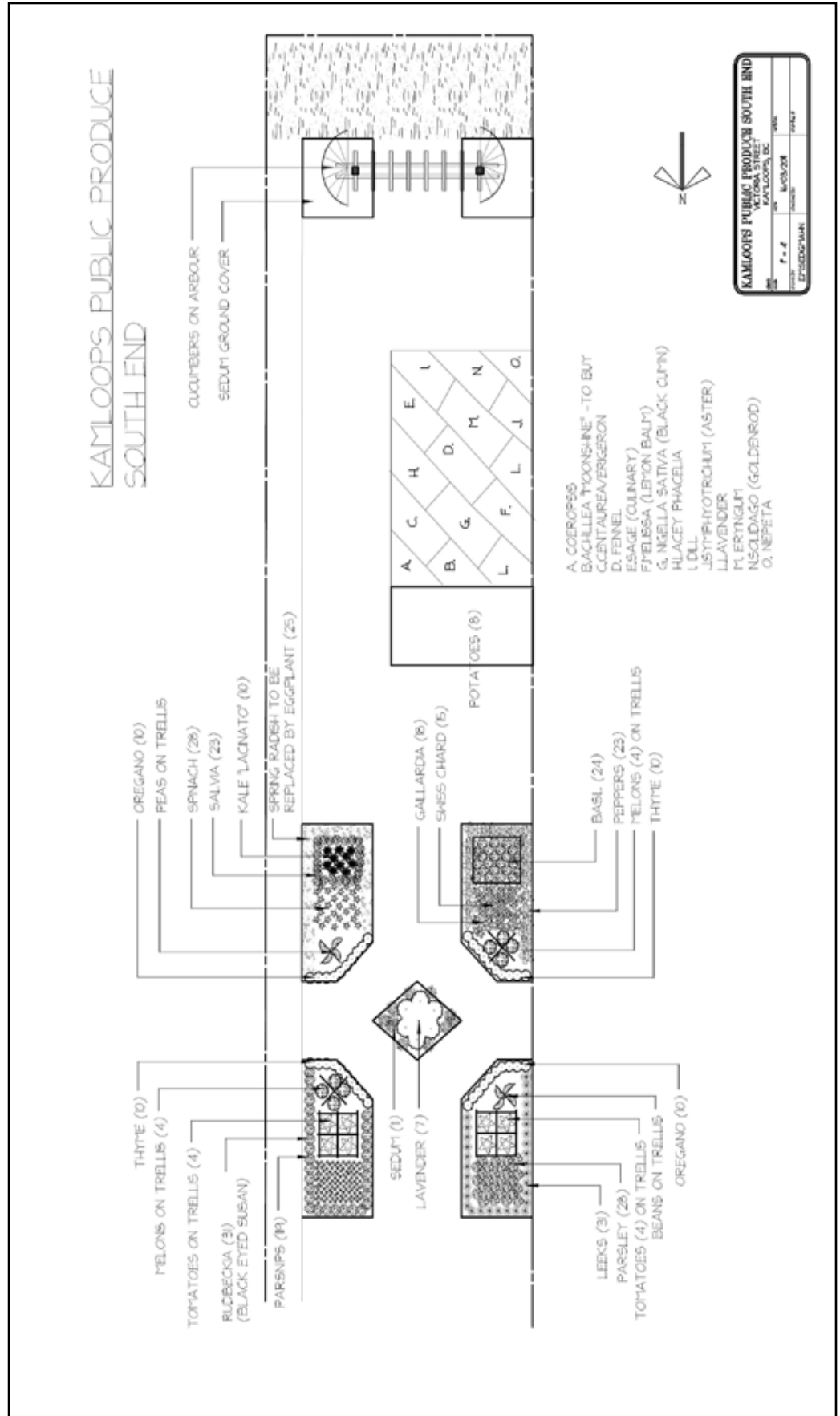
d. Last financial statement

Your group will most likely require a certified financial statement. Some grant makers may require a Revenue Canada BIN number (Business Information Number), and/or Society number.

e. Final Tips

- Have your grant application reviewed by someone who is not part of the project, but who is skilled in writing grants.
- Save a Microsoft Word version of your application so that it can be modified for future grant applications.
- Thank the funder and keep them informed about the project, even after the project is completed.

KAMLOOPS PUBLIC PRODUCE PLAN, SOUTH END, 2011



RE-IMAGINING KAMLOOPS



Condominium on Summit Drive - before.



Condominium on Summit Drive - re-imagined as a public snack stop.



Condominium Snack Stop Plan

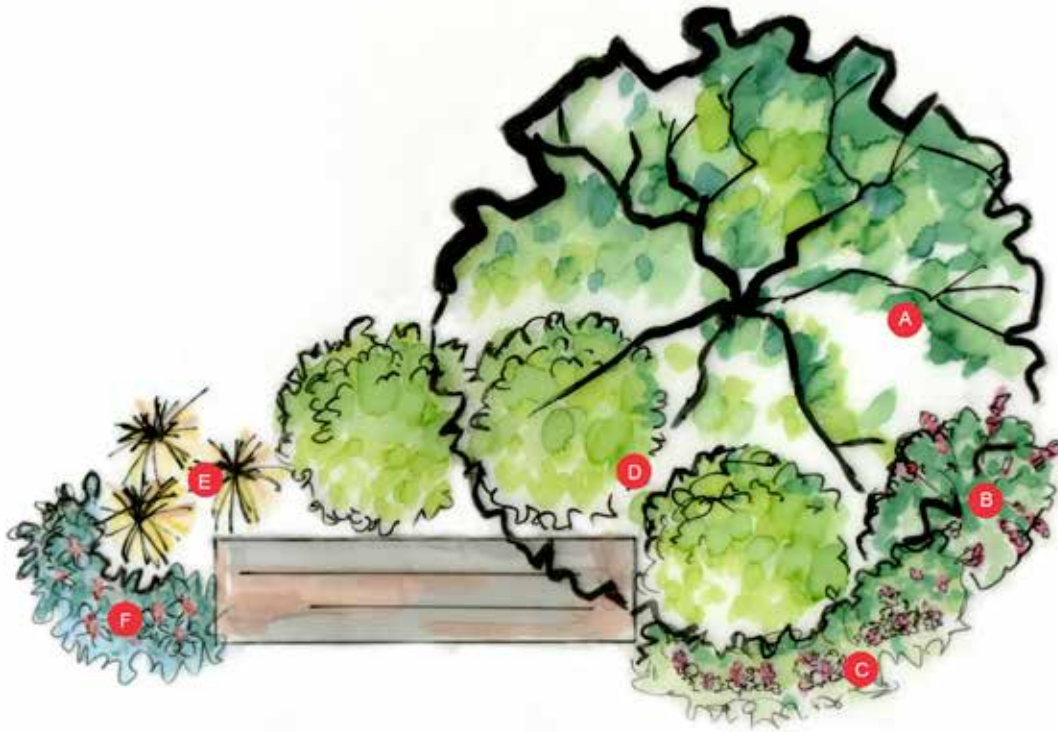
- A Tree: hardy apple, *Malus* 'Prairie Sensation'
- B Shrub: evergreen
- C Shrub: saskatoon, *Amelanchier alnifolia* 'Regent'
- D Tree: edible crabapple, *Malus* 'Dolgo'
- E Herb: Oregano
- F Herb: Thyme
- G Herb: Chives
- H Perennial: Daylilies
- I Perennial: ornamental grasses
- J Shrub: Sour cherry, *Prunus x kerrasis* 'Carmine Jewel'
- K Shrub: Clove currant, *Ribes oleratum*



Transit stop on Summit Drive, Kamloops, BC



Transit stop re-imagined as a public snack stop.



Transit Snack Stop Plan

A Tree: Apple serviceberry, *Amelanchier x grandiflora* 'Autumn Brilliance'

B Herb: Oregano

C Herb: Thyme

D Shrub: Saskatoon, *Amelanchier alnifolia* 'Regent'

E Perennial: Ornamental grass

F Herb: Edible sage

KAMLOOPS PLANT MATRIX FORWARD

Creating a plant matrix suitable for Kamloops Public Produce projects was a challenging task. In the end, I used the *Guiding Principles for Plant Choice* as listed under the heading Plant Selection in the ***Public Produce: A Start Up Guide, 2013***. Recommendations are based on a combination of the following qualities: whether the plant looks good throughout the season, a plant's tolerance to disease and pests, how much work goes into growing the plant, how much effort is needed to harvest the produce and whether the plant can be eaten without processing. Hardiness zones and plant pH requirements are also considered. Kamloops is a Bear Aware community. To prevent bear attractants, berries, fruit and nuts should be harvested as they ripen.

Public Produce projects need to be conscious of volunteer time and stamina and how much work might be needed to care for the garden. There is no garden, whether ornamental or edible, that needs no care. The choice of plants certainly affects how much care is ultimately needed.

A Public Produce garden that consists mainly of woody perennials such as disease and pest resistance trees and shrubs would require the least care. Volunteers would only need to clean up fallen leaves and compost them in the fall, top up mulch every 3 to 4 years, prune plants occasionally and eat the produce! As the mulch slowly breaks down, it adds nutrients to the soil.

Adding herbaceous perennials, plants that die down in the winter but regrow in the spring, increases the required care, but only slightly. Volunteers will now need to clean up the dead foliage of these plants at the end of season or early spring.

Adding annual vegetables, fruits and herbs to a public produce garden magnifies the time and effort required for the care of the garden. Seeds will now need to be planted. Some plants may need to be started very early in the season. (Onions need to be started indoors as early as February.) These seedlings often need to be transplanted into larger pots before eventually being planted outdoors when the soil warms up.

'Spring greens' are just that. As the days get longer and warmer, they often 'bolt' which means that they go to flower often affecting their flavor. So volunteers will need to contend with succession planting, which means replacing the spring greens with plants that do well in hot weather. Or succession plant with non-edibles such as sweet alyssum or blue salvia that provide forage for bees and beneficial insects. At the end of the season all of these annual plants will die down requiring volunteers to gather up the foliage for composting. Soil amendments will also now

need to be considered because annual plants pull nutrients from the soil. Because we eat or compost these plants, nutrients are not returned to the soil.

All gardens require the close scrutiny of an Integrated Pest Management Plan that is described in detail in the start up guide. Depending on the number and passion of the volunteers, a high maintenance garden can be planted and managed very successfully as demonstrated by the Kamloops Public Produce Project on Victoria Street developed in 2011. The challenge is to sustain the interest and high energy level of volunteers. McDonald Park Public Produce garden leans toward more of a permaculture forest gardening philosophy with a canopy of dwarf or semi-dwarf trees, a middle layer of berry bushes and an understory of perennials and annuals that attract pollinators and beneficial insects that deter pests. A garden such as this requires less maintenance and fewer volunteers.

Have fun with this list. It is only a starting point. There are many other plants that gardeners can experiment with such as Shipova (a cross between European pear and Whitebeam), Medlar, Persimmon and Paw Paw. These semi hardy trees are at the edge of our hardiness zone, but horticulturalists are always breeding for harder cultivars. City horticultural staff might also choose to plant less hardy species such as Meyer lemons in containers and move them into the city's greenhouses for the winter. The possibilities for Public Produce are limitless.



Kamloops city councillors compete in a friendly contest for best street container planting. Herbs for tea and an apricot tree create a winning combination. *Photo courtesy Communities in Bloom.*

KAMLOOPS PLANT MATRIX GLOSSARY

Cultivars

Only basic cultivars are listed. Perusing seed catalogues and websites will provide many more choices.

OP: Open pollinated seeds will develop seeds that breed true to type. These seeds will closely resemble the parent plant and pass on their characteristics. Open pollinated seeds can therefore be collected and saved to plant again the next year.

PMR: Powdery mildew resistant.

Parthenocarpic cucumbers: Blossoms develop into seedless fruit without pollination.

VH very hardy

Canadian Hardiness Zone

The Plant Hardiness Zones map outlines the different zones in Canada where various types of trees, shrubs and flowers will most likely survive. It is based on the average climatic conditions of each area. Whether woody or herbaceous perennial plants will survive the winter depends on the hardiness zone in which it is planted. Kamloops has hardiness zones ranging from 3 (Aberdeen) to 6 (down town Kamloops). Go to the City of Kamloops website for a hardiness zone map. Annual plants are not affected by hardiness zones because they do not overwinter.

Pollination needs

n/a: Pollination is not required to develop the edible part of the plant.

pollination required: Insect pollination is required to bear fruit.

self fertile: Fertilization of a plant by insects on its own flowers, therefore only one plant is needed to bear fruit.

cross pollination needed: Requires another plant for fertilization in order to bear fruit.

needs two varieties: Has specific requirements, usually a male pollinator and a female cultivar that bears the fruit.

Maintenance

Ranging from low to high depending on whether the plant needs to be seeded annually, its harvesting requirements, effort needed to care for the plant, soil and water requirements, clean up at the end of the season, and resistance to disease and pests.

Comments

BIF: Excellent bee & beneficial insect forage.

NR: Not recommended for a Kamloops public produce garden.

RR: Recommended with reservations for a Kamloops public produce garden.

Plants that self-seed prolifically will need to have their spent flowers removed before they set seed.

KAMLOOPS PUBLIC PRODUCE PLANT MATRIX

Common name	Scientific name	Cultivars	size	Cdn cold Hardiness zone	Pollination needs	Palatable when eaten raw?	Drought tolerant?	Maintenance	Comments
Cane berries									
Blackberry	<i>Rubus</i>	thornless: Lochness, Triple Crown, Chester are hardiest	vigorous, dependent on pruning	4	self fertile	yes	no	high	NR Requires heavy yearly pruning, a soil pH of 5.5-6.5, mulching, support and vine training. produces fruit on floricanes. Harvesting is time consuming.
Raspberry, Main crop	<i>Rubus idaeus</i>	Tulameen, Chilliwack, Skeena, Latham, Meeker, Boyne.	dependent on pruning	3	self fertile	yes	no	high	RR Care same as above, produces fruit on floricanes
Raspberry, Black	<i>Rubus idaeus</i>	Cumberland, Jewel, Munger	dependent on pruning	4	self fertile	yes	no	high	RR Care same as above, requires summer topping to 1 m. Produces fruit on floricanes.
Raspberry, Purple	<i>Rubus idaeus</i>	Brandywine, Royalty	dependent on pruning	4	self fertile	yes	no	high	RR Care same as above, produces fruit on floricanes.
Raspberry, Fall-bearing	<i>Rubus idaeus</i>	Autumn Bliss, Nova, Fallgold, Prelude	dependent on pruning	5	self fertile	yes	no	high	RR Care same as above, produces fruit on primocanes & floricanes.

Common name	Scientific name	Cultivars	size	Cdn cold Hardiness zone	Pollination needs	Palatable when eaten raw?	Drought tolerant?	Maintenance	Comments
Fruiting Shrubs									
Blueberries, Half-high	<i>Vaccinium corymbosum</i> X <i>V. angustifolium</i>	Most hardy: North Country, Northland, Northsky	60cm-1.2 m	3	self fertile	yes	no	high	NR Requires cool, moist soil rich in organic matter & pH of 4.0 - 5.0. Requires yearly pruning. Not suitable for Kamloops high alkaline soils.
Cherry, Nanking	<i>Prunus tomentosa</i>		2 to 3 m	2	cross pollination needed	yes	yes	low	Tart edible fruit used in jellies or just for nibbling.
Cherry, Dwarf Sour	<i>Prunus x kerrasis</i>	Juliet, Crimson Passion are sweetest	2 to 2.5 m	2	self fertile	yes	yes	low	Hardy & disease & insect resistant.
Currant, Black	<i>Ribes nigrum</i>	Disease resistant: Ben Sarek, Ben Lomond, Ben Hope, Ben Connan	1 to 1.5 m	3	cross pollination needed	an acquired taste	no	high	RR Requires evenly moist soil, prune to remove branches over 3 years old, susceptible to current fruit fly, currantworm, aphid, white pine blister rust, powdery mildew. Harvesting is time consuming.
Currant, Red	<i>Ribes rubrum</i>	Red Lake	1.2 to-1.5 m	3	self fertile	seedy	yes	high	RR As above.
Currant, white	<i>Ribes rubrum</i> sport	White Imperial	1.2 to-1.5 m	3	self fertile	seedy	yes	high	RR As above.
Gogi Berry/ Wolf Berry	<i>Lycium barbarum</i>		1.6 - 1.8 m	3	self fertile	yes	yes	high	NR Plants produce aggressive suckers and can become invasive when in a suitable position.
Gooseberry, Canadian	<i>Ribes oxycanthoides</i>	Pixwell, Hinnonmaeki Red and Yellow	.6 to 1.5 m	3	self fertile	yes	yes	med	RR As above. Resistant to powdery mildew.
Elderberry, Black	<i>Sambucus nigra</i>	Korsor	2 m	5	self fertile	no	no	low	NR Leaves, stems & berries are poisonous. Fruit must be cooked or dried to get rid of toxic cyanides.
Elderberry, American	<i>Sambucus canadensis</i>	Kent, York, Johns	3.5 m	3	self fertile	no	yes	low	NR same as above. Great for home gardens but not a public garden.

Common name	Scientific name	Cultivars	size	Cdn cold Hardiness zone	Pollination needs	Palatable when eaten raw?	Drought tolerant?	Maintenance	Comments
Honeyberry/Haskap	<i>Lonicera caerulea</i> var. <i>edulis</i>	Tundra, Borealis, Aurora, Honeybee, Gem, Treat. Use Berry Blue as pollinator	1.5 to 2 m	3	cross pollination needed	yes	yes	low	Sweet/tart deep blue fruit looks like an oblong blueberry.
Jostaberry	<i>Ribes grossularia</i> x <i>nigrum</i>		2 m	3	self fertile	yes	yes	med	Gooseberry x Black currant hybrid. Very vigorous. Resistant to disease. Harvesting is time consuming.
Rose	<i>Rosa rugosa</i>	Hansa, Marie Bugnet, Therese Bugnet	1 - 1.8 m	3	pollination required	yes	yes	low	Rugosa's are mostly disease & insect resistant. Flower petals are edible. Hips make excellent jelly.
Sea Buckthorn	<i>Hippophae rhamnoides</i>			3	cross pollination needed	yes	yes	low	NR considered invasive
Saskatoon, Serviceberry	<i>Amelanchier alnifolia</i>	Smokey, Northline, Honeywood, Thiesson, Regent	1.5 to 1.8 m	2	self fertile	yes	yes	low	Sweet edible fruit, ornamental flowers & gold fall foliage.

Common name	Scientific name	Cultivars	size	Cdn cold Hardiness zone	Pollination needs	Palatable when eaten raw?	Drought tolerant?	Maintenance	Comments
Trees									
Apple	<i>Malus</i> spp.	Liberty, Prima, Bramley Seedling & Jonafree are disease resistant	Choose trees that are grafted to dwarf root stock.	3	requires cross pollination, some are sterile	yes	no	very high	RR Very susceptible to diseases (scab, powdery mildew) & pests (codling moth). Use fruit barriers (sockies, bags).
Apricot	<i>Prunus armeniaca</i>	Tilton, Harglow & Goldcot are self fertile	8 m	5	some are self fertile	yes	yes	high	Very early to bloom so bud hardiness is important. Susceptible to diseases. Fruit drop can be messy.
Cherry, Sweet	<i>Prunus avium</i>	Lapins, Sweetheart are crack resistant	8 - 10 m	5	cross pollination needed	yes	no	very high	NR Very susceptible to cherry maggot. Recommend only if using an insect barrier such as Kootenay Cover.
Cherry, Sour	<i>Prunus x cerasus</i>	Evans	3.5-4.5 m	3	self fertile	yes	yes	low	Fewer pests than sweet cherry. Dwarf tree.
Chokecherry	<i>Prunus virginiana</i>	Purple foliage: Schubert, Midnight Golden foliage: Boughen's Golden	5.5-6 m	2	pollination required	no	yes	low	Insects might be a problem. Astringent fruit used for jellies.
Crabapple	<i>Malus</i> spp.	Dolgo, Kerr	5-10 m	3	cross pollination needed	yes	yes	med	Beautiful blooms in spring. Used for jelly, baking & canning, pickles.
Mulberry, red	<i>Morus rubra</i>	Geraidi dwarf 1.8 m	15 m	6	self fertile	yes	no	high	RR prefers rich moist soils, pH 4.5-7, native to eastern Canada. Endangered in ON. Messy but tasty fruit. Borderline hardy in Kamloops.
Mulberry, white	<i>Morus alba</i>	Pendula has small black tasty fruit, 1.8 m.	3 - 6 m	5	self fertile	yes	yes	high	Considered invasive in US & Eastern Canada. Messy but tasty fruit.
Peach	<i>Prunus persica</i>	Harmony, Harbrite, Elberta & Veteran are hardier.	7.5 m	6	self fertile	yes	no	very high	NR Very susceptible to spring frosts, diseases & pests. Borderline hardy.

Common name	Scientific name	Cultivars	size	Cdn cold Hardiness zone	Pollination needs	Palatable when eaten raw?	Drought tolerant?	Maintenance	Comments
Pear, European	<i>Pyrus communis</i>	Bartlett, Anjou. Flemish Beauty is self fertile	3-6 m	4	partially self fertile	yes	no	med	Susceptible to pests. Harvest is time consuming.
Pear, Asian	<i>Pyrus pyrifolia</i>	Shinseiki, Nijisseiki (Bartlett pear can act as a pollinator)	6 m	5	requires cross pollination	yes	no	med	Susceptible to pests. Harvest is time consuming. Codling moth might be a problem.
Plum, European	<i>Prunus domestica</i>	Italian (best flavour), Stanley, President	10 -15 m	4	partially self fertile	yes	no	med	Susceptible to pests. Harvest is time consuming.
Plum, Japanese	<i>Prunus salicina</i>	Shiro, self fruitful varieties: Santa Rosa, Methley	10 -15 m	5	Requires pollination with another Japanese plum.	yes	no	med	Less cold hardy than European plum.
Apple Serviceberry	<i>Amelanchier x grandiflora</i>	Autumn Brilliance	3-6 m	4	self fertile	yes	no	med	Harvest is time consuming.

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Nut trees									
Butternut	<i>Juglans cinerea</i>	Beckwith, George Elmer, Kenworthy	27 m	3	cross pollination needed	yes	no	med	NR Nuts are harvested when still green. Difficult to shell. Susceptible to butternut canker, a fungal disease.
Baurtnut	<i>Juglans cinerea</i> x <i>J. ailantifolia</i>	Mitchell	25 m	4	cross pollination needed	yes	no	high	RR Not as susceptible to butternut canker. Difficult to shell.
Chestnut, Chinese	<i>Castanea mollissima</i>	Grimo 112X, Grimo 114W, Qing, Sleeping Giant	15 m	6	Needs two varieties.	yes	yes	low	Susceptible to some diseases. Harvesting & raking are time consuming.
Filbert, Hazelnut	<i>Corylus avellana</i>	Blight resistant: Jefferson with Eta or Theta as a pollinator	7.5 m	5	Needs two compatible varieties.	yes	yes	high	Yellow catkins are susceptible to frost. Susceptible to blight & pests. Shell & freeze for keeping.
Heartnut	<i>Juglans ailanthifolia</i> var. <i>cordiformis</i>	Imshu, Campbell CW 1, Calendar, Gellatly	15 m	6	partially self fertile	yes	yes	high	Very ornamental but shoots are susceptible to frost. Resistant to blight. Difficult to shell.
Hickory, shagbark	<i>Carya ovata</i>	Neilson, Westchoke, Yoder 1, Glover, Wilcox	25 -36 m	5	cross pollination needed	yes	no	high	Leafhoppers a problem. Nuts are hard to shell. Needs deep well drained soil.
Pecan, Northern		Snaps, Carlson 3, Lucas, Cornfield		6	cross pollination needed	yes	no	high	Propagated on grafted trees that bear small nuts within 5-10 years. Borderline hardy.
Walnut, black	<i>Juglans nigra</i>	Emma K, Thomas, Westchoke, Bicentennial.	30 m	5	self fertile	yes	no	high	Susceptible to diseases & pests, especially aphids. Needs well drained rich soil. Allelopathic -produces juglone, a toxic substance that will eventually kill non tolerant plants. Takes 8-12 years to bear fruit.
Walnut, Carpathian/ English/ Persian	<i>Juglans regia</i>	Broadview is hardy. Lake & Metcalfe are moderate/ resistant to blight.	15 m	5	self fertile	yes	no	high	Superior to other walnuts & are non-allelopathic. Late spring frosts cause tip dieback. Very susceptible to walnut blight. Needs pH between 6 & 7. Grafted trees will bear in 3-4 years.

Common name	Scientific name	Cultivars	size	Cdn cold Hardiness zone	Pollination needs	Palatable when eaten raw?	Drought tolerant?	Maintenance	Comments
Edible groundcovers									
Strawberry, alpine	<i>Fragaria vesca</i>		15 cm	4	pollination required	yes	no	low	An excellent perennial edible ground cover.
Strawberry, June bearing	<i>Fragaria x ananassa</i>	Hood, Kent, Cavendish, Totem	15 cm	3	pollination required	yes	no	med	Only one crop per year. Planting depth is important.
Strawberry, everbearing	<i>Fragaria x ananassa</i>	Fort Laramie, Quinault	15 cm	3	pollination required	yes	no	med	Two crops per year (June/July and fall)
Strawberry, day-neutral	<i>Fragaria x ananassa</i>	Tristar, Albion	15 cm	3	pollination required	yes	no	med	Bears fruit June through fall.
Viola/ Heartsease/ Johnny Jump Up	<i>Viola tricolor</i>		15 cm	4	n/a	yes	no	low	Flowers are edible. Makes a good groundcover or edger in partial shade. Short lived.
Climbers perennial									
Grapes, seedless	<i>Vitis</i> spp.	Interlaken, Himrod, Suffolk Red, Skookum, Coronation, Glenora. VH: Valient & Beta	3 m	3	self fertile	yes	yes	high	Needs well drained soil, sun. Heavy yearly pruning. Pickle grape leaves in brine or use as wraps.
Grapes, wine	<i>Vitis</i> spp.	many varieties	3 m	4	self fertile	yes	yes	high	same as above
Hops	<i>Humulus lupulus</i>	Cascade, Willamette resistant to mildew	7.5 m	3	self fertile	yes	no	med	Rampant growth. Needs vine training on trellis or arbor. Prune vines to ground yearly. Flowers & shoots are edible. PM might be a problem.
Kiwi fruit	<i>Actinidia arguta</i>	Issai is self fertile and is less rampant in growth.	6 m	4	cross pollination needed	yes	no	med	Fast growing. Young shoots & flower buds vulnerable to frosts. Needs a male pollinator & frequent pruning.
Kiwi fruit, hardy	<i>Actinidia kolomikta</i>	Needs both a male & female variety.	6 m	3	cross pollination needed	yes	no	med	Fast growing. Needs a male pollinator & frequent pruning.

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Climbers, annual									
Bean, Runner & Pole	<i>Phaseolus coccineus</i> and <i>P. vulgaris</i>	Runner: Scarlet Runner Pole: Blue Lake, Purple Peacock, all are OP	3m	annual	self-pollinating	yes	no	med	Scarlet Runner bean flowers are the most beautiful but won't set seed in Kamloops' summer heat until the days start to cool. Black aphids a pest.
Cucumber	<i>Cucumis sativus</i>	Marketmore OP, Sweet Slice, Parthenocarpic: Dasher & Diva, Salad Bush.	1.8 m Salad bush: 60 cm	annual	pollination required	yes	no	med	Extensive vines can be tied to sturdy structures. PM can be a problem in late summer.
Squash, winter	<i>Cucurbita pepo</i> , <i>C. maxima</i> , <i>C. moschata</i>	Gold Nugget OP, PM resistant, bush; Uchiki Red Kuri OP; Delicata OP	1.8-4.8m	annual	pollination required	no	no	med	Grow vertically on sturdy trellis. Male flowers are edible. Roast seeds. PM can be a problem in late summer.

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Ornamental Foliage or Flowers									
Amaranth	<i>Amaranthus</i> sp.	Burgundy Grain, Red Leaf	1.5 - 2m	annual	pollination required	yes	yes	low	Wash & steam leaves briefly. <i>A. hypochondriac</i> produces nutritious grains.
Artichoke, globe	<i>Cynara scolymus</i>		1.8 x 1.8 m	grown as an annual	pollination required	no	no	low	Dramatic, jagged leaves. Requires rich, well drained soil.
Asparagus	<i>Asparagus officinalis</i>	plant one year old dormant crowns	1.5 m	3	n/a	no	yes	med	Takes a long time to establish. Requires rich soil. Amend yearly. Feathery, bright green foliage turns gold in the fall.
Beet	<i>Beta vulgaris</i>	Bull's Blood	25 cm	biennial	n/a	yes	no	low	Brilliant dark crimson leaves that can be harvested. Or pull the root.
Cabbage	Brassica oleracea	Many red varieties: Super Red, Redma, Primero, Red Acre OP, Savoy varieties: Miletta, Alcosa,	60 cm	biennial grown as annual	n/a	yes	no	high	RR Needs to be protected from cabbage moths with row cover or handpick the larvae. Needs humus rich, fertile soil. Use crop rotation.
Chives	<i>Allium schoenoprasum</i>		45 cm	3	n/a	yes	no	very low	BIF Decorative, spikey leaves. Edible leaves & pale purple ball-shaped flowers.
Chives, garlic	<i>Allium tuberosum</i>		45 cm	3	n/a	yes	no	very low	BIF Flat leaves & white edible flowers have a garlic flavour.
Corn	<i>Zea mays</i>	Kandy King, Lucious. OP: Golden Bantam, Pink Popcorn. Many other varieties.	1.2 -2.7 m	annual	wind pollination required	yes	no	med	A giant grass that produces plump creamy seeds. Plant in blocks when soil temperature is at least 15°. Yield to space ratio is low.
Daylily	<i>Hemerocallis fulva</i>	Hyperion, Stella d'Oro, Ruby Stella and many others are rebloomers.	75 cm	3	n/a	no	yes	low	Grass like foliage with beautiful lily-like flowers. Grows best in well-drained soil. Tubers & stems are edible as are flower buds & open flowers.
Eggplant/Aubergine	<i>Solanum melongena</i>	Rosa Bianca, Calliope. OP Black Beauty,	90 cm	grown as annual	pollination required	no	no	low	Large, bold-textured, gray-green leaves & purple or white fruits. Needs well drained soil.
Kale	<i>Brassica oleracea</i> var. <i>acephala</i>	Redbor. OP: Red Russian, Nero di Toscana, Lacianato	30-45 cm	annual	n/a	yes	yes	low	Pests can be a problem. Very attractive leaves.

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Nasturtium	<i>Tropaeolum majus</i> & <i>T. minus</i>	Alaska, Gleam OP	1.5 m -3m	annual	n/a	yes	yes	low	BIF Trailing or bush plants with edible leaves & bright yellow-red flowers. Pickle seeds. Used as trap plant for pests.
Okra	<i>Abelmoschus esculentus</i>	Jumbalaya	60 cm	annual	self-pollinating	no	yes	low	Early compact variety. Edible flowers last for only one day. Needs well drained soil.
Orach	<i>Atriplex hortensis</i>	Red Flash, OP: Ruby Red Mountain, Magenta Magic Mountain.	1.5 m	annual	n/a	yes	yes	low	Eye-catching plant whose leaves are less bitter & do not go to seed as readily as spinach.
Onion, bunching/scallions	<i>Allium fistulosum</i>	Ramrod OP, Red Baron Welsh (perennial)	40 cm	annual	n/a	yes	no	low	Start early indoors. Leaves form bold vertical clumps.
Rhubarb	<i>Rheum rhabarbarum</i>	Canada Red, Honey Red, MacDonald, Valentine	1.8 m	2	n/a	no	yes	very low	RR Very hardy. Enormous leaves are poisonous. Striking, colourful, edible stalks.
Sunchoke/ Jerusalem Artichoke	<i>Helianthus tuberosus</i>		1.8 m	3	n/a	yes	yes	high	RR BIF An aggressive edible tuber that needs to be dug on a regular basis to keep in check. Massive, coarse looking until blooming. Grow as a hedge.
Sunflower	<i>Helianthus annuus</i>	OP: Lemon Queen, Peredovik, Titan	1 - 1.8 m	annual	pollination required	yes	yes	low	BIF Massive, coarse looking until blooming. Grow as a hedge or screen. Edible seeds.
Swiss Chard	<i>Beta vulgaris</i> var. <i>cicla</i>	OP: Rhubarb, Bright Lights, Canary Yellow, Flamingo Pink	45 cm	biennial grown as	n/a	yes	no	low	Needs loose, moist, fertile soil. Will tolerate light shade.
Violet, sweet	<i>Viola odorata</i>		mounds	3	n/a	yes	yes	low	Edible flowers high in Vitamin C. Plant in soil that is not too rich. Partial shade from hot sun.

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Spring Vegetables									
Broccolini/Brokali	<i>Brassica oleracea</i>	Atlantis	40 cm	annual	n/a	yes	no	med	Broccoli/gailon cross. Stems are tender, delicious.
Lettuce	<i>Lactuca sativa</i>	Optima MI, Sangria MI, Sierra MI, Red Salad Bowl, Australian Yellow, Red Sails. OP: Simpson Elite, Rouge d'Hiver, Merlot	30 cm	annual	n/a	yes	no	med	Colourful, decorative leaves. Needs moderately fertile soil & regular water. Leaves can be cut just above the growing tips to produce a second crop.
Komatsuna	<i>Brassica rapa</i> var. <i>perviridis</i>	Komatsuna Green, Red	40 cm	annual	n/a	yes	no	med	BIF Vigorous, easy to grow. Use for salads or braising. Stronger tasting than Mizuna.
Mizuna	<i>Brassica rapa</i> ssp. <i>nipposinica</i>	Mizuna OP, Red Frills, Ruby, Red Kyona	40 cm	annual	n/a	yes	no	med	BIF Decorative finely cut leaf. Use in salads or soups.
Mustard Greens	<i>Brassica juncea</i>	OP: Giant Red, Osaka Purple, Tendergreen, Ruby Streaks	60 cm	annual	n/a	yes	no	med	BIF Peppery flavour. Use in sandwiches, soups, stir fries.
Pak Choi	<i>Brassica rapa</i> var. <i>chinensis</i>	OP: Taiwan, Ching Chiang, White Stem	40 cm	annual	n/a	yes	no	med	Upright, spoon shaped leaves. Use in stir fries & soups.
Peas	<i>Pisum sativum</i>	OP & PMR: Green Arrow, Avalanche, Oregon Giant, Sugar Ann, Sugar Lace II, Cascadia	45 cm- 1.8 m	annual	pollination required	yes	no	very high	NR Bush peas have a messy growth habit & may need to be staked. Tall peas are more attractive but need to be trellised. Difficult to remove from netting. PM a problem. Flowers are edible.
Radish	<i>Raphanis sativus</i>	OP: Cherry Belle, Champion, Easter Egg, French Breakfast, Sparkler	7-13 cm	annual	n/a	yes	no	high	RR Mature within a month after seeding. Radishes bolt as days lengthen. Flea beetles & root maggots a problem. Spicy flowers & seeds are edible.

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Other Vegetables Grown as Annuals									
Bean, bush	<i>Phaseolus vulgaris</i> var. <i>humilis</i>	Royal Burgundy (purple pods), Gold Rush (yellow pods) are OP, Blue Lake	45 cm	annual	pollination required	yes	no	med	Good edging plants. Plant densely (30 cm apart) to keep upright. Easy to uproot plants if pods are pulled too hard. Black aphids a pest.
Carrot	<i>Daucus carota</i> var. <i>sativus</i>	Best foliage: Danvers, Scarlet Nantes, Royal Chantenay	45-60 cm	biennial	n/a	yes	no	med	Decorative fernlike foliage. Needs loose moist soil. Pest: carrot rust fly - use row cover.
Parsnip	<i>Pastinaca sativa</i>	Harris Model OP	30-45 cm	biennial	n/a	no	no	low	NR The public often mistakes these for carrots & pull too early. Needs to be well signed. Attractive foliage. Needs a long season for roots to develop. Frost adds sweetness.
Pepper	<i>Capsicum annuum</i>	OP: Peppercici, Hungarian Hot Wax, California Wonder, Orange Sun, Red Bull's Horn	75 cm	annual	pollination required	yes	no	med	Many variations. Those with small fruits that ripen early are most ornamental. Have Shallow roots & brittle stems so plant breakage is a problem.
Potato	<i>Solanum tuberosum</i> ssp. <i>tuberosum</i>	Norland, Yukon Gold, Banana, Russian Blue	60 cm	annual	n/a	no	no	high	RR Plant certified disease free seed potatoes. Colorado potato beetle a problem. High pH soil causes scab. Flowers may form highly poisonous berries. Tubers need to be dug. Plants become scruffy looking.

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Squash, summer/ zucchini	<i>Cucurbita pepo</i>	Green fruit: Anton, Payroll, (PMR), Yellow: Golden Glory (PMR) Gold Rush, Golden Dawn	1.2-1.5 m	annual	pollination required	yes	no	high	Leaves are bold textured, mottled with silver patches. PM in late summer a problem. Blooms are edible.
Tomato	<i>Lycopersicon esculentum</i>	Determinate (bush): Celebrity. OP: Tiny Tim Heinz 1439, Manitoba. Indeterminate (vine): OP: Bonny Best, Sasha's Pride, Cougar Red.	.9 - 1.5 m	annual	pollination required	yes	no	high	Tying & staking needed. Use transplants. Fruits ripen slowly. Blossom end rot a problem caused by uneven soil moisture. Use mulch.

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Perennial Herbs									
Anise Hyssop	<i>Agastache foeniculum</i>	Blue Fortune, Desert Sunrise	50 cm	3	n/a	yes	yes	low	BIF Flowers are edible, use in salads or teas. Needs lean, well drained soil.
Beebalm/Bergamot	<i>Monarda didyma</i>	Choose mildew resistant varieties	50 - 90 cm	3	n/a	no	no	low	BIF Flowers used in tea & seasoning. Grows best in moist, well drained soil. Susceptible to PM.
Catmint	<i>Nepeta x faassenii</i>	Dropmore, Walker's Low	30-60 cm	3	n/a	yes	yes	low	BIF Needs well drained soil.
Comfrey	<i>Symphytum officinale</i>	Bocking 14 is a sterile strain	30- 75 cm	3	n/a	no	yes	high	RR BIF A garden thug - self seeds & is very deep rooted. A small piece of root will resprout in the compost. Leaves make an excellent herbal tea & composted mulch.
Lemon Balm	<i>Melissa officinalis</i>		60 cm	3	n/a	yes	no	high	RR Favours moist soil. Can become a garden thug. Self seeds prolifically.
Lavender	<i>Lavandula angustifolia</i>	Hidcote, Munstead	30-45 cm	5	n/a	yes	yes	low	BIF Flowers used in teas & conserves. Borderline hardy.
Lovage	<i>Levisticum Officinale</i>		2 m	3	n/a	yes	no	med	BIF Self seeds prolifically.
Mint	<i>Mentha</i> spp.	many varieties	30-90 cm	3	n/a	yes	no	high	RR BIF A garden thug, needs to be contained.
Oregano	<i>Origanum vulgare</i> ssp. <i>Hirtum</i>	Common, Greek	30-60 cm	3	n/a	yes	yes	very low	BIF Full sun, well drained soil. Edible flowers.
Sage	<i>Salvia officinalis</i>	many varieties	60-90 cm	3	n/a	yes	yes	very low	BIF Full sun, well drained soil.
Tarragon, French	<i>Artemisia dracunculoides</i> var. <i>sativa</i>		60 cm	3	n/a	yes	no	low	Grow from a division. Looks straggly by midsummer.
Thyme	<i>Thymus</i> spp.	many varieties	45 cm	3	n/a	yes	yes	very low	BIF Full sun, well drained soil.

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Annual herbs									
Basil	<i>Ocimum basilicum</i>	many varieties	45 cm	annual	n/a	yes	no	med	Needs warmth, rich soil & lots of moisture.
Black cumin	<i>Nigella sativa</i>		20 cm	annual	pollination required	an acquired taste.	yes	low	BIF Pungent seeds used in Indian & Middle Eastern cooking.
Borage	<i>Borago officinalis</i>		75 cm	annual	n/a	yes	yes	med	BIF , self seeds prolifically.
Calendula/Pot Marigold	<i>Calendula officinalis</i>	many varieties	45-75 cm	annual	n/a	yes	yes	high	BIF substitute for saffron. Remove wilted flowers to keep plants looking good.
Coriander/Cilantro	<i>Coriandrum sativum</i>	Santo OP bolt-resistant	30-45 cm	annual	pollination required	yes	yes	med	BIF , self seeds. Partial shade to full sun.
Dill	<i>Anethum graveolens</i>	Bouquet OP, Fernleaf OP bolt resistant	45-90 cm	annual	n/a	yes	no	med	BIF Self seeds prolifically. Ferny foliage.
Fennel	<i>Foeniculum vulgare</i> , <i>Foeniculum vulgare</i> v. <i>azoricum</i>	Non bulbing: Bronze Fennel Smokey Bulbing: Selma OP, Orion is bolt resistant	45-90 cm	grown like an annual	n/a	yes	no	med	BIF Non bulbing self seeds prolifically. Ferny foliage that is anise-scented. Edible bulb. Transplant carefully, don't disturb taproot.
Parsley	<i>Petroselinum crispum</i>	OP: Moss Curled, Dark Green Italian	30-45 cm	biennial grown as annual	n/a	yes	no	low	Vivid green highly decorative leaves. Good edger. Requires moist soil.
Summer Savory	<i>Satureja hortensis</i>		45 cm	annual	n/a	yes	yes	low	Leaves have neat, fine texture. Pink flowers in late summer.