



NORTHERN BACKYARD FARMING

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Design and Layout

www.soaringtortoise.ca

Soaring Tortoise

Illustration

www.alisonmccreesh.com

Alison McCreesh

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Northern Gardening

Oh, the places you'll grow!

Northern gardeners know all too well the challenges of growing fruits and vegetables in a northern climate. Conditions aren't always ideal and sometimes you have to find ways to grow in unusual spaces.

This book challenges you to change your perspective, because chances are you can find plenty of small, unusual spaces that could be used to grow healthy food.

Plants on the rocks

Northern gardening can be hard, with the thin soils, and rocky landscapes of the NWT. Subarctic conditions are dry and the growing season short. Don't be discouraged! Using the endless summer sunlight to your advantage, you can meet the needs of your plants and get them to grow just about anywhere.

Most plants thrive if given warmth, nutrients, water, and protection from wind and other elements. Native plants of the NWT are well-adapted to cope with growing conditions in the North and often take advantage of rock crevices and tight spaces. We can learn from these species and their creative use of habitat to make fruits and vegetables thrive.



Microclimates

What is a microclimate?

Growing conditions can vary depending on where you are in your backyard. Every small space has its own microclimate that can provide plants with unique growing conditions based on amount of sunlight, temperature, wind, rain and soil.

Pay attention to the factors plants need to thrive. A south-facing wall is an example of a warm microclimate, with long hours of reflected sunlight, protection from wind, and a heat sink that warms roots and protects from frost.

Nobody knows your yard better than you! That warm protected spot on the back deck that gets full afternoon sun could be the perfect place to grow tomatoes or zucchini.



All Plants Need

Gardener empathy



Plants are a lot like people, and they need many of the same things in order to survive. Your garden plants are going to need:

- Warmth, and sunlight!
- Food, from the soil!
- Water, lots of it!
- Shelter, from the cold, wind, and frost!

If you provide these things your plants will grow almost anywhere!

Warmth



Always on the sunny side of the garden.

Temperature is one of the most important factors affecting the success of your plants (and the hardest to control). Watch where snow melts soonest in the spring. This will give you an indication of where you should plant heat loving plants. Identifying these warmer areas is crucial to successfully growing sensitive garden varieties.

Cool loving plants should be placed in cooler microclimates, where wind and shade pair up to challenge the hardy veggies. They can take it!

House foundations may allow you to overwinter perennials that otherwise would perish in the winter. Rocks and walls exposed to spring sun will heat up the neighboring soil. Use these heat sinks to extend your season or try planting something new. Soil thermometers are a valuable tool to learn how different factors influence soil temperature.

Food



Look for the annual sale of compost from the City of Yellowknife landfill!

Plants get energy from the sun and nutrients from from the soil. Most backyards north of 60° have ample summer sunshine. Soil, however, is often scarce.

You can buy soil mixes or make your own. It's important to have lots of organic material or compost, and a good mix of nutrients and minerals. Make a lasagna garden by layering different organic materials; no digging required!

Having the soil tested for nutrients, pH, and metals (like arsenic) can be important if you plan on using the existing soil in your backyard.

Good soil will help your plants thrive!

Water



Singing in the rain!

Most of the NWT has a continental climate. It is semi-arid with little precipitation, and depending where you live, nearly double the amount of sunshine as elsewhere in the country. Plants in hot, sunny areas or in pots will dry out much faster than they would down outh.

Young plants need frequent watering. As the season advances less frequent heavy watering encourages strong deep roots.

Quick watering tips:

- Water seedlings every day!
- Mulching, adding compost, and using row covers will reduce the need for watering.
- Water in the evening or morning to reduce evaporation.
- Install a rain barrel to save water.
- Smaller containers or plots in the rock will dry out faster than large planters or raised beds.

Shelter



Beware of cold June winds!

Shelter for plants means protection from the cold, wind, and frost. For some cold-loving veggies it also means protection from the heat of the sun.

Consider the prevailing and cold local wind directions. A brisk June wind off a frigid lake can kill delicate seedlings.

When planting on a slope, consider the aspect. A south-facing slope catches afternoon sun and blocks cruel northern winds from battering plants.

Look for natural windbreaks and shelters or make your own. A cold frame can serve as a makeshift greenhouse. Cloches are miniature versions for individual plants. Cut the top off a 2-litre pop bottle and plop it on top of your spring sprouts.

Frost can hit anytime in the northern summer. Cold flows downhill to low-lying areas, while slopes and beds beside buildings or trees are often protected from harmful frost.

Whens and Wheres

Planning is half the fun!

Draw a map of your backyard/patio. Think about warmth, sun, shade, food, moisture, and where to plant specific vegetables. Mark the microclimates right on your map (red for warm, and blue for cool).

Create a calendar and schedule when to buy seeds, start plants indoors, and move plants outside. Which plants are started indoors, which can stay in pots, and which should you move to larger garden planters?

Do your research and plant what grows well in each of your microclimates. For example, squash and onions have trouble producing a crop when there's too much daylight.

Start small and enjoy little successes before trying more complicated things like vertical gardening.

Some like it hot

Some plants like it hot, others prefer to play it cool. Seed packets often provide an indication of preference.

Lettuce, cabbage, and broccoli like cool temperatures. So do beets, carrots, potatoes, and kale, which can be harvested long after the first frost. Tomatoes, cucumbers, zucchini, and beans like full sun and heat.

Many veggies prefer a warm shelter in our northern climate but even without a greenhouse, a cold frame, or cloches you can find success here by choosing short-season or cool-loving crops and planting them in your warmest microclimates.





- 1 Sunshine
- 2 Tomato pots
- 3 Raised bed
- 4 Hanging baskets
- 5 Containers
- 6 Potato planter
- 7 Vertical growing
- 8 Compost
- 9 South-facing wall
- 10 Canadian shield
- 11 Wind barrier

- 12 Warm microclimates
- 13 Cool microclimates
- 14 Prevailing winds

Making Use of Space

Get creative!



Green roofs can be made on a house, shed, or dog house.

Grow up and grow down! Grow in raised beds, in containers, in window boxes, on the rocks, on the fence, and in your house! A green roof may work for you but they can also be tricky; you'll need to be sure about the stability of a structure before building a green roof, and you'll also need a good waterproof liner.

Work with what you've got! Fill old junk like canoes, wheelbarrows or washing machines with soil to make unique northern garden beds.

Plant herbs or flowers between vegetables, or plant colourful greens (like Swiss chard) in flower gardens to maximize the panorama and harvest.

Ways to Garden

Use the rock

Rocky backyards may not seem like ideal places to grow food, but to the experienced northern gardener the rock is no obstacle.

Fill cracks and crevices with soil, they provide places for roots to establish and reach water. Be aware of drainage patterns, and plan your garden accordingly to keep soil and roots in place in heavy rains.

Plants in the rock can provide a pleasing view. Even a sloping rock can be gardened if you build supports on the low side to keep the soil in place. Or you can reposition rocks to form creative garden nooks. Using the rock as part of your garden reduces the amount of materials needed and is a great way to make use of unused space.



Raised beds

Many backyards in the NWT don't have enough soil. Building raised beds can solve this problem.

Raised beds let you control the soil, keeping your plant roots happy by providing warmth and keeping proper drainage. They make gardening easier because there is less weeding and stooping. You can build them as high or low as you need, and can fit them into rugged landscapes. There's also no need to walk on them so there is less compaction of the soil.

- You can make raised beds out of wood, stones, brick, concrete, or tires. Pallet wood makes great, inexpensive raised beds.
- Build your raised bed into a slope, around a tree or against a building - make fun shapes!
- Avoid using treated wood that could contaminate your food.

Square-foot gardening

Square-foot gardening is a popular method of organizing and diversifying a small garden. You can find further material on square-foot gardening in the Resources section of this guide.

Here are some simple instructions to get started:

- Divide your garden bed into 1-foot-by-1-foot squares using string, or by marking off the squares with sticks.
- In each square you'll need to make 1, 4, 9, or 16 small holes, depending on what is being planted. You'll then plant a few seeds in each hole.
- You may find it helpful to make a garden plan to map out which seeds to grow where.
- Some plants like to be close together while others need space.
- The strings keep things organized, so you can really mix it up and plant all kinds of veggies.

It's important to have good soil and lots of water when you have lots of plants in a small area.



Containers

Containers can be portable, small, and add colour and food to a balcony or empty corner.

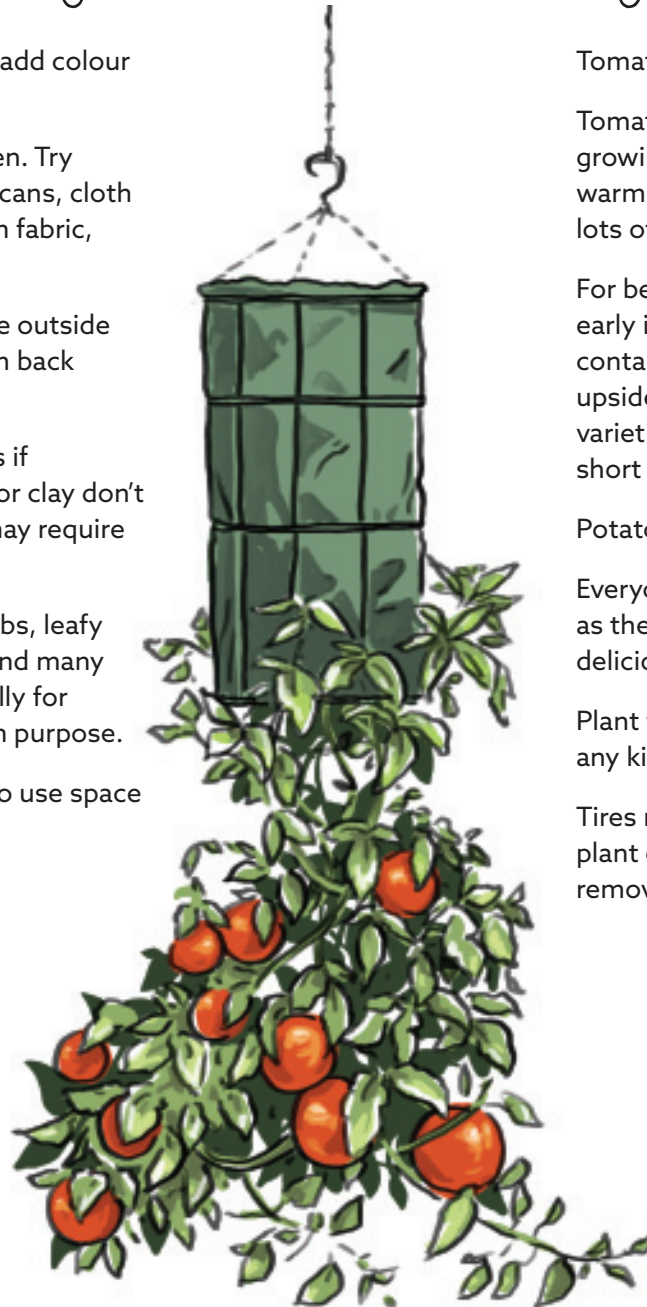
Containers are a fun, easy way to garden. Try planting in trash cans, boots, watering cans, cloth grocery bags, baskets lined with garden fabric, tires, wheelbarrows, or leaky canoes.

Start containers inside in May and move outside when the risk of frost is low. Bring them back inside if there is a frost warning.

Ensure proper drainage by drilling holes if necessary. Porous materials like wood or clay don't retain water like plastic or metal, and may require more watering.

Good plants for containers include: herbs, leafy veggies, tomatoes, zucchini, flowers, and many more! You can also buy seeds specifically for containers that do not grow very tall on purpose.

Try hanging pots, buckets, or baskets to use space efficiently.



Northern favourites

Tomatoes!

Tomatoes love the warm roots and sunshine that growing in containers can provide. They like a warm microclimate protected from the wind, and lots of moisture.

For best results growing tomatoes, start seeds early indoors and transplant them into bigger containers, or outdoors. You can also hang them upside down in a greenhouse. There are lots of varieties, sizes, and colours. Choose seeds with a short growing season.

Potatoes!

Everyone loves spuds! Mound seed potatoes as they grow, and dig deep in the fall for those delicious tubers.

Plant them in the ground, in a raised bed, or use any kind of deep container or bag you can think of.

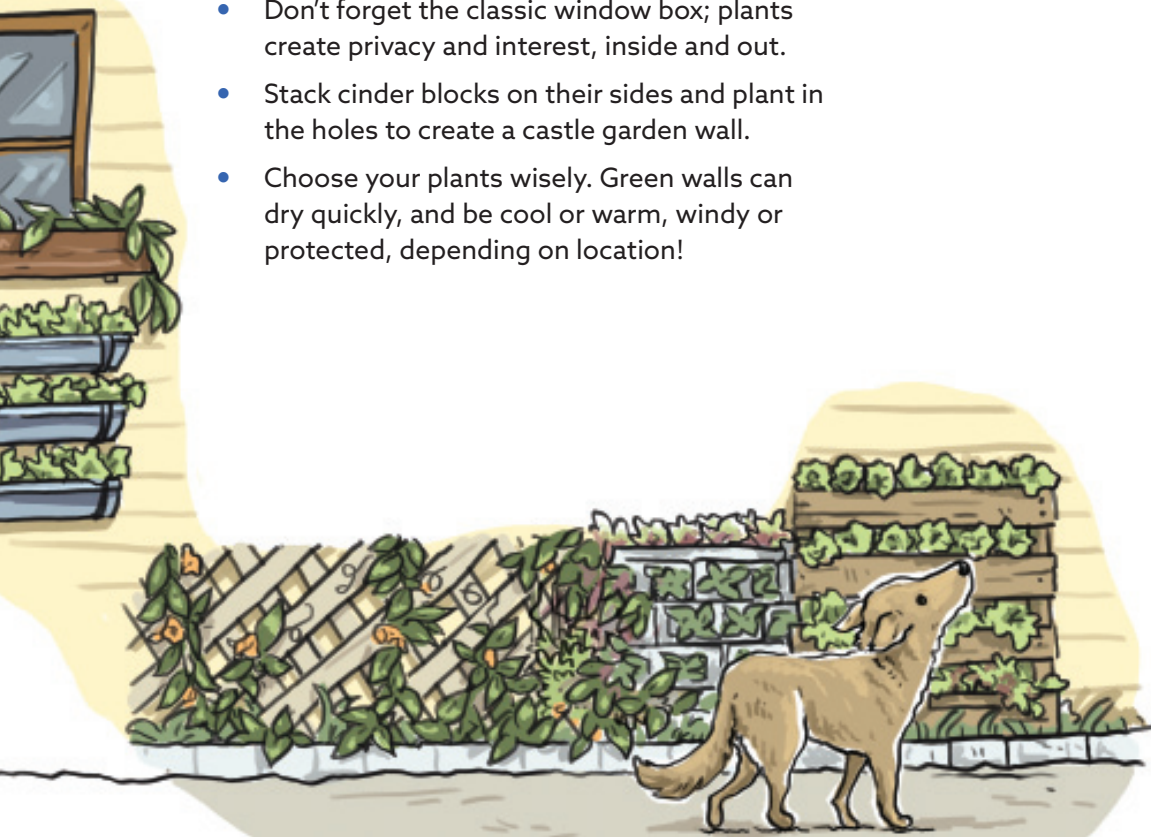
Tires make great potato planters. Add more as the plant grows to maximize yield. Harvest easily by removing tires from the top, one by one.

Grow up!

Vertical gardening is a great way to maximize growing area. Vertical gardens have a small footprint, but they reach for the sky.

Green walls are all the rage to grow shallow rooted veggies. It can be as simple as training vines or climbing plants up a lattice or fence. Peas, beans, nasturtium flowers, vine tomatoes, zucchini, squash, cucumber, and melons all love to grow up.

- Nail mini-planters, tin cans, yogurt containers, or eaves troughs to a south-facing wall, fill them with soil, and watch a drab fence or wall become a living thing.
- Don't forget the classic window box; plants create privacy and interest, inside and out.
- Stack cinder blocks on their sides and plant in the holes to create a castle garden wall.
- Choose your plants wisely. Green walls can dry quickly, and be cool or warm, windy or protected, depending on location!



Penthouse growing



Apartments provide opportunities for a different type of vertical gardening.

- Turn your balcony into a fun and fruitful oasis, by making use of window boxes, containers and hanging pots.
- What direction is your balcony facing? South, East, West, and North all have advantages and challenges. The cat knows where it's at! Take advantage of south-facing windows!
- Wind, sun, moisture, and warmth are key factors on a balcony.
- Adding glass or other protection from the wind may be key to success.
- Herb pots, tomatoes, microgreens, and sprouts are great plants for apartment dwellers!

Grow Your Own Way

Method in the madness



Gardening with kids can be a fun and rewarding experience for everyone involved.

Are you organized or chaotic? Do you travel in the summer or are you a homebody? Build your garden to suit your lifestyle. Think about your plants' happiness, how much time or interest you have, and what you hope to accomplish (quiet contemplation, show up the neighbors, or feed your family). Be realistic, start small and build on your successes!

- Plant a garden of your favorite pizza toppings.
- Plant herbs close to the kitchen.
- Plant veggies in with your flowers for a beautiful and healthy garden.
- Plant as much as you can eat, and avoid waste by storing or freezing your surplus.
- Use all the nooks and crannies; you'll be amazed at how much you can grow in a small space.

Bee diverse

Plant diversity encourages beneficial microorganisms and insects.

Garden Organic:

An easy way to ensure healthy soil and vibrant wildlife in your garden is to embrace organic growing. If you feed your soil, it will feed you!

- Use compost or manure to feed the soil.
- Avoid chemical fertilizers and pesticides.
- Reduce soil disturbance.
- Mulch can help keep the soil warm and moist; great for microbes!
- Mix it up! Plant a diverse and resilient garden.

Many insect species, including agricultural pests, are moving North with warming temperatures. You can report unusual sightings to the NWT Species Facebook page.



Northern know how

- Keep your plants' feet moist; water frequently!
- Think like a plant; what would they like, want, or need?
- Extend the growing season by starting indoors, using row covers, cold frames or greenhouses, and choosing the best microclimate.
- Spread mulch to discourage weeds and promote moisture retention.
- Uncover soil in the winter to allow frost to penetrate and prevent invasive insects from overwintering.
- Write down a plan that works for your space.
- Use walls or odd containers to make your garden fun and bountiful.
- Baking, canning, dehydrating, and freezing your harvest makes the weeding worth it.

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Resources



Yukon Gardener's Manual

Yukon Energy, Mines, and Resources Agriculture Branch, 2005

All New Square Foot Gardening

M. Bartholomew, 2013



The Year-Round Vegetable Gardener: How to Grow Your Own Food 365 Days a Year No Matter Where You Live

Niki Jabbour, 2011

The Winter Harvest Handbook: Year Round Vegetable Production Using Deep-Organic Techniques and Unheated Greenhouses

Eliot Coleman, 2009

Lasagna Gardening: A New Layering System for Bountiful Gardens,

Patricia Lanza, 1998

Small Space Container Gardens: Transform Your Balcony, Porch, or Patio with Fruits, Flowers, Foliage and Herbs

Fern Richardson, 2012

Ecology North

www.ecologynorth.ca Check the Ecology North website for more web resources.

Google images holds a treasure trove of ideas. Spend a few long winter evenings building up a collection of fun ideas to try.

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About this book

Out in the yard, on the deck, or in your home, there are many ways to garden and use the space you have to grow your own food. This guide provides ideas and useful information to help grow good food in our rugged landscape and northern climate. Be inspired to find small, unusual spaces to grow in your backyard or patio.

This is the fifth in a series of booklets that Ecology North has developed about food in the NWT. See our other backyard farming guides on chickens, soil health, compost, and preserving your harvest.

For additional books in the series or for more information, please contact Ecology North.
(867) 873-6019 www.ecologynorth.ca



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