





**THE URBAN EDIBLE  
GARDENING GUIDEBOOK**

**Chris MacLuckie**



# **THE URBAN EDIBLE GARDENING GUIDEBOOK**



# **THE URBAN EDIBLE GARDENING GUIDEBOOK**

*Your One Stop Guide for Growing Food in Small Spaces*

**Chris MacLuckie**

**5000 Miles Press**

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Cover photo by Chris MacLuckie. This picture from 2010 shows the versatility of the recycled vertical planter barrel.

Rear cover photo by Chris MacLuckie. This photo from 2006 shows a barrel of freshly made aerated compost tea, a powerful garden ally.

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*To Oda*



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My grandparents, my parents and my brother have been there for me since the beginning and I thank all of you.

I would also like to thank The Canadian Organic Growers for their support since I started farming in 1997.

Finally I would like to thank and acknowledge my customers and clients from over the years; all the gardens I've had the privilege to work in; every gardener who finds satisfaction with helping life grow; and last but not least every aspiring author.

Chris MacLuckie  
February 2017  
Rockingham, ON



## **FOREWORD**

Having known Chris for many years, I was excited to hear he was going to expand on his first edition of The Urban Edible Gardening Coursebook. Mr MacLuckies' new edition is a significant contribution to the annals of urban edible gardening.

It thoroughly details the necessary maintenance protocols in a concise and coherent manner. The sections on monthly garden tasks are useful for both the beginner and experienced gardener.

The guide book form in which it was written is useful and welcoming for any level of proficiency. And the comments and observations can only come from someone who has long been busy with dirty hands.

Chris T. Farmer  
Ontario, Canada 2017



## **INTRODUCTION GUIDEBOOK OBJECTIVE and EDITIONS**

### ***The Urban Edible Gardening Guidebook was written:***

- **To be a useful template for future courses in organic urban agriculture.**
- **To help produce healthy, high yields of delicious produce wherever you may live.**
- **With an emphasis on small space 5 sq ft to mid size 4500 sq ft (1/10 acre).**

This book is a comprehensive instructional manual covering all the components of urban agriculture.

### ***Standout features of the guidebook:***

1. It emphasizes the bigger picture.
2. It addresses system components in thorough detail.
3. It offers practical detail on how to design, install and maintain urban gardens of all size ranges.
4. It details 100 plant growing protocols for ZONES 3-5.

# The Urban Edible Gardening Guidebook

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The 1<sup>st</sup> edition was written in 2010 as a first in a series to help growers and gardeners with their journey of discovery in sustainable and organic gardening delights. The original intent was for it to be used as the Coursebook for a proposed Urban Edible Gardening Course in the spring 2010, which I was to teach, at Humber College in Ontario. It was written to be read aloud on site at the demo garden we were to create.

At the time I was the owner-operator of The Greener Side, an edible-ornamental gardening company in Toronto. The last few years prior to that I had designed, installed and maintained dozens of urban edible gardens. This period followed a career in organic vegetable farming, primarily Community Supported Agriculture.

The 2<sup>nd</sup> edition from winter 2017 was written to fully complete the original beta edition. Taking the concepts and protocols from the first edition I endeavored to make them thoroughly cohesive, comprehensive and easy to follow. The current format of the book continues to be in the course book tradition. Sections are meant to be read aloud, discussed, reviewed and summarized.

The second edition expands on the first in several ways:

1. Section and chapter entries are more thorough.
2. The new edition contrasts types of small to large gardens.
3. A 750 square foot garden is designed, installed, maintained and harvested.
4. DIY instructions for building inexpensive worm composters and balcony sized heated greenhouses are included in detail.
5. Social and economic dynamics of gardening are also addressed - the big 3: local, organic, fresh.
6. The concept - and reality- of sustainable agriculture is laid on the table.
7. And finally, it also brings perspective from homesteading, where the garden is not quite farm size, but is larger than most urban farms, and may also include animal husbandry.

I wish you the best in your garden delights.

Happy Trails!

## **CHAPTER 1 GUIDEBOOK FOCUS**

*The focus of this guidebook  
is the following:*

*Outlining the steps and resources required to  
create and maintain natural, locally sustained  
urban edible gardens. Gardens that feed  
humans well, and are ultimately internally  
generated, closed loop and self regulating.*

### **THE GUIDE ADDRESSES THIS GOAL THROUGH:**

1. Focus on human need for healthy food and on the environments/ gardens' need for balance through wise and sustainable stewardship.
2. Focus on nutrient cycling: feed the human by feeding the needs of the environment.
3. Garden self regulating focus.
4. A layout that encourages the gardener to integrate sustainable principles and practises, from the design onwards.

## **FOCUS ON HUMAN NEED FOR HEALTHY FOOD AND ON THE ENVIRONMENTS/ GARDENS' NEED FOR BALANCE**

Humans need food, shelter, clothing as well as all of our other cultural needs. The environment needs balance to exist in perpetuity.

How we balance our nutrition and other needs with those of the environment affects our present and future well being, as well as the state of the earth.

## **NUTRIENT CYCLING: FEED THE HUMAN BY FEEDING THE NEEDS OF THE ENVIRONMENT**

Nutrient cycling is the food side of energy needs in humans. Energy cycling is the interrelated movement of all our needs/ creations and those of our environment. How we create and eat our food and then deal with its and our wastes falls within the sphere of nutrient cycling. How we work the totality of our existence with the resources and space of this planet is energy cycling.

Gardens display sustainability when the system enhances efficient nutrient and energy cycling. There is no waste, but rather, an interconnected movement of resources.

## **GARDEN SELF REGULATING FOCUS**

Garden systems that are self regulating, where the components of the system act together and are modified and adjusted internally -by nature and not by humans- are easier to maintain and therefore more desirable from a maintenance standpoint.

They also can be the most delicate and hardest to install as the self regulating garden will most always reflect the idiosyncrasies of the unique environment in which the garden is situated.

For humans to help create this balance requires diligent observation. Gardening according to these principles can be found in analog forestry and permaculture principles.

## **GARDEN DESIGN, INSTALL, MAINTENANCE AND MAKEOVER**

These activities are the 4 pillars of gardening. Neither is more important than the other.

Designing a garden can seem like a lot of fun. The possibilities are endless...and the rewards can be so easy...

Installations are usually done in the spring, full of life and enthusiasm, after the long winter inside.

### ***Then comes the work...***

Maintenance sounds tedious, but regular maintenance makes light work of the garden, and prevents costly or time consuming makeovers later on.

And although makeovers don't seem fun, their result is a new beginning, and a return to the yields and vitality once known.

A holistic approach works on integrating the design process with the unique garden site, and by installing a system that will have momentum towards health. The maintenance will be governed by timely execution, gaining the most yields for the effort given. Makeover processes are part of the regular maintenance, so that if and when problems arise, one is equipped in how to correct them.

This guidebook focuses on a design approach that encourages self-sufficiency, vitality and productivity.

This focus strives to reduce some of the more onerous parts of makeovers. The extensive install and maintenance entries address this goal.

Makeovers are sometimes unavoidable- but most often can be prevented. The protocols in this book can help.

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## CHAPTER 2 FOUNDATION OF URBAN EDIBLE GARDENS

*This chapter outlines the conditions and materials needed to grow successfully; it also describes organic & local methods for long term gardening success.*

### **EACH GROWING AREA NEEDS SEVERAL COMPONENTS:**

1. Sunlight
2. Air
3. Water
4. Nutrients (soil or hydroponics)
5. Space/ containers/ ground for the plants
6. Seeds/ plants
7. Labour to tend and harvest.

**SUNLIGHT:** Optimum growth requires at least 6 hours for most edibles.

**AIR:** The roots and foliage both need air. The roots, so they can move, grow and "breathe", the foliage so they can "breathe" air-borne nutrients.

**WATER:** All plants need water to grow and cycle nutrients.

**NUTRIENTS:** Nutrients can come in many forms: minerals; organic matter that provides a food source for micro-organisms such as bacteria, fungi, and protozoa; and/ or synthetic petroleum derived.

**SPACE/ CONTAINERS/ GROUND:** All plants need space and an area for the roots to settle and spread. Edibles need support for their upward and outward growth.

**SEEDS/ PLANTS:** The plant can grow easily from seed or transplant when giving the right nurturing conditions.

**LABOUR:** Without the helping hand and directing mind of the gardener, the garden goes wild.

***We emphasize organic/ naturally derived and locally sourced nutrients in this workbook for several reasons:***

1. We are trying to show how urban edible gardens can be created and installed in a post oil environment.
2. We are trying to show how a garden can be grown using readily available local resources.
3. We are trying to create gardens that are ultimately self-regulating. Synthetic fertilizers have no part in self-regulating garden systems.

***The better the garden soil conditions the better the end product or harvest.***

Because:

1. We are trying to satisfy human nutrient needs with as little actual food as possible.
2. We are trying to create concentrated, fresh super foods, full of required nutrients: enzymes, minerals, vitamins...
3. We are emphasizing quality over quantity first, so that in any small area available, the grower may know how to grow nutritionally complete food.

***Natural growing mediums are the foundation of a successful, sustainable edible garden.***

Because:

1. If managed correctly on site, they produce no negative side effects or unusable waste.

2. They address nutritional quality of produce before quantity. Growing balanced healthy harvests full of minerals and vitamins ensures optimum health for the consumer. High yielding crops that are super healthy as well are even more desirable.
3. All the needed resources can be sourced locally.
4. They allow the roots of each plant to be fed in a way that fosters plant balance, optimum growth and nutrient uptake. Balance minimizes stress, disease, infestation and encourages higher yields in more nutrient dense harvests.
5. They are the first stage of on-going soil regeneration, which is the way in which urban edible gardens are maintained in perpetuity, ensuring continued healthy harvests every year.

This guidebook will show how to create high quality growing conditions/ natural growing mediums that optimize the components necessary for nutritionally complete harvests.

This will be discussed at length in the Urban Edible Design and Install Section.

## THE HISTORY OF EDIBLE GARDENS

The edible garden was the first expression of agriculture, the evolution of edible plant gathering. Instead of periodically going to where the plant food source was, human societies either moved to where the plants were, or brought them alive or in reproducible form to where they lived, then mimicked natural growing conditions to grow them at their convenience.

With the introduction of cultivated plants, cultivars were bred for desired characteristics, and unwanted traits were bred out. For example, succulent growth was bred for, and woody stems bred out.

Cultivated plants are different from their wild or native cousins in several ways:

1. They produce a higher yield
  2. They have more flavour
  3. They provide for a higher population density
- AND**
4. They need more water
  5. They need more nutrients
  6. They need more attention.

As agricultural techniques improved, so did yields, allowing fewer farmers to grow more food, freeing others from having to grow their own. With the advent of petro-power and petro-fertilizing, yields increased even more, reducing the bulk of the population from even day dreaming about how their food is grown.

Alas, every step forward into more streamlined food gathering/production and consumption is a step away from our natural rhythms and cycles. It prevents us from having wisdom of the day to day.

Getting back into growing your own is not just a way to save money, it's a way to reclaim our health **and** our wisdom.

## THE FOLLOWING ITEMS ARE NEEDED FOR A SUCCESSFUL URBAN EDIBLE GARDEN:

**PEOPLE:** to maintain and harvest the garden

**SPACE:** areas are needed for the plants to grow

**SUNLIGHT:** edibles require at least 6 hours daily

**GROWING MEDIUM:** if grown with soil as the medium, soil is needed. Otherwise, liquid nutrient solution is needed for hydroponics

**CONTAINERS/ GROUND:** to hold the growing medium

**COMPOSTERS:** to recycle garden and food waste

**FERTILIZERS/ COMPOST:** to boost growth when needed

**WATER SOURCE:** to water plants as needed

**A PLACE FROM WHICH TO ENJOY IT:** to savour and reflect on the bounty.

## THE LIVING SOIL

Soil is not simply a medium for roots to access water and nutrients. It is a living eco-system that interfaces with plants via their roots.

Soil comprises:

1. Air
2. Minerals
3. Water
4. Organic matter
5. Microbes.

The modern petro farmer emphasizes the first 3 as petro- nutrients can force feed plant roots with what's required to look good. By ignoring the latter 2, the interface between roots and the soil is compromised and dis-ease ensues, requiring petro-pesticides and fungicides to keep harvests at required levels.

The hobby farmer, organic grower and urban gardener emphasize all 5 components with particular attention to preserving and increasing the health of the latter 3.

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On average soil organic matter is in the range of 3-10%, found in the top inch or two of soil.

Organic growers have grown very successfully in soils with up to 30% organic matter and to depths of 18" or more.

How does organic matter and microbes make a difference to the soil and why are they so important to the health of the plant?

First off, organic matter is made up of decomposed and decaying plant and microbe matter. Micro-organisms break down organic matter from bigger to smaller aggregates. We also help the decomposition process by composting. Worms do it thru their digestion.

As microbes eat and/or chelate minerals and organic matter, they become accessible to plant roots. When the microbes die they provide further nutrients, for following microbes as well as plant roots. Soil bacteria that live by plants roots provide nutrients and moisture there. Soil fungi travel vast distances, and transfer water along their "roots" or hyphae. In exchange for nutrients, the fungi pass on water to the roots.

The relationship between microbes and organic matter is at best, symbiotic or mycorrhizal. It can also be parasitic as well as decomposing. Soil science pioneered by Dr. Elaine Ingham, who termed the "soil food web", is the science of directing microbes for beneficial outcomes including:

- Increased yield
- Increased nutrients
- Increased storage ability
- Increased immunity.

Biodynamic farming has also been at the forefront of adjusting soil microbes, organic matter and mineral content for positive effect.

Mainstream horticulture of the 21<sup>st</sup> century will come to the conclusion that microbes, organic matter and minerals can all interface dynamically with plant roots as needed for healthy growth.

In simple terms, this means soil as a healthy living organism interacts as needed with the plant roots that are in its area. Only soil with a refined level of stable organic matter or humus, as well as a diverse and dense array of minerals and soil micro-organisms can do this.

This kind of soil shows intelligence. The plant roots access the minerals and living nutrients it needs, leaving the unneeded components for later plantings. As the plant dies off, it releases the nutrients it used back into the soil, to be decomposed and used again. If the whole plant was removed, composting the unused parts brings those elemental qualities back into the soil.

And so the living soil keeps living in a self sustaining closed loop.

### **FROM BALCONY TO HOMESTEAD, THE GOAL IS THE SAME: CREATING A SELF SUFFICIENT, SUSTAINABLE GARDEN**

Satisfying the plants and our respective nutrient needs by using resources/ products/ by-products sourced naturally and locally helps create a closed loop garden.

Once all the nutrient needs are satisfied on site, it is a true closed loop system. Excess food can be traded with other local growers and consumers. Food not grown on site can be bought or once again traded in.

A well designed edible garden the soil and environment will be self generating and very efficient.

If the air, water, nutrient and space needs of the garden are satisfied locally and naturally it will:

1. Generate a low ecological footprint,
2. Create minimum disruption/ impact to the eco-system right from beginning to end.

## “ORGANICS MADE EASY”

*Organics done right is preventative, then corrective.*

- Proper contact with sun: Knowing that each plant has specific sun requirements for proper photosynthesis.
- Proper contact with soil: Means that the soil is suited for the selected plant growth, and that you know how to work with the soil organically to affect the desired effects.
- Proper contact with water: To neither drown nor parch the plants.
- Proper site location for each plant.
- Proper contact with your intuition and feelings: Which allows for a deeper relation with the plants, helping you to be a better caregiver, thus helping prevent problems before they start.

## REUSING BY-PRODUCTS ON SITE COMPLETES THE TREND OF EFFICIENT NUTRIENT/ ENERGY CYCLING.

**GREY WATER:** run off tap water, dishwater, laundry water

**RAIN WATER:** run off roof water

**COMPOSTING:** gathering garden kitchen waste together in a suitable nitrogen-carbon balance to create a heat mixture that transforms into humus rich soil over time

**VERMI-COMPOSTING:** composting indoors or outdoors with worms

**CHICKEN RUNS /COMPOSTING:** chickens eat small and large garden and kitchen scraps that the composters would have a hard time with. Also provide eggs

**HUMANURE:** composting human manure for garden fertilizing (non-edible parts of the garden)

**URINE FERTILIZER:** applying human urine as a natural fertilizer/ pesticide/ herbicide

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**COMPOST TEA:** creating a liquid mixture from compost and water, to fertilize and protect plants

**SEED SAVING/ PLANT PROPAGATION:** saving seeds from on site plants saves money. Also, each successive generation of offspring becomes more adapted to the local conditions

**CONTAINER RE-USE:** re-using wood and plastic to create growing and composting containers.

The above are all re-cycling methods that ensure on-site stability and longevity.



## **CHAPTER 3 URBAN EDIBLE PLANT SPECIFICS**

*This chapter outlines types of edibles,  
as well as their soil and climactic needs.  
Charts detail cultivar characteristics  
and companion growing options.*

### **TYPE OF EDIBLES:**

1. Vegetables
2. Herbs
3. Berries
4. Fruits
5. Nuts
6. Grains
7. Sprouts
8. Mushrooms
9. Edible Flowers.

**VEGETABLES:** Most vegetables grown in northern climates are annuals, some are biannual.

**HERBS:** Mostly used as flavorings or for medicinal purposes; the majority of herbs are perennial.

**BERRIES:** Berries are most often perennials, growing on low or tall bushes.

**FRUITS:** Fruit can come either from perennial trees, or annual vegetable plants, or berry bushes.

**NUTS:** Nuts are usually from perennial trees, but sometimes from lower bushes as well. Mostly grow in warm climates.

**GRAINS:** Think of tall grass: the grain is the seed of the plant; usually grown in large areas.

**SPROUTS:** The initial growth of a seed is called the sprout. Sprouts are great for growing indoors or in the winter. Highly nutritious as the sprout is the concentrated version of the future plant. Best eaten raw, also good in smoothies and soups.

**MUSHROOMS:** Mushrooms like shitake or oyster can be grown in shady or moist locations. In other words, where other edibles won't grow.

**EDIBLE FLOWERS:** Ranging from nasturtiums to daylilies to roses.

## ANATOMY OF A PLANT

*Put simply, plants can be divided into 4 parts:*

1. Roots
2. Stalks/ leaves
3. Flowers
4. Fruits/ seeds.

We will start with the seed and go back to the root.

The seed is capable of lying dormant when dry, yet still be capable of sprouting after decades!

When water is introduced, the seed soaks up the moisture and the outer shell cracks open. From the bottom sprouts a root then just after, the first leaves or shoot. During this magical process the new plant is receiving it's nutrients from water and the seed itself. Sometime in the next few days, as the root gets longer and more developed, nutrients are drawn in from the soil. The roots develop more quickly or slowly depending on the water, air pores and nutrients available, as well as the sunlight photosynthesizing the new emerging leaves.

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As the plant grows underground, so it does above. Commonly understood in times past was the fact that a plants root mass is equal both above and below ground- hence the emphasis on building your soil and the roots.

Bio-chemical secretions in the root zone attract and repel soil microbes, which in turn, feed the plant roots in beneficial ways. This symbiotic cycle is the underground circle of life that corresponds to the cycle within the plant itself. Soil microbes are so small that they can pass into and on the plant roots themselves and then into the plant. They bring disease or well being, depending on their relationship with the plant.

If we were to look at plants with high powered microscopes we would no longer just think of PLANT. We would see that the plant thrives or dies because of the gazillion tiny living things all around and in it.

***With nurturing root stimulation, growth above ground occurs as hoped for:***

- Healthy leaf production
- Bountiful flowering
- Prolific fruiting and seeding without infestations.

Leaf is the generic term for all vegetative parts of the plants including stalks, trunks, branches, shoots, canes.

***The many functions of leaves:***

1. They directly take energy from the sun – photosynthesis- and use it to enlarge itself above and below ground, while also gaining momentum for the next stage of the plants cycle.
2. They provide oxygen
3. They provide food
4. They provide habitat
5. They provide shade
6. They provide material.

When the time is right- the plant starts to flower. Flowering occurs to initiate plant reproduction. Some plants need to be pollinated with pollen from flowers of another plant of their species, while some can be self-pollinated. Wind, insects, birds and other animals help with the flower pollination.

After this part of the plants life, the plant starts shifting its energy into either fruiting or seeding.

Most often, the seeds are inside the fruit. Putting a tasty cover on the seed is a great way to ensure the seed spreads far and wide, increasing reproductive success. Some seeds are covered with prickly shells that stick on passing creatures. The many ways that plants try to ensure continuation of their species is what makes the plant world so exciting in its own right.

Getting a harvest is the point of tending a cultivated edible garden.

Saving seed, cuttings or roots allows the gardener to reproduce the garden year in year out.

## **NORTHERN GROWING REQUIREMENTS FOR EACH TYPE OF EDIBLE (ZONE 3B-5)**

### **VEGETABLES**

- In southern Canada, where I live, we grow a range of hot and cold climate veggies in our growing season. We plant according to the weather and frost dates. Greenhouses and temporary enclosures extend the season and allow for a longer harvest.
- Vegetables are commercially grown primarily outdoors in soil; there are also many year round greenhouse operations growing in soil and with hydroponics.
- In urban areas, vegetables are mostly grown in backyards, balconies or decks in containers with soil.
- Veggies are rarely grown indoors as their light requirements are too high for normal house conditions.

**Air/ sunlight:** Need good air circulation above and below ground. Veggies need 6+hours of sun.

**Water:** Each vegetable family has its own preference but on a whole, higher yields can be achieved with more water, but this can affect taste.

**Nutrients:** Vegetables are greedy for nutrients. Good soil full of micro-organisms, minerals and stable organic matter –HUMUS- is a basic requirement for nutritious harvests. Plus think of it like this, the more the veggies are fed natural nutrients, the higher quality the harvest/produce will be, which is better for us.

**Containers:** Vegetables can be grown in the ground if space permits, or in containers such as wine pails, olive barrels, etc to fit in small spaces or where there is no ground/soil. Hydroponics is also a viable option for veggies, but requires a proper set up and diligent maintenance.

## { HERBS }

- There are many, many kinds of herbs and their growth requirements widely vary. A traditional herb garden is a full sun garden with medium quality soil that may dry out on occasion.
- Nutrient needs for herbs are not as high as for vegetables.
- Herbs can be plants that grow low to the ground, but often are simply a medicinal part of a larger perennial bush or tree.

**Air/ sunlight:** Need good air circulation above and below ground. Many herbs need at least 6 hours of sun; some will do with half day sun.

**Water:** Many herbs can manage on little water, some require more.

**Nutrients:** Many herbs can manage on poor to mid grade soil, some require as much as any vegetable.

**Containers:** Containers/ pots are great for herbs as they can be situated close to the kitchen. Herbs will grow in ground or containers and even hydroponics for some.

## ( BERRIES )

- Berries are a diverse group of plants where the edible part is a small tasty fruit.
- Sprawling berries or brambles include raspberries, blackberries and boysenberries.
- Bush berries include Saskatoon berry, red currants and blueberry.
- Trees include service berry and elder berry.
- Low lying plants include strawberry, cranberry and blueberry.

**Air/ sunlight:** Need good air circulation above and below ground. Most berries need at least 6 hours of sun, as do flowering/ fruiting plants in general.

**Water:** The same watering needs as vegetables. Higher than herbs.

**Nutrients:** Berries generally like rich, well drained soil.

**Containers:** Generally grown in the ground, strawberries are good candidates for containers; however they may have more chance of winter kill in the containers. Sprawling brambles (raspberries, etc) can take over areas and should be grown on trellises and against fences.

## ( FRUITS )

- Fruits grow on trees, perennials and even annual bushes.
- We grow northern perennial fruits such as apple, pear, and plum in our region. Peaches and apricots are possible a little further south.
- Annual fruits are melons, part of the cucurbit family. Actually many garden vegetables such as tomatoes, are actually annual fruits.
- Grow in height from 2 feet to 50 feet.
- Dwarf or semi dwarf varieties grow to around 20'.

**Air:** Need good air circulation above and below ground. Most fruit trees need at least 6 hours of sun, as do flowering/ fruiting plants in general.

**Water:** Need a good amount of water, in a well drained environment.

**Nutrients:** Once fruits are established, nutrient feeding is not as important. However, protection for insect/ animal attacks is always an issue with organic fruits.

**Containers:** Some dwarf varieties of fruit trees can be grown in containers. Generally grown in the ground. Dwarf varieties are more popular in an urban setting.

## ( NUTS )

- Nuts, for the most part, come from large trees. Many of these trees are native trees from forests that can be found as specimen varieties in ornamental landscapes.
- Chestnut, oak, pine, gingko, walnut, hazelnut are examples of common nut trees.
- Nut trees often have a deep taproot, making them able to survive and grow well in many conditions. The deep tap root is a factor why these trees are so commonly found in cityscapes.
- They can grow quite large, up to 100 feet or more.
- Smaller varieties can grow to around 20 feet.

**Air:** Need good air circulation above and below ground. Most nut trees need at least 6 hours of sun, as do flowering/ fruiting plants in general. Non compacted soil is best for nut trees due to their deep taproot.

**Water:** Need a good amount of water, especially when young, in a well drained environment.

When established, need less water

**nutrients:** most nut trees prefer rich soil.

**Containers:** Are not recommended for containers.

## ( GRAINS )

- Grains aren't really suited for the size of most urban gardens. However, if they are really sought after, then they can always fit in.
- For very small spaces amaranth, quinoa and hemp are better options than the grass grains.

**Air/ sunlight:** Need good air circulation above and below ground. Most grains need at least 6 hours of sun.

**Water:** Generally need less than most vegetables, as grains origin come from a more arid topography.

**Nutrients:** Grains can do well in a range of soils, nutrient conditions and are easy to grow.

**Containers:** Generally grown in the ground, some grains such as corn or hemp are good candidates for containers. Some grain crops are planted very close together and look like ornamental grass while growing. They can be grown in containers as well.

## SPROUTS

- Are usually grown indoors in jars or shallow trays. Commercial operations often use specially made large containers with self drainage.

**Air/ sunlight:** Need some air flow in between growing sprouts to prevent mold from setting in. Do not need sun to germinate, but light does help for chlorophyll uptake.

**Water:** Must be watered through rinsing, once or twice a day. Filtered or spring water is preferred.

**Nutrients:** No nutrients are needed as in this initial growth stage; the sprouts are getting their energy directly from the seed.

**Containers:** Mason jars or any glass jar works well, a j cloth cover attached by an elastic keeps the sprouts in the jar when draining.

## MUSHROOMS

- Mushrooms like shitake or oyster can be grown in shady moist locations, where other edibles won't grow.
- Some mushrooms like Reishi are grown for site remediation.

**Air:** The air must be clean.

**Water:** The environment must be evenly humid.

**Nutrients:** The high nutrient mediums are sterilized to ensure targeted fungi colonization.

**Containers:** Mason jars, sterile bags, oak logs.

***Growing drought and fertility resistant varieties of crops is a way to lower labour and material inputs.***

## EDIBLE FLOWERS

Annuals or perennial edible flowers can provide extra colour and class to the urban harvest.

- Some common edible flowers are nasturtiums, borage, squash flower, daylily flower.
- High phosphorus content in the soil enables higher flower count.

**Air:** Flowers will last longer if the plant is not getting moldy: make sure there is lots of room for air flow.

**Water:** Flowering quality and quantity is sometimes boosted by holding back on watering, in comparison to leafy crops.

**Nutrients:** For more flower production use an amendment like bone meal, or Epsom salts.

**Containers:** Most edible flowers can manage on mid grade soil, in containers or in the ground.

## ``PLANT SELECTION MADE EASY``

***Choose your plants according to the fit between:***

1. What you like to eat
2. What can grow in our climate
3. What is easy to grow in all 3 growing seasons
4. What produces under a range of yearly variations (cool-wet, hot-dry)
5. What fits in your garden space reasonably (i.e. allowing a decent harvest).

## FABACEAE (LEGUMINOSAE)

*This is the “nitrogen fixing” family of plants that includes:*

- Peas
- Beans
- Fava Beans
- Soybeans

**GENERAL:** The nitrogen fixers grab nitrogen from the air and take it down into the soil, where bacteria feed from it off of the roots.

**HEALTH BENEFITS:** The Legume family have the highest in protein of all the garden vegetables.

**PART OF PLANT HARVESTED:** The fruit pod and seed is the part that is harvested, depending on whether you are harvesting fresh or dry.

**SOIL NUTRIENT NEEDS:** Legumes are the least nutrient needy of all vegetable edibles, but like non-acidic soil. They are light feeders with medium depth roots.

**GENERAL GROWING GUIDELINES:** Favas and peas like cooler weather, soybeans hot or cold, and beans like warmer weather.

**HISTORY:** Legumes have been the main source of protein for much of the worlds’ population for thousands of years, and are grown the world over.

*The 2 major benefits of planting lots of “legumes” in your garden are:*

- They provide soil nutrients without having to add any materials
- If used in balanced meal preparation, they reduce the need for meat proteins.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>PEAS</b>
<b>Latin Name</b>	<i>Pisum sativum</i>
<b>General Description</b>	A super sweet crop that benefits the garden through its nitrogen fixing leaves and root secretions.
<b>Soil and Fertility Needs</b>	Loose soil with moderate nutrient levels.
<b>Type of Container</b>	15L minimum.
<b>Type of Planting</b>	Direct seed in cool well drained soil in April or May, and or in semi shade in July or August.
<b>Spacing</b>	2" apart on rows 30-48" apart, or every 6-10" on diagonals.
<b>Companion Planting</b>	Cucurbits, nightshades, lettuce and spinach.
<b>Watering Needs</b>	Even watering.
<b>Days to Maturity</b>	50-90 days.
<b>Harvest Dates</b>	June to October.
<b>Harvesting Technique</b>	There are 3 kinds of peas: Shelling, snow, or sugar snap. You harvest shelling and snap peas when the pod is as wide as its deep. Snow peas are harvested when the peas are slightly bulging from within.
<b>Maintenance</b>	Provide trellis support early as peas flop over easily and sometimes break when moved back into place.
<b>Insect Problems</b>	Thrips, pea weevils, aphids.
<b>Diseases</b>	Fusarium wilt, root rot, powdery mildew, mosaic virus.
<b>Seed Saving</b>	The dried pea is the seed. Let the pods fully dry on the stalk. Then open one to see if beans inside are dry.
<b>The Farmers' Special Tips</b>	Give it lots of early sun to take off well, then trellis quickly for tall vertical growth off the ground. Plant an early maturing variety in summer for an early fall harvest. Use a disease resistant variety to defend against fall molds.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>BEANS</b>
<b>Latin Name</b>	<i>Phaseolus vulgaris</i>
<b>General Description</b>	A versatile performer that benefits the garden through its nitrogen fixing leaves. There are bush beans, runner or pole beans. Beans are eaten fresh as well as stored dried.
<b>Soil and Fertility Needs</b>	Loose soil with moderate nutrient levels.
<b>Type of Container</b>	15L minimum.
<b>Type of Planting</b>	Direct seed when soil is warm near end May or early June. Or plant in protected containers early to mid May.
<b>Spacing</b>	2-12" on rows 24-36" apart or 8-18" on diagonals.
<b>Companion Planting</b>	Tomatoes, corn, cucurbits.
<b>Watering Needs</b>	Even watering.
<b>Days to Maturity</b>	55-120 days.
<b>Harvest Dates</b>	July through October.
<b>Harvesting Technique</b>	Harvest when the plant is dry. Beans should be pencil thickness or more. Beans in pod should not be bulging. Dry beans come from letting the pod over ripen, the beans growing inside then both drying. Pull gently to harvest stem with the bean, otherwise you will crack the bean near the tip.
<b>Maintenance</b>	Never touch the beans when wet. Support pole beans with trellis or other plants.
<b>Insect Problems</b>	Aphids, loopers, corn earworms, corn borer, striped cucumber beetle, Japanese beetle, spider mites, leaf miner.
<b>Diseases</b>	Rust, bacterial blight, anthracnose, mosaic virus, downy mildew.
<b>Seed Saving</b>	The dried bean is the seed. Let the pods fully dry on the stalk. Then open one to see if beans inside are dry.
<b>The Farmers' Special Tips</b>	Try the traditional 3 sister's plant guild combination. Use any tall corn, any vining cucurbit, and any runner or pole bean. Planting order: Corn, 5-10 days later Cucurbit, and 5-10 days later Bean.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>FAVA BEANS</b>
<b>Latin Name</b>	<i>Vicia faba</i>
<b>General Description</b>	A versatile, cold tolerant performer that benefits the garden through its nitrogen fixing leaves. Grown for its pods, as a green manure and even as hay.
<b>Soil and Fertility Needs</b>	Loose soil with moderate nutrient levels.
<b>Type of Container</b>	15L minimum.
<b>Type of Planting</b>	Direct seed early- at the same time as spring peas.
<b>Spacing</b>	3-12" on rows 24-36" apart or 8-18" on diagonals.
<b>Companion Planting</b>	Tomatoes, corn, cucurbits.
<b>Watering Needs</b>	Even watering.
<b>Days to Maturity</b>	55-85 days.
<b>Harvest Dates</b>	June-July.
<b>Harvesting Technique</b>	Harvest when the plant is dry. The pods can be harvested semi bulging or dry, depending if you want green beans or dried ones for storage. Dry beans come from letting the pod over ripen, the beans growing inside then both drying.
<b>Maintenance</b>	They need a similar growing season as peas. Get the main harvest before the heat of the summer.
<b>Insect Problems</b>	Aphids, loopers, corn earworms, corn borer, striped cucumber beetle, Japanese beetle, spider mites, leaf miner.
<b>Diseases</b>	Rust, bacterial blight, anthracnose, mosaic virus, downy mildew.
<b>Seed Saving</b>	The dried bean is the seed. Let the pods fully dry on the stalk. Then open one to see if beans inside are dry.
<b>The Farmers' Special Tips</b>	

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>SOYBEAN</b>
<b>Latin Name</b>	<i>Glycine max</i>
<b>General Description</b>	Highest protein of all the beans, grows best with a long warm season.
<b>Soil and Fertility Needs</b>	Loose soil with moderate nutrient levels.
<b>Type of Container</b>	15L minimum.
<b>Type of Planting</b>	Direct seed when soil is warm near end May or early June. Or plant in protected containers early to mid May.
<b>Spacing</b>	3-12" on rows 24-36" apart or 8-18" on diagonals.
<b>Companion Planting</b>	Tomatoes, corn, cucurbits. After heavy feeders like brassicas.
<b>Watering Needs</b>	Even watering.
<b>Days to Maturity</b>	55-120 days.
<b>Harvest Dates</b>	July through October.
<b>Harvesting Technique</b>	Harvest when the plant is dry. Dry beans come from letting the pod over ripen, the beans growing inside then drying. Harvest window is short with soybeans, so pay attention to their ripening! For fresh green soybeans, harvest when the pod is bulging, but still green.
<b>Maintenance</b>	Never touch the beans when wet.
<b>Insect Problems</b>	Aphids, loopers, corn earworms, corn borer, striped cucumber beetle, Japanese beetle, spider mites, leaf miner.
<b>Diseases</b>	Rust, bacterial blight, anthracnose, mosaic virus, downy mildew.
<b>Seed Saving</b>	The dried bean is the seed. Let the pods fully dry on the stalk. Then open one to see if beans inside are dry.
<b>The Farmers' Special Tips</b>	Pull gently to harvest stem with the bean, otherwise you will crack the bean near the tip.

## BRASSICACEAE

*This is the large and diverse family of succulent greens that includes:*

- Broccoli/ Cauliflower
- Cabbage
- Kale/ Collards
- Radishes/ Turnips/ Rutabagas
- Kohlrabi/ Brussel Sprouts
- Chinese Greens

**GENERAL:** Brassicaceae are so varied in their looks and parts harvested that they seem unrelated. There is the western part of the family, and then the Chinese greens, which include the Chois, the Mustard Greens, Mizunas, Mibunas and Tsois.

**HEALTH BENEFITS:** Cabbage contains anti-microbial components that help with internal parasites. Most brassicas have high levels of Vitamin A and C.

**PART OF PLANT HARVESTED:** The leaves, also the root or the fruiting seed pod.

**SOIL NUTRIENT NEEDS:** They need a rich soil with lots of well established organic matter, high in nitrogen and lime. They are heavy feeders with shallow roots.

**GENERAL GROWING GUIDELINES:** Brassicas can be grown throughout all 3 seasons and can be overwintered. Some cultivars are not suitable for the dry summer heat.

**HISTORY:** Brassicas have been widely grown all over the world for thousands of years, and have been bred extensively, resulting in one of the most diverse edible plant families.

*The 2 major benefits of planting any of the brassicas are:*

- They grow easily as long as the soil is rich,
- They provide a great amount and variety of fresh and storage harvests.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>BROCCOLI</b>
<b>Latin Name</b>	<i>Brassica oleracea var. italica</i>
<b>General Description</b>	Best grown in spring and fall.
<b>Soil and Fertility Needs</b>	Brassicas like broccoli like really rich soil.
<b>Type of Container</b>	Broccoli is shallow rooted, ideal for containers, minimum size 16 litres or 12 inches tall.
<b>Type of Planting</b>	By DS or TP in the summer for a fall crop; by TP in April or May for spring harvest. 2-4 TPs in 4" pots, 6-8 wks old.
<b>Spacing</b>	18-30 inches, it can be interspaced on diagonals with lettuce or early beets.
<b>Companion Planting</b>	Can be interplanted on same spacing with beets, potatoes, dill, aromatic herbs, or onions.
<b>Watering Needs</b>	Even deep watering.
<b>Days to Maturity</b>	45-85 days.
<b>Harvest Dates</b>	Plant early spring for late spring/ early summer harvest with an early harvesting (~55 Day) variety. Direct seed in July/ early August with longer maturing type (~70 Day) for harvest in Oct/ Nov.
<b>Harvesting Technique</b>	Cut head off with 2-6" of stalk. Cutting higher promotes secondary side shoots for a second harvest.
<b>Maintenance</b>	Hill up to first leaves for more side shoot production, rotate plantings from year to year to prevent infestations.
<b>Insect Problems</b>	Cabbage moth, flea beetles, cabbage maggot, cabbage worm, cabbage looper, cabbage cutworm, slug, Harlequin bug.
<b>Diseases</b>	Black rot, club foot, fusarium wilt, black leg.
<b>Seed Saving</b>	The seed follows the flowers. The edible head are immature flowers. Leave a few broccoli for 2 more months to mature next year's seed. Only open pollinated varieties will breed true to type.
<b>The Farmers' Special Tips</b>	The leaves are delicious as well and can be used like kale or collards. Can be planted for summer harvest in semi shade with summer varieties.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>CAULIFLOWER</b>
<b>Latin Name</b>	<i>Brassica oleracea var. botrytis</i>
<b>General Description</b>	Best grown in spring and fall.
<b>Soil and Fertility Needs</b>	Brassicas like cauliflower like really rich soil, high in potassium for proper head formation.
<b>Type of Container</b>	Cauliflower is shallow rooted, ideal for containers, minimum size 16 litres (L) or 16 inches (") tall
<b>Type of Planting</b>	By DS or TP in the summer for a fall crop; by TP in April or May for spring harvest. 2-4 TPs in 4" pots, 6-8 wks old.
<b>Spacing</b>	18-30 inches, it can be interspaced on diagonals with lettuce or early beets.
<b>Companion Planting</b>	Can be interplanted on same spacing with beets, potatoes, dill, aromatic herbs, or onions.
<b>Watering Needs</b>	Even deep watering.
<b>Days to Maturity</b>	65-90 days.
<b>Harvest Dates</b>	Plant early spring for late spring/ early summer harvest with an early harvesting (~55 Day) variety.
<b>Harvesting Technique</b>	Cut off below the head along the stalk.
<b>Maintenance</b>	When the head starts to form nearby leaves can be wrapped around it to blanch it.
<b>Insect Problems</b>	Cabbage moth, flea beetles, cabbage maggot, cabbage worm, cabbage looper, cabbage cutworm, slugs.
<b>Diseases</b>	Black rot, club foot, fusarium wilt, black leg.
<b>Seed Saving</b>	The seed follows the flowers. The edible head are immature flowers. Leave a few cauliflower for 2 more months to mature next year's seed. Only open pollinated varieties will breed true to type.
<b>The Farmers' Special Tips</b>	The leaves are delicious as well and can be used like kale or collards. Can be planted for summer harvest in semi -shade with summer varieties.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>CABBAGE</b>
<b>Latin Name</b>	<i>Brassica oleracea var. capitata</i>
<b>General Description</b>	Best grown in spring and fall. An undervalued ornamental edible.
<b>Soil and Fertility Needs</b>	Needs nutrient rich soil, high in organic matter.
<b>Type of Container</b>	Cabbage is shallow rooted, ideal for containers, minimum size 16 litres (L) or 16 inches (") tall.
<b>Type of Planting</b>	By DS or TP in the summer for a fall crop; by TP in April or May for spring harvest. 2-4 TPs in 4" pots, 6-8 wks old.
<b>Spacing</b>	12-30 inches, it can be interspaced on diagonals with lettuce or early beets.
<b>Companion Planting</b>	Ideal for ornamental-edible plantings due to its bright purple habit.
<b>Watering Needs</b>	Even deep watering.
<b>Days to Maturity</b>	65-110 days.
<b>Harvest Dates</b>	Early maturing varieties for spring/ early summer.
<b>Harvesting Technique</b>	If you cut the head of a little high on the stalk, you can get up to a dozen subsequent mini heads that regrow from the side of the cut.
<b>Maintenance</b>	Hill up to first leaves for more side shoot production, rotate plantings from year to year to prevent infestations.
<b>Insect Problems</b>	Cabbage moth, flea beetles, cabbage maggot, cabbage worm, cabbage looper, cabbage cutworm, slugs.
<b>Diseases</b>	Black rot, club foot, fusarium wilt, black leg.
<b>Seed Saving</b>	Cabbage is a biannual. Overwinter for seed formation the following spring. Only open pollinated varieties will breed true to type.
<b>The Farmers' Special Tips</b>	Cabbage possess a natural fungicide that helps it store without rotting. Can be used to treat some intestinal conditions in humans and animals.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>KALE / COLLARDS</b>
<b>Latin Name</b>	<i>Brassica oleracea var. acephala</i>
<b>General Description</b>	Grows well all season: a heavy versatile producer.
<b>Soil and Fertility Needs</b>	Brassicas like kale and collards like really rich soil.
<b>Type of Container</b>	Kale is shallow rooted, ideal for containers, minimum size 16 litres (L) or 16 inches (") tall.
<b>Type of Planting</b>	By direct seed (DS) or transplant (TP) from April to August. 2-4 TPs in 4" pots, 6-8 wks old.
<b>Spacing</b>	2-24 inches, depending on desired size of leaf.
<b>Companion Planting</b>	Can be interplanted on same spacing with beets, potatoes, dill, aromatic herbs, or onions. Also as ornamental.
<b>Watering Needs</b>	Even deep watering.
<b>Days to Maturity</b>	30-120 days.
<b>Harvest Dates</b>	Grown for late spring to early winter harvest.
<b>Harvesting Technique</b>	Pull down on lower leaves directly outward from its growing angle. The leaf stem will break off at the trunk of the plant. New leaves will emerge from the top of the plant all season. Harvest at 3 months old for thick leaves.
<b>Maintenance</b>	Harvest once or twice per week for young tender leaves all season.
<b>Insect Problems</b>	Cabbage moth, flea beetles, cabbage maggot, cabbage worm, cabbage looper, cabbage cutworm, slugs.
<b>Diseases</b>	Black rot, club foot, fusarium wilt, black leg.
<b>Seed Saving</b>	Seed saving for collards and kale is not easy for a small urban garden. It is a biannual which means the seed comes the second year. The amount of work required to overwinter may not be worth the cost vs. new seed.
<b>The Farmers' Special Tips</b>	Planting 4" apart with weekly pruning/ harvesting ensures proper air flow and continuous harvest. Leaves will be tender, 4-5" without the stem. This is the optimum spacing for maximum harvest in small spaces.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>BOK CHOI (PAK CHOI, JOY CHOI, CHINESE CABBAGE)</b>
<b>Latin Name</b>	<i>Brassica rapa chinensis</i>
<b>General Description</b>	Best grown in spring and fall.
<b>Soil and Fertility Needs</b>	The most familiar of the Chinese cabbages, bok choi like really rich soil.
<b>Type of Container</b>	Bok choi is shallow rooted, ideal for containers, minimum size 12 litres (L) or 8 inches (") tall.
<b>Type of Planting</b>	By DS or TP in the summer for a fall crop; by TP in April or May for spring harvest. 2-4 TPs in 4" pots, 6-8 wks old.
<b>Spacing</b>	3-16 inches.
<b>Companion Planting</b>	Can be interplanted on same spacing with beets, potatoes, dill, aromatic herbs, or onions.
<b>Watering Needs</b>	Even deep watering.
<b>Days to Maturity</b>	15-80 days.
<b>Harvest Dates</b>	Spring and fall are the best times to grow and harvest bok choi and most Chinese greens.
<b>Harvesting Technique</b>	Cut the plant just below the crown. It's easy to crack the stalks if you grab and pull the whole plant out.
<b>Maintenance</b>	Ensure that the plants receive even moisture to minimize bitterness and premature bolting.
<b>Insect Problems</b>	Cabbage moth, flea beetles, cabbage maggot, cabbage worm, cabbage looper, cabbage cutworm, slugs.
<b>Diseases</b>	Black rot, club foot, fusarium wilt, black leg.
<b>Seed Saving</b>	Allow a few of the spring plants to bolt after the taste gets hot, wait 1-3 months for the flowers to turn into cream-brown pods. Cut plants and shake seed pods in paper bags. Leave some plants in ground for fall harvest.
<b>The Farmers' Special Tips</b>	Plant EARLY spring, or again in Aug/ Sept for best results. Like many brassicas, long days and hot temperatures cause premature flowering/ seeding, known as bolting.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>RADISH</b>
<b>Latin Name</b>	<i>Raphanus sativus</i>
<b>General Description</b>	Best grown in spring and fall.
<b>Soil and Fertility Needs</b>	Radish needs rich soil, high in organic matter.
<b>Type of Container</b>	Radish is medium rooted, ideal for containers, minimum size 12 litres (L) or 8 inches (") tall.
<b>Type of Planting</b>	Direct seed from April thru early September.
<b>Spacing</b>	1-6 inches.
<b>Companion Planting</b>	Radishes can be used as row markers for slow germinating seeds. They can also be underplanted with slower to harvest crops.
<b>Watering Needs</b>	Even deep watering.
<b>Days to Maturity</b>	20-60 days.
<b>Harvest Dates</b>	Plant quick maturing varieties in the heat of the summer and late spring. Plant any kind for Sept-Nov ember.
<b>Harvesting Technique</b>	Gently grab the plant just above the bulb in the ground. Tops can be eaten too.
<b>Maintenance</b>	Ensure that the plants receive even moisture to minimize bitterness and premature bolting.
<b>Insect Problems</b>	Cabbage moth, flea beetles, cabbage maggot, cabbage worm, cabbage looper, cabbage cutworm, slugs.
<b>Diseases</b>	Black rot, club foot, fusarium wilt, black leg.
<b>Seed Saving</b>	Allow a few of the spring plants to bolt after the taste gets hot, wait 1-3 months for the flowers to turn into cream-brown pods. Cut plants and shake seed pods in paper bags. Leave some plants in ground for fall harvest.
<b>The Farmers' Special Tips</b>	Seed 2-4 to the inch. Progressively thin the row or patch in one of 2 ways. The first is used to get a quicker harvest, the second for a sustained harvest. Technique 1: Pull out the smallest ones and use the leaves for salads or stir fries. This technique gives room for the larger ones to grow in quickly, so that the patch is quickly harvested and replaced with another crop. T2: Pull out the larger ones as they grow to harvest size, leaving the smaller ones to follow.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>TURNIP / RUTABEGA</b>
<b>Latin Name</b>	<i>Brassica rapa spp rapa</i>
<b>General Description</b>	Grows well all season. Turnips float in water; rutabagas sink. They also store longer, after taking longer to grow.
<b>Soil and Fertility Needs</b>	Turnips needs established rich soil, high in organic matter.
<b>Type of Container</b>	Turnips are medium rooted, ideal for containers, minimum size 12 litres (L) or 8 inches (") tall.
<b>Type of Planting</b>	Direct seed from April thru August.
<b>Spacing</b>	1-12 inches.
<b>Companion Planting</b>	Other brassicas, quick growing varieties before beans.
<b>Watering Needs</b>	Even deep watering.
<b>Days to Maturity</b>	25-110 days.
<b>Harvest Dates</b>	Plant quick maturing varieties in the heat of the summer and late spring. Plant any kind for Sept-November.
<b>Harvesting Technique</b>	Gently grab the plant just above the bulb in the ground. Tops can be eaten too. Harvest in between tennis ball and golf ball size.
<b>Maintenance</b>	Ensure that the plants receive even moisture to minimize bitterness and premature bolting.
<b>Insect Problems</b>	Cabbage moth, flea beetles, cabbage maggot, cabbage worm, cabbage looper, cabbage cutworm, slugs.
<b>Diseases</b>	Black rot, club foot, fusarium wilt, black leg.
<b>Seed Saving</b>	Allow a few of the spring plants to bolt after the taste gets hot, wait 1-3 months for the flowers to turn into cream-brown pods. Cut plants and shake seed pods in paper bags. Leave some plants in ground for fall harvest.
<b>The Farmers' Special Tips</b>	Seed 1-2 to the inch. Progressively thin the row or patch in one of 2 ways. The first is used to get a quicker harvest, the second for a sustained harvest. Technique 1: Pull out the smallest ones and use the leaves for salads or stir fries. This technique gives room for the larger ones to grow in quickly, so that the patch is quickly harvested and replaced with another crop. T2: Pull out the larger ones as they grow to harvest size, leaving the smaller ones to follow.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>KOHLRABI</b>
<b>Latin Name</b>	<i>Brassica oleracea var. gongylodes</i>
<b>General Description</b>	Grows well all season, very ornamental in the urban garden.
<b>Soil and Fertility Needs</b>	Kohlrabi needs established rich soil, high in organic matter.
<b>Type of Container</b>	Kohlrabi are shallow rooted, ideal for containers, minimum size 12 litres (L) or 8 inches (") tall. 2-4 TPs in 4" pots, 6-8 wks old.
<b>Type of Planting</b>	Direct seed from April thru August.
<b>Spacing</b>	3-12 inches.
<b>Companion Planting</b>	
<b>Watering Needs</b>	Even deep watering.
<b>Days to Maturity</b>	40-85 days.
<b>Harvest Dates</b>	Plant quick maturing varieties in the heat of the summer and late spring. Plant any kind for Sept-November.
<b>Harvesting Technique</b>	Gently grab the plant just above the bulb in the ground. Tops can be eaten too. Harvest when in between golf ball and tennis ball.
<b>Maintenance</b>	Ensure that the plants receive even moisture to minimize bitterness and premature bolting.
<b>Insect Problems</b>	Cabbage moth, flea beetles, cabbage maggot, cabbage worm, cabbage looper, cabbage cutworm, slugs.
<b>Diseases</b>	Black rot, club foot, fusarium wilt, black leg.
<b>Seed Saving</b>	Allow a few of the spring plants to bolt after the taste gets hot, wait 1-3 months for the flowers to turn into cream-brown pods. Cut plants and shake seed pods in paper bags. Leave some plants in ground for fall harvest.
<b>The Farmers' Special Tips</b>	Interplant in the formal garden as an annual flower replacement.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>BRUSSEL SPROUTS</b>
<b>Latin Name</b>	<i>Brassica oleracea var. gemmifera</i>
<b>General Description</b>	Best grown for fall harvest.
<b>Soil and Fertility Needs</b>	Brassicas like brussel sprouts like really rich soil.
<b>Type of Container</b>	Brussel sprouts are shallow rooted, ideal for containers, minimum size 16 litres (L) or 16 inches (") tall.
<b>Type of Planting</b>	By direct seed in June or July; or transplant in early July/ early Aug for a fall crop. 2-4 TPs in 4" pots, 6-8 wks old.
<b>Spacing</b>	12-30 inches.
<b>Companion Planting</b>	Well used in ornamental-hybrid gardens due to its funky green or purple habit. Aromatic herbs, beets.
<b>Watering Needs</b>	Even deep watering.
<b>Days to Maturity</b>	80-120 days.
<b>Harvest Dates</b>	September to December, gets sweeter with hard frost.
<b>Harvesting Technique</b>	Harvest sprouts along the stalk when they get firm like a mini cabbage, Cut or twist off.
<b>Maintenance</b>	
<b>Insect Problems</b>	Cabbage moth, flea beetles, cabbage maggot, cabbage worm, cabbage looper, cabbage cutworm, slugs
<b>Diseases</b>	Black rot, club foot, fusarium wilt, black leg.
<b>Seed Saving</b>	Seed saving for brussel sprouts is not easy for a small urban garden. It is a biannual which means the seed comes the second year. The amount of work required to overwinter may not be worth the cost vs. new seed.
<b>The Farmers' Special Tips</b>	Can be overwintered with mulch and/ or hoop house covers.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>ARUGULA</b>
<b>Latin Name</b>	<i>Eruca sativa</i>
<b>General Description</b>	Best grown in spring and fall.
<b>Soil and Fertility Needs</b>	Arugula needs nutrient rich soil high in organic matter.
<b>Type of Container</b>	Shallow rooted, ideal for small to large containers.
<b>Type of Planting</b>	By direct seed (DS) or transplant (TP) from April to September. Better as DS.
<b>Spacing</b>	1/2" to 8", depending on size of leaf desired and how leaves will be harvested.
<b>Companion Planting</b>	
<b>Watering Needs</b>	Even deep watering.
<b>Days to Maturity</b>	15-45 days.
<b>Harvest Dates</b>	Arugula grows best in fall. Harvest starting mid May.
<b>Harvesting Technique</b>	Harvest the outer leaves when they reach the size you like, or for baby greens, plant closer together and cut the entire plant 2" to 3" from ground for the 1st of 2-3 cuttings before the plant goes hot, bitter or freezes.
<b>Maintenance</b>	Ensure that the plants receive even moisture to minimize bitterness and premature bolting.
<b>Insect Problems</b>	Cabbage moth, flea beetles, cabbage maggot, cabbage worm, cabbage looper, cabbage cutworm, slugs.
<b>Diseases</b>	Black rot, club foot, fusarium wilt, black leg.
<b>Seed Saving</b>	Allow a few of the spring plants to bolt after the taste gets hot, wait 1-3 months for the flowers to turn into cream-brown pods. Cut plants and shake seed pods in paper bags. Leave some plants in ground for fall harvest.
<b>The Farmers' Special Tips</b>	Plant EARLY spring, or again in Aug/ Sept for best results. Like many brassicas, long days and hot temperatures cause premature flowering/ seeding, known as bolting.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>MUSTARD GREENS, ETC</b>
<b>Latin Name</b>	<i>Eruca sativa</i>
<b>General Description</b>	Best grown in spring and fall.
<b>Soil and Fertility Needs</b>	Mustard greens need nutrient rich soil high in organic matter.
<b>Type of Container</b>	Shallow rooted, ideal for small to large containers.
<b>Type of Planting</b>	By direct seed (DS) or transplant (TP) from April to September. Better as DS.
<b>Spacing</b>	1/2" to 8", depending on size of leaf desired and how leaves will be harvested.
<b>Companion Planting</b>	Use as a trap crop for flea beetles and aphids amongst other brassicas.
<b>Watering Needs</b>	Even deep watering.
<b>Days to Maturity</b>	25-50 days.
<b>Harvest Dates</b>	Mustard grows best in fall. Harvest starting mid May.
<b>Harvesting Technique</b>	Harvest the outer leaves when they reach the size you like, or for baby greens, plant closer together and cut the entire plant 2" to 3" from ground for the 1st of 2-3 cuttings before the plant goes hot, bitter or freezes.
<b>Maintenance</b>	Ensure that the plants receive even moisture to minimize bitterness and premature bolting.
<b>Insect Problems</b>	Cabbage moth, flea beetles, cabbage maggot, cabbage worm, cabbage looper, cabbage cutworm, slugs.
<b>Diseases</b>	Black rot, club foot, fusarium wilt, black leg.
<b>Seed Saving</b>	Allow a few of the spring plants to bolt after the taste gets hot, wait 1-3 months for the flowers to turn into cream-brown pods. Cut plants and shake seed pods in paper bags. Leave some plants in ground for fall harvest.
<b>The Farmers' Special Tips</b>	Plant EARLY spring, or again in Aug/ Sept for best results. Like many brassicas, long days and hot temperatures cause premature flowering/ seeding, known as bolting.

## SOLANACEAE (NIGHTSHADE)

***This family of fruiting vegetables with leaf toxicity originates in Central and South America:***

- Potatoes
- Peppers
- Eggplant
- Tomatoes

**GENERAL:** Solanaceae can succumb to fungal issues if the plants are weak and the weather too wet or humid.

They are the most prolific of the fruiting vegetables, with thousands of varieties of tomatoes, and hundreds of peppers.

It is easy to save seed from this vegetable family.

**HEALTH BENEFITS:** Nightshades have various benefits including lots of Vitamin C.

**PART OF PLANT HARVESTED:** The fruit.

**SOIL NUTRIENT NEEDS:** Potatoes need rich well established soil; the others can take a younger soil. They are heavy feeders with medium depth roots.

**GENERAL GROWING GUIDELINES:** They must be grown in frost free conditions, except the potato. For the rest, seedlings are started indoors in Feb or March for May planting. Row covers, clothes, or greenhouses help growth, harvests and season length.

**HISTORY:** These fruiting crops (potatoes fruit underground) are from the warmer tropical regions south of the Equator. They quickly spread around to Europe in the 1600s.

### *Plant any of the solanaceae:*

- For large quantities of exotic fruiting vegetables,
- For a large amount of easy to grow storage crops.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>POTATO</b>
<b>Latin Name</b>	<i>Solanum tuberosum</i>
<b>General Description</b>	A northern climate staple storage crop.
<b>Soil and Fertility Needs</b>	Loose, deep fertile soil. Or a soil mulch mix, or a straw bale well fertilized with compost tea.
<b>Type of Container</b>	A container at least 50L.
<b>Type of Planting</b>	1st timeline: plant small potatoes in mid to end April, or once soil is past super soggy stage. Storage varieties in June.
<b>Spacing</b>	Every 3-12" on rows 3-5' apart, or 6-24" inches on diagonals.
<b>Companion Planting</b>	Onions, lettuce and radish. Not with cucurbits, nightshades, sunflowers and raspberries.
<b>Watering Needs</b>	Even watering.
<b>Days to Maturity</b>	50-100 days.
<b>Harvest Dates</b>	Outdoor harvests from end June to mid November, depending on soil, site, season and variety.
<b>Harvesting Technique</b>	Dig out the entire plant after it has died back. Or, if you want "new" or baby potatoes harvest several potatoes when they start to flower. Cover the rest of the plant with more soil so the tubers can grow away from sunlight.
<b>Maintenance</b>	Low maintenance; just watch for insect infestations and ensure complete tuber coverage to prevent greening.
<b>Insect Problems</b>	Potato beetle, aphids, cut worms, flea beetles, leaf hoppers.
<b>Diseases</b>	Early blight, late blight, blossom end rot, powdery mildew, black leg, ring rot, scab.
<b>Seed Saving</b>	The potato, while not truly the seed of the plant, can be planted at any time after harvest. If the potato can store over winter without rotting, then plant it or the accompanying sprout the following spring or summer.
<b>The Farmers' Special Tips</b>	Hill the plant every 2-3 weeks, adding soil from the sides, covering all but the top 6". It helps to plant your potato into a furrowed ditch at the beginning.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>PEPPER</b>
<b>Latin Name</b>	<i>Capsicum annuum</i>
<b>General Description</b>	A hot weather crop that fruits in August and September. It needs warm summer nights for proper fruiting. There are hot and sweet peppers. Most green peppers are actually immature red, orange or yellow ones.
<b>Soil and Fertility Needs</b>	Peppers grow in a range of soils.
<b>Type of Container</b>	A container at least 25L is ideal, more importantly, moisture levels should be even to stabilize calcium uptake. Uneven calcium uptake causes blossom end rot.
<b>Type of Planting</b>	In zone 3-5 plant TPs only, unless in heated greenhouse. Start seedlings in March. TP 8-12 wks old May 15-30.
<b>Spacing</b>	Every 18" in rows, 3 to 4" row spacing. Or every 24" on diagonals.
<b>Companion Planting</b>	Bean, carrot, marigold, marjoram, onion, garlic, aromatic herbs.
<b>Watering Needs</b>	Even deep watering.
<b>Days to Maturity</b>	55-120 days.
<b>Harvest Dates</b>	Outdoor harvests from end July to mid October, depending on soil, site, season and variety.
<b>Harvesting Technique</b>	Similar technique as tomato, but use more force. Knives or scissors can be used. Peppers are green when younger and get darker green or coloured when mature. Gently squeeze pepper on plant before harvesting. If it feels thick like the ones from the store, it is ready to pick.
<b>Maintenance</b>	WARM WEATHER: Plant them in the sunniest, most protected area you have and hope for the best.
<b>Insect Problems</b>	Pepper weevil, pepper maggots, aphids, potato beetles, flea beetles, hornworms, cutworms, tarnish bug.
<b>Diseases</b>	Powdery mildew, verticillium wilt, mosaic virus, early blight, late blight, anthracnose blossom rot, blossom end rot.
<b>Seed Saving</b>	Take a really nice looking pepper from your healthiest plant, showing the characteristics you prefer. Let it rot on a plate outside. Then wash or pick away the skin and meat from your seeds. Good for 2 plus years.
<b>The Farmers' Special Tips</b>	Make a homemade liquid insect repellent from hot peppers. Use a spray made from garlic to combat aphids.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>EGGPLANT</b>
<b>Latin Name</b>	<i>Solanum melogena</i>
<b>General Description</b>	A hot weather crop that fruits in August and September. It needs warm summer nights for proper fruiting.
<b>Soil and Fertility Needs</b>	Deep, rich well drained soil.
<b>Type of Container</b>	A container at least 25L is ideal, more importantly, moisture levels should be even to stabilize calcium uptake. Uneven calcium uptake causes blossom end rot.
<b>Type of Planting</b>	In zone 3-5 plant TPs only, unless in heated greenhouse. Start seedlings in March. TP 8-12 wks old May 15- June 15.
<b>Spacing</b>	Every 18" in rows, 3 to 4" row spacing. Or every 30" on diagonals.
<b>Companion Planting</b>	Lettuce, spinach, bush beans, garlic, marigold, pea, thyme.
<b>Watering Needs</b>	Even deep watering.
<b>Days to Maturity</b>	55-95 days.
<b>Harvest Dates</b>	Outdoor harvests from end July to mid October, depending on soil, site, season and variety.
<b>Harvesting Technique</b>	Similar technique as tomato, but use more force as the eggplant stem is quite strong. Knives or scissors can be used.
<b>Maintenance</b>	WARM WEATHER: Plant them in the sunniest, most protected area you have and hope for the best.
<b>Insect Problems</b>	Tomato hookworm, aphids, flea beetles, cutworms, spider mites, nematodes.
<b>Diseases</b>	Powdery mildew, verticillium wilt, fusarium wilt, early blight, late blight, blossom rot, blossom end rot.
<b>Seed Saving</b>	Take a really nice looking eggplant from your healthiest plant, showing the characteristics you prefer. Let it rot on a plate outside. Then wash or pick away the skin and meat from your seeds. Good for 2 plus years.
<b>The Farmers' Special Tips</b>	Apply compost tea liquid fertilizer to roots and or foliage every 3 weeks starting when transplanting.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>TOMATO</b>
<b>Latin Name</b>	<i>Lycopersicon esculentum</i>
<b>General Description</b>	Tasty, popular and tough plant can grow in a range of conditions. They come in standard, large, cherry, grape and roma varieties. Most are for fresh eating: some paste varieties store for months. Determinate varieties grow 18" to 5'; indeterminate varieties keep on growing until frost, up to 12' or more.
<b>Soil and Fertility Needs</b>	Deep, rich well drained soil.
<b>Type of Container</b>	A container at least 25L is ideal, more importantly, moisture levels should be even to stabilize calcium uptake.
<b>Type of Planting</b>	In zone 3-5 plant TPs only, unless in heated greenhouse. Start seedlings in March. TP 8-12 wks old May 15-30.
<b>Spacing</b>	Every 24" in rows, 3 to 4" row spacing. Or every 3-4" on diagonals.
<b>Companion Planting</b>	Carrot, dill, onions, aromatic herbs, borage, brassica family, marigold, garlic.
<b>Watering Needs</b>	Even deep watering, but not on the leaves.
<b>Days to Maturity</b>	50-90 days.
<b>Harvest Dates</b>	Outdoor harvests from early July to end October.
<b>Harvesting Technique</b>	Gently tug and twist fruit away from branch to break the stem. Remove stems to reduce transport damage.
<b>Maintenance</b>	Apply compost tea liquid fertilizer to roots and or foliage every 3 weeks starting when transplanting.
<b>Insect Problems</b>	Tomato hookworm, aphids, flea beetles, cutworms, spider mites, nematodes.
<b>Diseases</b>	Powdery mildew, verticillium wilt, fusarium wilt, early blight, late blight, blossom rot, blossom end rot.
<b>Seed Saving</b>	Take a really nice looking tomato from your healthiest plant, showing the characteristics you prefer. Let it rot on a plate outside. Then wash or pick away the skin and meat from your seeds. Good for 2 plus years.
<b>The Farmers' Special Tips</b>	Sucker indeterminate plant types to create a double main stalk 12 to 24" above ground. Then sucker all side branches along those two main stalks. Intensively planted indeterminate varieties can be leaf pruned as well, to encourage sun ripening. Prune back 1/2 of each leaf as they reach full size. Flower clusters can also be thinned to 3-4 per cluster.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>TOMATILLO</b>
<b>Latin Name</b>	<i>Physallis ixocarpa</i>
<b>General Description</b>	An easy to grow hot weather crop that fruits in August and September.
<b>Soil and Fertility Needs</b>	Tomatillos, like okra, can grow in a range of soils, even poor. They don't need as warm weather as okra or tomatoes.
<b>Type of Container</b>	A container at least 25L is ideal.
<b>Type of Planting</b>	In zone 3-5 plant TPs only, unless in heated greenhouse. Start seedlings in March. TP 8-12 wks old May 15-30.
<b>Spacing</b>	Every 18-24" in rows, 3 to 4" row spacing. Or every 24" on diagonals.
<b>Companion Planting</b>	
<b>Watering Needs</b>	Tomatillos grow like a weed and don't need much water.
<b>Days to Maturity</b>	60-80 days.
<b>Harvest Dates</b>	Outdoor harvests from end July to mid October, depending on soil, site, season and variety.
<b>Harvesting Technique</b>	Depending on whether you want ripe or green fruits, harvest accordingly. They start green, then go purple or yellow. Simply pluck the husked fruit from the plant.
<b>Maintenance</b>	This plant and ground cherries really don't have many issues. Good for beginners.
<b>Insect Problems</b>	Pepper weevil, pepper maggots, aphids, potato beetles, flea beetles, hornworms, cutworms, tarnish bug.
<b>Diseases</b>	Powdery mildew, verticillium wilt, mosaic virus, early blight, late blight, anthracnose blossom rot, blossom end rot.
<b>Seed Saving</b>	Find a really nice looking tomatillo from your healthiest plant, showing the characteristics you prefer. Let it over ripen on the plant, going brown. Then harvest and leave in a cool dry area for a couple weeks. Then remove seeds.
<b>The Farmers' Special Tips</b>	If you have a section of your garden where you just can't improve the soil, plant your tomatillos there. They also work good dangling over deep containers/ planters.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>OKRA</b>
<b>Latin Name</b>	<i>Hibiscus esculentus</i>
<b>General Description</b>	A hot weather crop that forms the basis of gumbo.
<b>Soil and Fertility Needs</b>	Okra can grow in a range of warm soils, even poor ones.
<b>Type of Container</b>	A container at least 25L is ideal.
<b>Type of Planting</b>	In zone 3-5 plant TPs only, unless in heated greenhouse. Start seedlings in March. TP 8-12 wks old May 22-30.
<b>Spacing</b>	Every 18-24" in rows, 3 to 4" row spacing. Or every 24" on diagonals.
<b>Companion Planting</b>	Borage, marigold, brassica family; plants spreads so can be planted with brussel sprouts. Above peppers or eggplant.
<b>Watering Needs</b>	Even deep watering.
<b>Days to Maturity</b>	50-70 days.
<b>Harvest Dates</b>	Outdoor harvests from end July to mid October, depending on soil, site, season and variety.
<b>Harvesting Technique</b>	Cut the ripe okra when 2-3' long and use promptly. Like most fruiting crops, little harvests 2-3 times a week will provide a longer more tender harvest than picking only once a week.
<b>Maintenance</b>	Very easy to grow, just needs even watering throughout vegetative growth.
<b>Insect Problems</b>	Pepper weevil, pepper maggots, aphids, potato beetles, flea beetles, hornworms, cutworms, tarnish bug.
<b>Diseases</b>	Powdery mildew, verticillium wilt, mosaic virus, early blight, late blight, anthracnose blossom rot, blossom end rot.
<b>Seed Saving</b>	Find a really nice looking okra from your healthiest plant, showing the characteristics you prefer. Let it over ripen on the plant, going brown. Then harvest and leave in a cool dry area for a couple weeks. Then remove seeds.
<b>The Farmers' Special Tips</b>	Grow in your warmest, sunniest place and don't plant out until the soil is warm and the frosts are well past. Covering with plastic or reemay until end June, and pre-covering soil to warm, will kick-start vegetative growth and deep rooting.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>GROUND CHERRY</b>
<b>Latin Name</b>	<i>Physallis peruviana or pruinosa</i>
<b>General Description</b>	A hot weather crop with unique taste that fruits in August and September.
<b>Soil and Fertility Needs</b>	Ground cherries grow in a range of soils.
<b>Type of Container</b>	A container at least 25L is ideal.
<b>Type of Planting</b>	In zone 3-5 plant TPs only, unless in heated greenhouse. Start seedlings in March. TP 8-12 wks old May 15-30.
<b>Spacing</b>	Every 18" in rows, 3 to 4" row spacing. Or every 24" on diagonals.
<b>Companion Planting</b>	Borage, marigold, brassica family; plants spreads so can be planted with green or red brussel sprouts.
<b>Watering Needs</b>	Even deep watering.
<b>Days to Maturity</b>	70-90 days.
<b>Harvest Dates</b>	Outdoor harvests from end July to mid October, depending on soil, site, season and variety
<b>Harvesting Technique</b>	Either let husked fruit fall to the ground, or shake the plant or hit with a broom, then rake up all the fallen fruit.
<b>Maintenance</b>	Very easy to grow, just needs even watering throughout vegetative growth.
<b>Insect Problems</b>	Pepper weevil, pepper maggots, aphids, potato beetles, flea beetles, hornworms, cutworms, tarnish bug.
<b>Diseases</b>	Powdery mildew, verticillium wilt, mosaic virus, early blight, late blight, anthracnose blossom rot, blossom end rot.
<b>Seed Saving</b>	Take a really nice looking ground cherry from your healthiest plant, showing the characteristics you prefer. Let it rot on a plate outside. Then wash or pick away the skin and meat from your seeds. Good for 2 plus years.
<b>The Farmers' Special Tips</b>	Plant in containers or a raised bed with a soil less surface underneath. When fruits fall, they won't rot out as they mature; the husk will not be in contact with moist earth.

## LILIACEAE (ALLIUMS)

*This family of rooting vegetables is widely used in the kitchen:*

- Onions
- Leeks
- Garlic
- Chives
- Shallots

**GENERAL:** These rich and pungent plants are used as much for seasoning as for anything else.

**HEALTH BENEFITS:** However, crops from this family are widely known for their health benefits, primarily due to their high sulfide of allyl content. Garlic is a natural de-wormer, on top of being anti-bacterial and anti-fungal.

**PART OF PLANT HARVESTED:** Primarily the root bulb; also the leaves.

**SOIL NUTRIENT NEEDS:** These root crops need relatively rich but well established soil, higher in potassium and phosphorus than nitrogen. They are medium feeders with shallow roots.

**GENERAL GROWING GUIDELINES:** DS, TP or by clove. The plants need a cool beginning to the season, followed by a hot drier second half to maximize bulbing – except chives.

**HISTORY:** This family of bulbing flowers and roots has been harvested since antiquity. Garlic figures in many myths and folklore.

*This family is useful to the garden and gardener:*

- By improving garden health and disease resistance,
- By providing a large amount of long lasting flavouring vegetables.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>ONION</b>
<b>Latin Name</b>	<i>Allium sepa</i>
<b>General Description</b>	One of the most commonly used vegetables of all. Types: spring, pearl, onion sets, summer harvest and storage types
<b>Soil and Fertility Needs</b>	Rich soil, lots of well rotted manure/ compost laid down in the spring /previous fall. Doesn't need a lot of nitrogen.
<b>Type of Container</b>	12L, 8" deep minimum.
<b>Type of Planting</b>	TP in May or June. DS spring onions in April, May or June. Plant onion sets in April- June. TP 12 wks old May 1-30.
<b>Spacing</b>	1" to 8" on rows 6-18" apart, or every 2-8" on diagonals.
<b>Companion Planting</b>	Onions and all alliums can be planted with most other crops, except beans.
<b>Watering Needs</b>	Onions need a good amount of water when TP'ed. If the soil is rich, they won't need as much water once established.
<b>Days to Maturity</b>	55 to 120 days.
<b>Harvest Dates</b>	June to November, depending on the type. Spring onions and onion sets are first, then pearls, then the fresh planted type, then the storage varieties.
<b>Harvesting Technique</b>	Plants are gently pulled out starting in June. All but the spring onions can be laid out on dry soil, picnic table, bench etc, to sun dry and cure.
<b>Maintenance</b>	Shear the tops of onion plants in June or July so they don't go to seed. This is done mostly with onion sets as they go to seed faster than onions planted from seed.
<b>Insect Problems</b>	Eelworm, onion bulb fly, thrips, onion maggot.
<b>Diseases</b>	Neck rot, downy mildew, smut.
<b>Seed Saving</b>	Onions are a biennial. But onion sets will produce seed the same year. If you can over-winter the best plants in your garden, seeds can be taken off from the dried flowers the following late spring.
<b>The Farmers' Special Tips</b>	Make sure the soil is rich for best results. Cooler weather to start growth and warmer weather to finish bulbing.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>LEEK</b>
<b>Latin Name</b>	<i>Allium ampeloprasum</i>
<b>General Description</b>	A hearty tasting fall crop from the Onion family.
<b>Soil and Fertility Needs</b>	Rich, moist, loamy soil with lots of manure and compost that can be laid down in the spring or the previous fall.
<b>Type of Container</b>	20L, 8" deep minimum.
<b>Type of Planting</b>	TP 12 weeks old in April- June.
<b>Spacing</b>	4" to 12" on rows 12-24" apart, or every 6-12" on diagonals.
<b>Companion Planting</b>	Celery or celeriac; brassicas.
<b>Watering Needs</b>	Leeks need a good amount of water when transplanted. If the soil is rich, they won't need as much water once established.
<b>Days to Maturity</b>	75 to 110 days.
<b>Harvest Dates</b>	September to November. Harvests taste better after a good fall frost. So harvesting is best from October onwards.
<b>Harvesting Technique</b>	Plants are pulled or pitch forked out starting after the first hard frost of late September or early October.
<b>Maintenance</b>	Give them lots of water in the first 2 months and throughout any dry spells in the summer.
<b>Insect Problems</b>	Eelworm, onion bulb fly, thrips, onion maggot.
<b>Diseases</b>	Neck rot, downy mildew, smut.
<b>Seed Saving</b>	Leeks are a biennial. If you can over-winter the best plants in your garden, seeds can be taken off from the dried flowers the following late spring.
<b>The Farmers' Special Tips</b>	For a more tender harvest, leeks can be hilled once or twice to blanch the stalks. Cover the stalks up to where they divide.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>GARLIC</b>
<b>Latin Name</b>	<i>Allium sativum</i>
<b>General Description</b>	Is it an herb or a vegetable?... Widely used in the kitchen for its pungent flavouring.
<b>Soil and Fertility Needs</b>	Fertilize the plot well in the spring or previous fall. Grow a crop of peas or beans. Then in fall plant the garlic.
<b>Type of Container</b>	12L, 8" deep minimum.
<b>Type of Planting</b>	Garlic cloves are planted root end down in the fall for harvest the next July/ August.
<b>Spacing</b>	4" to 8" on rows 12-18" apart, or every 6-8" on diagonals.
<b>Companion Planting</b>	Tomatoes, eggplants, brassicas. As a general bug deterrent.
<b>Watering Needs</b>	Garlic doesn't need as much water as most vegetables, but for bigger bulbs, the soil should not get bone dry.
<b>Days to Maturity</b>	Biennial - grows over 2 years.
<b>Harvest Dates</b>	July or August.
<b>Harvesting Technique</b>	Scapes: in June, you can gently pull out the inner stalk when it starts to bulge. Green garlic: gently pull out whole plant in July. Cured garlic: gently pull out whole plant once the plant goes brown, with pitchfork if needed.
<b>Maintenance</b>	Pull out the scapes in June or your harvest will not be as big come August. Let the plant fully dry in a shed.
<b>Insect Problems</b>	Eelworm, onion bulb fly, thrips, onion maggot.
<b>Diseases</b>	Neck rot, downy mildew, smut.
<b>Seed Saving</b>	There are two ways to save seed: 1. The bulb is divided into cloves, usually 4 or more. These cloves can be planted in the fall. 2. If you let the scape go to seed, you can true seeds by late summer.
<b>The Farmers' Special Tips</b>	Make sure the soil is rich for best results.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>CHIVES</b>
<b>Latin Name</b>	<i>Allium schoenoprasum</i>
<b>General Description</b>	Perennial member of the Allium family. Comes in onion and garlic varieties. Can be cut throughout the season.
<b>Soil and Fertility Needs</b>	Fertilize the plot heavily the previous fall, or put in rich, aged compost in the spring.
<b>Type of Container</b>	12L, 8" deep minimum.
<b>Type of Planting</b>	Chives are usually transplanted, but they can be seeded directly.
<b>Spacing</b>	6"- 12" on rows 12-18" apart, or every 4-8" on diagonals.
<b>Companion Planting</b>	Pole beans or trellised cucurbits can be planted on the south side of the chive plot to provide summer partial shade.
<b>Watering Needs</b>	Chives don't need too much water, but they need rich soil.
<b>Days to Maturity</b>	Biennial - grows over 2 years.
<b>Harvest Dates</b>	June-October.
<b>Harvesting Technique</b>	Simply pluck or cut the leafy mound a few inches above the ground.
<b>Maintenance</b>	To keep you chive patch going strong throughout the season and seasons: 1. keep the plants from flowering by cutting off the bulging stalks as they form. 2. Fertilize the patch once a year. 3. Semi-shade for the hot summer months helps lower stress.
<b>Insect Problems</b>	Eelworm, onion bulb fly, thrips, onion maggot.
<b>Diseases</b>	Neck rot, downy mildew, smut.
<b>Seed Saving</b>	Let some of the leaves bulge out and flower. When the inside cracks the flower pod, it's ready to put into paper bags for storage.
<b>The Farmers' Special Tips</b>	Best harvested on a regular basis to keep the leaves from getting too fibrous.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>SHALLOTS</b>
<b>Latin Name</b>	<i>Allium cepa</i>
<b>General Description</b>	They taste more like onions than garlic, but they make multiple cloves similar to garlic. They have a mild taste and are easy to grow.
<b>Soil and Fertility Needs</b>	Rich soil with lots of well rotted manure and compost that can be laid down in the spring or the previous fall. Doesn't need a lot of nitrogen.
<b>Type of Container</b>	12L, 8" deep minimum.
<b>Type of Planting</b>	TP 12 weeks old in April or May.
<b>Spacing</b>	3" to 8" on rows 6-18" apart, or every 24-8" on diagonals.
<b>Companion Planting</b>	Most crops, except beans.
<b>Watering Needs</b>	Shallots need lots of water when transplanted. If the soil is rich, they won't need as much water once established.
<b>Days to Maturity</b>	90-120 days.
<b>Harvest Dates</b>	August-September.
<b>Harvesting Technique</b>	When plants die back and brown, they are gently pulled out. Usually starting in July.
<b>Maintenance</b>	Make sure the soil is rich for best results. Cooler weather to start growth and warmer weather to finish bulbing.
<b>Insect Problems</b>	Eelworm, onion bulb fly, thrips, onion maggot.
<b>Diseases</b>	Neck rot, downy mildew, smut.
<b>Seed Saving</b>	Save seeds the same way you would garlic.
<b>The Farmers' Special Tips</b>	Shallots growth changes from vegetative to bulbing starting after the summer solstice. To get the largest harvest possible, plant as early as possible.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>ASPARAGUS</b>
<b>Latin Name</b>	<i>Asparagus officinalis</i>
<b>General Description</b>	Asparagus is a perennial plant that is beautiful, tender, yet resilient.
<b>Soil and Fertility Needs</b>	Deeply cultivated rich soil. Asparagus are medium- heavy feeders with medium deep roots.
<b>Type of Container</b>	At least 40L or 18" deep.
<b>Type of Planting</b>	By TP, sometimes by seed. TP crown in early spring.
<b>Spacing</b>	12-18" in rows every 4-6' apart or every 8-16" on diagonals.
<b>Companion Planting</b>	Quick growing spring greens.
<b>Watering Needs</b>	Asparagus needs moist, but not waterlogged soil.
<b>Days to Maturity</b>	2-3 years.
<b>Harvest Dates</b>	Late spring-early summer.
<b>Harvesting Technique</b>	The thicker spears are the males and they are harvested as they become marker thickness, and before they get tough. The thin spears (female) should be left to go to seed.
<b>Maintenance</b>	Asparagus needs similar pruning to elderberries. The old shoots must be pruned yearly to make room for the new.
<b>Insect Problems</b>	Asparagus beetle, asparagus miner.
<b>Diseases</b>	Rust.
<b>Seed Saving</b>	Spread your crop by leaving some of the best stalks to flower and seed. The seeds can be collected or they can fall to the ground to form a new patch.
<b>The Farmer's Special Tips</b>	Let the transplanted crown grow for 2 years before harvesting any spears, or 3 years from seed.

## CURCURBITACEAE

*This family of vining vegetables is widely used in the kitchen:*

- Squash
- Pumpkin
- Cucumber
- Zucchini
- Summer Squash
- Melon
- Watermelon

**GENERAL:** Provide nutritious fresh and storage harvests. Vining habit is good for climbing trellises, trees and other plants, and provides shade and mulch on the ground.

**HEALTH BENEFITS:** There is lots of vitamin C and especially D in squash and pumpkins.

**PART OF PLANT HARVESTED:** The fruit and the seed.

**SOIL NUTRIENT NEEDS:** Cucurbits like rich soil. They will even grow in a well drained manure pile! They are deep rooted heavy feeders.

**GENERAL GROWING GUIDELINES:** By DS or TP in the late spring. They need heat and moisture for early fruiting.

**HISTORY:** The squash part of this family originates from the Americas, the melon part from Eurasia.

*This family benefits the garden and gardener:*

- By accessing nutrients in the subsoil and by breaking up heavy soils,
- By forming a natural garden mulch,
- By providing a volume of storage crops with high levels of protein in the seeds.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>SQUASH/ PUMPKIN</b>
<b>Latin Name</b>	<i>Cucumis maxima, mixta, moshato and pepo</i>
<b>General Description</b>	A late summer / fall storage crop.
<b>Soil and Fertility Needs</b>	Loose humus rich soil is best for cucurbits due to their deep roots.
<b>Type of Container</b>	A deep container, ideally over 50L allows for ideal, deep-rooted growth. An inbuilt water reservoir is recommended.
<b>Type of Planting</b>	1st timeline: plant seed/lings 1 week after last frost, or end May, or slightly earlier in full sun or protected areas.
<b>Spacing</b>	Plant 3 seeds per 48" on diagonals. Add 1 shovelful of compost mix to each hole. Thin out to the 2 healthiest.
<b>Companion Planting</b>	Corn, sunflower, nasturtium, radish, catnip, aromatic herbs, beans.
<b>Watering Needs</b>	Even deep watering.
<b>Days to Maturity</b>	80-120 days.
<b>Harvest Dates</b>	August- October.
<b>Harvesting Technique</b>	The stem of squash and pumpkin will dry up when the "fruit" is ready to pick. A little turn of the squash will tear the stem from the stalk. Prune plants at 10-30" long. Side shoots at 6-12' long.
<b>Maintenance</b>	Fertilizing cucurbits: Liquid solution every 3 weeks as foliar feed or root drench. Tip prune at 8-12 feet.
<b>Insect Problems</b>	Cucumber beetle, squash vine borer.
<b>Diseases</b>	Powdery mildew, downy mildew, cucumber mosaic virus.
<b>Seed Saving</b>	Seed saving with cucurbits can be tricky due to inter-varietal cross pollination. If you want to save seed true to type, ensure that there are no other varieties within 200 feet.
<b>The Farmers' Special Tips</b>	Plant cucurbits by DS in ultra fluffy soil. As they are deep rooted, transplanting can backfire as the taproot in the pot gets turned over on itself. Once TP'ed, it can take up to 3 weeks for the taproot to re-orient downwards, By then, the direct seed root that has always grown downward, showing similar growth to the TP even though it is weeks younger. Save yourself time, water and money - plant cucurbits direct seed.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>CUCUMBER</b>
<b>Latin Name</b>	<i>Cucumis sativus</i>
<b>General Description</b>	A tasty mid-summer to early autumn crop.
<b>Soil and Fertility Needs</b>	Loose humus rich soil is best for cucurbits due to their deep roots.
<b>Type of Container</b>	A deep container, ideally over 50L allows for ideal, deep-rooted growth. An inbuilt water reservoir is recommended.
<b>Type of Planting</b>	1st timeline: plant seed/lings 1 week after last frost, or end May, or slightly earlier in full sun or protected areas.
<b>Spacing</b>	Plant 3 seeds every 18" on diagonals. Add 2 handfuls of compost mix to each hole. Thin out to the healthiest 2.
<b>Companion Planting</b>	Brassica family are allies. Also nasturtiums, marigolds, sunflowers, peas, beets, carrots and dill.
<b>Watering Needs</b>	Even deep watering.
<b>Days to Maturity</b>	55-75 days.
<b>Harvest Dates</b>	Cucumbers and zucchinis are short season cucurbits so you can plant multiple or staggered timelines from end May to mid July for harvests from end July thru early October.
<b>Harvesting Technique</b>	Cucs are best tasting when picked young. Check plants every 2-3 days once they come into readiness. 1" by 3" for pickling, 2 by 6 for slicing, 2 by 10 for English. Pierce stem off the stalk with thumb while holding cuc in hand.
<b>Maintenance</b>	Ensure that the plants receive even moisture as they near fruiting. Tip prune at 4-8 feet.
<b>Insect Problems</b>	Cucumber beetle, squash vine borer.
<b>Diseases</b>	Powdery mildew, downy mildew, cucumber mosaic virus.
<b>Seed Saving</b>	Seed saving with cucurbits can be tricky due to inter-varietal cross pollination.
<b>The Farmers' Special Tips</b>	Plant cucurbits by DS in ultra fluffy soil. As they are deep rooted, transplanting can backfire as the taproot in the pot gets turned over on itself. Once TP'ed, it can take up to 3 weeks for the taproot to re-orient downwards, By then, the direct seed root that has always grown downward, showing similar growth to the TP even though it is weeks younger. Save yourself time, water and money - plant cucurbits direct seed.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>ZUCCHINI / SUMMER SQUASH</b>
<b>Latin Name</b>	<i>Cucumis pepo</i>
<b>General Description</b>	A tasty mid-summer to early autumn crop.
<b>Soil and Fertility Needs</b>	Loose humus rich soil is best for cucurbits due to their deep roots.
<b>Type of Container</b>	A deep container, ideally over 50L allows for ideal, deep-rooted growth. An inbuilt water reservoir is recommended.
<b>Type of Planting</b>	1st timeline: plant seed/lings 1 week after last frost, or end May, or slightly earlier in full sun or protected areas.
<b>Spacing</b>	Plant 3 seeds every 36" on diagonals. Add 2 shovelful of compost mix to each hole. Thin out to the healthiest 2.
<b>Companion Planting</b>	Brassica family are allies. Also nasturtiums, marigolds, sunflowers, peas, beets, carrots and dill.
<b>Watering Needs</b>	Even deep watering.
<b>Days to Maturity</b>	45-75 days
<b>Harvest Dates</b>	Mid July to early October.
<b>Harvesting Technique</b>	Harvest zucchs and summer squash when young and tender. They grow incredibly fast and large zucchs get boring really quick. Harvest every 2-3 days or when fruit are 1" by 4" to 2" to 8". Flowers can be harvested too: male flowers are bigger, and flowering is more prolific from non-hybrid varieties.
<b>Maintenance</b>	Fertilizing cucurbits: Liquid solution every 3 weeks as foliar feed or root drench. Tip prune as needed.
<b>Insect Problems</b>	Cucumber beetle, squash vine borer.
<b>Diseases</b>	Powdery mildew, downy mildew, cucumber mosaic virus.
<b>Seed Saving</b>	Seed saving with cucurbits can be tricky due to inter-varietal cross pollination.
<b>The Farmers' Special Tips</b>	Plant cucurbits by DS in ultra fluffy soil. As they are deep rooted, transplanting can backfire as the taproot in the pot gets turned over on itself. Once TP'ed, it can take up to 3 weeks for the taproot to re-orient downwards, By then, the direct seed root that has always grown downward, showing similar growth to the TP even though it is weeks younger. Save yourself time, water and money - plant cucurbits direct seed.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>MELON</b>
<b>Latin Name</b>	<i>Cucumis melo</i>
<b>General Description</b>	A tasty early to late summer crop.
<b>Soil and Fertility Needs</b>	Loose humus rich soil is best for cucurbits due to their deep roots.
<b>Type of Container</b>	A deep container, ideally over 50L allows for ideal, deep-rooted growth. An inbuilt water reservoir is recommended.
<b>Type of Planting</b>	1st timeline: plant seed/lings 1 week after last frost, or end May, or slightly earlier in full sun or protected areas.
<b>Spacing</b>	Plant 3 seeds every 24" on diagonals. Add 2 handfuls of compost mix to each hole. Thin out to the healthiest 2.
<b>Companion Planting</b>	Corn, sunflower, nasturtium, radish, catnip, aromatic herbs, beans.
<b>Watering Needs</b>	Even deep watering.
<b>Days to Maturity</b>	75-95 days.
<b>Harvest Dates</b>	August- October.
<b>Harvesting Technique</b>	How can you tell if a melon is a ripe? If the stem breaks easily as you lift the fruit, it is ready.
<b>Maintenance</b>	Fertilizing cucurbits: Liquid solution every 3 weeks as foliar feed or root drench. Tip prune at 6-12 feet.
<b>Insect Problems</b>	Cucumber beetle, squash vine borer.
<b>Diseases</b>	Powdery mildew, downy mildew, cucumber mosaic virus, bacterial wilt.
<b>Seed Saving</b>	Seed saving with cucurbits can be tricky due to inter-varietal cross pollination. If you want to save seed true to type, ensure that there are no other varieties within 200 feet.
<b>The Farmers' Special Tips</b>	Plant cucurbits by DS in ultra fluffy soil. As they are deep rooted, transplanting can backfire as the taproot in the pot gets turned over on itself. Once TP'ed, it can take up to 3 weeks for the taproot to re-orient downwards, By then, the direct seed root that has always grown downward, showing similar growth to the TP even though it is weeks younger. Save yourself time, water and money - plant cucurbits direct seed.

## ASTERACEAE (COMPOSITAE)

*This family of leafy annuals is the most widely used in salads.*

- Lettuce
- Dandelion
- Endive
- Chicory
- Radicchio.

**GENERAL:** Lettuce in all its forms is the most commonly used of the salad greens. Endives and dandelion as well. They have many small clustered flowers.

**HEALTH BENEFITS:** The slight bitterness of their leaves works as a tonic.

**PART OF PLANT HARVESTED:** Primarily the leaves, sometimes the root.

**SOIL NUTRIENT NEEDS:** They are medium shallow rooted medium rich feeders.

**GENERAL GROWING GUIDELINES:** They prefer cooler weather. Once rooted in all of these crops can grow without much water, excepting lettuce. The more the plants are watered, the less bitter the leaves.

**HISTORY:** This family used to be called the Compositae. They had widely been used as a wild crafted plant harvested seasonally for their young tender greens.

*This family is useful to the garden and gardener:*

- For their refreshing taste.
- For their cleansing effect.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>LEAF LETTUCE</b>
<b>Latin Name</b>	<i>Latuca Sativa</i>
<b>General Description</b>	An easy to grow all season vegetable.
<b>Soil and Fertility Needs</b>	Loose rich soil high in potassium is best.
<b>Type of Container</b>	Lettuce can grow in containers as shallow as 4 inches.
<b>Type of Planting</b>	Plant timelines by seed or TP 6-8 wks old as early as beginning of April, depending on soil conditions and weather.
<b>Spacing</b>	2-18" inches on diagonals or along rows.
<b>Companion Planting</b>	Goes well with all sorts of veggies such as brassicas, strawberries, cucumbers, beets and carrots.
<b>Watering Needs</b>	Even watering
<b>Days to Maturity</b>	30-60 days.
<b>Harvest Dates</b>	Outdoor harvests from beginning June to end November.
<b>Harvesting Technique</b>	3 ways to harvest: 1. Leaf by leaf take the outer leaves for harvest by cutting or plucking off near stalk. 2. Cut the plant at ground level to take full head. 3. Cut whole head 2-3" above ground, so that it can regrow 2 to 3 times, before bolting, getting weak, or freezing.
<b>Maintenance</b>	Even watering especially in hot weather, will ensure tender harvests all year.
<b>Insect Problems</b>	Aphids, cutworms, slugs, snails.
<b>Diseases</b>	Gray mold, mosaic virus.
<b>Seed Saving</b>	Let the selected spring or summer plant bolt and go to seed. Wait around 6 weeks for flower to from, then dry out. Take the flower stalk and put in paper bag to use later.
<b>The Farmers' Special Tips</b>	Use red leaf lettuces as quick spring filler plants in the ornamental garden, replacing annual flowers. For best results plant for a spring or fall harvest, unless one is growing heat resistant summer varieties.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>HEAD LETTUCE</b>
<b>Latin Name</b>	<i>Latuca Sativa</i>
<b>General Description</b>	An easy to grow all season vegetable.
<b>Soil and Fertility Needs</b>	Loose rich soil high in potassium is best.
<b>Type of Container</b>	Lettuce can grow in containers as shallow as 4 inches.
<b>Type of Planting</b>	Plant timelines by seed or TP 6-8 wks old as early as beginning of April, depending on soil conditions and weather.
<b>Spacing</b>	6-20" inches on diagonals or along rows.
<b>Companion Planting</b>	Goes well with all sorts of veggies such as brassicas, strawberries, cucumbers, beets and carrots.
<b>Watering Needs</b>	Even watering.
<b>Days to Maturity</b>	40-75 days.
<b>Harvest Dates</b>	Outdoor harvests from beginning June to end November, depending on wind and frost protection.
<b>Harvesting Technique</b>	Wait until the head is solid and firm before cutting. In late spring to late summer, the plant may bolt (go to seed) before full heading. So watch for bolting in hot weather and pick before the plant elongates.
<b>Maintenance</b>	Even watering especially in hot weather, will ensure tender harvests all year.
<b>Insect Problems</b>	Aphids, cutworms, slugs, snails.
<b>Diseases</b>	Gray mold, mosaic virus.
<b>Seed Saving</b>	Let the selected spring or summer plant bolt and go to seed. Wait around 6 weeks for flower to form, then dry out. Take the flower stalk and put in paper bag to use later.
<b>The Farmers' Special Tips</b>	Use red head lettuce as quick spring filler plants in the ornamental garden, replacing annual flowers. For best results plant for a spring or fall harvest, unless one is growing heat resistant summer varieties.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>BABY LETTUCE</b>
<b>Latin Name</b>	<i>Latuca Sativa</i>
<b>General Description</b>	An easy to grow all season vegetable.
<b>Soil and Fertility Needs</b>	Loose rich soil high in potassium is best.
<b>Type of Container</b>	Lettuce can grow in containers as shallow as 4 inches.
<b>Type of Planting</b>	Plant timelines by seed or TP 6-8 wks old as early as beginning of April, depending on soil conditions and weather.
<b>Spacing</b>	Every 2" on diagonals or along rows.
<b>Companion Planting</b>	Goes well with all sorts of veggies such as brassicas, strawberries, cucumbers, beets and carrots.
<b>Watering Needs</b>	Even watering.
<b>Days to Maturity</b>	15-45 days.
<b>Harvest Dates</b>	Outdoor harvests from May to end November, depending on wind and frost protection.
<b>Harvesting Technique</b>	Cut the plant 1-2 inches above the ground, JUST above where the stalk leaves out. When the leaves are 3-6" long. The leaves will re-grow 1-3 times, depending on weather and plant health, giving additional harvests.
<b>Maintenance</b>	Even watering especially in hot weather, will ensure tender harvests all year.
<b>Insect Problems</b>	Aphids, cutworms, slugs, snails.
<b>Diseases</b>	Gray mold, mosaic virus.
<b>Seed Saving</b>	Let the selected spring or summer plant bolt and go to seed. Wait around 6 weeks for flower to form, then dry out. Take the flower stalk and put in paper bag to use later.
<b>The Farmers' Special Tips</b>	Use red leaf lettuces as quick spring filler plants in the ornamental garden, replacing annual flowers. For best results plant for a spring or fall harvest, unless one is growing heat resistant summer varieties.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>ENDIVE / DANDELION or ITALIAN CHICORY</b>
<b>Latin Name</b>	<i>Cichorium endivia</i>
<b>General Description</b>	Slightly bitter all year performer.
<b>Soil and Fertility Needs</b>	Deep rich soil is best, high in phosphorus and potassium to help roots settle in.
<b>Type of Container</b>	At least 20L and 8" deep as chicory has a deep taproot.
<b>Type of Planting</b>	In spring or late summer by seed or transplants 8-10 wks old. Better by DS.
<b>Spacing</b>	2-12" inches on diagonals or along rows.
<b>Companion Planting</b>	Salad greens or brassicas.
<b>Watering Needs</b>	Even watering.
<b>Days to Maturity</b>	35-60 days.
<b>Harvest Dates</b>	Mid spring to late fall.
<b>Harvesting Technique</b>	Pluck the largest leaves off by the stem, with hands, knife, or scissors. The inner ones will fill in and grow in their place.
<b>Maintenance</b>	Summer varieties need decent water and some shade, otherwise they will go to seed in the stress.
<b>Insect Problems</b>	Tarnish plant bug, leaf miner, aphids.
<b>Diseases</b>	Mosaic virus, rot.
<b>Seed Saving</b>	Let the flower stalk dry out into seeds, then remove and put into bag until seeds are needed.
<b>The Farmers' Special Tips</b>	These plants can be used raw or slightly steamed. Great as filler in a salad.

## 〔 CHENOPODIACEAE 〕

*This high yielding family of deep rooted vegetables is easy to grow:*

- Beets
- Swiss Chard
- Spinach

**GENERAL:** Chard and beets give a high yield per square foot. Chard is a prolific producer of tasty greens that give from June to November. Beets provide greens throughout the season and massive amounts of winter storage crops.

**HEALTH BENEFITS:** This family of veggies contains a lot of potassium, vitamin A and C. They also have high fibre.

**PART OF PLANT HARVESTED:** The root or the leaves. The leaves can be harvested over the growing season on both chard and beets, and for spinach until the plant bolts.

**SOIL NUTRIENT NEEDS:** Deep, finely prepared soil with lots of nitrogen and potassium. They are medium feeders with deep roots.

**GENERAL GROWING GUIDELINES:** The seed is actually several clustered together. This cluster is hard and germination is slow. Once plants are several inches tall they settle in well and then grow easily. Spinach likes cooler weather, beets and chard can handle hot or cold.

**HISTORY:** This family has been widely used for centuries for their dual harvests. On top of the more commonly known harvests, sugar beets have been used for white sugar, mangel beets as livestock feed.

〔 *This family is useful to the garden and gardener:* 〕

- For their plentiful harvests.
- For their easy growth.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>BEETS</b>
<b>Latin Name</b>	<i>Beta vulgaris</i>
<b>General Description</b>	A great storage root crop that is also tasty fresh.
<b>Soil and Fertility Needs</b>	Sandy loam well established soil with no fresh manure or compost.
<b>Type of Container</b>	20L, 12" deep minimum.
<b>Type of Planting</b>	DS in spring once soil is warm enough to be worked. The looser the soil the better, for quick rooting.
<b>Spacing</b>	1" to 8" on rows 12-18" apart, or every 2-6" on diagonals.
<b>Companion Planting</b>	Onions, kohlrabi, other brassicas; or as an accent in ornamental gardens.
<b>Watering Needs</b>	More water is needed to germinate and get the plant rooted in (the first 30 days).
<b>Days to Maturity</b>	45 to 80 days.
<b>Harvest Dates</b>	June to November.
<b>Harvesting Technique</b>	There are 2 main ways to harvest roots crops like beets. One is to thin as you harvest, the other is to pre thin before harvesting. The first is better for a long harvest, the second is better for an earlier, more uniform harvest. If your soil is heavy you may need to use a pitchfork to loosen the soil before pulling out.
<b>Maintenance</b>	Good initial watering, followed by prompt weeding and thinning ensures a timely harvest.
<b>Insect Problems</b>	Beet beetle, tarnish plant bug, leaf miner, cucumber beetle, cabbage looper, aphids.
<b>Diseases</b>	Black spot, rot, mosaic virus, spinach blight via aphids, downy mildew.
<b>Seed Saving</b>	Beets are biennials. If you can over-winter the best plants in your garden, seeds can be taken off from the dried flowers the following late spring.
<b>The Farmers' Special Tips</b>	Seeds can be covered with cardboard, etc for 8 days after planting, to conserve watering for these slow to germinate plants. Make sure plants are well thinned out before the 30 day mark.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>SWISS CHARD</b>
<b>Latin Name</b>	<i>Beta vulgaris var. cicla</i>
<b>General Description</b>	High performer all year.
<b>Soil and Fertility Needs</b>	Deep rich soil is best, high in phosphorus and potassium to help roots settle in.
<b>Type of Container</b>	At least 20L and 8" deep as chard has a deep taproot.
<b>Type of Planting</b>	Usually by seed but sometimes by seedling (TP), early April thru mid August.
<b>Spacing</b>	1-18" inches on diagonals or along rows.
<b>Companion Planting</b>	Onions, kohlrabi, mint family.
<b>Watering Needs</b>	Even watering.
<b>Days to Maturity</b>	40-120 days.
<b>Harvest Dates</b>	Outdoor harvests from May to end November, depending on wind and frost protection.
<b>Harvesting Technique</b>	Harvest like kale or collards. Small or big, young and tender or old and tough, it's your choice. I prefer harvesting 6" by 4" leaves every week all year. I'll space them at 4-8" for that size leaf.
<b>Maintenance</b>	Chard, like beets and spinach, take a while to germinate and get settled in.
<b>Insect Problems</b>	Tarnish plant bug, leaf miner, cucumber beetle, cabbage looper, aphids.
<b>Diseases</b>	Mosaic virus, spinach blight via aphids, downy mildew.
<b>Seed Saving</b>	Chard is a biannual so wait until second year of growth for saving seed. If the winter wasn't too severe, new growth will come out from the crown in the spring. When it bolts in late spring, let it dry then collect flower stalk for seeds.
<b>The Farmers' Special Tips</b>	Use red or yellow chard as quick spring filler plants in the ornamental garden, replacing annual flowers. They will provide colour all season.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>SPINACH</b>
<b>Latin Name</b>	<i>Spinacia oleracea</i>
<b>General Description</b>	Popular and tasty, best in spring and fall.
<b>Soil and Fertility Needs</b>	Deep rich soil is best, high in phosphorus and potassium to help roots settle in.
<b>Type of Container</b>	At least 20L and 8" deep as spinach has a deep taproot.
<b>Type of Planting</b>	In spring and late summer by seed. Summer varieties need LOTS of water and some shade.
<b>Spacing</b>	1-12" inches on diagonals or along rows.
<b>Companion Planting</b>	Brassica family, peppers, eggplant, celery. In shade of taller crops in summer.
<b>Watering Needs</b>	Even frequent watering.
<b>Days to Maturity</b>	25-55 days.
<b>Harvest Dates</b>	Mid spring to late fall.
<b>Harvesting Technique</b>	Pluck the largest leaves off by the stem, with hands, knife, or scissors. The inner ones will fill in and grow in their place.
<b>Maintenance</b>	Summer varieties need TONS of water and some shade; otherwise they will go to seed in the stress.
<b>Insect Problems</b>	Tarnish plant bug, leaf miner, cucumber beetle, cabbage looper, aphids.
<b>Diseases</b>	Mosaic virus, spinach blight via aphids, downy mildew.
<b>Seed Saving</b>	Spinach bolts like lettuce in hot weather, but worse. Let the flower stalk dry out into seeds, then remove and put into bag until seeds are needed.
<b>The Farmers' Special Tips</b>	Pre-germinate seeds from this family for 1-4 days before planting in ground. Put them in a topper ware and treat like sprouts.

## APIACEAE (UMBELLIFERAE)

*This family of rooting vegetables have small seeds that are slow to germinate:*

- Carrots
- Parsnips
- Celery
- Celeriac
- Parsley (see HERB section below)
- Fennel
- Dill
- Cilantro

**GENERAL:** All plants from this family have tiny flowers; inside are the tiny seeds which are slow to germinate. Some of the related non cultivated varieties are poisonous.

**HEALTH BENEFITS:** Carrots reportedly help with eyesight, parsley with brain function. Flowers from this family attract beneficial wasps and pollinators.

**PART OF PLANT HARVESTED:** The root; bulb; leaves.

**SOIL NUTRIENT NEEDS:** These root crops are not heavy feeders, but need finely prepared well established soil, to ensure fast growth without excessive side root-hair growth. They are medium feeders with medium-deep roots.

**GENERAL GROWING GUIDELINES:** Generally DS. Can tolerate frost. Germination is slow with this family. Good spacing early on is best for earlier harvests.

*These crops are good to grow*

- To attract beneficial insects,
- For diverse harvests with lots of flavour.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>CARROTS</b>
<b>Latin Name</b>	<i>Daucus carota</i>
<b>General Description</b>	A great storage root crop that is also tasty fresh.
<b>Soil and Fertility Needs</b>	Sandy loam well established soil with no fresh manure or compost.
<b>Type of Container</b>	20L, 12" deep minimum.
<b>Type of Planting</b>	DS in spring once soil is warm enough to be worked. The looser the soil the better, for quick rooting.
<b>Spacing</b>	1/2" to 6" on rows 12-18" apart, or every 2-4" on diagonals.
<b>Companion Planting</b>	Beside shallow rooted plants that don't need rich soil.
<b>Watering Needs</b>	More water is needed to germinate and get the plant rooted in (the first 35 days).
<b>Days to Maturity</b>	45 to 85 days.
<b>Harvest Dates</b>	June to November.
<b>Harvesting Technique</b>	There are 2 main ways to harvest roots crops like carrots. One is to thin as you harvest, the other is to pre thin before harvesting. The first is better for a long harvest, the second is better for an earlier, more uniform harvest. If your soil is heavy you may need to use a pitchfork to loosen the soil before pulling out.
<b>Maintenance</b>	Good initial watering, followed by prompt weeding and thinning ensures a timely harvest.
<b>Insect Problems</b>	Carrot fly, carrot weevil, nematodes, parsleyworms, aphids.
<b>Diseases</b>	Rot, leaf blight.
<b>Seed Saving</b>	Carrots are biennials. If you can over-winter the best plants in your garden, seeds can be taken off from the dried flowers the following late spring.
<b>The Farmers' Special Tips</b>	Seeds can be covered with cardboard, etc for 10 days after planting, to conserve watering for these slow to germinate plants.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>PARSNIP</b>
<b>Latin Name</b>	<i>Pastinaca sativa</i>
<b>General Description</b>	An old fashioned storage root crop.
<b>Soil and Fertility Needs</b>	Sandy loam well established soil with no fresh manure or compost.
<b>Type of Container</b>	20L, 14" deep minimum.
<b>Type of Planting</b>	DS in spring once soil is warm enough to be worked. The looser the soil the better, for quick rooting.
<b>Spacing</b>	2" to 10" on rows 12-18" apart, or every 3-6" on diagonals.
<b>Companion Planting</b>	Legumes, grains.
<b>Watering Needs</b>	More water is needed to germinate and get the plant rooted in (the first 35 days).
<b>Days to Maturity</b>	75-120 days.
<b>Harvest Dates</b>	August to November. Harvests taste better after a good fall frost, like most root crops. October onwards
<b>Harvesting Technique</b>	Thin patch out to desired spacing for variety by the 40 days mark. Then use a pitchfork if needed to loosen soil and pull out roots. Start at one end of the row, finishing at the other by late fall.
<b>Maintenance</b>	Good initial watering, followed by prompt weeding and thinning ensures a timely harvest.
<b>Insect Problems</b>	Celery leaf miner, carrot fly, carrot weevil, nematodes, parsleyworms, aphids.
<b>Diseases</b>	Rust fungus, canker, rot, leaf blight.
<b>Seed Saving</b>	Parsnips are biennials. If you can over-winter the best plants in your garden, seeds can be taken off from the dried flowers the following late spring.
<b>The Farmers' Special Tips</b>	Seeds can be covered with cardboard, etc for 10 days after planting, to conserve watering for these slow to germinate plants. Make sure plants are well thinned out before the 40 day mark.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>CELERY</b>
<b>Latin Name</b>	<i>Apium graveolens var. dulce</i>
<b>General Description</b>	A traditional crop that benefits from the fall frosts.
<b>Soil and Fertility Needs</b>	Rich, moist, loamy soil.
<b>Type of Container</b>	20L, 12" deep minimum.
<b>Type of Planting</b>	TP 12 wks old in spring after last frosts. The looser the soil the better, for quick rooting.
<b>Spacing</b>	6" to 12" on rows 18-36" apart, or every 12-18" on diagonals.
<b>Companion Planting</b>	Leeks: both species like rich soil and both can be hilled.
<b>Watering Needs</b>	For succulent stalks, celery needs a lot of water throughout its growth cycle.
<b>Days to Maturity</b>	75 to 120 days.
<b>Harvest Dates</b>	September to November. Harvests taste better after a good fall frost. So harvesting is best from end September onwards.
<b>Harvesting Technique</b>	Plants are pulled or pitch forked out starting after the first hard frost of late September or early October.
<b>Maintenance</b>	Harvest quality benefits from hilling (blanching) the stalks. This can be done 2-4 times starting from the 40d mark.
<b>Insect Problems</b>	Leaf miner, parsleyworms, nematodes, carrot rust flies.
<b>Diseases</b>	Damping off, blight, leaf spot.
<b>Seed Saving</b>	Celery is a biennial. If you can over-winter the best plants in your garden, seeds can be taken off from the dried flowers the following late spring.
<b>The Farmers' Special Tips</b>	Starting in August hill the plants every 3 weeks to blanch the stalks.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>CELERIAC</b>
<b>Latin Name</b>	<i>Apium graveolens var. rapaceum</i>
<b>General Description</b>	A traditional crop that benefits from the fall frosts.
<b>Soil and Fertility Needs</b>	Rich, moist, loamy soil.
<b>Type of Container</b>	20L, 12" deep minimum.
<b>Type of Planting</b>	TP 12 weeks old in spring after last frosts. The looser the soil the better, for quick rooting.
<b>Spacing</b>	6" to 12" on rows 18-36" apart, or every 12-18" on diagonals.
<b>Companion Planting</b>	Leeks.
<b>Watering Needs</b>	For succulent stalks, celeriac needs a lot of water throughout its growth cycle.
<b>Days to Maturity</b>	75 to 120 days.
<b>Harvest Dates</b>	September to November. Harvests taste better after a good fall frost. October onwards.
<b>Harvesting Technique</b>	Plants are pulled or pitch forked out starting after the first hard frost of late September or early October.
<b>Maintenance</b>	Harvest quality benefits from hilling (blanching) the stalks. This can be done 2-4 times starting from the 40d mark.
<b>Insect Problems</b>	Leaf miner, parsleyworms, nematodes, carrot rust flies.
<b>Diseases</b>	Damping off, blight, leaf spot.
<b>Seed Saving</b>	Celeriac is a biennial. If you can over-winter the best plants in your garden, seeds can be taken off from the dried flowers the following late spring.
<b>The Farmers' Special Tips</b>	Celeriac can be hilled like celery, although not as high.

## HERBS

*There are many kinds of herbs that have medicinal, aromatic or savory qualities:*

- Culinary
- Tea
- Aromatic
- Medicinal
- Ornamental
- Companion Plants

**GENERAL:** Herbs in general are easy growing, slow-germinating, low maintenance plants. There are many though that don't fit into this generalization.

**HEALTH BENEFITS:** There are too many health benefits of herbs for one paragraph. Suffice to say, the original medicine was mostly herbal preparations and accents, and synergistic food combinations.

**PART OF PLANT HARVESTED:** Herbs are so varied that depending on the plant, any part could be used.

**SOIL NUTRIENT NEEDS:** Herbs require a variety of soils, but in general, don't need a rich soil. Too much nitrogen is not necessary for most herbs. Kelp and compost work well as supplements.

**GENERAL GROWING GUIDELINES:** Herbs are slow to germinate. Some herbs don't produce viable seeds so plants are propagated by cuttings. Typically, herbs are transplanted around the time of last frost. Some are invasive, so plan and plant accordingly. Less watering can often result in better flowers and oil content.

**HISTORY:** Herbs may be the first cultivated plants, as well as the first gathered. In any case, they were the first medicine, and are still widely used in this way. Care must be taken that some herbs or parts of herbs are not taken in excess. Herbology is not only an ancient science, it is also an art.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>BASIL</b>
<b>Latin Name</b>	<i>Ocimum basilicum</i>
<b>General Description</b>	This popular Mediterranean herb likes warm weather and soil.
<b>Soil and Fertility Needs</b>	They like a range of soils as long as they are warm. They are medium feeders with medium-shallow roots.
<b>Type of Container</b>	10L or 8" deep.
<b>Type of Planting</b>	Usually by TP 8-12 weeks old, May 15-June 30.
<b>Spacing</b>	4-12" apart on rows every 2-4 feet, or every 6-18" on diagonals.
<b>Companion Planting</b>	As an accent plant throughout the garden.
<b>Watering Needs</b>	They need a fair bit of water to discourage flowering.
<b>Days to Maturity</b>	45-90 days.
<b>Harvest Dates</b>	July, August, September, October.
<b>Harvesting Technique</b>	Tip prune by hand. Find the top spot on the branch where two lateral leaves are forming. Pinch the tip just above that spot.
<b>Maintenance</b>	For prolonged harvest, basil should be tip pruned every week or 2 starting 6 weeks after TP or when flowers start to form.
<b>Insect Problems</b>	Japanese beetles.
<b>Diseases</b>	Blight, downy mildew.
<b>Seed Saving</b>	Let some stalks flower on your best plant. When seeds are almost dry on flower head they can be removed, threshed and stored.
<b>The Farmers' Special Tips</b>	Basil can be harvested throughout the season or all at once in September, before the first killing frosts.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>CILANTRO / CORIANDER</b>
<b>Latin Name</b>	<i>Coriandrum sativum</i>
<b>General Description</b>	Popular herb grown for both its fragrant leaves and seeds.
<b>Soil and Fertility Needs</b>	They can do well in poor soil. They are light feeders with medium depth roots.
<b>Type of Container</b>	10L or 8" deep.
<b>Type of Planting</b>	DS in spring and summer.
<b>Spacing</b>	2-12" apart on rows every 2-4 feet, or every 4-8" on diagonals.
<b>Companion Planting</b>	Use to attract beneficial insects throughout the garden. Plant in rows beside dill, which is also harvested for leaf and seed.
<b>Watering Needs</b>	
<b>Days to Maturity</b>	40-80 days.
<b>Harvest Dates</b>	July, August, September.
<b>Harvesting Technique</b>	Cut the leaves as needed. For seed harvest, wait until they fully form.
<b>Maintenance</b>	Cilantro likes cooler weather in order not to seed. For seed (coriander), warm weather is fine.
<b>Insect Problems</b>	
<b>Diseases</b>	Blight, mildew.
<b>Seed Saving</b>	Let some stalks flower on your best plant. When seeds are almost dry on flower head they can be removed, threshed and stored.
<b>The Farmers' Special Tips</b>	Cilantro is coriander at a younger stage.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>DILL</b>
<b>Latin Name</b>	<i>Anethum graveolens</i>
<b>General Description</b>	Another popular herb grown for both its fragrant leaves and seeds, from the same Umbelliferae family.
<b>Soil and Fertility Needs</b>	Dill does well in poor soil. They are light feeders with medium depth roots.
<b>Type of Container</b>	10L or 8" deep.
<b>Type of Planting</b>	DS in spring, in cool soil.
<b>Spacing</b>	2-12" apart on rows every 2-4 feet, or every 4-8" on diagonals.
<b>Companion Planting</b>	Use to attract beneficial insects throughout the garden. Plant in rows beside cilantro, which is also harvested for leaf and seed.
<b>Watering Needs</b>	
<b>Days to Maturity</b>	40-80 days.
<b>Harvest Dates</b>	July, August, September.
<b>Harvesting Technique</b>	Cut the leaves as needed.
<b>Maintenance</b>	They are easy to grow and care for. For seed harvest, wait until they fully form.
<b>Insect Problems</b>	
<b>Diseases</b>	
<b>Seed Saving</b>	Let some stalks flower on your best plant. When seeds are almost dry on flower head they can be removed, threshed and stored.
<b>The Farmers' Special Tips</b>	Dill goes well with cilantro. It can be used as an accent plant in the ornamental garden.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>PARSLEY</b>
<b>Latin Name</b>	<i>Petroselinum crispum</i>
<b>General Description</b>	Another popular herb grown for both its fragrant leaves and seeds, from the same Umbelliferae family.
<b>Soil and Fertility Needs</b>	Parsley can do well in poor soil. They are light feeders with medium depth roots.
<b>Type of Container</b>	15L or 10" deep.
<b>Type of Planting</b>	DS in spring, in cool soil.
<b>Spacing</b>	4-12" apart on rows every 2-4 feet, or every 6-12" on diagonals.
<b>Companion Planting</b>	Asparagus.
<b>Watering Needs</b>	Soil should be moist for germination and rooting in. After 45 days, less water is needed.
<b>Days to Maturity</b>	50-80 days.
<b>Harvest Dates</b>	July, August, September, October
<b>Harvesting Technique</b>	Cut the leaves as needed.
<b>Maintenance</b>	
<b>Insect Problems</b>	
<b>Diseases</b>	
<b>Seed Saving</b>	Biannual. Early the next spring the parsley will start to head, then flower. Gather the seed heads when dry.
<b>The Farmers' Special Tips</b>	Cover moistened soil with cardboard after seed is sown. Check every 5 days for moisture and sprouting.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>FENNEL</b>
<b>Latin Name</b>	<i>Foeniculum vulgare</i>
<b>General Description</b>	Aromatic accent plant best planted on its own or on borders.
<b>Soil and Fertility Needs</b>	Like most plants from the Apiaceae family, fennel does best in average soil. Light feeder with medium depth roots.
<b>Type of Container</b>	15L or 10" deep.
<b>Type of Planting</b>	DS in spring.
<b>Spacing</b>	4-12" apart on rows every 2-4 feet, or every 6-12" on diagonals.
<b>Companion Planting</b>	Plant on borders. Used to attract beneficials.
<b>Watering Needs</b>	Soil should be moist for germination and rooting in. After 45 days, less water is needed.
<b>Days to Maturity</b>	50-80 days.
<b>Harvest Dates</b>	July, August, September, October
<b>Harvesting Technique</b>	Cut the leaves as needed.
<b>Maintenance</b>	
<b>Insect Problems</b>	
<b>Diseases</b>	
<b>Seed Saving</b>	Let some stalks flower on your best plant. When seeds are almost dry on flower head they can be removed, threshed and stored.
<b>The Farmers' Special Tips</b>	Cover moistened soil with cardboard after seed is sown. Check every 5 days for moisture and sprouting.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>MINT</b>
<b>Latin Name</b>	<i>Mentha spp.</i>
<b>General Description</b>	An easy to grow spreading perennial with many cultivars.
<b>Soil and Fertility Needs</b>	Mint does well in average soil. It is a light feeder with shallow spreading roots.
<b>Type of Container</b>	15L or 8" deep.
<b>Type of Planting</b>	TP in late spring.
<b>Spacing</b>	4-12" apart on rows every 2-4 feet, or every 6-12" on diagonals.
<b>Companion Planting</b>	Mint spreads so plant it with other aggressive perennials like comfrey, or brambles.
<b>Watering Needs</b>	Mint doesn't require too much water.
<b>Days to Maturity</b>	1 <sup>st</sup> year from cutting.
<b>Harvest Dates</b>	June-September.
<b>Harvesting Technique</b>	Cut the leaves as needed, and to remove flowers as they form.
<b>Maintenance</b>	Mint needs little attention to do well.
<b>Insect Problems</b>	
<b>Diseases</b>	
<b>Seed Saving</b>	Mint is propagated by cutting or division.
<b>The Farmers' Special Tips</b>	

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>OREGANO</b>
<b>Latin Name</b>	<i>Origanum vulgare</i>
<b>General Description</b>	A favourite in Mediterranean cuisine, oregano is a perennial with anti-microbial properties.
<b>Soil and Fertility Needs</b>	Oregano like many culinary herbs doesn't need great soil or a lot of water.
<b>Type of Container</b>	15L or 8" deep.
<b>Type of Planting</b>	TP in late spring.
<b>Spacing</b>	6-12" apart on rows every 2-4 feet, or every 8-12" on diagonals.
<b>Companion Planting</b>	On borders beside flowering annuals.
<b>Watering Needs</b>	Ensure the TP gets watered in well. After it's established it needs little water.
<b>Days to Maturity</b>	2nd year from seed.
<b>Harvest Dates</b>	July-Aug-September.
<b>Harvesting Technique</b>	Cut or prick the leaves as needed, and to remove flowers as they form.
<b>Maintenance</b>	When cutting, let some branches go to seed to attract beneficials.
<b>Insect Problems</b>	
<b>Diseases</b>	
<b>Seed Saving</b>	Plant is propagated by seed, but is usually bought as a nursery TP.
<b>The Farmers' Special Tips</b>	Grow in a bed of kitchen herbs in a planter or border bed near the house.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>SWEET MARJORAM</b>
<b>Latin Name</b>	<i>Origanum majorana</i>
<b>General Description</b>	A favourite in Mediterranean cuisine, marjoram is like oregano, but milder in taste.
<b>Soil and Fertility Needs</b>	Marjoram like many culinary herbs doesn't need great soil or a lot of water.
<b>Type of Container</b>	15L or 8" deep
<b>Type of Planting</b>	TP in late spring.
<b>Spacing</b>	6-12" apart on rows every 2-4 feet, or every 8-12" on diagonals.
<b>Companion Planting</b>	Plant along with your other herbs.
<b>Watering Needs</b>	Ensure the TP gets lots of water. After it's established it needs little water.
<b>Days to Maturity</b>	2nd year from seed.
<b>Harvest Dates</b>	July-Aug-September
<b>Harvesting Technique</b>	Cut or prick the leaves as needed, and to remove flowers as they form.
<b>Maintenance</b>	When cutting, let some branches go to seed to attract beneficials.
<b>Insect Problems</b>	
<b>Diseases</b>	
<b>Seed Saving</b>	Plant is propagated by seed, but is usually bought as a nursery TP.
<b>The Farmers' Special Tips</b>	Grow in a bed of kitchen herbs in a planter or border bed near the house.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>SUMMER SAVORY</b>
<b>Latin Name</b>	<i>Satureja hortensis</i>
<b>General Description</b>	Annual herb used in bean dishes and beside bean plantings.
<b>Soil and Fertility Needs</b>	Savory like many culinary herbs doesn't need great soil or a lot of water.
<b>Type of Container</b>	15L or 8" deep.
<b>Type of Planting</b>	TP in late spring.
<b>Spacing</b>	6-12" apart on rows every 2-4 feet, or every 6-12" on diagonals.
<b>Companion Planting</b>	Beans.
<b>Watering Needs</b>	Ensure the TP gets lots of water. After it's established it needs little water.
<b>Days to Maturity</b>	2nd year.
<b>Harvest Dates</b>	July-Aug-September.
<b>Harvesting Technique</b>	Cut or prick the leaves as needed, and to remove flowers as they form.
<b>Maintenance</b>	Easy to grow.
<b>Insect Problems</b>	
<b>Diseases</b>	
<b>Seed Saving</b>	Plant is propagated by seed, but is usually bought as a nursery TP.
<b>The Farmers' Special Tips</b>	Grow in amongst your bush beans, or on the south side of pole beans.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>SAGE</b>
<b>Latin Name</b>	<i>Salvia officinalis</i>
<b>General Description</b>	Sage is a perennial herb with a strong biting flavour.
<b>Soil and Fertility Needs</b>	Sage like many herbs doesn't need great soil or a lot of water.
<b>Type of Container</b>	20L or 12" deep.
<b>Type of Planting</b>	TP in late spring.
<b>Spacing</b>	8-18" apart on rows every 2-4 feet, or every 12-18"" on diagonals.
<b>Companion Planting</b>	Brassicas.
<b>Watering Needs</b>	Ensure the TP gets lots of water. After it's established it needs little water.
<b>Days to Maturity</b>	
<b>Harvest Dates</b>	July-Aug-September.
<b>Harvesting Technique</b>	Cut or prick the leaves as needed, and to remove flowers as they form.
<b>Maintenance</b>	1 <sup>st</sup> year from cutting.
<b>Insect Problems</b>	
<b>Diseases</b>	
<b>Seed Saving</b>	Plant is propagated by seed, division or cuttings.
<b>The Farmers' Special Tips</b>	

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>THYME</b>
<b>Latin Name</b>	<i>Thymus vulgaris</i>
<b>General Description</b>	Thyme has subtle flavours, used with beans.
<b>Soil and Fertility Needs</b>	Thyme like many culinary herbs doesn't need great soil or a lot of water.
<b>Type of Container</b>	15L or 8" deep.
<b>Type of Planting</b>	TP in late spring.
<b>Spacing</b>	6-12" apart on rows every 2-4 feet, or every 8-12" on diagonals.
<b>Companion Planting</b>	Goes well with most plants; can be placed in borders around the garden.
<b>Watering Needs</b>	Ensure the TP gets lots of water. After it's established it needs little water.
<b>Days to Maturity</b>	1st year from cuttings, 2nd year from seed.
<b>Harvest Dates</b>	July-Aug-September.
<b>Harvesting Technique</b>	Cut or prick the leaves as needed, and to remove flowers as they form.
<b>Maintenance</b>	Easy to maintain.
<b>Insect Problems</b>	
<b>Diseases</b>	
<b>Seed Saving</b>	Plant is usually propagated by cuttings.
<b>The Farmers' Special Tips</b>	Creeping thyme is used along stone pathways.

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<b>Common Name</b>	<b>ROSEMARY</b>
<b>Latin Name</b>	<i>Rosmarinus officinalis</i>
<b>General Description</b>	Rosemary is a delicate perennial that should be brought indoors in Zone 5 and colder
<b>Soil and Fertility Needs</b>	Rosemary handles poor soil well.
<b>Type of Container</b>	15L or 12" deep.
<b>Type of Planting</b>	TP in late spring.
<b>Spacing</b>	6-12" apart on rows every 2-4 feet, or every 8-12" on diagonals.
<b>Companion Planting</b>	Brassicas.
<b>Watering Needs</b>	Ensure the TP gets lots of water. After it's established it needs less water.
<b>Days to Maturity</b>	1 <sup>st</sup> year from cutting.
<b>Harvest Dates</b>	July-Aug-September.
<b>Harvesting Technique</b>	Cut or prick the leaves as needed, and to remove flowers as they form.
<b>Maintenance</b>	Don't overwater, nor let the soil completely dry out.
<b>Insect Problems</b>	
<b>Diseases</b>	
<b>Seed Saving</b>	Plant is usually propagated by cuttings.
<b>The Farmers' Special Tips</b>	Grow a bed of kitchen herbs in a planter or border bed near the house.

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<b>Common Name</b>	<b>LAVENDER</b>
<b>Latin Name</b>	<i>Lavandula angustifolia</i>
<b>General Description</b>	Floral flavours abound from this perennial herb.
<b>Soil and Fertility Needs</b>	Handles poor soil like most members of the Labiatae family.
<b>Type of Container</b>	15L or 12" deep.
<b>Type of Planting</b>	TP in late spring.
<b>Spacing</b>	6-12" apart on rows every 2-4 feet, or every 8-18" on diagonals.
<b>Companion Planting</b>	In around your other perennials herbs on front edge of borders.
<b>Watering Needs</b>	Ensure the TP gets lots of water. After it's established it needs little water.
<b>Days to Maturity</b>	1 <sup>st</sup> year from cutting.
<b>Harvest Dates</b>	July-Aug-September.
<b>Harvesting Technique</b>	Cut or prick the leaves as needed, and to remove flowers as they form.
<b>Maintenance</b>	Lavender are easy to grow.
<b>Insect Problems</b>	
<b>Diseases</b>	
<b>Seed Saving</b>	Plant is usually propagated by cutting or division.
<b>The Farmers' Special Tips</b>	Grow a bed of kitchen herbs in a planter or border bed near the house.

## BERRIES and BRAMBLES

*Berries and brambles are high producing tasty fruits:*

- Strawberries
- Raspberries
- Blackberries
- Blueberries
- Cranberries
- Elderberries
- Serviceberries
- Grapes
- Currants

**GENERAL:** Often invasive, berries and brambles can produce provide a massive harvest that can be eaten fresh, frozen, or in jams and jellies.

**HEALTH BENEFITS:** Berries offer a plethora of health benefits including Vitamin C.

**PART OF PLANT HARVESTED:** The fruit is the part eaten.

**SOIL NUTRIENT NEEDS:** Berries need a slightly above average soil, on the acidic side, with good drainage. Some berries like blueberries and cranberries need acidic soil. They are medium feeders with shallow-medium depth roots.

**GENERAL GROWING GUIDELINES:** The brambles and elderberries are invasive as they grow new canes through their roots rhizomes. Strawberries also spread through rooting branches. Grapes are wild growers. Only blueberries and currants stay relatively tidy, although they need pruning too. Berries and brambles like full sun for best fruiting, and they all do better with regular pruning. Most brambles and berries produce a lot in a short time, so be ready to eat and process!

**HISTORY:** Wild and domesticated varieties have been a major source of nutrition for thousands of years. Cultivated varieties are not that different from their wild cousins.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>STRAWBERRY</b>
<b>Latin Name</b>	<i>Fragaria ananassa</i>
<b>General Description</b>	Perennial spreading vine that bears super sweet fruits for 2-5 years. There are June bearing, day-neutral and ever bearing varieties. The wild variety bears tiny fruits.
<b>Soil and Fertility Needs</b>	Strawberries like rich moist soil.
<b>Type of Container</b>	They do well in containers as small as 10 litres. May not overwinter in shallow containers.
<b>Type of Planting</b>	By transplant in early spring (same time as peas).
<b>Spacing</b>	Every 18"-24" in rows 3-4 feet apart.
<b>Companion Planting</b>	Wonderfully used in the seasonal urn as a decorative dangly that also bears fruit for your visitors. Peaches.
<b>Watering Needs</b>	Strawberries like a fair amount of water, yet they also need good air circulation, to prevent molds and rots.
<b>Days to Maturity</b>	1 year.
<b>Harvest Dates</b>	June-July or June thru September.
<b>Harvesting Technique</b>	GENTLY pull off fruit when they are vibrant red.
<b>Maintenance</b>	They can rot out easily if the soil/ foliage is too wet. Mulch is recommended for strawberries as is hanging them to bear in cascades. Plants can be well mulched over the winter for best and early start for the next year. .
<b>Insect Problems</b>	Birds, tarnish plant bug.
<b>Diseases</b>	Gray mold, verticillium wilt.
<b>Seed Saving</b>	The seed is in the fruit. Plants are propagated by root forming rhizome cuttings. They root easily. If you buy a couple plants you can easily continue your patch for future harvests by taking cuttings and starting from scratch in rich soil.
<b>The Farmers' Special Tips</b>	Higher recommended as a "dangly" in spring summer and fall urn/ entrance planter installations. The shiny foliage and sweet fruits will be the warm welcome for your friends and family.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>RASPBERRY</b>
<b>Latin Name</b>	<i>Rubus spp.</i>
<b>General Description</b>	One of the invasive prickly canes that bear ultra sweet berries in a short harvest season. There are red, yellow, black and purple varieties. Most bear on second year canes, in either summer or fall.
<b>Soil and Fertility Needs</b>	Raspberries love fertile, deep, moist soil.
<b>Type of Container</b>	At least 50L.
<b>Type of Planting</b>	They are transplanted in early spring.
<b>Spacing</b>	Every 10"-18" in rows 5-6 feet apart.
<b>Companion Planting</b>	Mint! They are both invasive...Also grapes.
<b>Watering Needs</b>	They like moisture, but also good air flow.
<b>Days to Maturity</b>	2 years until first harvest, healthy plants lasting 10-20 years.
<b>Harvest Dates</b>	Summer or fall.
<b>Harvesting Technique</b>	Caress the ripe fruit as you pull it off the cane. Otherwise you'll squish them. Do not pick any berry plant or fruiting plant for that matter, when wet.
<b>Maintenance</b>	Every winter prune out all second year canes (the canes that bore fruit during the last season). Last seasons' new canes can also be tipped back 1/5 to 1/3. Plants rot easily when crowded and wet.
<b>Insect Problems</b>	Birds, aphids, tarnish plant bug, cane borers.
<b>Diseases</b>	Mosaic virus, anthracnose, leaf curl, rot, mildew, wilt, rust.
<b>Seed Saving</b>	The seeds are in the fruit; plants are propagated by root/ rhizome cuttings.
<b>The Farmers' Special Tips</b>	Only plant raspberries and blackberries in a strictly confined area, with ground barriers, in raised beds, or containers.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>BLACKBERRY</b>
<b>Latin Name</b>	<i>Rubus spp</i>
<b>General Description</b>	One of the invasive prickly canes that bear ultra sweet berries in a short harvest season. Types trail, are erect or semi-erect. Most are dark purple.
<b>Soil and Fertility Needs</b>	Blackberries love fertile, deep, well drained soil with lots of organic matter
<b>Type of Container</b>	At least 50L.
<b>Type of Planting</b>	They are transplanted in early spring.
<b>Spacing</b>	Every 12"-20" in rows 6-7 feet apart.
<b>Companion Planting</b>	Mint! They are both invasive...Also grapes.
<b>Watering Needs</b>	They like moisture, but also good air flow.
<b>Days to Maturity</b>	2 years till first harvest, healthy plants lasting 10-20 years.
<b>Harvest Dates</b>	Midsummer.
<b>Harvesting Technique</b>	Caress the ripe fruit as you pull it off the cane. Otherwise you'll squish them. Do not pick any berry plant or fruiting plant for that matter, when wet.
<b>Maintenance</b>	Every winter prune out all second year canes. Last seasons' canes can also be tipped back 1/5 to 1/3. In any case, the cane should be no higher than 5-6 feet.
<b>Insect Problems</b>	Birds, aphids, tarnish plant bug, cane borers.
<b>Diseases</b>	Mosaic virus, anthracnose, leaf curl, rot, mildew, wilt, rust.
<b>Seed Saving</b>	The seeds are in the fruit; most types of blackberries are propagated from root cutting/ rhizomes, although some are by leaf bud cutting.
<b>The Farmers' Special Tips</b>	Only plant raspberries and blackberries in a strictly confined area, with ground barriers in raised beds or containers.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>BLUEBERRY</b>
<b>Latin Name</b>	<i>Vaccinum spp</i>
<b>General Description</b>	Blueberries are a unique berry, tart yet sweet. There are two types: High and low bush. The high bush yields more; the spreading low bush is hardier. They both like fairly acidic soil.
<b>Soil and Fertility Needs</b>	Moist nitrogen rich acidic soil with lots of peat or pine needles.
<b>Type of Container</b>	25L minimum.
<b>Type of Planting</b>	By transplant in spring or mid fall.
<b>Spacing</b>	18"-24" every 3 or 4 feet.
<b>Companion Planting</b>	They do well with cranberries, rhododendrons or azaleas. Under pine trees.
<b>Watering Needs</b>	They need a fair amount of water and don't do well if their soil gets dried out.
<b>Days to Maturity</b>	2-3 years.
<b>Harvest Dates</b>	July-August.
<b>Harvesting Technique</b>	Long harvest season means you pick the individual berries as they turn dark blue. They can be gently plucked off.
<b>Maintenance</b>	Don't weed aggressively around the surface root zone as that area is sensitive. Mulch with pine needles or any acidic mulch.
<b>Insect Problems</b>	Birds, cherry fruit worm, blueberry maggot.
<b>Diseases</b>	Rot, botrytis blight.
<b>Seed Saving</b>	Plants need to be cross-pollinated, so have plants of two different varieties.
<b>The Farmers' Special Tips</b>	Plant them beside your rhodos and azaleas. Prune only as needed, as these plants grow slowly.

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<b>Common Name</b>	<b>CRANBERRY</b>
<b>Latin Name</b>	<i>Viburnum trilobum</i> and <i>Vaccinium macrocarpon</i>
<b>General Description</b>	High bush and low bush types of tart fall bearing fruits.
<b>Soil and Fertility Needs</b>	High bush varieties do well in good ornamental garden soils. Low bush need very acidic, very nitrogen rich, very moist soil.
<b>Type of Container</b>	High bush 75L, low bush 25L minimum.
<b>Type of Planting</b>	By transplant.
<b>Spacing</b>	Low bush every 2-3 feet. High bush every 6-8 feet.
<b>Companion Planting</b>	Good with blueberries, azaleas, and rhododendrons.
<b>Watering Needs</b>	Moist soil.
<b>Days to Maturity</b>	2-3 years till first fruiting.
<b>Harvest Dates</b>	September.
<b>Harvesting Technique</b>	The whole cluster is snapped off when most of the berries are ripe.
<b>Maintenance</b>	Prune cranberry like any flowering bush: remove old branches and the smallest of the new ones in the winter.
<b>Insect Problems</b>	Birds.
<b>Diseases</b>	---
<b>Seed Saving</b>	The seed is in the fruit. The plants are propagated by cuttings in nurseries.
<b>The Farmers' Special Tips</b>	Don't bother growing the low bush variety unless the soil is very acidic and wet all winter.

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<b>Common Name</b>	<b>ELDERBERRY</b>
<b>Latin Name</b>	<i>Sambucus nigra or canadensis.</i>
<b>General Description</b>	Multi stemmed tart fruit that spread rapidly via suckers. European or American varieties grow tall and short accordingly.
<b>Soil and Fertility Needs</b>	Moist, nitrogen rich soil
<b>Type of Container</b>	50L.
<b>Type of Planting</b>	By transplants
<b>Spacing</b>	Every 4-8 feet.
<b>Companion Planting</b>	Interplant blackberry, elderberry, and multi-stem serviceberry to make a living hedge.
<b>Watering Needs</b>	They need lots of water.
<b>Days to Maturity</b>	2 years.
<b>Harvest Dates</b>	September.
<b>Harvesting Technique</b>	Pull the whole cluster off when 2/3 of the berries have become crimson coloured.
<b>Maintenance</b>	These bush trees are pretty bomb proof. In fact the most problems you'll have is keeping them contained. Prune the plants like blackberries.
<b>Insect Problems</b>	Birds.
<b>Diseases</b>	---
<b>Seed Saving</b>	The seed is in the berry, but the plants are propagated by sucker cuttings that easily reroot.
<b>The Farmers' Special Tips</b>	Plant mint and strawberries at the base of elderberries to help their spread.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>SERVICEBERRY (SASKATOON)</b>
<b>Latin Name</b>	<i>Amelanchier spp</i>
<b>General Description</b>	A beautiful accent bush/tree that grows in multi stem or single trunk form.
<b>Soil and Fertility Needs</b>	They don't need a lot of water once established.
<b>Type of Container</b>	They could go in a 200L container.
<b>Type of Planting</b>	They are transplanted at 2-4" feet high.
<b>Spacing</b>	Every 10-20 feet if in a patch.
<b>Companion Planting</b>	They do well as an ornamental accent plant that provides dappled shade for the perennials and annuals below.
<b>Watering Needs</b>	They don't need a lot of water once established.
<b>Days to Maturity</b>	3-5 years.
<b>Harvest Dates</b>	July- August.
<b>Harvesting Technique</b>	Gently pluck the berry clusters when most of the cluster is dark red.
<b>Maintenance</b>	Serviceberries are one of the most hardy and disease resistant of the berries. Prune the bush types every winter, leaving only the best 5-10 newish shoots. The tree types can be pruned like an ornamental tree.
<b>Insect Problems</b>	Birds.
<b>Diseases</b>	Relatively disease free, mildew.
<b>Seed Saving</b>	The seed is inside the berry. Trees are propagated from seed.
<b>The Farmers' Special Tips</b>	Guerilla harvest these delicious little berries from fancy ornamental gardens in the rich neighborhoods. When I ran The Greener Side, we used to raid the trees and laugh when invariably; maids would run out and say: "Don't eat, don't eat! Poison!!!" He he he, now the secret's out of the bag! Not only are they delicious, they are also the most refined looking, yet bomb-proof of the ornamental accent shrub/trees.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>GRAPES</b>
<b>Latin Name</b>	<i>Vitis labruscana, vinifera, rotundifolia</i>
<b>General Description</b>	Grapes make the best wine; there are 4 types: American, European, crosses, and muscadine.
<b>Soil and Fertility Needs</b>	Grapes like very well drained slightly acidic soil that is not too rich.
<b>Type of Container</b>	At least 50L.
<b>Type of Planting</b>	By TS in spring.
<b>Spacing</b>	Every 6-12' on a trellis line.
<b>Companion Planting</b>	Legumes, clover, alfalfa.
<b>Watering Needs</b>	The soil can never get waterlogged.
<b>Days to Maturity</b>	Full fruiting: 2-4 years from planting. European in 2, crosses in 3, American in 3-4 years.
<b>Harvest Dates</b>	August-October.
<b>Harvesting Technique</b>	Cut the cluster when grapes are ripe.
<b>Maintenance</b>	Winter prune aggressively for the type of growth desired. Spur or cane prune depending on the cultivar. Summer prune sucker growth and remove small grapes from clusters.
<b>Insect Problems</b>	Grape leafhoppers, Japanese beetles, grape berry moth.
<b>Diseases</b>	Downy mildew, powdery mildew, black rot, cane dieback, botrytis bunch rot.
<b>Seed Saving</b>	The seed is in the fruit, but plants are usually propagated by cutting.
<b>The Farmers' Special Tips</b>	Regular winter pruning, as well as cluster thinning, and leaf pruning, will provide early bigger harvests.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>CURRANTS</b>
<b>Latin Name</b>	<i>Ribes spp</i>
<b>General Description</b>	Easy to grow ornamental sized fruiting bushes. Currants are usually processed and preserved.
<b>Soil and Fertility Needs</b>	They need nitrogen rich soil that is mulched and undisturbed.
<b>Type of Container</b>	50L minimum.
<b>Type of Planting</b>	By transplant.
<b>Spacing</b>	Every 3-6' diagonally on in rows.
<b>Companion Planting</b>	Plant them in amongst flowering perennials in the ornamental garden.
<b>Watering Needs</b>	Currants only need a lot of water when transplanted.
<b>Days to Maturity</b>	2 years.
<b>Harvest Dates</b>	July-September.
<b>Harvesting Technique</b>	The fruit cluster is plucked off all together when 2/3 of it is ready.
<b>Maintenance</b>	Currants are one of the most trouble free bush berries. Prune like cranberries.
<b>Insect Problems</b>	Gooseberry fruit worm.
<b>Diseases</b>	Pine rust, gooseberry mildew.
<b>Seed Saving</b>	The seed is inside the berry, although plants are propagated by cuttings.
<b>The Farmers' Special Tips</b>	Add lots of sweetener to this tart harvest!

## FRUIT TREES

*The fruit trees that can be grown in Southern Canada are from various families:*

- Apple
- Pear
- Plum
- Cherry
- Peach
- Paw Paw

**GENERAL:** Fruit trees provide a bounty of harvests: Fruits, shade, habitat, oxygen, wood, and soil and water retention.

**HEALTH BENEFITS:** Fruit trees offer a plethora of health benefits including Vitamin C.

**PART OF PLANT HARVESTED:** The fruit is the part eaten. Wood from pruning is great for BBQs.

**SOIL NUTRIENT NEEDS:** Fruit trees need deep soil that is well drained, yet rich. Too much nitrogen is the bane of the fruit trees existence. Kelp, alfalfa, and bone meal work well. They are medium feeders with deep roots.

**GENERAL GROWING GUIDELINES:** The cultivated fruit trees are usually grafted hybrids. The top part is one kind, the bottom part and root system is another. Fruiting starts 2 years after grafting, but it is best to remove flowers and let the tree grow solidly until year 4 or 5.

**PRUNING:** Fruit trees need to be pruned, and this intimidates most beginning gardeners. If buying a tree when young, buy a cultivar that will work for your area. Is the variety to be pruned from a central leader, or with an open center? Can you already see the foundation shape in the young tree? If not, choose another. Major pruning is best done before the break of spring – end of February, and water shoot and sucker pruning in the early summer, after fruiting just begins. Except – Peach.

**HISTORY:** Fruit trees go right back to the beginning of human kind. Wild and domesticated varieties have been a major source of nutrition for thousands of years.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>APPLE</b>
<b>Latin Name</b>	<i>Malus sylvestris</i>
<b>General Description</b>	A tasty sweet fruit that can be eaten fresh, stored, preserved or turned into juice and hard cider. Fresh eating, juicing and storage varieties are numbered in the hundreds. Dwarf varieties are recommended for the urban gardener. They can be pruned along a permanent trellis like grapes. Grows to Zone 3.
<b>Soil and Fertility Needs</b>	Well drained mulched or green manured soil with lots of organic matter. Lots of potassium, magnesium and clay.
<b>Type of Container</b>	250L minimum.
<b>Type of Planting</b>	TP when 2 yrs old (little trees are called whips), in early spring or late fall.
<b>Spacing</b>	Standard: Grow to 25', spaced 30' apart. Semi dwarf: Grow 10-20', spaced 15-20'. Dwarf: Grow 6-12', spaced 6-12'.
<b>Companion Planting</b>	If planted on the north side of the garden, plant edibles on its south side. Otherwise, green manures, or chicken run.
<b>Watering Needs</b>	Once the tree is firmly settled in (2yrs +) it won't need much water unless the in drought.
<b>Days to Maturity</b>	4-5 years old. Even though apples can start fruiting in their second year, it's best to remove those flowers from the 2nd to 4th year to focus on establishing a solid tree shape and deep roots.
<b>Harvest Dates</b>	July to October.
<b>Harvesting Technique</b>	Testing for maturity: Find the apple that looks right and give a thumb press. If it dents it is ready. Grab by the palm and not the fingers. Pull and twist at the same time, careful to not take any fruit spurs with the stem.
<b>Maintenance</b>	Prune aggressively when it is 2-4 years old to create foundation shape. Major cutting to remove unwanted branch growth in February, vertical water shoot and sucker pruning after flowering, but before fruit maturity.
<b>Insect Problems</b>	Apple maggot, mites, codling moth.
<b>Diseases</b>	Fire blight, canker.
<b>Seed Saving</b>	The seed is inside the mature fruit. However, trees are reproduced thru propagation.
<b>The Farmers' Special Tips</b>	Choose your tree at the nursery to fit how it will grow in your garden. Or, go to an apple nursery farm and talk to the owner about old time varieties grafted onto modern root stock, and how they could work for you. Pre-pay for the actual trees you want as they are growing and have them pre-prune your tree into the form you want.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>PEAR</b>
<b>Latin Name</b>	<i>Pyrus communis</i>
<b>General Description</b>	A tender yet filling fruit that can be eaten fresh, stored, preserved or turned into juice and hard cider. Fresh eating and storage varieties include the popular European varieties and the crisp Asian varieties. Dwarf varieties are recommended for the urban gardener. Grows to Zone 4.
<b>Soil and Fertility Needs</b>	Well drained mulched or green manured soil with lots of organic matter. Lots of potassium, magnesium and clay.
<b>Type of Container</b>	250L minimum.
<b>Type of Planting</b>	TP when 2 yrs old (little trees are called whips), in early spring or late fall.
<b>Spacing</b>	Standard: Grow to 25', spaced 30' apart. Semi dwarf: Grow 10-20', spaced 15-20'. Dwarf: Grow 6-12', spaced 6-12'.
<b>Companion Planting</b>	Pears are great as accent ornamentals year round. They have beautiful flowers and their fall foliage is resplendent. If planted on the north side of the garden, plant edibles on south side. Otherwise, green manures, or a chicken run.
<b>Watering Needs</b>	Once the tree is firmly settled in (2yrs +) it won't need much water unless the area is in a drought.
<b>Days to Maturity</b>	4-5 years. Even though pears can start fruiting in their second year, it's best to remove those flowers from the 2nd to 4th year to focus on establishing a solid tree shape and deep roots.
<b>Harvest Dates</b>	August to October.
<b>Harvesting Technique</b>	Harvest Asian var. when fully ripe, European var. when almost ripe. Do the apple thumb test, but with less pressure.
<b>Maintenance</b>	Prune twice a year as needed. Major cutting to remove unwanted branch growth in February, vertical water shoot/ sucker pruning just after fruiting. Pears grow upright, open center prune.
<b>Insect Problems</b>	Green fruit worm, mites, codling moth.
<b>Diseases</b>	Fire blight. Consistent pruning reduces unwanted new growth which is where fire blight attacks first.
<b>Seed Saving</b>	The seed is inside the mature fruit. Fruit is produced by cross-pollinating trees, so have at least 2 or 3 trees within 200 feet. Trees are reproduced thru propagation.
<b>The Farmers' Special Tips</b>	Choose your tree at the nursery to fit how it will grow in your garden. Or, go to a pear nursery farm and talk to the owner about varieties grafted onto modern root stock, and how they could work for you. Pre-pay for the actual trees you want as they are growing and have them pre-prune your tree into the form you want. Use your grafts or theirs.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>CHERRY</b>
<b>Latin Name</b>	<i>Prunus cerasus or avium</i>
<b>General Description</b>	A small stone fruit that comes in sweet and sour types, and then a mix of the two. Sweet cherries can be grown up to Zone 5, sour to zone 4. Dwarf varieties are recommended for the urban gardener.
<b>Soil and Fertility Needs</b>	Mulched or green manured well drained soil with lots of organic matter to retain water. Good amounts of potassium, magnesium and clay.
<b>Type of Container</b>	250L minimum.
<b>Type of Planting</b>	TP when 2 yrs old (little trees are called whips), in early spring or late fall.
<b>Spacing</b>	Tart cherries grow to 20 feet. Sweet cherries grow to standard, semi-dwarf and dwarf heights.
<b>Companion Planting</b>	If planted on the north side of the garden, plant edibles on south side. Otherwise, green manures, or a chicken run.
<b>Watering Needs</b>	Once the tree is firmly settled in (2yrs +) it won't need much water unless the area is going thru a drought. Just before fruiting and throughout harvest, the tree needs a fair amount of water.
<b>Days to Maturity</b>	4-5 years. Even though pears can start fruiting in their second year, it's best to remove those flowers from the 2nd to 4th year to focus on establishing a solid tree shape and deep roots.
<b>Harvest Dates</b>	July.
<b>Harvesting Technique</b>	When the fruit is dark and getting softish, spread fingers above cherries into stems. Grab the cluster all at once.
<b>Maintenance</b>	Prune twice a year as needed. Major cutting to remove unwanted branch growth in February, and then vertical water shoot and sucker pruning after flowering, but before fruit maturity.
<b>Insect Problems</b>	Cherry fruit fly, mites, green fruit worm, peach tree borer, birds.
<b>Diseases</b>	Plum curculio, canker.
<b>Seed Saving</b>	The seed is inside the mature fruit. However, trees are reproduced thru propagation.
<b>The Farmers' Special Tips</b>	Choose your tree at the nursery to fit how it will grow in your garden. Or, go to a cherry nursery farm and talk to the owner about old time varieties grafted onto modern root stock, and how they could work for you. Pre-pay for the actual trees you want as they are growing and have them pre-prune your tree into the form you want.

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<b>Common Name</b>	<b>PLUM</b>
<b>Latin Name</b>	<i>Prunus domestica and salicina</i>
<b>General Description</b>	Sweet-sour stone fruits with many different flavours. European and Japanese types are generally blue and red respectively. Dwarf varieties are recommended for the urban gardener. Can grow to Zone 5.
<b>Soil and Fertility Needs</b>	Mulched or green manured well drained soil with lots of organic matter. Lots of potassium, magnesium and clay.
<b>Type of Container</b>	250L minimum.
<b>Type of Planting</b>	TP when 2 yrs old (little trees are called whips), in early spring or late fall.
<b>Spacing</b>	
<b>Companion Planting</b>	If planted on the north side of the garden, plant edibles on south side. Otherwise, green manures, or a chicken run.
<b>Watering Needs</b>	Once the tree is firmly settled in (2yrs +) it won't need much water unless the area is in a drought.
<b>Days to Maturity</b>	4-5 years.
<b>Harvest Dates</b>	August-September. European types when fully ripe, the Japanese types when slightly soft- the opposite of pears.
<b>Harvesting Technique</b>	They should be soft but not mushy. Grabbing the plum softly with palm then twist off.
<b>Maintenance</b>	Prune aggressively when it is 2-4 years old to create foundation shape, open center for Japanese, central for European. Major cutting in February, and then vertical water shoot/ sucker pruning just after fruiting.
<b>Insect Problems</b>	Apple maggot, mites, green fruit worm, peach tree borer, plum curculio.
<b>Diseases</b>	Canker, brown rot, bacterial leaf spot.
<b>Seed Saving</b>	The seed is inside the mature fruit. However, trees are reproduced thru propagation.
<b>The Farmers' Special Tips</b>	Choose your tree at the nursery to fit how it will grow in your garden. Or, go to a plum nursery farm and talk to the owner about old time varieties grafted onto modern root stock, and how they could work for you. Pre-pay for the actual trees you want as they are growing and have them pre-prune your tree into the form you want.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>PEACH</b>
<b>Latin Name</b>	<i>Prunus persica</i>
<b>General Description</b>	A super sweet fresh eating fruit. Grows best in Zone 6 and warmer, can be grown in Zone 5 if the "chill hours" (cool, not cold, spring temperatures) are compatible with cultivar.
<b>Soil and Fertility Needs</b>	Mulched or green manured well drained soil with lots of organic matter. Lots of potassium, magnesium and clay.
<b>Type of Container</b>	250L minimum.
<b>Type of Planting</b>	TP when 2 yrs old (little trees are called whips), in early spring or late fall.
<b>Spacing</b>	Standard: Grow to 25', spaced 30' apart. Semi dwarf: Grow 10-20', spaced 15-20'. Dwarf: Grow 6-12', spaced 6-12'.
<b>Companion Planting</b>	If planted on the north side of the garden, plant edibles on south side. Otherwise, green manures, or a chicken run.
<b>Watering Needs</b>	Once the tree is firmly settled in (2yrs +) it won't need much water unless the area is in a drought.
<b>Days to Maturity</b>	4-5 years.
<b>Harvest Dates</b>	July- August.
<b>Harvesting Technique</b>	Peaches are harvested when slightly soft with the thumb press test. Harvest like apples.
<b>Maintenance</b>	Peaches don't produce for decades like apples or pears. Major cutting can be done just after budding. Peaches fruit on one year wood, so pruning can be a little more aggressive than other fruit trees- old branches are dead weight.
<b>Insect Problems</b>	Apple maggot, mites, green fruit worm, peach tree borer, plum curculio.
<b>Diseases</b>	Canker, brown rot, bacterial leaf spot.
<b>Seed Saving</b>	The seed is inside the mature fruit. However, trees are reproduced thru propagation.
<b>The Farmers' Special Tips</b>	Choose your tree at the nursery to fit how it will grow in your garden. Or, go to a peach nursery farm and talk to the owner about old time varieties grafted onto modern root stock, and how they could work for you. Pre-pay for the actual trees you want as they are growing and have them pre-prune your tree into the form you want.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>PAW PAW</b>
<b>Latin Name</b>	<i>Pawus dobladus</i>
<b>General Description</b>	An exotic tasting, one of a kind fruit that spoils quickly after harvest. Grows to Zone 5, barely. Usually grows with multiple stems, but can be pruned to a single trunk. Up to 30 feet tall.
<b>Soil and Fertility Needs</b>	Paw paws are hard to transplant successfully; they need rich, moist, well drained soil.
<b>Type of Container</b>	250L minimum.
<b>Type of Planting</b>	TP when 2 yrs old (little trees are called whips), in early spring or late fall.
<b>Spacing</b>	Can handle semi-shade, plant 30 feet apart.
<b>Companion Planting</b>	If planted on the north side of the garden, plant edibles on south side. Otherwise, green manures, or a chicken run.
<b>Watering Needs</b>	Paw paws need more moisture than most fruit trees as their native growing areas are usually lower sides of valleys.
<b>Days to Maturity</b>	4-5 years.
<b>Harvest Dates</b>	September-October.
<b>Harvesting Technique</b>	Paws paws are picked when they turn light brown and slightly soft. Pick off by twisting the fruit gently.
<b>Maintenance</b>	Prune twice a year as needed. Prune aggressively when it is 2-4 years old to create foundation shape. Major cutting in February and then vertical water shoot/ sucker pruning after flowering, but before fruit maturity.
<b>Insect Problems</b>	
<b>Diseases</b>	
<b>Seed Saving</b>	The seed is inside the mature fruit. However, trees are reproduced thru propagation.
<b>The Farmers' Special Tips</b>	When transplanting, grab some soil surrounding its growing area. The accompanying microbes and bio-chemical secretions will help with transplant shock.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>MULBERRIES</b>
<b>Latin Name</b>	<i>Morus nigra</i>
<b>General Description</b>	A small fruit, more like a berry, that bears on 30 foot trees that are very easy to grow.
<b>Soil and Fertility Needs</b>	Mulched or green manured well drained soil with lots of organic matter to retain water. Good amounts of potassium, magnesium and clay.
<b>Type of Container</b>	250L minimum
<b>Type of Planting</b>	TP when 2 yrs old (little trees are called whips), in early spring or late fall
<b>Spacing</b>	Every 10-30 feet.
<b>Companion Planting</b>	If planted on the north side of the garden, plant edibles on south side. Otherwise, green manures, or a chicken run.
<b>Watering Needs</b>	Once the tree is firmly settled in (2yrs +) it won't need much water unless the area is going thru a drought.
<b>Days to Maturity</b>	3 <sup>RD</sup> year.
<b>Harvest Dates</b>	July to October.
<b>Harvesting Technique</b>	GENTLY pull the ripe berries from the cluster, or take the whole cluster if over half of them are ripe.
<b>Maintenance</b>	Mulberries make a mess below when they fall. If growing for a harvest, choose a shorter variety that can be pruned to your liking.
<b>Insect Problems</b>	Apple maggot, mites, codling moth.
<b>Diseases</b>	Fire blight, canker.
<b>Seed Saving</b>	The seed is inside the mature fruit. However, trees are reproduced thru propagation.
<b>The Farmers' Special Tips</b>	Choose your tree at the nursery to fit how it will grow in your garden.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>ACORNS (OAK)</b>
<b>Latin Name</b>	<i>Quercus spp</i>
<b>General Description</b>	Oak trees are stately long living plants. The best acorns are nuts from the white oaks; all the varieties fruit differently and on different yearly cycles.
<b>Soil and Fertility Needs</b>	Rich soil will help them grow faster, but oaks tolerate a range of soils.
<b>Type of Container</b>	Deep rooted habit is not recommended for containers.
<b>Type of Planting</b>	Urban gardeners will plant oaks as a transplant, although they are propagated by seed.
<b>Spacing</b>	They can grow over 120 feet tall, so they will take a lot of space.
<b>Companion Planting</b>	Can be planted in the north edge of the property to not shade out the rest of the garden.
<b>Watering Needs</b>	Once the transplant is settled in after a few years, it won't need much water, unless in a drought.
<b>Days to Maturity</b>	5-7 years until acorn harvest.
<b>Harvest Dates</b>	August-September.
<b>Harvesting Technique</b>	The acorns will fall when ready; the tree branches can be banged with a stick.
<b>Maintenance</b>	Oaks don't need the same kind of pruning as fruit trees. Prune them like a regular tree; take out diseased, dead or out of place branches. Oak is a high value wood crop.
<b>Insect Problems</b>	Squirrels, weevils.
<b>Diseases</b>	
<b>Seed Saving</b>	Walnuts need cross pollination for good fruiting/ seeds. The seed is inside the mature nut. Oaks are reproduced by seed, and the seedlings are grown in nurseries for 2 years before being planted.
<b>The Farmers' Special Tips</b>	For an easier harvest get the smallest variety of white oak you can and prune it to grow wider than tall.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>WALNUTS</b>
<b>Latin Name</b>	<i>Juglans nigra, regia.</i>
<b>General Description</b>	Walnuts are easy to grow, but it's hard to grow many other plants around them. The two main types are eastern black and Persian.
<b>Soil and Fertility Needs</b>	Rich, deep soil helps walnuts grow faster.
<b>Type of Container</b>	Deep rooted habit is not recommended for containers.
<b>Type of Planting</b>	Urban gardeners will plant walnuts as a transplant, although they are propagated by seed.
<b>Spacing</b>	They can grow over 90 feet tall, so they will take a lot of space.
<b>Companion Planting</b>	It's hard to grow many other plants around them.
<b>Watering Needs</b>	Once the tree is firmly settled in (2yrs +) it won't need much water unless the area is going thru a drought.
<b>Days to Maturity</b>	5-7 years until walnut harvest.
<b>Harvest Dates</b>	August-September.
<b>Harvesting Technique</b>	The walnuts will fall when ready; the tree branches can be banged with a stick. They often stain the ground.
<b>Maintenance</b>	Walnuts don't need the same kind of pruning as fruit trees. Prune them like a regular tree; take out diseased, dead or out of place branches. Walnut is a valuable wood crop.
<b>Insect Problems</b>	Weevils.
<b>Diseases</b>	---
<b>Seed Saving</b>	The seed is inside the mature nut. Walnuts are reproduced by seed, and the seedlings are grown in nurseries for 2 years before being planted.
<b>The Farmers' Special Tips</b>	I wouldn't really recommend them for the urban owner as harvesting the valuable mature wood is not an option in most cities.

## GRAMINEAE

*This family of cereal crops feeds both animals and people:*

- Corn
- Rye
- Wheat
- Oats
- Barley
- Rice

**GENERAL:** Grain comes from grasses, and they are the primary food source for all animal life. Perennial grass crops build up the soil and prevent erosion. In annual crop rotations, they are often planted over winter for this purpose.

**HEALTH BENEFITS:** Grain provides us with our staple nutrients, mainly carbohydrates, but also fibre, oils and varying degrees of protein from 8-18%.

**PART OF PLANT HARVESTED:** The seed head is harvested for grain and or oil, the whole plant is harvested as animal feed, mixed plantings becomes pasture, and young plantings turned over are green manures or cover crops.

**SOIL NUTRIENT NEEDS:** These root crops need decent soil, but nothing too decadent. They are light feeders with medium depth roots.

**GENERAL GROWING GUIDELINES:** Direct seed into an area at least 500 sq ft, preferably 1000 sq ft.

**HISTORY:** This family goes back to the beginning of agriculture, and the domestication of animals.

*This family is useful to the garden and gardener:*

- By providing a key crop rotation family,
- By building up the soil in the off season,
- By providing staple storage grains.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>CORN</b>
<b>Latin Name</b>	<i>Zea mays</i>
<b>General Description</b>	Versatile member of the grain family: can be eaten fresh, dried whole or as flour or meal for many types of breads.
<b>Soil and Fertility Needs</b>	Corn is a heavy feeder so you can add all you want to this crop. The soil should drain well.
<b>Type of Container</b>	40L, 18" minimum.
<b>Type of Planting</b>	Corn is direct seeded after last frosts, when the soil is warm.
<b>Spacing</b>	4-8" on rows 24-48" apart, or 18" on diagonals, or 5 every 8 feet staggered on rows 4 feet apart.
<b>Companion Planting</b>	Pole beans or trellised cucurbits can be planted with corn- The 3 Sisters. Sunflowers.
<b>Watering Needs</b>	Corn needs a fair amount of water when starting out, and when fruiting. Soil should never get fully dry.
<b>Days to Maturity</b>	55-120 days.
<b>Harvest Dates</b>	July-October.
<b>Harvesting Technique</b>	Grab the corn and twist by the base after pulling back some of the silk hairs to see if the kernels are ready.
<b>Maintenance</b>	If you want sweet corn throughout the season, plant a patch every 15-25 days. Mound up roots every 3 weeks. Cover corn with netting or bags if birds like them a little too much.
<b>Insect Problems</b>	Corn earworm, corn borer, flea beetles, cucumber beetle larvae, birds, squirrels.
<b>Diseases</b>	Smut, bacterial wilt.
<b>Seed Saving</b>	The corn is the seed. If you're planting sweet corn, leave some of the best plants to go brown and dry. When the kernels are almost fully hard, you can harvest for seed.
<b>The Farmers' Special Tips</b>	Plant 8 corn seeds every 5-8 feet, as soon as the soil is warm enough. Once they germinate, plant 4 vining cucurbits. When they germinate, plant 4 pole beans. Thin out the patch to the best 5 corn, the 2 best cucurbits and beans.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>RYE</b>
<b>Latin Name</b>	<i>Secale cereale</i>
<b>General Description</b>	Rye is well suited for the colder parts of Canada. It has a richer taste than wheat and grows much taller (5-7').
<b>Soil and Fertility Needs</b>	Rye can handle poor, cold, wet soils.
<b>Type of Container</b>	20L, 12" minimum.
<b>Type of Planting</b>	Plant DS around the same time as your tomatoes, or even a week earlier. Winter rye is planted the end of September. 1kg per 1000 sq ft.
<b>Spacing</b>	1-4" on rows 6-18" apart, or 2-6" on diagonals.
<b>Companion Planting</b>	2 foot rows of rye, every 6 feet, can be interplanted with lower leafy crops like lettuce, salad mix or kale.
<b>Watering Needs</b>	Handles a wetter climate than wheat.
<b>Days to Maturity</b>	80-100 days.
<b>Harvest Dates</b>	August- September. About a week before wheat.
<b>Harvesting Technique</b>	When the plants are turning yellow brown and the grain seed can be slightly dented, cut the stalks below the head. About a week or so before wheat. Do it when the weather is dry. Hang heads in the shed or basement.
<b>Maintenance</b>	Rye is more disease and insect tolerant than most grains. It is also used to reduce (weed) seed germination in the crops to follow.
<b>Insect Problems</b>	Birds.
<b>Diseases</b>	---
<b>Seed Saving</b>	The seed must be dry when threshed and stored at less than 10% moisture for consumption and next year's seed.
<b>The Farmers' Special Tips</b>	Winter rye is one of the best winter cover crops for Canada. Annual ryegrass can be planted any time of the year as a low growing green manure.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>WHEAT</b>
<b>Latin Name</b>	<i>Triticum spp</i>
<b>General Description</b>	The most common grain in North America. Highest gluten of all grains, makes for the lightest breads.
<b>Soil and Fertility Needs</b>	It prefers heavier rich soils that drain well, but without too much nitrogen.
<b>Type of Container</b>	20L, 12" minimum.
<b>Type of Planting</b>	Plant DS around the same time as your tomatoes, or even a week earlier. Winter wheat is planted the end of September. 1.5kg per 1000 sq ft.
<b>Spacing</b>	1-4" on rows 6-18" apart, or 2-6" on diagonals.
<b>Companion Planting</b>	2 foot rows of wheat can be interplanted with lower leafy crops like lettuce, salad mix or kale. After legumes.
<b>Watering Needs</b>	Like most grains, wheat likes a moist, cool start to the season, followed by a warm and dry fall to form quality seed.
<b>Days to Maturity</b>	80-100 days.
<b>Harvest Dates</b>	August- September.
<b>Harvesting Technique</b>	When the plants are turning yellow brown and the grain seed can be slightly dented, cut the stalks below the head. Do it when the weather is dry. Hang heads in the shed or basement.
<b>Maintenance</b>	With wheat there isn't a large harvest window, the plants dry and burst in the garden if left too long.
<b>Insect Problems</b>	Birds.
<b>Diseases</b>	---
<b>Seed Saving</b>	The seed must be dry when threshed and stored at less than 10% moisture for consumption and next year's seed.
<b>The Farmers' Special Tips</b>	Plant different types of wheat for your different uses: Hard red spring and winter wheat for bread and storing. Soft white and red winter for pastry. Durum for pasta.

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<b>Common Name</b>	<b>OATS</b>
<b>Latin Name</b>	<i>Avena sativa</i>
<b>General Description</b>	Highest protein and lowest carbohydrate of the grains, with many health benefits.
<b>Soil and Fertility Needs</b>	Oats grow best in a cool moist climate. The soil need not be too rich.
<b>Type of Container</b>	20L, 12" minimum.
<b>Type of Planting</b>	Oats are DS at the same time as peas in the spring. About 1kg per 1000 sq ft.
<b>Spacing</b>	1-4" on rows 6-18" apart, or 2-6" on diagonals.
<b>Companion Planting</b>	Oats can be planted in row patches 2' wide with greens planted on either side.
<b>Watering Needs</b>	Oats like a moister soil than most grains. Too much moisture creates floppy heads, which makes harvesting hard.
<b>Days to Maturity</b>	70-90 days.
<b>Harvest Dates</b>	August-September.
<b>Harvesting Technique</b>	When the leaves are half brown, the home gardener will harvest by cutting the stalks below the husks. Bunch the flower heads together and dry for a couple days to 2 weeks. Then they can be threshed and the oat straw can be thrown in the compost pile or used as mulch.
<b>Maintenance</b>	Ensure that the garden soil stays evenly moist but not soggy, for best results.
<b>Insect Problems</b>	Birds.
<b>Diseases</b>	---
<b>Seed Saving</b>	The whole oat is the seed. The oat seeds form a cluster near the top of the stalk, called the head.
<b>The Farmers' Special Tips</b>	Use the shade from the oats to grow low lying tender greens on either side. Multiple plantings are an option for the urban gardener with access to water.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>BARLEY</b>
<b>Latin Name</b>	<i>Hordeum vulgare</i>
<b>General Description</b>	Very low in gluten/ low on the glycemic index.
<b>Soil and Fertility Needs</b>	Barley grows well in alkaline, clayey soils
<b>Type of Container</b>	20L, 12" minimum
<b>Type of Planting</b>	Barley are DS at the same time as peas in the spring. About 1kg per 1000 sq ft.
<b>Spacing</b>	1-4" on rows 6-18" apart, or 2-6" on diagonals.
<b>Companion Planting</b>	Barley, like rye, is slightly allelopathic to certain weeds. Plant after early greens.
<b>Watering Needs</b>	Requires less moisture than any other grain; doesn't like high humidity.
<b>Days to Maturity</b>	70-80 days.
<b>Harvest Dates</b>	August- September.
<b>Harvesting Technique</b>	When the leaves are brown and the heads droop, the home gardener will harvest by cutting the stalks below the husks. Thresh when in between 15 and 20% moisture. The rest of the plant can be added to the compost pile.
<b>Maintenance</b>	Ensure that the garden soil has good drainage, and the humidity low.
<b>Insect Problems</b>	Birds.
<b>Diseases</b>	Corn scab.
<b>Seed Saving</b>	The seed is what looks like pot barley, not pearl barley. Pearl barley is dehulled pot barley. The barley seeds form a cluster near the top of the stalk, called the head.
<b>The Farmers' Special Tips</b>	Use the shade from the barley to grow low lying tender greens on either side. Buy bearded or hull-less types on your preference. The hull-less varieties yield less and can't make malt, but are much easier to handle.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>RICE</b>
<b>Latin Name</b>	<i>Oriza sativa</i>
<b>General Description</b>	Of the rice types, upland rice can be grown in a non-flooded garden.
<b>Soil and Fertility Needs</b>	Rice needs clay or loamy, moist soil with lots of fertility.
<b>Type of Container</b>	20L, 12" minimum.
<b>Type of Planting</b>	TP in spring.
<b>Spacing</b>	4-12" on rows 12-36" apart, or 3-12" on diagonals.
<b>Companion Planting</b>	Oats, lettuce or spinach.
<b>Watering Needs</b>	LOTS of water, swamp for lowland types.
<b>Days to Maturity</b>	90-120 days
<b>Harvest Dates</b>	August- September.
<b>Harvesting Technique</b>	When the rice is fully headed and drooping, and ripe in the top parts, the soil moisture level is reduced for 2-3 weeks. Then the heads are cut off when most of the rice is mature. Don't bunch the harvest until the stalks and head are dry. Then set to dry for a week or so. Then thresh and winnow.
<b>Maintenance</b>	Rice needs moist soil throughout its growth cycle.
<b>Insect Problems</b>	Ducks, birds
<b>Diseases</b>	---
<b>Seed Saving</b>	The ripe harvest can be dried and kept for seed.
<b>The Farmers' Special Tips</b>	To mimic natural growing conditions, plant in wide planters with built in water reservoir.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>BUCKWHEAT</b>
<b>Latin Name</b>	<i>Fagopyrum esculentum</i>
<b>General Description</b>	This cereal crop is not a grass grain, but actually a member of the knotweed family. Grown not only for its quality amino acid makeup, but also to attract bees, and as a quick growing cover crop.
<b>Soil and Fertility Needs</b>	This crop isn't fussy; it does well in a wide range of soils. It can handle cold wet clay, but not too much nitrogen.
<b>Type of Container</b>	20L, 12" minimum.
<b>Type of Planting</b>	Plant as a green manure/ cover crop at any time of the year. For harvest, plant mid to end June, or 12 weeks before fall frosts. About 1kg per 1000 sq ft.
<b>Spacing</b>	1-4" on rows 6-18" apart, or 2-6" on diagonals.
<b>Companion Planting</b>	Buckwheat can be planted in row patches 2' wide with salad greens planted on either side.
<b>Watering Needs</b>	It can be grown in a similar climate as oats.
<b>Days to Maturity</b>	60-110 days.
<b>Harvest Dates</b>	August- September. The seeds don't all ripen at once so harvesting dates vary according to the season, variety, etc.
<b>Harvesting Technique</b>	Harvest near end September for maximum yield, or when most seeds are mature, but the plant is not yet brittle.
<b>Maintenance</b>	Watch for early maturing plants starting any time in August. If harvesting by hand, individual plants can be harvested as they mature.
<b>Insect Problems</b>	Birds.
<b>Diseases</b>	---
<b>Seed Saving</b>	The seed must be dry when threshed and stored for consumption/ next year's seed.
<b>The Farmers' Special Tips</b>	As some old timers say "Once a buckwheat farmer, always a buckwheat farmer"...

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>AMARANTH</b>
<b>Latin Name</b>	<i>Amaranthus spp</i>
<b>General Description</b>	Is the cultivated variety related to the common pigweed. Not a true cereal grain, but a large leafed plant with thousands of seeds.
<b>Soil and Fertility Needs</b>	Not a fussy grower; can handle somewhat poor soil.
<b>Type of Container</b>	20L, 12" minimum.
<b>Type of Planting</b>	Plant DS around the same time as your tomatoes. 1lb per 1000 sq ft.
<b>Spacing</b>	4-12" on rows 12-36" apart, or 3-12" on diagonals.
<b>Companion Planting</b>	2 foot rows of amaranth, every 6 feet, can be interplanted with lower leafy crops like lettuce, salad mix or kale
<b>Watering Needs</b>	The grain type of amaranth needs very little water after germinating and setting in.
<b>Days to Maturity</b>	90-120 days.
<b>Harvest Dates</b>	August- September.
<b>Harvesting Technique</b>	Harvest mature dried flower heads as they come: this plant, like buckwheat (another non-cereal grain) it doesn't mature all at once.
<b>Maintenance</b>	Grain amaranth is pretty straightforward and easy to grow. Ensure proper spacing for good air flow.
<b>Insect Problems</b>	Birds, aphids, flea beetles.
<b>Diseases</b>	Mildews, mold
<b>Seed Saving</b>	The seeds dry on the flower head. Harvest in a dry spell before the flowers are fully dry, let dry, thresh, winnow, store.
<b>The Farmers' Special Tips</b>	Don't confuse pig weed with grain amaranth. If you want to plant amaranth for both leaves and seeds, plant the A. cruentus variety.

## The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>QUINOA</b>
<b>Latin Name</b>	<i>Chenopodium quinoa</i>
<b>General Description</b>	Is the cultivated variety related to the common lamb's quarters. Not a true cereal grain, but a large leafed plant with thousands of seeds.
<b>Soil and Fertility Needs</b>	Quinoa likes cool weather for germination and seed formation. It is originally from the high Andes.
<b>Type of Container</b>	20L, 12" minimum.
<b>Type of Planting</b>	Plant DS around the same time as your spring peas.
<b>Spacing</b>	4-12" on rows 12-36" apart, or 3-12" on diagonals.
<b>Companion Planting</b>	2 foot rows of quinoa, every 6 feet, can be interplanted with lower leafy crops like lettuce, salad mix or kale
<b>Watering Needs</b>	Quinoa needs relatively little water.
<b>Days to Maturity</b>	90-120 days.
<b>Harvest Dates</b>	August.
<b>Harvesting Technique</b>	Harvest mature dried flower heads as they come: this plant, like buckwheat (another non-cereal grain) doesn't mature all at once.
<b>Maintenance</b>	The plant needs a cool spring and fall.
<b>Insect Problems</b>	Birds, aphids, flea beetles.
<b>Diseases</b>	---
<b>Seed Saving</b>	The seeds dry on the flower head. Harvest in a dry spell before the flowers are fully dry, then thresh.
<b>The Farmers' Special Tips</b>	Quinoa mixes in with many other crops.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>HEMP</b>
<b>Latin Name</b>	<i>Cannabis sativa or indica</i>
<b>General Description</b>	One of the most versatile and easy to grow crops. Fibre, cloth, oil, animal feed, food from the seed and medicine all come from the same plant.
<b>Soil and Fertility Needs</b>	Hemp can grow in a variety of soils, but prefers a well drained soil rich in minerals.
<b>Type of Container</b>	20L, 12" minimum.
<b>Type of Planting</b>	DS or TP.
<b>Spacing</b>	Every 4-6'.
<b>Companion Planting</b>	It does well with most crops.
<b>Watering Needs</b>	As hemp grows like a weed, it follows that it doesn't need much water. However, for increased vegetative growth, ample water must be provided.
<b>Days to Maturity</b>	90-120 days.
<b>Harvest Dates</b>	September-October.
<b>Harvesting Technique</b>	The hemp seed is inside the flowers of a male or female cannabis plant. When the plant turns brown and the flower buds thicken, the seeds are usually mature and ready to harvest. The buds are air dried for 3-10 days as needed.
<b>Maintenance</b>	Hemp grows like a weed.
<b>Insect Problems</b>	Vultures, coyotes.
<b>Diseases</b>	---
<b>Seed Saving</b>	Make sure your plants have not been cross pollinated by unwanted males. The seeds should be fully mature once the buds are thick to the touch.
<b>The Farmers' Special Tips</b>	Research the historical uses of hemp. You'll be amazed...

## SPROUTS

*Sprouts come from many of the edible plant families described above:*

- Brassicas like broccoli, radish, kale
- Beans like adzuki, mung
- Grains like wheat
- Legumes like clover and alfalfa

**GENERAL:** Sprouting has become a very popular year round health practise. They are very easy to grow, eat and digest.

**HEALTH BENEFITS:** Sprouts are gram for gram the densest in nutrition, enzymes, and bio-active qualities. They provide essential nutrients while cleansing the system.

**PART OF PLANT HARVESTED:** The sprout: the combined leaf/ root.

**SOIL NUTRIENT NEEDS:** Clean water, rinsed 2-3 times a day.

**GENERAL GROWING GUIDELINES:** Sprouts are easy to grow. You can either grow them with or without soil. Without soil, the harvest is within days. With a light soil layer in the bottom of a cafeteria tray, sprouts are harvested in between 8-12 days.

**HISTORY:** Bean sprouts have been a long time garnish in Eastern cuisine.

### *Grow sprouts year round:*

- To enjoy the fresh taste
- To reap the health benefits
- To replace other crops that can't be grown indoors
- To get a quicker harvest.

## The Urban Edible Gardening Guidebook

SPROUT	DESCRIPTION	CONTAINER	SOAK FOR	DAYS TO SPROUT	RINSES / DAY	HARVEST AT
<b>Adzuki, Mung</b>	Great with salads	Jar	Half day	2-4	3	4-7
<b>Radish, Turnip, Broccoli, Kale</b>	Used in salads or sandwiches	Jar	Half day	1-3	2	4-6
<b>Alfalfa, Clover</b>	Great on sandwiches	Jar	Half day	4-6	2	5-7
<b>Wheatgrass</b>	Grown in jars or in trays with soil for juicing	Cafeteria tray	Half day	2-4	2	4-6 from jars 8-10 w/ trays
<b>Chickpea</b>	Great with salads	Jar	Full day	2-4	3	4-7
<b>Lentil</b>	Great with salads	Jar	Half day	2-4	3	4-7

## MUSHROOMS

***Medicinal and gourmet edible mushrooms can be grown in low light areas where vegetables won't:***

- Reishi
- Shiitake
- Oyster
- Button

**GENERAL:** Mushrooms, part of the Fungus family, grow on decomposing or live organic matter. Some mushrooms are now being cultivated for their purifying effects on their environment. Edible mushrooms are similar to herbs in their diverse range of effects and uses.

**HEALTH BENEFITS:** Mushrooms are quite potent in their effects. Reishi are used to detoxify blood and soil. Shiitakes have been eaten to fight cancer. Both have been noted to boost T blood cells.

**PART OF PLANT HARVESTED:** The fruiting fungus.

**SOIL NUTRIENT NEEDS:** Cultivated mushrooms are grown in rich sterile soil mixes. Some wild mushroom (fungi) hyphae or “roots” travel hundreds of feet thru the soil, transferring moisture and nutrients.

**GENERAL GROWING GUIDELINES:** Cultivated mushrooms need a rich sterile soil environment to establish themselves before other competing bacteria and fungi do. Sterile soil block bags, jars or containers are inoculated with spores and kept in a humid sterile area. Once the spreading fungi reach a critical mass, humidity and temperature are altered to force fruiting. Several flushes of harvests occur with some species.

**HISTORY:** Mushrooms have been harvested in the wild, and used medicinally for thousands of years.

### *Cultivate mushrooms in your garden:*

- Where it's too shady for anything else
- To help stumps or logs decompose
- For soil and garden remediation.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>SHIITAKE</b>
<b>Latin Name</b>	<i>Lentinula edodes</i>
<b>General Description</b>	Shiitakes are one of the most popular edible mushrooms. They are widely cultivated on logs in Asia. They boost T blood cells.
<b>Soil and Fertility Needs</b>	Shiitakes can grow on rotting hardwood logs, or in amended sawdust substrates.
<b>Type of Container</b>	1L jar, soil substrate bag, hardwood log.
<b>Type of Planting</b>	Sawdust spore plugs are inserted into poplar plugs, or, grain spores are mixed into amended sawdust or other organic media.
<b>Spacing</b>	Every 2-4" on logs.
<b>Companion Planting</b>	Ostrich fern, hostas, under fruit trees.
<b>Watering Needs</b>	For establishment they need to be kept in a humid environment. To initiate fruiting they need to be submerged for 18-48 hours. To initiate a second flush, bags should be submerged again.
<b>Days to Maturity</b>	6 months to 2 years on oak logs. 30-90 days in substrate bags.
<b>Harvest Dates</b>	Spring thru fall.
<b>Harvesting Technique</b>	A sharp knife is needed to slice thru the tough stem.
<b>Maintenance</b>	Air moisture levels affect fruiting and "vegetative growth" similar to how daylight affects fruiting and bulbing in some vegetables. Most growth issues arise from incorrect levels of humidity.
<b>Insect Problems</b>	Slugs.
<b>Diseases</b>	Competing microbes can overwhelm the growing substrate if it is not sterile, if the air is not exchanged and if the humidity is too high or low.
<b>Seed Saving</b>	Spores from shiitakes can be gathered if ripe mushrooms are left to continue growing. Place a sheet of paper underneath the mushroom you want to reproduce.
<b>The Farmers' Special Tips</b>	Grow shiitake logs in the shadiest, moistest part of your garden.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>OYSTER</b>
<b>Latin Name</b>	<i>Pleurotus ostreatus</i>
<b>General Description</b>	Oysters are one of the easiest to grow. They lower cholesterol and reduce tumors.
<b>Soil and Fertility Needs</b>	Oysters can grow on rotting hardwood logs and stumps, or in amended substrate sawdust media.
<b>Type of Container</b>	Substrate soil bag, covered Rubbermaid, logs, stumps.
<b>Type of Planting</b>	Sawdust spore plugs are inserted into poplar plugs, or, grain spores are mixed into amended sawdust or other organic media.
<b>Spacing</b>	Every 2-4" on stump.
<b>Companion Planting</b>	Ostrich fern, hostas, under fruit trees.
<b>Watering Needs</b>	For establishment they need to be kept in a humid environment. To initiate fruiting they need to be submerged for 18-48 hours. To initiate a second flush, bags should be submerged again.
<b>Days to Maturity</b>	30 days in amended substrate, 18 months on logs.
<b>Harvest Dates</b>	Spring and fall outdoors.
<b>Harvesting Technique</b>	Mushroom clusters are harvested a few days old, before the spores have been released.
<b>Maintenance</b>	Air moisture levels affect fruiting and "vegetative growth" similar to how daylight affects fruiting and bulbing in some vegetables. Most growth issues arise from incorrect levels of humidity.
<b>Insect Problems</b>	Slugs.
<b>Diseases</b>	Competing microbes can overwhelm the growing substrate if it is not sterile, if the air is not exchanged and if the humidity is too high or low.
<b>Seed Saving</b>	Spores from the oysters can be gathered if ripe mushrooms are left to continue growing. Place a sheet of paper underneath the mushroom you want to reproduce.
<b>The Farmers' Special Tips</b>	Try growing oysters on old stumps and logs.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>REISHI</b>
<b>Latin Name</b>	<i>Ganoderma lucidum</i>
<b>General Description</b>	Reishi is a pillar of Chinese medicine, holding an esteemed position like ginseng. Reishi are known for their purifying effects, they help produce T blood cells.
<b>Soil and Fertility Needs</b>	Reishi can grow on covered rotting hardwood logs and stumps, or in amended substrate sawdust media.
<b>Type of Container</b>	1L jar, substrate soil bag, covered Rubbermaid, log.
<b>Type of Planting</b>	Sawdust spore plugs are inserted into poplar plugs, or, grain spores are mixed into amended sawdust or other organic media.
<b>Spacing</b>	Every 2-4" on stump.
<b>Companion Planting</b>	Ostrich fern, hostas, under fruit trees.
<b>Watering Needs</b>	For establishment they need to be kept in a humid environment. To initiate fruiting they need to be submerged for 18-48 hours. To initiate a second flush, bags should be submerged again.
<b>Days to Maturity</b>	6-24 months on logs, 60 days in optimum indoor conditions.
<b>Harvest Dates</b>	Spring thru fall.
<b>Harvesting Technique</b>	An extremely sharp knife is needed to slice thru the tough stem.
<b>Maintenance</b>	Air moisture levels affect fruiting and "vegetative growth" similar to how daylight affects fruiting and bulbing in some vegetables. Most growth issues arise from incorrect levels of humidity.
<b>Insect Problems</b>	Slugs.
<b>Diseases</b>	Competing microbes can overwhelm the growing substrate if it is not sterile, if the air is not exchanged and if the humidity is too high or low.
<b>Seed Saving</b>	Spores from Reishi can be gathered if ripe mushrooms are left to continue growing. Place a sheet of paper underneath the mushroom you want to reproduce.
<b>The Farmers' Special Tips</b>	Try growing Reishi on old stumps.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>BUTTON</b>
<b>Latin Name</b>	<i>Agaricus brunnescens</i>
<b>General Description</b>	Portobello mushrooms are the same mushroom, harvested at an older stage. Some research indicated button mushrooms should not be eaten raw, as they contain hydrazines, a carcinogenic compound neutralized by heat.
<b>Soil and Fertility Needs</b>	Button mushrooms grow in rich soil, or in amended manure compost soil media.
<b>Type of Container</b>	Substrate soil bag, covered Rubbermaid.
<b>Type of Planting</b>	Grain spawn are mixed into manured compost mix.
<b>Spacing</b>	
<b>Companion Planting</b>	If outdoors, beside ostrich fern, hostas, under fruit trees.
<b>Watering Needs</b>	For establishment they need to be kept in a humid environment. To initiate fruiting they need to be submerged for 18-48 hours. To initiate a second flush, bags should be submerged again.
<b>Days to Maturity</b>	40-60 days in amended compost.
<b>Harvest Dates</b>	Spring thru fall outdoors.
<b>Harvesting Technique</b>	The mushroom is sliced off with the soft stem.
<b>Maintenance</b>	Air moisture levels affect fruiting and “vegetative growth” similar to how daylight affects fruiting and bulbing in some vegetables. Most growth issues arise from incorrect levels of humidity.
<b>Insect Problems</b>	Slugs, nematodes. Button mushrooms are more susceptible to infestations than the previous 3, medicinal varieties.
<b>Diseases</b>	Competing microbes can overwhelm the growing substrate if it is not sterile, if the air is not exchanged and if the humidity is too high or low.
<b>Seed Saving</b>	Spores can be gathered if ripe mushrooms are left to continue growing. Place a sheet of paper underneath the mushroom you want to reproduce.
<b>The Farmers' Special Tips</b>	Button mushrooms need a very sterile environment for best results.

## EDIBLE FLOWERS

*Edible flowers come from all kinds of plant families:*

- Borage
- Nasturtium
- Squash/ Zucchini
- Calendula
- Chives

**GENERAL:** Edible flowers are grown like most flowers. They are harvested the same way as well.

**HEALTH BENEFITS:** Flowers aren't as noted for their nutrients as their ambience and essence.

**PART OF PLANT HARVESTED:** The flower.

**SOIL NUTRIENT NEEDS:** Flowers need a certain combination of soil fertility, ground moisture and air moisture. Not too much, not too little...Kelp works well for flowers, as does bone meal.

**GENERAL GROWING GUIDELINES:** Don't overcrowd the areas where you'll be growing them. Keep airflow around the plants, especially at flowering time. Pick the flower with as much stem as you can get, unless you are picking individual flowers off a flower cluster.

**HISTORY:** Flowers are classically romantic.

### *Plant edible flowers in your garden:*

- For the ambience
- To attract birds, butterflies, bees, and pollinators
- For the colour at mealtime.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>BORAGE</b>
<b>Latin Name</b>	<i>Borago officinalis</i>
<b>General Description</b>	Unique borage is used an accent herb, used in teas and salads. The flowers taste like cucumber.
<b>Soil and Fertility Needs</b>	Average soil.
<b>Type of Container</b>	15L or 8" deep.
<b>Type of Planting</b>	DS in late spring.
<b>Spacing</b>	6-12" apart on rows every 2-4 feet, or every 8-12" on diagonals.
<b>Companion Planting</b>	Brassicas, strawberries.
<b>Watering Needs</b>	Borage doesn't need much water once established.
<b>Days to Maturity</b>	60-90 days.
<b>Harvest Dates</b>	July-Aug-September
<b>Harvesting Technique</b>	Harvest the flowers as they bloom without fingers or knife.
<b>Maintenance</b>	Borage is relatively trouble free.
<b>Insect Problems</b>	Aphids, flea beetles.
<b>Diseases</b>	Mosaic.
<b>Seed Saving</b>	Plant is usually propagated by seed.
<b>The Farmers' Special Tips</b>	Plant borage throughout the garden for its colour and to attract beneficials.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>NASTURTIUM</b>
<b>Latin Name</b>	<i>Tropaeolum majus</i>
<b>General Description</b>	Both the leaves and flowers are edible. They have a peppery taste.
<b>Soil and Fertility Needs</b>	Nasturtiums do well in average soil.
<b>Type of Container</b>	15L or 12" deep.
<b>Type of Planting</b>	DS in late spring.
<b>Spacing</b>	4-12" apart on rows every 2-4 feet, or every 6-12" on diagonals.
<b>Companion Planting</b>	Trap crop for aphids.
<b>Watering Needs</b>	Medium-high watering needs.
<b>Days to Maturity</b>	60-90 days.
<b>Harvest Dates</b>	July-Aug-September.
<b>Harvesting Technique</b>	Harvest flowers and leaves as needed with fingers or a knife.
<b>Maintenance</b>	Keep pruned in wet or humid areas.
<b>Insect Problems</b>	Aphids.
<b>Diseases</b>	Mosaic.
<b>Seed Saving</b>	Plant is usually propagated by seed.
<b>The Farmers' Special Tips</b>	Great on trellises, against walls or up other climbers.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>CALENDULA</b>
<b>Latin Name</b>	<i>Calendula officinalis</i>
<b>General Description</b>	Easy to grow colourful calendula is harvested for its edible flowers.
<b>Soil and Fertility Needs</b>	Calendula does well in average soil.
<b>Type of Container</b>	15L or 8" deep.
<b>Type of Planting</b>	DS in spring.
<b>Spacing</b>	4-12" apart on rows every 2-4 feet, or every 6-18" on diagonals.
<b>Companion Planting</b>	Used as a trap crop.
<b>Watering Needs</b>	Calendula doesn't need much water.
<b>Days to Maturity</b>	60- 90 days.
<b>Harvest Dates</b>	July-Aug-September
<b>Harvesting Technique</b>	Cut or prick the leaves as needed, and to remove flowers as they form.
<b>Maintenance</b>	Calendula will self seed if left to go. It grows very easily.
<b>Insect Problems</b>	---
<b>Diseases</b>	Powdery mildew.
<b>Seed Saving</b>	Plant is usually propagated by seed.
<b>The Farmers' Special Tips</b>	Grow a bed of kitchen herbs in a planter or border bed near the house.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>DAYLILY</b>
<b>Latin Name</b>	<i>Hemerocallis spp.</i>
<b>General Description</b>	Daylily is an easy to grow perennial flower that can grow in bad soil and semi-shade. The dense foliage is hedge like; tall flower stems pop up in the mid summer.
<b>Soil and Fertility Needs</b>	Poor to rich soil.
<b>Type of Container</b>	20L or 12" minimum.
<b>Type of Planting</b>	TP root division in early spring or late fall.
<b>Spacing</b>	6-12" apart on rows every 2-4 feet, or every 8-18" on diagonals.
<b>Companion Planting</b>	Use as a border plant, near pathways where winter salt residues may damage other plants.
<b>Watering Needs</b>	The daylily can handle wet or dry soil.
<b>Days to Maturity</b>	Same season as planting.
<b>Harvest Dates</b>	July-Aug-September.
<b>Harvesting Technique</b>	Harvest the flower stems with scissors as needed and to deadhead.
<b>Maintenance</b>	They need to be cut back every fall.
<b>Insect Problems</b>	Thrips.
<b>Diseases</b>	---
<b>Seed Saving</b>	Plant is usually propagated by root division. Every few years, daylilies, like hostas and many clumping ornamentals, need to be divided and re-fertilized to ensure continued vigour.
<b>The Farmers' Special Tips</b>	The daylily flowers are used the same way as zucchini flowers. If growing zucchs for flowers, use open pollinated varieties and harvest the male leaves. Both types of flowers can be breaded and fried.

# The Urban Edible Gardening Guidebook

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<b>Common Name</b>	<b>ROSE</b>
<b>Latin Name</b>	<i>Rosa spp.</i>
<b>General Description</b>	Roses may be THE signature ornamental flower. The petals are also edible! The many cultivars of this timeless perennial provide a range of flower colours and blooming times. There are bush roses, shrub roses (rosehips), creeping roses, and climbing roses.
<b>Soil and Fertility Needs</b>	Deep, rich well drained soil.
<b>Type of Container</b>	20L or 12" deep.
<b>Type of Planting</b>	TP the bare root in late spring. TP plant in late spring. XXX
<b>Spacing</b>	Every 2'-6' apart depending on variety.
<b>Companion Planting</b>	Alliums- garlic or chives.
<b>Watering Needs</b>	They like water, but not being water-logged.
<b>Days to Maturity</b>	1st year after planting.
<b>Harvest Dates</b>	July-Aug-September, October.
<b>Harvesting Technique</b>	Cut the flowers along the stem for bouquets or for salads.
<b>Maintenance</b>	Roses benefit from the best quality soil, regular pruning, and preventative spraying with compost tea.
<b>Insect Problems</b>	Aphids, spider mites, borers, Japanese beetles.
<b>Diseases</b>	Rust, black spot, powdery mildew.
<b>Seed Saving</b>	Plant is usually propagated by root cutting.
<b>The Farmers' Special Tips</b>	Grow the shrub type of rose if you want to harvest rose hips.

## COMPANION PLANTING

### *Companion planting is done to:*

- Repel destructive insects
- Attract pollinating insects
- Balance bio-chemical secretions
- Balance nutrient uptake
- Provide a living mulch and or trellis
- Enhance immunity
- Boost growth.

Arranging certain plants close together has a positive effect, whereas others together grow more poorly.

It's important to know which plants should be planted close together or after each other.

Crop rotations are commonly implemented in commercial agriculture and homesteading; it can be integrated in the urban backyard and container garden as well.

### *Rotations are vital for ongoing garden health:*

- To reduce microbe and insect populations that are attracted to a plants roots and foliage
- To rest the soil from one kind of nutrient uptake
- To confuse critters and rodents
- To use the soil in a different way and at a different physical level.

There are 4 year, 3 year, 2 year and even rotations within the year, which are called successions.

### *4 year plant rotation:*

**YEAR 1:** Brassicas *then* Legumes

**YEAR 2:** Peas/ Favas *then* Solanaceae

**YEAR 3:** Greens *then* The 3 Sisters

**YEAR 4:** Leafy greens *then* Roots

**YEAR 5:** Repeat.

# The Urban Edible Gardening Guidebook

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Small amounts of miscellaneous crops can be planted throughout. Alliums can be planted as a general companion throughout, except with legumes. Legumes show significantly in my garden rotation- please make use of all of the legumes such as fava and soybeans on top of peas and beans, and don't forget the dried beans!

## ANNUALS

beans, corn and cucurbits (3 sisters)  
basil and tomatoes, peppers  
greens beside tomatoes, peppers, eggplants  
borage and anything  
dill and cilantro and lettuce  
onions and herbs  
radish and cucurbits  
beets and kohlrabi, onions, lettuce, brassicas  
carrots and onions  
amaranth and corn  
carrots and lettuce, onions and tomatoes  
chard and beans, brassicas and onions  
cilantro and anise.  
corn and amaranth, lamb's quarters, cucurbits, beans  
cucumber and sunflowers or dill and nasturtiums  
eggplant and peppers with spinach, thyme and marigold  
flax with carrots and potatoes

garlic as natural fungicide/ pesticide  
hemp and brassicas  
leeks and carrots and fruit trees  
lettuce and beets, beans and brassicas  
marigolds and peppers and eggplants  
melons and radishes  
nasturtiums with tomatoes, cabbage  
onions with summer savory and carrots  
basil and tomatoes  
oregano and cabbage  
parsley and carrots  
sweet peppers and onions  
hot peppers and cucumbers, okra, chard  
potatoes and bush bean  
radishes and everything but other brassicas  
spinach and onions, peas  
strawberries and thyme  
summer savory and onions  
sunflowers and corn  
bush beans, eggplants and sweet potatoes.

## PERENNIALS

strawberries, elderberries and saskatoon berries  
chives and berries, fruit trees  
red currants and pear trees  
hyssop and geranium with grapes  
elderberry as pesticide  
yarrow and all fruit trees

red clover or dwarf white clover and fruit trees  
cranberries and blueberries  
southernwood and fruit trees  
comfrey and fruit trees  
bulbs and fruit trees  
catnip as insect and mice deterrent  
german chamomile as garden and plant tonic  
lavender and fruit trees.

## **ANNUALS/ PERENNIALS**

garlic, chives and berries  
nasturtiums and fruit trees  
spinach and strawbs  
raspberries and marigolds  
sweet potatoes and fruits or berries  
beans and nasturtiums up dwarf fruit trees  
alliums and fruit trees  
hyssop and grapes and cabbage  
horseradish and potatoes  
rhubarb and brassicas  
rosemary and carrots  
sage and cabbage

## **EDIBLE-ORNAMENTAL HYBRID GARDENS**

hostas, daylilies and ostrich fern  
garlic chives and flowers  
lavender and roses  
chives and roses  
thyme and roses  
lawn chamomile and scotch pine  
roses and catmint  
viburnum, azaleas, blueberries and cranberries  
rhodos, azaleas and blueberries  
blueberries, rhodos, and conifers.

## **EDIBLE-NATIVE PLANT HYBRID GARDENS**

yarrow as pesticide and with all fruit trees  
sweet alyssum and fruit trees  
stinging nettle as garden tonic and slug lure  
hyssop and cabbage and grapes  
elderberry, saskatoon berry, blueberry  
bee balm and tomatoes  
alfalfa as garden builder.

### **NATURAL PLANT HEALTH: FERTILIZING AND PROTECTION**

***The natural approach to plant health and care is preventative, then corrective.***

The best time to prevent future problems with the plant is to feed it well and provide it with a nurturing environment when it is young. This encourages a self regulating immune response to stress.

Building the plants immune response while the plant is young first and foremost is part of preventative plant health which:

1. allows plants to grow more easily
2. gives a higher yield
3. creates healthier plants nutritionally.

***The plants immune system is built up in the following ways:***

1. First, a seedling is nourished with a high quality soil/ growing medium full of microorganisms, organic nutrients, minerals, water and air.
2. Then with supplemental garden top dressings, compost, compost teas and fertilizers that are pro-biotic/ life building so as to enliven the soil and not disrupt it's balance.
3. Finally plants will be arranged in such a way that their root secretions complement one another to boost growth and health. This is called companion planting.

### *Other preventative measures for plant health include:*

1. **Integrated pest management:** Predator insects are introduced to feed on the insects that are eating the plants.
2. **Trap crops:** Attract unwanted insects and animals into an area of plants you won't be harvesting.
3. **Host crops:** A habitat to attract predator insects.
4. **Plant rotation:** A way of changing up garden stagnation by moving annuals from area to area over the seasons. This allows for soil rejuvenation as plants follow one another in a way that compliments their underground bio-chemical reactions. Furthermore, insects get caught off track as the plants are always in a different spot.
5. **Plant succession:** Following one edible type with another in the same spot in the same growing season. This allows for better soil management as some plants do better after other ones were there before. Reduces the need for fertilizer.

6. **Physical barriers:** To prevent animal, insect and human entry. Chicken wire is often used to prevent animal invasion; row covers are used to exclude unwanted bugs; and fences are used to keep vandals out.
7. **Energy balance:** The plant world is affected by the energy of the immediate and surrounding environment. A balanced and healthy environment displays characteristics like vigour, joy, adaptability, collaboration and resistance. Plant health can be improved by balancing and addressing the environment's energy through geomancy, feng shui and other energy modalities.

### *Corrective measures to plant health can include:*

1. **supplemental fertilizing,**
2. **natural insecticides and fungicides,**
3. **physical barriers.**

## 1. SUPPLEMENTAL FERTILIZING

Can be used to boost yield and correct for deficiencies.

### ORGANIC FERTILIZERS INCLUDE:

**AERATED COMPOST TEA:** A highly effective specially prepared liquid mixture made from compost, pure water and plant nutrients, used to fertilize and protect plants. Good for all plants and soils.

**ALFALFA MEAL:** Naturally occurring in alfalfa, triacontanol is known to increase root mass, increase nitrogen assimilation, encourage quicker growth. Combined with kelp this is a powerful granular blend. Ideal for all crops.

**BLOOD MEAL:** Dehydrated animal blood is a strong nitrogen source, ideal for leafy crops.

**BONE MEAL:** Dehydrated ground animals bones, high in phosphorus and calcium, ideal for perennial edibles.

**COFFEE GRINDS:** Used coffee grinds can be added to the compost pile or the garden. Monitor to ensure soil doesn't get too acidic.

**COMPOST:** Recycled waste becomes useful as a soil conditioner and organic amendment to build up soil and remedy soil. Ideal as a soil builder due to its stable organic matter content called humus.

**COMPOST TEAS:** A liquid mixture from compost and water used to fertilize and protect plants. Ideal for watering.

**EM AND BIM:** Effective or Beneficial Indigenous Micro-organisms. A fermented liquid fertilizer that enlivens the soil via an infusion of rapidly colonizing micro-organisms.

**EPSOM SALTS:** High in magnesium, good for fruiting crops, in moderation.

**FISH EMULSION:** Liquefied fish remains become a powerful, but stinky organic garden fertilizer. High in nitrogen and trace minerals, ideal for leafy greens. Best used with kelp.

**FULVIC, HUMIC ACID:** Bio-stimulants that promote hormonal activity. Great for root stimulation and soil invigoration.

**GREENSAND:** Sand from ancient sea beds, high in trace minerals.

**GYPSUM:** Source of calcium and sulphur. Breaks up clay soils.

**KELP MEAL:** High in boron and copper, as well as many micro-nutrients. Possesses plant growth hormones. Kelp and alfalfa meal combined is my go to granular.

**SEA MINERALS:** Concentrated macro and micro minerals from the sea are now available in liquid form to provide nutrients for the plants and soil.

**LIME:** Balances out the soil, high in calcium.

**MOLASSES:** Good for boosting beneficial bacteria in the garden soil.

**MULCH:** A passive fertilizer through slow passive decomposition.

**MYCORRIZIAL FUNGI:** Soil dwelling plants that access soil nutrients, allowing them to become available for plant roots. A synergistic and mutually beneficial relationship. Ideal for all crops.

**RECYCLED LAWN CLIPPINGS:** Provides nitrogen from an immediately locally sourced material.

**ROCK PHOSPHATE:** High in phosphate, with minerals too.

**WORM CASTINGS:** The concentrated plant food source derived from the excrement of composting worms eating food and garden waste. Ideal as a soil builder and micro-fertilizer.

**ZEOLITE:** High in silica, retains water and is an excellent source of many micro-nutrients. Made from volcanic rock.

I emphasize kelp and alfalfa as between the two, they make up for most soil deficiencies. The quicker they get established in the soil and compost, the sooner you will have strong, balanced soil and compost- and the quicker you won't have to buy in external inputs.

*Proper crop succession and rotation should eliminate the need for supplemental fertilizing/ feeding if nitrogen fixing crops are used as part of the plant rotation.*

- Farm cover crops that are planted over large areas to replenish nutrients and smother weeds aren't logistically viable in the smaller urban setting.
- In an urban garden, edible crops such as beans and peas can be used to improve nitrogen levels and act as a pseudo cover crop. Clover and alfalfa can be added into lawn mixes. Buckwheat can be used as a quick smother crop.

## 2. NATURAL INSECTICIDES AND FUNGICIDES

Care should be taken whenever using even an organically based insecticide. Before spraying, one may ask themselves: "How did this infestation happen in the first place and how can I prevent it next time?"

If need be, the spraying is done in conjunction with additional preventative steps, such as Integrated Pest Management, trap crops, soil amendments, etc.

In this way, the gardener is not relying on products that may further disrupt the garden if used excessively, but rather, is working actively to create more balance and harmony within the garden, so it won't happen again.

### ORGANIC INSECTICIDES/ FUNGICIDES INCLUDE:

**AERATED COMPOST TEA:** A highly effective specially prepared liquid mixture made from compost, pure water and plant nutrients, used to fertilize and protect plants. Good for all plants and soils.

**CAYENNE PEPPER EXTRACT:** Diluted liquid extract is used against many small bugs.

**CITRUS PEEL OIL EXTRACTS:** By product from the citrus industry, the active ingredients are Limonene and Linalool. It is used by against aphids, mites and fleas, by over-stimulating their nervous system.

**EM AND BIM:** Effective or Beneficial Indigenous Micro-organisms. A fermented liquid fertilizer that enlivens the soil via an infusion of rapidly colonizing micro-organisms.

**ESSENTIAL OIL EXTRACTS:** A diluted liquid extract with many applications, depending on which oil is used. Oil of oregano is showing results as a natural fungicide.

**GARLIC EXTRACT:** Diluted liquid extract is used as a natural fungicide, pesticide and de-wormer.

**TARGETTED MICROBE SPRAYS:** Isolated bacteria or fungi are liquefied and sprayed onto crops or soil to out-populate, combat or overtake unwanted microbes.

**INSECTICIDAL SOAP:** Vegetable oils mixed with sodium or potassium salts. Used to combat many garden insects by dissolving the bug's outer cell membranes.

**HORTICULTURAL OIL:** Petroleum or animal based oils that are diluted with water. They smother and suffocate many small bugs and funguses.

**NEEM OIL:** Versatile natural fungicide and insecticide. Its broad spectrum of active ingredients works dynamically on many insects.

**PLANT SPRAYS:** Comfrey, nettle, tobacco, pepper, and garlic are just several of the many natural anti-biotics made directly from plants.

### 3. PHYSICAL BARRIERS

Barriers to prevent animal, insect and human entry:

1. chicken wire is often used to prevent animal invasion
2. row covers are used to exclude unwanted bugs
3. Fences are used to keep vandals, animals out.

### ***“PRO-BIOTIC SPRAYS MADE EASY”***

***Know the effects of a plant spray before using or combining them. Some are pro-biotic, others are anti-biotic.***

Suffice to say, when making compost tea, only pro-biotic ingredients are used during the brewing/ steeping process.

- Once the tea is made, other natural anti-biotics can be added, right before spraying.
- Some of the compounds in natural anti-biotics cancel out the pro-biotic qualities of others, so spray them separately beforehand.

Steep quality finished compost in pure water, stir daily for 3-12 days. Strain, dilute and spray or water in. The sludge can be used during transplanting. Alfalfa, kelp meal, fulvic or humic acids can be added in to this tea beforehand. The tea can be aerated with a commercial fish bubbler to create a more dense and diverse array of micro-organisms.

### ***“ORGANIC FERTILIZING MADE EASY”***

***Create good soil conditions by importing needed inputs, then by intensively composting to create nutrients on site.***

Use bulky materials to add volume, otherwise use granular or liquid inputs.

Apply soil/ solid fertilizers and foliar/ liquid fertilizers accordingly.

1. Solid fertilizer/ compost to invigorate soil microbe and organic matter density and diversity.
2. Granular fertilizer for precise cultural adjustments.
3. Liquid fertilizer to root drench or to boost and help protect against disease and insect problems.
4. Mulch is used for nutrient retention, to moderate temperature and moisture levels, and to increase microbial and insect activity.

## **CHAPTER 4 URBAN EDIBLE GARDEN DESIGN AND INSTALL**

*This chapter includes details on site location and garden size, plant choices for limited areas, container and growing medium options, as well as seeding and transplanting information.*

### **SIZE OF GARDEN DETERMINES ALL OTHER DECISIONS.**

Having 5 square feet available versus 2500 square feet will make a huge difference in what is grown and how it is managed.

The size of the garden also determines the look and theme on top of the actual harvests.

Fitting the edible garden into the larger landscape is a technique to harmonize the new functionality that occurs.

An aesthetic mix of ornamentals and edibles come from experience, from knowing your plant growth patterns and available options.

***Other factors to include in locating the garden come from the immediate and surrounding area***

1. soil quality
2. surrounding trees
3. sun direction
4. animal competition
5. predominant wind direction
6. concrete proximity
7. fences
8. neighbours' gardens
9. vandalism
10. neighbourly relations
11. the effect of the garden on the community as a whole.

The above 11 factors all play in to how successful the garden will be over the years. Careful consideration and planning, based on accurate observation, will be the first big step to success.

**GARDEN SITE QUESTIONS**

*Here are some questions to ask before buying anything or installing your garden:*

1. Size available
2. Sunlight/ shade throughout the day
3. Total sunlight hours for each proposed area
4. Garden facing which direction
5. Wind direction
6. Competing plants/ trees/ walls/ fences
7. Existing soil type and quality
8. Size of competing trees/ shrubs in 1,2, 5, 10 years
9. Ability to regularly cut back shade competition
10. Access to quality water
11. Ability to regularly maintain and water
12. Animal/ rodent presence?

*Once these questions are tallied up, they can be put inserted accordingly into the:*

## THE URBAN GARDEN LAYOUT

### S.W.O.T. Analysis Model

**S**trengths

**W**eaknesses

**O**pportunities

**T**hreats.

If your weaknesses and threats are more numerous than your strengths and opportunities, you have some work to do before creating your successful garden. If the weaknesses and threats CANNOT be overcome, then your proposed garden is in the wrong place.

The urban garden is laid out for success. The plot is close to the house, the closer the better. The compost area is within easy walking distance along paths; with water access by hoses or pails. Storage areas or sheds are within 100'.

The garden beds are created so that one can reach the center of any bed without walking on the bed. Taller crops are oriented on the north side of the beds, unless one is looking for summer semi-shade. Vining (dangly) crops can be hung from planters of the edge of the house.

The beds or planters are in a sunny or semi-shade area. Rodents, birds and pests are kept away with netting, pie pans, cds, scarecrows, cassette tape.

Ideally the garden is viewable from the house, apartment or condo. Sitting areas should be included; benching can be integrated into wooden raised beds. For accessibility, beds can be raised off the ground with containers, planters or built wooden beds structures.

Soil for the beds is carefully prepared by amending the existing soil with the appropriate amendment, or by creating from scratch with triple mix, compost, loam, peat, worm castings, and other micro-nutrients.

The garden should be planted with varieties and species that make you want to get out and get your hands dirty. The spacing for each type should be noted and room kept available for later plantings or successions.

## TYPES OF EDIBLE GARDENS

There are countless styles and types of edible gardens. They all have their advantages, and their respective inputs of water, materials, fertilizers, seeds, plants, and labour. A common goal is a combination of high yields, low material and labour inputs, good aesthetics, and a high degree of self-regulation, health and balance.

### Garden sizes from smallest to largest:

1. Balcony
2. Patio Planters
3. Indoors
4. Greenhouse
5. Raised beds
6. Backyard
7. Community plot
8. Homestead
9. Acreage.

The scale and amount of tools/machines needed increase with the size of the garden.

City dwellers are limited by small property sizes.

***Getting healthy, high yields of delicious produce wherever you may live is the goal of this guidebook.***

The rural property owner can choose their garden size, and its intensity.

### Here is a list of types of gardens from least to most labour and cost intensive:

- 1 Guerrilla
- 2 “Natural”
- 3 Permaculture
- 4 Row
- 5 Shared
- 6 Community plot
- 7 Container
- 8 Organic
- 9 Square foot
- 10 Mulched
- 11 Lasagna mulch
- 12 Edible-Ornamental
- 13 Irrigated
- 14 Raised bed
- 15 Biodynamic
- 16 Intensive
- 17 Trellised
- 18 Hoops- covers
- 19 Indoors
- 20 Greenhouse- heated.

# The Urban Edible Gardening Guidebook

GARDEN TYPE	DESCRIPTION	STRENGTHS	WEAKNESSES
<b>Intensive</b>	A highly productive set up. Uses lots of compost and organic fertilizer to boost growth in strategically oriented plantings.	Provides a very high yield of nutritious produce per square foot	Not for the beginner; advanced interplantings are the norm in this style
<b>Row</b>	Used in homesteads and farms with farm planting, weeding, harvesting tools, tractors and machines	Ease of navigation	Inefficient use of small spaces, better in bigger areas
<b>Organic</b>	A garden that doesn't use synthetic fertilizers or inputs	Improved garden health	High set up cost
<b>Biodynamic</b>	Gardening in observation of natural processes using fertilizers (preps) made in specific ways to augment beneficial outcomes	Increased vigour, yields, storage	Arcane and too complex for some
<b>"Natural"</b>	Not using modern technologies	Low cost once implemented	Hard to learn how to implement in an urban setting
<b>Shared</b>	Garden space, resources and yields are shared among families, friends, neighbors	A great place to socialize and nurture relationships	Too many cooks in the kitchen, too many people in a small space

# The Urban Edible Gardening Guidebook

GARDEN TYPE	DESCRIPTION	STRENGTHS	WEAKNESSES
<b>Community plot</b>	An individual section within a larger shared public garden space	A great place to socialize, nurture relationships, and learn about gardening	Further from home, sometimes under power lines
<b>Irrigated</b>	A garden with a watering set up	Higher, tastier yields	More resources and time required
<b>Guerilla</b>	A secret or unsupervised garden on neglected or marginal public or private property	Hidden and or low maintenance	Random results
<b>Square foot</b>	A lay out set up to help beginners with interplanting, rotations and successions	Great for beginners	Unnecessarily simplistic set up
<b>Raised bed</b>	A garden off the ground in a built wooden structure	Great for ease of mobility and early harvests	Need more water: higher set up cost
<b>Container</b>	A garden off the ground in containers or pots	Great for ease of mobility, early harvests, and really small spaces	Need more water, more frequently
<b>Mulched</b>	A garden that uses lots of material to cover the soil and reduce watering needs	Less water, more microbes near soil surface	Bulky materials needed

# The Urban Edible Gardening Guidebook

GARDEN TYPE	DESCRIPTION	STRENGTHS	WEAKNESSES
<b>Lasagna mulch</b>	A way of building quality soil by layering organic materials then planting on top	Great way to start a garden without having to pre mix compost or buy quality compost	Takes time, needs to be layered correctly
<b>Trellised</b>	Using physical supports to grow plants off the ground	Healthier plants; easier and larger harvests	Time to install; cost
<b>Greenhouse-heated</b>	A permanent heated transparent structure for growing year round	Much higher, earlier and later harvests	High cost
<b>Hoops- covers</b>	Plastic sheeting or netting over hoops on top of crops	Earlier and latter harvests, less bugs	High cost, install and maintenance time
<b>Indoors</b>	An indoor garden, usually under lights	Year round harvest	Need high light output for best growth
<b>Perma-culture</b>	An approach that encourages working with natural processes and materials for low maintenance and longevity	Low maintenance, durable and flexible gardens	Requires an understanding of the site and its dynamics
<b>Edible-Ornamental</b>	An aesthetic mix of edible and ornamental plants	Looks nice and fits in the setting	Less yield

*Garden size and type affects the required labour and inputs.*

## EDIBLE PLANT CHOICES FOR LIMITED GROWING SPACES

This is a guide for northern gardens. (Zone 3B-5)

The following suggestions for growing in different plot ranges are based on efficiencies of scale and do not take into account the consumer's preference.

For example, if only 100 sq ft is available, raspberries are not suggested. However, they can be planted but it's not the most efficient use of space from a harvest standpoint.

## FOR GARDENS UP TO 50 SQUARE FEET

A small portion of summer veggie/ fruit diet can be grown ( 1 person).

1. Planting grains is not recommended in areas under 1500 sq ft, excepting amaranth, quinoa, hemp.
2. Spreading vines, brambles or trees are not recommended in areas less than 500 sq ft.
3. Annual veggies and herbs favourites only.
4. A raised bed or container plantings are recommended to maximize growing space by using vertical height.

5. An indoor worm composting bin would free up space in the garden.

## FOR GARDENS UP TO 100 SQUARE FEET

A portion of summer veggie/ fruit diet can be grown ( 1 person).

1. Planting grains is not recommended in areas under 1500 sq ft, excepting amaranth, quinoa, hemp.
2. Spreading vines, brambles or trees are not recommended in areas less than 500 sq ft.
3. Only annual veggies and herbs favourites are recommended.
4. In addition to growing on/ in the ground, a raised bed or container plantings are recommended to maximize growing space by using vertical height.
5. An indoor worm composting bin would free up space in the garden.

## FOR GARDENS UP TO 200 SQUARE FEET

A good portion of summer veggie/ fruit diet can be grown ( 1 person).

1. areas under 1500 sq ft, excepting amaranth, quinoa, hemp.
2. Spreading vines, brambles or trees are not recommended in areas less than 500 sq ft.
3. Annual veggies and herbs favourites are recommended.
4. Bush berries are recommended.
5. In addition to growing on/ in the ground, a raised bed or container plantings are recommended to maximize growing space by using vertical height.
6. An indoor worm composting bin would free up space in the garden.

## FOR GARDENS UP TO 500 SQUARE FEET

Summer portion of yearly veggie/ fruit diet can be grown ( 1 person).

1. Planting grains is not recommended in areas under 1500 sq ft, excepting amaranth, quinoa, hemp.
2. Spreading vines, brambles or trees are recommended in small confined areas, so they don't spread excessively.
3. Annual veggies and herbs favourites are recommended.
4. Bush berries are recommended.
5. Perennial herbs are recommended.
6. Timeline successions can be integrated into design.
7. In addition to growing on/ in the ground, a raised bed or container plantings are recommended to maximize growing space by using vertical height.
8. An outdoor composting area can be integrated into garden.

## FOR GARDENS UP TO 1000 SQUARE FEET

A good portion of yearly veggie/ fruit can be grown ( 1 person).

1. Planting grains is not recommended in areas under 1500 sq ft, excepting amaranth, quinoa, hemp.
2. Spreading vines, brambles or trees are recommended in small confined areas, so they don't spread excessively.
3. Annual veggies and herbs favourites are recommended.
4. Bush berries are recommended.
5. Perennial herbs are recommended.
6. Timeline successions can be integrated into design.
7. In addition to growing on/ in the ground, a raised bed or container plantings are recommended to maximize growing space by using vertical height.
8. An outdoor composting area can be integrated into garden.

## FOR GARDENS UP TO 1500 SQUARE FEET

Yearly portion of veggie/ fruit can be grown ( 1-2 people).

1. Planting grains is not recommended in areas under 1500 sq ft, excepting amaranth, quinoa, hemp.
2. Spreading vines, brambles or trees are recommended in small confined areas.
3. Annual veggies and herbs favourites are recommended.
4. Bush berries are recommended.
5. Perennial herbs are recommended.
6. Timeline successions can be integrated into design.
7. Larger areas of a particular crop, i.e. salad mix can be planted along with a variety of other staples.
8. One or two small (dwarf) fruit trees may be integrated into the garden.
9. An outdoor composting area can be integrated into garden.

## FOR GARDENS UP TO 3000 SQUARE FEET

Yearly portion of veggie/ fruit can be grown ( 2 people).

1. Spreading vines, brambles or trees are recommended in organized sections.
2. A wide variety of annual veggies and herbs are recommended.
3. Bush berries are recommended.
4. Perennial herbs are recommended.
5. Many timeline successions can be integrated into design.
6. Larger areas of a particular crop, i.e. salad mix can be planted along with a variety of other staples.
7. A dozen or so (dwarf) fruit trees may be integrated into the garden.
8. An outdoor composting area can be integrated into garden.

## FOR GARDENS UP TO 4500 SQUARE FEET

Yearly portion of veggie/fruit can be grown (2- 3 people).

1. Spreading vines, brambles or trees are recommended in organized sections.
2. A wide variety of annual veggies and herbs are recommended.
3. Bush berries are recommended.
4. Perennial herbs are recommended.
5. Many timeline successions can be integrated into design.
6. Larger areas of a particular crop, i.e. salad mix can be planted along with a variety of other staples.
7. A dozen or so (dwarf) fruit trees may be integrated into the garden.
8. An outdoor composting area can be integrated into garden.

### GROWING IN CONTAINERS

Factors affecting decision: price, quality, looks, accessibility, enviro-ness, compatibility with plant growth: depth of container, watering needs.

**WINE PAILS 22L:** Cheap or free. Long lasting, looks ok, can be covered with yogurt moss mixture, easy to source and move, reused item, good for many annuals, high watering needs. Can be modified to include an inner smaller pail and watering tube to allow for an inbuilt water reservoir.

**OLIVE BARRELS 225L:** \$10 to \$35 dollars, long lasting, comes in terra cotta colour, can be covered with yogurt moss mixture or tile mosaics, easy to source, reused item, good for annuals and perennials, intermediate watering needs. A modification can be to make half circle slits in the side at measured spacings. The slits are then pulled down to become growing holes for other plants. You can then grow from the top and sides. Can be modified to include a porous inner watering tube.

**OAK BARRELS 225L:** A little more expensive, classier. Can be ordered used from vintners. Works cut in half as 2 planters, or on its side with 3 holes. Relatively heavy. Reused, good for annuals and some perennials, intermediate watering needs.

**WOOD CRATES:** Wine crates, etc are cheap and attractive, but not too long lasting. Easy to source and move, reused item, good for many annuals, high watering needs.

**PLASTIC POTS:** Plastic pots come with perennials when you buy them. Simple, plain and cheap.

**WOOD RAISED BEDS:** Custom soil bed enclosures with open bottom. Not truly a container, more like containment for falling soil. Attractive, long-lasting (cedar, oak), great for annuals and perennials. Ideal for larger areas, can be pricey. Using renewable wood.

**FIBERGLASS POTS:** Not as cheap, these are designer pots. Comes in all sizes, yet can fit the garden theme well. Not environmental.

**CERAMIC/ CLAY POTS:** Mid range pricing, classic look that can crack when moving or over winter. Can be covered with yogurt moss mixture, delicate to move, good for annuals, perennials as they come in many sizes.

**MOLDED PLASTIC:** Ultra modern, prices range from cheap to very expensive. Can look very nice, also very light for size. Not environmentally sourced; being used in integrated home design as well as aftermarket. Molded plastics are being used for rooftop gardens.

## GROWING MEDIUM OPTIONS

1. soil/ ground
2. soil/ container
3. hydroponic/ containers.

### *Three ways to artistically cover your plastic containers:*

1. Paint
2. Moss
3. Tile and mirror mosaics.

### *Each medium has its unique set up and maintenance scheduling.*

**GROUND:** Most traditional; not always possible in city.

Warms up more slowly in spring than containers, but also needs water less frequently than containers.

Ground nutrient mixes can only be amended, unless the existing soil is completely removed first and then replaced with desired mix.

**CONTAINERS:** Best for marginal/ small spaces. Needs water more frequently than ground plants as the roots can't burrow as deep, and can get hotter.

Choosing the right nutrient mix for your plants is much easier in containers than in the ground, as it can be made from scratch.

**SOIL:** Much more common than hydroponics; the traditional way to grow is in soil in the ground.

**HYDROPONICS:** Arguably the best way to grow plants precisely is with liquid based hydroponics. The nutrient mix can be changed immediately to create rapid changes to plant growth: vegetative, fruiting or flowering without rotting. It is also beyond the expertise and costs of the average gardener.

### ***“CONTAINERS MADE EASY”***

- The bigger the container, the less often you water it.
- The bigger the container, the harder it is to move.
- The bigger the container, the more options for full size plants.

Deep rooted plants like cucurbits need deep containers at least 18 inches deep. Shallow rooted plants like lettuces and brassicas can go in pots as shallow as 6 inches. The smaller the pot the smaller the plant will be.

Match up plant spacing recommendations on the seed package and in the book with the space available in pot. If you grow in an area less than recommended, you will get a smaller plant than normal.

## MAKING GOOD SOIL MIXES

Life sustaining soil is the foundation of organics. We compost to reduce waste, but more importantly, to convert waste into life giving nutrients that form the basis of the medium that feeds plant roots. Organic matter, from plant residues and compost, aggregate into a stable form called HUMUS. The higher the content of organic matter and humus in your soil, the more capacity it has to help plants grow abundantly in a natural way. 20-30% organic matter is not unheard of in some organic soils. Most farm soils see organic matter contents in the 3-15%. Usage of chemical fertilizers gradually lowers the organic matter content creating “dead soil”.

## AMENDING THE SOIL YOU HAVE

If the soil is weak, dead, too light or heavy, it must be amended with various materials to ensure optimum growing conditions. A good soil test takes the mystery out of this. If the results are bad, sometimes it is easier if the soil is removed and remade.

### **SOIL IS ACIDIC/ PH IS TOO LOW (-6):**

Add lime and kelp

### **SOIL IS ALKALINE AND THE PH IS TOO HIGH (7.5+):** Add kelp, coffee grinds or peat moss.

**SOIL IS ON THE SANDY SIDE:** Add heavier loam and or compost. Can also add zeolite.

**SOIL IS ON THE HEAVY (CLAY) SIDE:** Add sandy loam and or compost. Can also add gypsum.

**SOIL IS CONTAMINATED:** Replace it or use fungal (Reishi) bio-remediation techniques to de-toxify it.

**SOIL IS WEAK:** Find out what it is deficient in and add accordingly. Add compost and kelp for any deficiency. Blood meal for nitrogen. Bone meal for phosphorus and calcium. Alfalfa/ Kelp meal for root stimulation and soil building.

## SOIL TIPS

### *Starting from scratch:*

**SMALL GARDENS:** Buy bags of weed seed free triple mix with kelp and worm castings added. Buy some bags of finished compost. Buy your micro nutrients such as blood meal, bone meal, alfalfa meal and kelp meal. Peat moss for acidic plants. Mix all together, with water.

**BIG GARDENS:** Forget the bags and get truck loads delivered. If in the GTA area, go straight to the source. Call Pagonis Live Bait and get their certified organic worm castings. They deliver 1-14 cubic yards. Their worm castings are added to some of the better soil bags at Canadian Tire. Add in the blood, bone, alfalfa and kelp meal.

### *Top up yearly:*

With your own compost or equivalent soil building method, or with more high quality castings/ compost and the above 4 micro-nutrients.

## ***“GARDEN PREP MADE EASY”***

Clean the garden of all tender crops in fall.

Fertilize and mulch the garden in the fall, leaving the frost tolerant annuals space to grow among the mulch.

Fertilize with compost in the fall. Mulch with crushed leaves, grass clippings or straw.

Leave room around the base of perennials.

In spring, double dig or pitchfork beds and add more fine compost, mixing with previous years mulch, or, remove mulch and place in pathways, and dig in compost into beds And add granular fertilizer if needed.

Then seed or transplant in smooth beds.

Garden should be ready by mid April (Zone 5)

For perennials and berries, remove mulch and top dress as needed in spring, then replace.

## SEEDING AND TRANSPLANTING

Most edible crops are annuals. For information on perennials, trees and berries, please refer to the respective section in Chapter 4.

Annual edibles are either seeded directly into the ground, or planted as a young seedling several weeks or months old.

## TP: TRANSPLANT

Vegetables and herbs are transplanted into the garden for several reasons:

1. The plant is a long season variety: if it was seeded directly, it may not mature before a killing frost in the fall
2. To get an earlier harvest
3. To get a head start on weed competition
4. To germinate and get established as a young plant where growing conditions are more controlled (indoors, greenhouse, etc).

Some seedlings are planted into the garden after growing in containers for 2-4 weeks. Others, that may take longer to get to size, are potted on once or twice, before finally going in the ground.

Tomatoes may start in a small flat, for 4-6 weeks, then individually potted on to 3-4" pots where they grow for another 4 weeks or so, then planted into the garden proper.

Most transplants are put into the ground at the same level as they were grown in trays. Others like tomatoes, can be planted with several leaves underground, as roots will grow out from the side of the stalk in several weeks.

Transplants should be planted on non-windy, cloudy days when possible, into evenly moist ground, that is pre-watered.

## DS: DIRECT SEEDED

Most seeds should be covered by soil at 3 times the length of the seed, and at 3 times the end spacing.

Seeds should be planted into an evenly moist soil that is pre watered, loose yet firmed down.

### **“PLANTINGS MADE EASY”**

#### ***Planting are easy and successful when***

1. The soil is fertile and of the right consistency for the selected plants
2. The weather is complimentary for quick setting in
3. The seeds are properly covered
4. The roots are directed downward and covered sufficiently
5. There is enough room for the plants to grow
6. Transplants are well watered to lessen transplant shock
7. There is enough sun for the plants to take off.

#### ***Tips for planting:***

- Plant seedlings or seed into deeply moist soil, not just moist within the top two inches.
- Ensure that soil is loosened to at least 6 inches of depth to ensure quick root establishment.
- Tamp down soil after seeding with the back of a hoe, rake, etc.
- Seed or plant on non-windy days, on cloudy days, and/or with a forecast or clouds or light rain.
- Cover slow germinating seeds with cardboard, etc, until 75% of needed germination time has passed.
- Fertilize at time of planting with a handful of your favourite organic non-burning granular fertilizer, or up to a shovel full or organic homemade compost.
- Use a compost tea transplant bath before potting on or planting seedlings.

## INDOOR SEED STARTING

Many seeds are sown indoors in February, March and April. Sprouting 3-21 days later, the seedlings are grown in a simulated outdoor environment, and gradually exposed to spring weather before being transplanted in April, May, June, July, and sometimes August.

### *The indoor growing area:*

1. Quality amended potting/ starting soil mix
2. Seeds
3. Flats/ pots
4. Seed markers
5. Lights
6. Heat
7. Shelves
8. Journal.

Potting / starting mix is used. It is finely sifted, and without any fresh manure or rotting matter. It can be amended with kelp/ alfalfa meal, and worm castings or finely sifted aged compost. These additions don't burn the roots. Without these micro-nutrients, the plants growth may

slow down after 3 weeks, as the starting mixes are usually weak. The mix is prepared, and pre watered, if using alfalfa, for 2-4 days.

### *The seeds are sown into containers:*

1. Open flats
2. Plug trays
3. Soil Blocks
4. Egg cartons.

**OPEN FLATS:** My favorite for their simplicity. Wood or plastic. 8-12 rows are made in an 11" by 22" double lined plastic tray, or one wood tray, 6 bottle wine crate, etc. As seedlings grow, they are root pruned by inserting a sharp knife in between rows and slicing the soil like a cake. This is done, once or twice before potting on or transplanting.

**PLUG TRAYS:** Have individual cell plugs of different size. 36, 72 plug tray, etc. great for isolating seeds and varieties; downside is that the plugs crack rather easily.

**SOIL BLOCKS:** These are made by compacting and forming soil in such a way that no surrounding container is needed. Requires a special tool for each block size, and a certain finesse.

**EGG CARTONS:** A DIY version of the plug tray.

Trays can be covered while the seeds are germinating, to preserve humidity and reduce watering needs. Or open flats can be staggered on top of each other – IF you know exactly how long each seed type takes to sprout.

The seeds sprout into an intense artificial light environment. This is essential to create vigorous, compact plants. A fan can blow over the seedlings part of the day to strengthen the stalks and leaves. Plants can be watered by a gentle watering can, a mister, or from a water/nutrient reservoir.

Once the seedlings are 4-6 weeks old and/or starting to crowd each other, they are transplanted or “potted on” on to larger 3-4” square pots. These can be sourced used from nurseries. 1-4 seedlings are put in each pot, depending on the type of veggie. They are placed in open flats, or any other shallow box.

When warm days show up, seedlings can be placed outdoors during the day, to “harden” off. This is done for 3-14 days. They can also be placed in a sheltered sunny area 24/7 for this period, being covered at night with plastic or reemay.

The seedlings or transplants are transplanted into their garden spot when they are getting root bound in their pot, or when their frost danger date has past.

**CHAPTER 5**  
**URBAN EDIBLE GARDEN**  
**MAINTENANCE**

*This chapter includes  
detailed maintenance programs  
as well as a monthly maintenance guide*

**MAINTENANCE DYNAMICS:**

1. observation
2. soil prep
3. planting
4. watering
5. weeding
6. fertilizing/ feeding
7. pruning
8. mulching
9. pest management
10. disease management
11. plant support
12. harvesting
13. season extension
14. seed saving
15. composting
16. storage
17. makeovers

### **OBSERVATION**

Keen observation is your best maintenance tool. Although books and teachers are invaluable in helping one learn: a) what to look at and b) what you are looking at,

#### ***ONLY YOU CAN DO THE LOOKING.***

My #1 piece of advice for new and not so new gardeners is to go out into the garden and look around. Enjoy the view, every day.

At first, you may not even know what you're looking at or for. That's ok. What you are doing is allowing for patterns, trends and rhythms to show themselves. Over the days, weeks and seasons, you will have amassed volumes of subconscious understandings of your garden. You will come to understand things because you have been there, part of the growing.

When I garden I go out and before I do anything, I look around. Every day it is different, every week it is different, every year it is different, yet amongst all the subtle and not so subtle changes, is an overarching pattern and rhythm that amazes and soothes me.

How **you** organize your observations into knowledge and wisdom is according to your unique character and make-up. Use the findings I have come across in 3 decades of commercial growing and commercial urban gardening to help you find your own approach. Go on the internet, there is an endless wealth of knowledge there. Go see other gardens and ask and watch.

For best results, you should be working in your urban garden at least 3 times per week.

## SOIL PREP

As you know by now, a high quality natural growing medium is essential for optimum plant growth. Prepping the soil/ or hydroponic growing medium on a seasonal basis is the way to maintain ideal conditions.

Proper tilth and air space, achieved through high levels of organic matter and micro-organisms, reduce the need for aggressive soil prep such as tilling or double digging.

As I believe the growing season prep work starts the previous fall, I believe it's a good idea to clean beds and top dress with compost, if necessary, in the fall. Rototilling and or digging can be done at this time to mix in new compost.

Mulch with cut up garden waste or other decomposable materials, can be laid as well in the fall if one has perennials. Don't lay the mulch directly beside the stalk or trunk, as burrowing critters may damage the plant by feeding on the covered bark.

Mulching can also be done in the spring. It's not really recommended for quick growing crops, or crops that won't be in the ground for too long, like arugula.

If the garden is large, fall cover crops can be planted in areas that won't be used until late spring the next year.

In the spring, the soil is tilled or dug and turned over if necessary. Then it is raked.

If you're planting in containers, clean the debris and top dress in fall, and mix in the new soil a bit.

Soil can be covered with plastic in the early spring (March/ April) to warm it up.

Mini greenhouses can be created by adjusting the height of the clear plastic above the ground.

## PLANTING

### *The planting is done with:*

**SEEDS:** Cool weather crops are often planted by seed.

**TUBERS:** Potatoes, onions and garlic are planted from last season's harvest.

**TRANSPLANTS:** Most hot weather crops are planted from transplant or little seedling. Some cool weather crops are also planted by transplant if a quicker harvest is desired.

Planting is done before gentle rain, on non-windy days, with proper soil moisture, appropriate soil fertility and according to the moon.

A beginning gardener may resonate with grid set up of square foot gardening. An advanced to expert gardener on the other hand, can almost randomly design and manage plantings to maximize yield, beauty and maintenance requirements. The beauty with gardening is that every year you know a little more....

### *Items needed for seeding and transplanting:*

- Soil mix
- Gloves
- Pails
- Growing trays
- Pots
- Seed dispenser
- Tray and row markers
- Sunlight or grow lights
- Clean (not cold) water.

## WATERING

### ***Garden water comes from:***

**RAIN:** Using rainwater only is an inexpensive way to garden that assumes sufficient precipitation to ensure sufficient growth.

**COLLECTED RAINWATER:** Using nearby roofs to draw water into containers, this is a passive method of collecting water with relatively low cost.

**CITY WATER:** The garden is watered using a hose from the tap. In Toronto the water not only contains chlorine, but also ammonia. My client's tomatoes grow better and show no blight or powdery mildew when watered with roof water. City water, due to the additives, does not do so well against these diseases.

### ***Watering is:***

**DONE PASSIVELY BY NATURE:** Using rainwater only is an inexpensive way to garden that assumes sufficient precipitation to ensure sufficient growth.

**BY HAND:** With buckets, watering cans, pails, etc. Water is applied to soil or into deep penetrating watering tubes that reach the plant roots. Fertilizers can also be applied into these tubes.

### ***Irrigation equipment:***

**ROOT REACHING WATERING TUBES:** Custom made and fitted from perforated and covered PVC pipes allow water to spread evenly and quickly through the plant container.

**UNDERGROUND SEMI-PERMEABLE WATER RESERVOIRS:** Top half permeable weeping tiles become a custom reservoir for underground water dispersal. Watered from hose, on timer or manually.

**SOAKER HOSES:** Attached to garden hoses, soaker hoses are rubber with tiny holes throughout. They are an inexpensive and efficient way to water the ground with evaporation.

**DRIP LINE SYSTEMS:** Like soaker hoses, but more precise. Rather than emitting droplets of water throughout the length of the hose, drip lines have adjustable holes at specified intervals that allow desired water dispersal for each plant.

**OVER HEAD SPRINKLERS:** Are basic watering systems that don't conserve water as much as other systems as the airborne water partially evaporates before reaching the ground.

***Irrigation systems can be turned on and off manually or automatically.***

## GARDEN TOOLS FOR THE URBAN EDIBLE GARDEN

*Some of the tools needed for the  
urban edible garden:*

- Pails
- Wheelbarrow (optional)
- Watering cans
- Watering hoses
- Watering irrigation system (optional)
- Short handled spade shovel
- Hand trowels, spade or homee digger
- Hand pruners
- Harvesting knives
- Short or long handled pitch fork
- Containers for harvesting.

## ***“WATERING MADE EASY”***

***Watering duration and  
frequency is done according to***

1. plant type
2. soil type
3. sun exposure
4. wind exposure
5. temperature

## WEEDING

### *Weeding is done:*

**BY DESIGN:** Planting at a spacing so that plants just touch each other. This crowds out competing weeds. If using this technique, plant tighter than usual/recommended and then remove excess plants or excess unwanted vegetative foliage for better airflow and adequate sunlight.

**BY HAND:** Hand weeding is best done when soil is moist so as to pull out entire root.

**WITH HAND TOOLS:** Perennial pitchforks and hoes are the two most common weeding tools. Hoes are ideal for small weeds with little root system; pitchfork is used for established plants with deep roots. Modified diggers can be used to get in narrow spots down deep.

**BY MULCH:** Mulching open areas can prevent weed seeds from germinating below.

**WITH TILLERS/ CULTIVATORS:** Hand cultivators are less destructive and desirable than tilling for weeding. A hand cultivator turns over soil slightly to expose weed roots and allow new ones to germinate and thus be killed again. Rototilling is not really recommended as it cuts many roots, where they can regrow multiplied.

**BY NATURAL HERBICIDES:** Urine, vinegar, acetic acid, can all be used to combat weeds.

### *Pruning provides some of the same functions:*

- Vegetative competition on the plant itself is removed
- More sunlight reaches the vital parts of the plant
- A more appealing garden is created
- Plants are kept growing at the desired size.

Pruning is done on sunny days with no chance of rain. With sharp, clean knives or pruners.

## FERTILIZING/ FEEDING

### *Feeding the plants during the growing season can:*

1. quicken the growth rate
2. change the growth type from vegetative to fruiting or rooting and vice versa
3. enhance the immune response of the plants, helping to protect against molds, diseases, and bugs.

## PRUNING

### ***Pruning is done:***

- To provide more sunlight
- To create the desired look
- To contain wild growth
- To remove branches growing in the wrong place or direction
- To remove unhealthy sections
- To gather grafts or cuttings
- To encourage larger fruits.

### ***Pruning is done in two main ways:***

1. Tip pruning to contain length/ height of plant
2. Whole branch pruning to remove unwanted sections.

The more you do it, the more natural it becomes.

This applies to annual vegetables, brambles, berries, herbs, ornamental garden plants and not just fruiting trees.

Pruning is done on sunny days with no chance of rain. With sharp, clean knives or pruners.

***How and when to apply  
each type of pruning is the  
ART of garden maintenance.***

## MULCHING

***Mulching is good for most edibles, most of the time.***

***Mulching is a garden strategy to help:***

1. Conserve moisture
2. Regulate soil temperature
3. Encourage a more active topsoil
4. Slowly add organic matter.

***Materials for mulching include:***

- Cardboard
- Hay or Straw
- Newspaper
- Burlap
- Wood chips
- Grass clippings.

## ***“MULCHING MADE EASY”***

***Mulching is best done in the spring or fall***

- Mulched areas are spread open for seeding and transplanting.
- After DS or TP, at first, the mulch is pushed back to within 2-4” of the row or area.
- After the TPs are established, or the seedlings are at least 4” tall, then the mulch can be placed up the plant stalk itself.
- In fall, mulch can be pulled back slightly from some perennials if rodents eat the bark and cause damage in the winter.
- Mulch should be laid down ½” to 4” thick.

## PEST AND ANIMAL MANAGEMENT

*The goal in an organic approach to gardening is to not disrupt the balance of interrelating parts, but rather to add to this balance.*

Pest issues must be addressed according to an approach that is:

1. **preventative first**
2. **corrective second.**

### **AN INTEGRATED AND ORGANIC APPROACH TO PEST MANAGEMENT INVOLVES:**

1. creating a self-regulating balance between "good" and "bad" bugs in the garden
2. strong healthy plants able to withstand and even repel bug infestations.

### *This is achieved by:*

**INTEGRATED PEST MANAGEMENT:** Predator insects are introduced to feed on the insects that are eating the plants.

**TRAP CROPS:** Attract unwanted insects and animals into an area or part of plants you won't be harvesting.

**HOST CROPS:** A habitat to attract predator insects.

**PLANT ROTATION:** A way of changing up garden stagnation by moving annuals from area to area over the seasons. This allows for soil rejuvenation as plants follow one another in a way that compliments their underground bio-chemical reactions. Furthermore, insects get caught off track as the plants are always in a different spot.

**PLANT SUCCESSION:** Following one edible type with another in the same spot in the same growing season. This allows for better soil management as some plants do better after other ones were there before. Reduces the need for fertilizer.

**PHYSICAL BARRIERS:** To prevent animal, insect and human entry. Chicken wire is often used to prevent animal invasion; row covers are used to exclude unwanted bugs; and fences are used to keep vandals out.

**ENERGY BALANCE:** The plant world is affected by the energy of the immediate and surrounding environment. A balanced and healthy environment displays characteristics like vigour, joy, adaptability, collaboration and resistance. Plant health can be improved by balancing and addressing the environment's energy through geomancy, feng shui and other energy modalities.

## **CORRECTIVE BUG CONTROLS ARE USED AS A LAST RESORT AND INCLUDE:**

1. **PHYSICAL**
2. **CULTURAL**
3. **BIOLOGICAL**
4. **and CHEMICAL  
CONTROLS.**

**HAND PICKING:** this is a manual technique for large bugs.

**ORGANIC SPRAYS:** Odiferous botanicals deter bugs and animals through their unpleasant smell. Some sprays deter and kill bugs through disrupting the bug's digestive system, while others kill by covering them with soap or oil.

When an organic pesticide is needed, use the applicable spray for the offending bug, along with neem oil, a sea-mineral dilution, diluted EM or BIM and AACT if available. This way the overall eco-system is also invigorated each time actual killing is done.

## **PHYSICAL TRAPS, BARRIERS AND DETERRANTS:**

*Useful on bugs and animals.*

Beer traps, copper barriers, diatomaceous earth, egg shells, row covers, chicken wire, mesh, sticky tape, scarecrows, aluminum pans, motion detector spray systems, noise emitters, strung cassette tape. Wherever there is a known occurrence of any bug or animal issue, one or more of the preceding physical techniques should be in-built into the garden design.

## ***“INSECT MANAGEMENT MADE EASY”***

Bugs show up for several reasons:

- to pollinate and eat flower pollen
  - to eat other parts of the plants
  - to eat other bugs
  - to be worked by other bugs.
1. attract “beneficial bugs” by providing habitat and food (plants) for them
  2. keep plants at a balanced growth rate: not too slow, not too fast
  3. plantings should be in appropriate site location with enough sun and helpful plant companions
  4. natural controls should be at hand to use when needed, such as
    - insecticidal soap, neem or horticultural oil, BT bacteria.
    - a range of homemade botanical sprays such as: garlic, hot pepper, peppermint, lavender, sage, oregano, onion, nasturtium, tobacco.

## **DISEASE MANAGEMENT**

***The goal in an organic approach to gardening is to not disrupt the balance of interrelating parts, but rather to add to this balance.***

***When all the nutrient and growth needs of the plant are easily met there is optimum growth:***

1. lush foliage
2. deep roots
3. abundant fruiting
4. strong immunity.

***Diseases must be addressed according to an approach that is:***

1. preventative first
2. corrective second.

***The two main ways to prevent disease before they start are:***

1. Crop rotation, crop succession and companion planting to create ideal soil conditions for each kind of plant, as well as to help balance overall microbe and nutrient levels in the soil.
2. Fertilizing with organic matter and appropriate micro-organisms for the soil and plants.

A pro-biotic approach to disease prevention involves establishing a rich diversity of active micro-organisms able to withstand, combat and co-opt invading molds, viruses, blights and other diseases.

Soil is the natural growing medium in an organic and natural eco-system, and like a healthy stomach, is alive.

In soil, the digestive process is occurring amongst all the micro-organisms that, along with organic matter, are food for the different plant roots.

Annuals require different nutrient make-up than perennials. Leafy plants have different soil needs than root crops, or flowering or fruiting crops.

Proper preventative care in maintaining a soil eco-system appropriate for the nutrient needs of the specific plants grown, helps combat and prevent disease before they can even begin.

### ***“DISEASE MANAGEMENT MADE EASY”***

**Disease usually shows up to help kill a weak or susceptible plant.**

**How do you make your plants strong enough to withstand exposure to disease pathogens?**

- Keep a clean garden environment free of diseased plants or hosts
- Boost the immunity of the garden through a dense and diverse array of beneficial soil microbes
- Companion plant to enhance underground bio-chemical root relationships and overall plant health
- Have an assortment of corrective sprays/ controls on hand
- Follow correct plant protocols.
- a range of homemade botanical sprays such as: garlic, hot pepper, peppermint, lavender, sage, oregano, onion, nasturtium, tobacco.

### **CORRECTIVE AND NATURAL TREATMENT OF PLANT DISEASES**

***Corrective treatment of plant diseases is best accomplished using pro-biotic sprays, rather than anti-biotic sprays.***

Compost teas and other organic sprays such as the biodynamic preps have shown remarkable effects on suppressing powdery mildew and other fungal infections when sprayed regularly throughout the growing season.

The pro-biotic treatments used to correct and combat disease can in fact prevent the diseases from arising again by enhancing the immunity through increase of the beneficial microbial count in the soil and foliage.

***Enlivening soil with organic fertilizers, followed by correct planting protocols, will maximize microbe diversity and balance, preventing most disease from ever occurring.***

***We will not be addressing anti-biotic corrective treatments in this book. The reasons being:***

1. Each time the broad spectrum probiotics are applied they enhance the overall strength and balance of the eco-system.
2. Using single spectrum anti-biotic fungicides do not enhance the health of the overall system.

When corrective organic fungicides are needed, use the applicable spray for the offending disease, along with neem oil, a sea-mineral dilution, diluted EM or BIM and AACT if available.

This way the overall eco-system is also invigorated each time actual killing is done.

***Natural control sprays include:***

1. Compost tea
2. Horticultural oil
3. Biodynamic sprays
4. Plant essence sprays.

## PLANT SUPPORT

***Many plants need support to keep their shape and provide a good harvest. Trellises are common in edible gardens to keep plants growing upright.***

***Types of trellises:***

1. wood stakes
2. metal stakes
3. other living plants
4. tensioned wire permanent trellises
5. other reused or fabricated items.

Trellising should be done before the plant is already falling over.

Permanent trellises, although more expensive, allow for organized vertical growing, an effective way to grow in limited space.

## ( HARVESTING )

### ***Harvesting a yield is the point of an edible garden.***

Harvesting technique will be in accordance with size of garden, plant spacing and number of individual plants.

Harvesting is done at the right time of day according to the plant and part of plant.

- Harvest leafy greens in early morning
- Herbs mid morning
- Flowers mid day
- Fruits mid day
- Roots crops early evening.

Weather variables also affect harvesting schedule.

***In comparison to large scale farms, urban edible garden harvests are left on the plant until right before consuming. The food is fresher, the taste crisper, the nutrients higher.***

### ***The garden harvest can be used in the following ways:***

1. Eaten fresh and or raw
2. Freshly cooked
3. Stored in fridge
4. Frozen
5. Dried
6. Preserved
7. Canned
8. Processed
9. Sold
10. Traded
11. Used in teas
12. Medicine/ Herbal.

The above applies to Grade A quality. Grade B and C can be used in less ways, with the lowest quality produce is used as animal feed or compost material.

### ***“HARVESTING MADE EASY”***

#### ***How to harvest:***

- Greens: cut or tear outer leaves where stalk meets stem, or for baby production, cut whole plant 2-3 inches above ground
- Herbs: cut leaves with scissors or knife
- Flowers: gently prick or cut flower along the stem below flower head
- Fruits: cut or pluck fruit along with fruit stem, just below fruit
- Root crop: remove the whole plant by tugging just below where the leaves meet the root.

Use clean knives and scissors every time to prevent disease transmission.

Look at the growth patterns of above ground crops to notice how the harvestable parts grow out of the rest of the plant. Remove at the intersection of these areas.

Cut back leafy greens to stalk each time you harvest the leaf. The stalk is useful for soups or stews and has lots of vitamins.

## SEASON EXTENSION

Harvesting earlier and later in the season is a game played by many veteran Canadian gardeners.

Beginners can start with removable hoop house frames made out of PVC piping. And on top:

- Thin plastic
- Thin or thick insect netting (Reemay)
- Bird and rodent netting.

### *Other ways to extend the season include:*

1. South facing areas with a protected north wall, preferably a heated house
2. Growing in containers on patios or balconies
3. Starting your early seedlings inside in February and March to get a bigger sized plant by transplanting time
4. Covering your plants as needed at night during frost season
5. Pre-heating your soil with metal sheets or biodegradable plastic sheeting, AND covering with a mini hoop house
6. Creating a looser, deeper and richer soil medium to promote quicker root growth
7. Using black biodegradable sheeting to reduce weed competition, increase habitat temperature.

## SEED SAVING

***Saving seed, like composting, reduces garden costs by creating inputs on site.***

***Some plants are not suited for urban seed saving due to:***

1. cross pollination
2. insufficient pollination
3. insufficient time to allow for seed formation.

Seed formation usually follows fruiting and/ or flowering.

For plants where the flower or fruit is the harvest, it often is easy to wait a little for the mature seed.

For plants where the leaf or root is the harvest, it often takes quite a while for the plant to flower and bear seed. It may not make practical sense to leave that plant in the garden for an extra month or two to get a few seeds, when that space could otherwise be used for other plants.

***We save seed for specific qualities:***

1. drought resistance
2. disease resistance
3. low water needs
4. quick growth
5. yield
6. length of harvest
7. temperature and frost resistance.

**Open pollinated varieties** are plants where the saved seed will be like the plant it came from, provided the plant was not cross pollinated.

**Hybrid varieties** are cross bred for improved qualities and are not sterile. But the plants from saved seed may not be exactly like the plant it came from.

**GMO seed** is usually sterile and if not, often illegal to save seed from.

## ***“SEED SAVING MADE EASY”***

***Seed saving saves money,  
builds strength through local  
adaptation, and raises  
awareness***

Save seeds first from plants that will breed true in your garden.

Cucurbits are not worth saving as they easily cross-pollinate and you won't know if it will be breed true.

Beans breed true, so do peppers, tomatoes, eggplants, basil, lettuces and short season brassicas.

## **COMPOSTING**

***Composting takes excess garden and organic kitchen waste and transforms it into useful compost, an excellent natural fertilizer.***

***The waste is graded to type and toughness to be composted accordingly:***

- Soft, not fibrous waste is fed to the composting worms
- Thicker material is fed to chickens and/or put into the heat compost pile.

Worm composting can be done outdoors in summer, then brought in for winter.

Thermophilic or heat composting is done outdoors in the warmer months of year. If done correctly, a good heat piled formed in fall can hold temperatures of 150 F throughout the winter.

Sheet composting/ mulching uses hay/straw or cardboard overtop of the soil to slowly decompose and turn into organic matter.

1. **EM Bokashi** composting pickles or ferments waste in an anaerobic environment. This can be done indoors or outdoors in pails. It can take 1 to 2 months. The finished product does not look like soil.
2. **Worm composting** indoors is done with red wigglers, not earth worms. It can be done indoors all year, outdoors in summer. It can take 3-4 months to get worm compost. The finished product looks like fine soil. The smaller the initial pieces of waste, the quicker the worms turn it into soil.
3. **Outdoor composting** relies on heat and microbes to break down the waste thermophilically. It can take 3 months to 3 years for this process. The smaller the initial pieces, as well as the air inside the compost pile, accelerates the process. The finished product looks like rich soil.
4. **Sheet composting/ Mulching** is a form of passive, in-garden composting that can take longer than heat composting, but compensates by not having to move the materials as far.

Your composting style will come down to space available, type of waste produced, and your personal preference.

## ( STORAGE )

***If some of the harvest is not eaten right away, it can be stored for a few days to a few months.***

After the crop is harvested at the right time of day and in the right conditions, it is usually washed if used right away.

If the harvest is to be used later, sometimes it is better to not wash it right away.

- Root crops should be stored long term unwashed
- Leafy crops should be stored in the fridge unwashed (don't harvest on a rainy day – unless you want dirty leaves)
- For best storing, don't harvest on rainy or windy days, in the hottest part of the day.

**ONIONS, LEEKS AND GARLIC:** Just above freezing in any cool dry place

**CARROTS, RUTABEGAS, BEETS, CELERIAC, PARSNIP, POTATOES:** Just above freezing in a moist place.

**SQUASH:** 10C in a dry location

**TOMATOES, GREEN:** 10-18C, dry location, in a paper bag

**PEPPERS, EGGPLANTS:** 10C, semi humid location

**CABBAGE:** 5-10C, dry location.

## MAKEOVERS

### ***The necessary process for out of control, neglected, and shade bound gardens.***

Unfortunately, many people naively think that just because the plants are natural they should simply take care of themselves.

Maybe because many gardening books emphasize the design and install processes, and relegate the day to day maintenance of the garden to a one page entry. Maybe because we get bored by the day to day stuff so we come up with ways to not think about it. Maybe we forget that cultivated plants were invented by us and need us to tend them in order to reach their potential.

In any case, when the garden is neglected, sooner or later yields or health suffers.

### ***In general the solutions are to:***

- Hire a specialist to fix your problem,
- Do your own makeover, learning from your maintenance mishaps.

### ***The 5 main makeover processes are:***

1. Pruning back trees, bushes and shrubs
2. Thinning out invasive patches
3. Weeding out unwanted plants
4. Moving plants to a better location
5. Balancing and boosting soil deficiencies.

The first 3 have to do with unwanted plants affecting the growth of your chosen plants. This is a design and maintenance issue. The last 2 have to do with plants not growing well due to their habitat. This is an install issue.

## MONTHLY GUIDE TO EDIBLE GARDEN MAINTENANCE: FROM SEED TO HARVEST

## JANUARY

Not much physical work.

*The following is a growing guide for edibles in the northern climates, where there is a spring and fall frost date that limits the growing season. Zone 3B-5.*

***It is a time of preparation, planning, cleaning, and collaborating.***

The spiritual birth of the year is on the solstice Dec 21 the year before. The seed of intention is set and the rest follows. All activity from this moment on is for the season to come.

## END OCTOBER

This time, and November, is the time to clean up the garden and make it as clean as possible for the next year.

If things are still growing, let them grow. Cover with plastic, mini greenhouses, straw mulch, etc to keep them over the winter.

## WORM COMPOSTING

Can be done all year indoors with composting worms: *eisenia foetida*. Humanure and urine composting is also possible with the right set-up, although it is not seen as legitimate in mainstream North America.

## DEC 21 SOLSTICE

It is the shortest day of the year, with much more dark than light. This is the day when days become longer again in the Northern Hemisphere. The spiritual birth of the year is on the solstice Dec 21.

## SPROUTING INSIDE

Using extra seeds from the previous seasons or buying inexpensive brassica seeds provides fresh food in the depth of winter.

## FEBRUARY

***Another month of indoor preparation.  
For the early birds:***

### **GARDEN AND TIMELINE LAYOUT**

Layout of garden and planting timelines according to climactic/ site conditions.

Going backwards from harvest date to seeding date helps planting dates organizing. Keep in mind, plants grow quicker when the days are longer and the soil is warmer.

### **SEED ORGANIZING AND BUYING**

Organizing the year's seed needs can be done while the ground is still frozen.

### **1ST TIMELINE OF INDOOR SEEDLINGS: CONTAINERS, SOIL, LIGHTS, WATER, CORRECT TEMPERATURE**

Peppers, onions, leeks and some herbs are generally the only edibles that are started indoors in Feb. They can also be done March along with all the others.

An indoor growing area is needed to specifically grow hot weather seedlings. Temperature should be over 17 c, water used should not be too cold, lights should simulate May conditions (i.e. 14-16 hours per day).

### **WORM-COMPOSTING**

Can be done all year indoors with composting worms: *eisenia foetida*.

### **SPROUTING INSIDE**

Using extra seeds from the previous seasons or buying inexpensive brassica seeds provides fresh food in the depth of winter.

### **FRUIT TREE PRUNING**

Winter pruning is done in the depths of winter, when there is no chance of new shoot growth as a reaction to the pruning. All suckers and all other excess main and secondary branches are removed. Also bud branches can be trimmed back as well.

## **MARCH**

### ***The first big month of the growing season.***

Unless one is using season extension techniques, there will be no plantings done in March.

#### **GARDEN AND TIMELINE LAYOUT**

Layout of garden and planting timelines according to climactic/ site conditions.

Going backwards from harvest date to seeding date helps planting dates organizing. Keep in mind, plants grow quicker when the days are longer and the soil is warmer.

#### **SEED ORGANIZING AND BUYING**

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lights should simulate May conditions (i.e. 14-16 hours per day).

#### **WORM-COMPOSTING**

Can be done all year indoors with composting worms: *eisenia foetida*.

#### **SPROUTING INSIDE**

Using extra seeds from the previous seasons or buying inexpensive brassica seeds provides fresh food in the depth of winter.

#### **FIRST OUTDOOR CLEAN UP**

Debris, leaves, etc can be raked; beds can be delineated; soil turned if possible (usually not possible until April)

If growing under plastic covers or in greenhouse, 1st timeline can be seeded or transplanted.

#### **1ST GARDEN SEEDING AND TRANSPLANTING IF USING PLASTIC COVERS, OR GREENHOUSES**

Cool weather crops are seeded or transplanted outdoors at this time, under protective covers to avoid frost damage.

#### **MARCH 21ST SPRING EQUINOX**

This is the first time of the year when day and night are of equal length. A day of harmony and balance, and as the days will now be longer than shorter for 6 months, the first day of quickened growth.

## APRIL

### *The first real month of outdoor work.*

Quite busy time as the indoor work is still prominent.

Garden plantings will start in April unless one is using season extension techniques.

#### **THOROUGH CLEAN UP AND GARDEN PREP**

All materials and items are put into their place.

#### **SOIL WORK AND GARDEN FERTILIZING**

Garden beds are prepped, turned, top dressed, and raked smooth. (Some years this isn't done until May)

#### **COMPOST SIFTING, APPLICATIONS AND SEASON START, IF OUTDOORS**

The soil making area is tidied and assessed. All finished product is sifted and used in seedling soil mix, when transplanting or seeding. If abundantly available, can also be used on perennial bushes or trees. Stockpiles of worm castings as well.

#### **MORE SEEDLINGS STARTS**

Last of the warm season seedlings are started indoors, cool weather crops like lettuce and brassicas can be started as well.

Cucurbits are also started before the full moon in April, if planted from seedlings. Trials have shown that cucurbits seeds planted at the same time as transplanted seedlings often grow and mature just as quickly. This has to do with the taproot getting turned on itself in the growing container, and adjusting to growing straight again.

#### **WORM-COMPOSTING**

#### **SPROUTING INSIDE**

Using extra seeds from the previous seasons or buying inexpensive brassica seeds provides fresh food in the depth of winter.

#### **1ST OR 2ND GARDEN SEEDING AND TRANSPLANTING**

Cool weather crops are seeded or transplanted outdoors at this time, as soon as heavy frosts have gone.

## ( MAY )

### *The second month of outdoor work.*

Plants are growing rapidly as the days are getting longer.

The last month of spring frost, in Southern Ontario, sensitive plants are traditionally transplanted into ground after May 24.

#### **THOROUGH CLEAN UP AND GARDEN PREP IF NOT ALREADY DONE**

All materials and items are put into their place.

#### **SOIL WORK AND GARDEN FERTILIZING FOR SLOW TO WAKE UP SOILS**

Garden beds are prepped, turned, top dressed, cultivated and raked smooth.

#### **COMPOST SIFTING, APPLICATIONS AND SEASON START, IF OUTDOORS. (If not already done in April.)**

The soil making area is tidied and assessed. All finished product is sifted and used in seedling soil mix, when transplanting or seeding. If abundantly available, can also be used on perennial bushes or trees. Stockpiles of worm castings can be used in the same way.

#### **SUMMER/ FALL SEEDLINGS STARTS**

Fall crops like brassicas are started around end May for July planting.

#### **WORM-COMPOSTING**

#### **SPROUTING INSIDE**

Using extra seeds from the previous seasons or buying inexpensive brassica seeds provides fresh food in the depth of winter.

#### **2ND OR 3RD SEEDING AND TRANSPLANTING**

Cool weather crops continue to be seeded or transplanted outdoors at this time. Once last light frosts have passed warm weather hot weather crops such as beans, cucurbits, tomatoes, peppers, eggplants and melons are planted.

#### **INTENSIVE GARDEN PLANTINGS THROUGHOUT THE MONTH OF MAY**

Depending on your garden plan, timelines are planted throughout the month.

#### **WEEDING AND MULCHING**

May days are long, prompting weeds to grow like weeds. Keep on top of them starting this month so they don't become monsters by July. Mulching plants that are in the ground for more than 4 weeks saves on weeding time.

## ( JUNE )

*All spring work is now done.*

***June is a big month for weeding.  
Stay ahead of the weeds in June and half  
the battle has already been won.***

If plants need physical protection and the garden history indicates this, the garden controls should already be in place.

If growing in ground without temperature modification season extension, first harvests will come in June. With aggressive zone modification, first harvest will be in April or May.

Crops and plants should be in place to become ingredients for natural plant based pesticides or fungicides.

Insect infestations generally begin in June.

### **WORM-COMPOSTING**

### **SPROUTING INSIDE**

**JUNE 21<sup>ST</sup>**

Summer Solstice

## ( JULY )

***July is the last big month for weed  
management.***

Early crops will be harvested and removed from ground in June or July. They will be replaced with a compatible and beneficial edible succession. This may happen in May or June if using season extension techniques are in place.

Fruiting crops can be fed with high phosphorus and potassium in July or just before initial flowering.

Annual edibles, when planted extremely close for urban gardens, are also pruned this month to promote air flow and optimize sunlight dispersal.

Harvesting of fruiting annuals will begin in July if using no season extension techniques.

Cherries will ripen and apple trees can be summer pruned.

Depending on weather and site conditions, molds, mildews and blights may attempt to sabotage plant growth. Best prevented by beneficial microbe rich soil, best corrected by aerated compost tea.

### **WORM-COMPOSTING**

### **SPROUTING INSIDE**

## ( AUGUST )

***A big harvest month,  
the second biggest after September.***

Weeds no longer grow as vigorous from seed starting in August.

Annual edibles, when planted extremely close for urban gardens, are also pruned this month to promote air flow and optimize sunlight dispersal.

Fall crops are planted in August, if not end July or September.

Plants must be carefully monitored and managed for molds, mildews and blights.

**WORM-COMPOSTING**

**SPROUTING INSIDE**

## ( SEPTEMBER )

***The biggest harvest month.  
Everything seems to be ready all at once.***

No real new weeds.

Annual edibles, when planted extremely close for urban gardens, are also pruned this month to promote air flow and optimize sunlight dispersal.

Last of the seedling plantings for the year.

Cover crops are planted if according to the garden plan.

First light frost comes in September, but sometimes not until October in the city.

Tender annuals are accordingly protected from mid September on against frost.

**WORM-COMPOSTING**

**SPROUTING INSIDE**

## 〔 OCTOBER 〕

***Frosts kill the tender hot crops one by one.***

The garden is cleaned up. It is top dressed if needed.

Frost tolerant plants continue to grow and are protected if a season extension program is in effect

A large compost pile should be made at beg Oct so that it gets very hot before cold comes.

Hot compost pile can become the heat for a traditional cold frame enclosure installed with soil ovetop of the steaming pile.

### **WORM-COMPOSTING**

Can be done all year indoors with composting worms: *eisenia foetida*.

### **SPROUTING INSIDE**

Using extra seeds from the previous seasons or buying inexpensive brassica seeds provides fresh food in the depth of winter.

## 〔 NOVEMBER 〕

***The garden continues to give harvest until the hard frosts come for good.***

The final clean ups are performed.

All greenhouse covers and domes are set securely in place.

### **WORM-COMPOSTING**

Can be done all year indoors with composting worms: *eisenia foetida*.

### **SPROUTING INSIDE**

Using extra seeds from the previous seasons or buying inexpensive brassica seeds provides fresh food in the depth of winter.

## DECEMBER

***The garden starts sleeping  
and the gardener starts dreaming.***

The spiritual rebirth occurs on Dec 21st, the winter solstice.

### **WORM-COMPOSTING**

Can be done all year indoors with composting worms: *eisenia foetida*.

### **SPROUTING INSIDE**

Using extra seeds from the previous seasons or buying inexpensive brassica seeds provides fresh food in the depth of winter.

## WEEKLY OR BI-WEEKLY MAINTENANCE CHECK

- Watering
- Weeding
- Thinning
- Checking for overall health
- Checking for bugs
- Checking for disease
- Harvesting
- Composting
- Replanting.

## DAILY MAINTENANCE CHECK

General look over to see what's different and what's the same

Taking it all in...



## **CHAPTER 6**

### **ON GOING URBAN EDIBLE GARDEN SUSTAINABILITY**

*Garden sustainability relies on energy cycling to keep the system alive and flowing locally.*

*A smooth transition and re-cycling from one energy resource to the next, within the overall system, is an indication of a sustainable system.*

**THE FIVE SYSTEM COMPONENTS BELOW COVER THE BASIC NEEDS OF THE URBAN GARDEN:**

**WATER:**

Rain water collection

**NUTRIENTS:**

Composting excess waste

**CONTAINERS:**

Container recycling and reuse

**FOOD SOURCE:**

Seed saving and sharing

**LABOUR:**

Training, documenting and celebrating

## RAIN WATER COLLECTION

In the city, water is always available but at a cost, and with added chemicals and purifiers that can be detrimental to plant growth.

When possible on site rain water collection provides a free source of water. Furthermore, anecdotal evidence shows that many edibles prefer rain water to city water and are more disease resistant.

## COMPOSTING EXCESS WASTE

To grow edible crops easily and quickly, a new edible garden almost always requires outside inputs to bring the soil to an adequate level of fertility.

A must for low footprint gardens is to implement composting and nutrient cycling efforts as soon as possible to reduce and eliminate dependence on further outside inputs.

Over time the garden's nutrient needs can be fed internally by proper management of food and garden waste, as well as crop rotation, crop succession and companion planting.

## CONTAINER REUSE

If growing in containers, a steady supply of recycled containers should be ready at hand to replace any that break, shatter or are no longer useable.

Barrels, wine crates and pails, are readily available and longer lasting than landscape pots.

They can be coated with a yogurt moss mixture to beautify and can be reused from year to year. I mention wine pails and barrels specifically as they are not currently recyclable in the official program. Reuse is thus a very cost effective way to up cycle an otherwise waste product.

## SEED SAVING AND SHARING

### ***Many advantages to seed saving/ plant reuse:***

Plants acclimatize and adapt to each specific growing space. Each successive generation of offspring becomes more adapted to the local conditions.

Cost effective.

Deepens awareness of the cycles of nature, through the relative miracle that occurs each time a seed grows into the full plant, to bear fruit and reproduce again.

## COMMUNICATION, DOCUMENTING, TRAINING AND CELEBRATING

### ***A garden in harmony is a partnership of equals between man and nature. The garden only works as well as the players communicating.***

Communicating needs and directionality between participants requires an ear for listening and a mouth and hands for showing.

Documenting findings contributes to the reservoir of living research, development and application that is occurring worldwide in every edible garden and farm.

Training becomes easier when efficient and harmonious gardening techniques are documented.

Celebrating is always easy in an edible garden. Take a bite and pass it on...



**CHAPTER 7**  
**URBAN EDIBLE GARDEN**  
**SUPPORT SYSTEMS**

*A breakdown of five support systems  
that influence the short and long term  
health of the garden*

**INTERNAL GARDEN SUPPORT**

**CELEBRATING HOME COOKED MEALS  
THROUGH FRESH HOME GROWN  
HARVEST**

**INTERACTION WITH NEIGHBOURHOOD  
AND COMMUNITY GROUPS**

**INVOLVEMENT WITH LOCAL  
RESTAURANTS AND FARMERS MARKETS,  
AND REGIONAL AND INTERNATIONAL  
GROWER CO-OPS**

**MUNICIPAL, PROVINCIAL, FEDERAL  
GOVERNMENT SUPPORT**

### INTERNAL GARDEN SUPPORT

***How a garden feels goes a long way towards its health and lifespan.***

***If the overall energy dynamics of the:***

1. home/ landowner
2. garden creator
3. gardener(s)
5. garden consumers
6. and the land/ plants themselves

are all congruent/ on the same page, then the garden will have a much longer lifespan and quality to it.

***Most gardens are not completely balanced which can be caused by***

1. a human tug of war over how to use the space
2. the wrong plants have been chosen for the site
3. the homeowner and gardener don't see eye to eye
4. there is an underlying dis-ease to the land that originates in the past, perhaps even far before the present owner's tenure
5. the soil is contaminated or largely deficient
6. there is insecurity over rental/ leasing arrangement.

***Any and all indications of dis-ease should be addressed through appropriate channels such as***

1. open channels of communication
2. conflict resolution
3. meditation
4. sharing of opinions in an non judgemental setting
5. brainstorming and idea generation.

### **CELEBRATING HOME COOKED MEALS THROUGH FRESH HOME-GROWN HARVESTS**

*Sharing a nurturing and satisfying experience with family and friends is the definition of a happy healthy home.*

One of my favourite edible garden experiences:

The first taste of the season for each plant coming as it comes into readiness. Mostly enjoyed in the garden unwashed with dirty hands. The best! Once the taste buds have given a passing grade to the selected crop, a harvest is collected to share in a meal (or 10).

Preparing the freshly harvested produce into a delicious meal is so easy when one knows how much better it will taste because it is: fresh, organic, grown by you and me. The meal is shared and everyone feels happy and together.

Most of my non gardening friends are actually astounded by the whole process as they see me work and then harvest from my hobby garden (re 2010). They feel more relaxed and comfortable after one of our shared meals. Like the world is safer, and a better place.

I feel their thoughts and feelings of encouragement as I do the work and I feel inspired and motivated to grow more and healthier food, next time...

### **INTERACTION WITH NEIGHBOURHOOD AND COMMUNITY GROUPS**

Sharing with neighbours is also strategic as a happy neighbour will be less likely to complain for whatever reason.

Sharing with community groups is a form of donation, or spreading the wealth in a most healthy way. Volunteers for the garden work can also arranged thru an informal bartering system.

Both of these avenues of sharing build the strength of the community (and the garden) from within, building collaboration, strength, identity and pride.

## INVOLVEMENT WITH LOCAL RESTAURANTS AND FARMERS MARKETS, AND REGIONAL GROWER CO-OPS

***When one has a lot (a lot!) of extra food, it can be sold locally.***

Selling fresh food locally promotes an urban 10 mile diet, a tangible demonstration of sustainable local economies.

Selling fresh food locally encourages healthier eating a more conscious lifestyle through a deeper understanding of production/ consumption dynamics.

Selling fresh food locally creates a pride of place, and a self-motivated reason to take care of the surrounding community and environment, so that in return one is taken care of as well.

## MUNICIPAL, PROVINCIAL, AND FEDERAL GOVERNMENT SUPPORT

The city and region governments will support urban edible garden initiatives as part of sustainability mandates that have become trendy and necessary.

As local food production bypasses long range transport of food and fertilizers, while at the same time promotes healthy living, it is seen as a win-win cause to support.

Making your city, regional and provincial government aware that Urban Edible Gardening is something the public is participating in, and something the public wants more of, will create more legislative support, broaden opportunities for subsidized resources, and expand the available urban growing spaces.

## CHAPTER REVIEW QUESTIONS

### CHAPTER 1

1. What is the focus of the Urban Edible Gardening Guidebook?
2. How does the book address this focus?

### CHAPTER 2

1. What are the components needed for a successful growing area?
2. Why do we emphasize locally sourced garden nutrients?
3. Name 5 on site products that help with nutrient cycling.

### CHAPTER 3

1. Name 7 types of edible plants.
2. If your edible garden is in small containers, is it recommended to grow nut trees or grain?
3. Where would you grow mushrooms and sprouts?
4. What are the days to maturity for:  
Beans  
Carrots  
Tomatoes  
Squash  
Basil?
5. How many hours of direct sunlight do most edibles need?
6. How old should the fruit trees be: when planted, when 1<sup>st</sup> harvested?
7. Describe 2 ways to thin out a bed.
8. Describe the Y method of suckering tomatoes.
9. How do you harvest lettuce, cabbage, spinach and kale for multiple harvests?
10. Would you direct seed or transplant cucurbits and why?

# The Urban Edible Gardening Guidebook

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11. Why is there more benefit in preventing plant problems than in correcting them?
12. How do you build up a plants immune system?
13. Which 5 organic fertilizers would you use on your garden and why?
14. When would you use solid, granular and liquid fertilizers?
15. How can you remove the need even for supplemental fertilizing?

## CHAPTER 4

1. What's the most important factor in designing your edible garden?
2. Name 5 other factors.
3. How do YOU prep the garden?
4. Which 3 types of edible gardens are you interested in and why?
5. Which 3 types of containers would you grow in and why?
6. Why is making a good soil mix so fundamental to the sustainable garden?
7. How do you amend your soil if it has too much clay and is alkaline?

8. What crops would you plant with your  
Lettuce  
Tomatoes  
Carrots  
Strawberries  
Apple tree  
Melon
9. When should you direct seed?  
Transplant?
10. Describe 4 tips for planting.

## CHAPTER 5

1. Name 10 edible garden maintenance processes
2. Why would you go out and stand around in your garden?
3. When does the prep for the garden soil start?
4. When would you plant seeds; seedlings?
5. What's the difference between soaker hoses and drip lines?
6. How can you design the garden to prevent the need for weeding?

# The Urban Edible Gardening Guidebook

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7. Why would you fertilize the garden during the growing season?
8. How does mulching benefit the garden?
9. What's the best way to deal with bugs and pests?
10. What are the two main ways to prevent garden diseases?
11. Why would you put up garden trellises?
12. When would you harvest leafy greens; root crops?
13. Name 3 reasons it sometimes does not make sense to save seed.
14. What kind of composting could you do in your setting and why?
15. Do you wash root crops before storing?
16. Why is October an important gardening time of the year?
17. When is a good time to prune fruit trees and berries?
18. Which month is the most important for weeding?
19. When do you start looking for bugs outdoors?
20. When are fall crops planted?

## CHAPTER 6

1. What are some indications of a sustainable system?
2. What are 2 advantages to seed saving and sharing?
3. How can the gardens' nutrient needs be fed onsite?
4. Explain 3 ways that a garden is a group effort?

## CHAPTER 7

1. What are 4 support systems that influence long term garden health?



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## APPENDIX A: CHOOSING A SITE

In the city, you use what's available.

1. sunlight
2. space available
3. water
4. soil/ nutrients

**SUNLIGHT:** Sun is the first consideration. If there is low direct sun, you have limited options for plant choices and the plants will tend to be larger bushes and trees.

**SPACE AVAILABLE:** You can't expect bushels of wheat from a 50 square foot garden. But you can grow a lot of healthy produce in that space, if you choose the right crops.

**WATER:** You'll plant crops and varieties according to how much water you can get to it.

**SOIL/ NUTRIENTS:** The site is better located if you can easily bring in compost and nutrients and/ or make them on site.

## THE URBAN GARDEN LAYOUT

The urban garden is laid out for success. The plot is close to the house, the closer the better. The compost area is within easy walking distance along paths; with water access by hoses or pails. Storage areas or sheds are within 100'.

The garden beds are created so that one can reach the center of any bed without walking on the bed. Taller crops are oriented on the north side of the beds, unless one is looking for summer semi-shade. Vining (dangly) crops can be hung from planters of the edge of the house.

The beds are in a sunny or semi-shade area. Rodents, birds and pests are kept away with netting, pie pans, cds, scarecrows, and cassette tape.

Ideally the garden is viewable from the house, apartment or condo. Sitting areas should be included; benching can be integrated into wooden raised beds. For accessibility, beds can be raised off the ground with containers, planters or built wooden bed structures.

Soil for the beds is carefully prepared by amending the existing soil with the appropriate amendment, or by creating from scratch with triple mix, compost, loam, peat, worm castings, and other amendments.

The garden should be planted with varieties and species that make you want to get out and get your hands dirty. The spacing for each type should be noted and room kept available for later plantings or successions.

Plants within the bed are arranged so that together, they grow fast and well, providing an abundance of yield. Refer to the companion planting and cultivar guides for plant combinations. Tall and short plants can be grown together, so long as they are compatible for respective sun requirements.

## APPENDIX B: EXAMPLE GARDEN

Beginning with site selection, I'll then go thru the design, install, maintenance and harvest process. I hope this mock example will give you some guidance towards your own garden delights.

The example I will use was the site that we were going to use at Humber College in 2010 for an inaugural Urban Edible Gardening Course. Unfortunately the Course was only approved 2 weeks before the start date and not enough students enrolled in time ...

Let's imagine the site went forward into an intensive urban edible garden.



### ***Site Questions (p. 77):***

1. Size available
  2. Sunlight/ shade throughout the day
  3. Total sunlight hours for each proposed area
  4. Garden facing which direction
  5. Wind direction
  6. Competing plants/ trees/ walls/ fences
  7. Existing soil type and quality
  8. Size of competing trees/ shrubs in 1,2, 5, 10 years
  9. Ability to regularly cut back shade competition
  10. Access to quality water
  11. Ability to regularly maintain and water
  12. Animal/ rodent presence?
1. The site measures 50' by 15'. 750 square feet.
  2. There is shade in the early morning against the wall, progressively more sun into the garden by the end of the day. The western setting sun will fall against the wall on the left.
  3. 7-12 hours.
  4. Viewed from the picture, the wall on the left is on a South-South-East, North-North-West axis.
  5. This site is protected from the wind from all directions save south-south-east.
  6. The wall on the left takes away early morning sun, but this is actually advantageous as the area is already going to be warmer than the average for this zone. The competition comes from behind where the picture was taken. There is an entrance to Humbers' onsite Bar literally 5 feet behind. Patrons walk out and past the site all day and night, sometimes intoxicated. Plants would need to be protected from the potential onslaught.
  7. The existing soil was to be removed and replaced in the first two sessions of the course. More on that below.
  8. None.
  9. No need.
  10. Building water could be filtered as needed.
  11. Arboretum faculty was available for minor maintenance and watering
  12. Squirrels, raccoons, birds.

## ***We chose this site for several reasons.***

1. It was available. (the raised beds were previously used for lawn grass trials.)
2. This is a very protected site, it also is a heat sink from the walls, the protection from the wind and the heat reflection from the pavement and cement. This site would be a Zone 5B or 6.
3. It offered an ideal opportunity to integrate all components of edible gardening: A straightforward makeover, many design options, easy access installation, and well supported maintenance.

## **S.W.O.T. Analysis Model**

**STRENGTHS:** Great location, good support.

**WEAKNESSES:** A little small for a demo garden.

**OPPORTUNITIES:** Exposure for students.

**THREATS:** Drunken passerby; people walking in and ruining it for fun.

I will now describe how I would go about designing this space, conscious of the fact that:

- I was going to use this site as the class room every 2 weeks from April 15 to October 15 for 3 hours each session.
- I am trying to convey the process as simply as possible for the reader.

The wall and the pathway are the unalterable parts in this site. We design around them. We will use the wall to grow our taller cultivars, and the pathway as the entrance to the demo garden. A sitting area will be placed in amongst our garden paths. Signage will be erected in the same area. Garden pathways will be 3' wide; we will arrange them like a key coming off the pathway to a garden bed 4 feet deep going the length of the wall. The beds will come out from the wall bed to the pathway, with our mini pathways (10' by 3') in between. This gives us:

- 1 main bed along the wall 50' by 4' / 200 sq ft
- 5 lateral beds -10' by 4' (40 sq ft) each/ 200 sq ft
- 2 border beds on each end of the garden. -10' by 3' (30sq ft) each/ 60 sq ft.

## **Garden bed and container choices:**

- Several olive barrel planters with side holes (Appendix C)
- Raised beds 12" high. Spruce or cedar 2 by 12"s.

## **Soil:**

- 14 cubic yards of organic worm castings
- Amended with alfalfa and kelp meal, blood and bone meal as needed.

## **Plant support:**

- Permanent wall trellising
- Seasonal outer bed trellising.

## **Fencing:**

- A short fence will be erected along the pathway.

**As for plant choices**, we draw from the info on page 86.

## **FOR GARDENS UP TO 1000 SQUARE FEET:**

A good portion of yearly veggie/ fruit can be grown ( 1 person).

## ***Chosen plants:***

1. A few grain amaranth will be planted.
2. Grapes along the wall arbour. Some raspberries and blackberries will be planted along each border bed, near the wall. If we decide against the fencing, we will forego any perennials.
3. Veggies: Herbs:
4. Strawberries will be planted in the olive barrel planters.
5. If we decide against the fencing, we will forego any perennials. Otherwise:
6. Timelines for the year – see below.
7. See above for containers.
8. Composting at Humber was located a few hundred yards away beside the Arboretum. A simple bin composter was to be installed at this site for demonstration purposes.

## ***Plantings:***

### **One time DS/ TP of the following crops:**

- Cabbage (TP M1, J1, Ju1)
- Tomatoes (TP M15-30)
- Peppers (TP M15-30)
- Eggplants (TP M15-30)
- Leeks (TP M1)
- Herbs: (TP M1-30)

### **Multiple DS/ TP of the following crops:**

- Lettuce (TP, DS M1, J1, Ju1, Au1)
- Radish (DS M1, J1, Ju1, Au1)
- Carrots (DS M1, J1, Ju1)
- Beets (DS M1, J1, Ju1)
- Onions (onion sets M1, J1)
- Brassicas: kale (TP M1, J1, Ju1)
- Potatoes (Tuber M1, J1)
- Cucurbits- Cucs, Zuchs, Melon, Squash (DS M15, J15)
- Spinach (DS M1, J1, Ju1)

## ***Garden Layout:***

- 1 main bed along the wall
- 5 lateral beds
- 2 border beds on each end of the garden.

**Main bed:** Corn, beans, cucurbits, flowers, misc sunflower

30 corn, 20 pole bean, 10 cucumber, 5 melon, 5 watermelon, 5 zuchs, 10 sunflower, calendula, borage, 5 ground cherry, 5 okra, savory

### **Lateral Bed 1:** Greens

2 10' rows lettuce 1 10' row spinach, 1 10' row kale

### **Lateral Bed 2:** Roots

2 10' row carrots, 1 10' row beets, 1 10' row chard

### **Lateral Bed 3:** Potatoes/ beans

2 10' rows potatoes, 1 10' row beans, 1 10' row cabbage

### **Lateral Bed 4:** Tomatoes/ nightshade

6 tomatos, 6 peppers, 6 eggplant, 12 basil,

### **Lateral Bed 5:** Onions/ leeks / celery

2 10' rows onion, 1 10' row leek, 1 10' row celery, interspaced with early radish, turnip, arugula

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**Border bed 1:** Misc herbs/ flowers and beans  
Dill, cilantro, parsley, oregano, thyme, marjoram, nasturtium, Romano beans, 6 amaranth

**Border bed 2:** Misc herbs/ flowers and beans  
Dill, cilantro, parsley, oregano, thyme, marjoram, nasturtium, runner beans, 6 amaranth

**Planter 1:** Strawbs and assorted veg/ herbs  
Small assorted herbs in side holes, strawbs in top with tomatillo

**Planter 2:** Strawbs and assorted veg/ herbs  
Small assorted herbs in side holes, strawbs in top with tomatillo.

## *Garden schedule:*

### **APRIL:**

1. The beds were to be made from April 15-30<sup>th</sup>.

### **MAY:**

2. The first seeding was to be the beginning of May.
3. Transplants were to be ready at my business greenhouse, for TP as early as May 1<sup>st</sup>.

4. Areas not planted in early May were to be mulched until planting time.
5. Watering set up was installed early May. In this case, removable hoses and wands, as well as a soaker hose attachment.
6. As this garden is new, compost tea is ready to be sprayed beginning with a root drench when transplanting. Every 3 weeks a preventative compost tea spray with kelp is applied to all vegetation and soil.
7. Wall trellising is installed by end May.
8. Signage is erected during the first planting session.
9. Protective fencing is installed in May.
10. Leafy green and radish harvests start in May, around the middle of the month.
11. Chard and kale patches are harvested weekly from May-October.

### **JUNE:**

12. Plant supports are put in place before the plants get droopy.
13. Starting at the end of May, attention to bugs begins, excepting flea beetles, which can affect plants as early as April.
14. Affected plants can be covered with

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reemay as a preventative, to quicken growth and warm the area.

15. After transplants are in, attention is given to soil moisture levels to ensure there is no rot or damping off.
16. Weeds are pulled out every week.
17. Areas that can be mulched include all the fruiting vegetable, widely spaced herbs and greens.
18. Closely spaced greens are not mulched; their spacing is such that their foliage becomes a living mulch. Leaves and plants are harvested in such a way that the plants stay full, but not so crowded as to encourage rot.
19. When early greens, radishes and turnips are done, the area is cleaned and prepped for the next planting.
20. Onions planted from sets are topped in June to remove the emerging seed head.
21. Tomatoes are suckered into a Y double stalk. A couple are left to sprawl naturally.
22. Carrots and beets are thinned according to the two harvesting techniques starting 1 month after seeding.
23. Early peas are harvested.

### **JULY:**

24. Potatoes are hilled starting in July, and then every 3 weeks afterwards.
25. Cucurbits are trained up the corn and wall trellises. Excess side shoot growth is removed 4" down from the main stalk. The main stalk is tip pruned at 8-12'.
26. The lettuce area is followed by roots.
27. The brassica area is followed by peas.
28. Suckering continues with tomatoes.
29. Weekly chard and kale harvesting continues.
30. Onions are harvested.
31. Early tomatoes are harvested.
32. Early potatoes are harvested.
33. Beans are harvested.
34. Zuccs and cucs are harvested.
35. Early tomatoes and potatoes are harvested.
36. Herbs are tip harvested every week starting sometime in July after, the plant is well established.
37. Rooting veggies are harvested after having been thinned well in June.

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## **AUGUST:**

38. Main season potatoes are harvested.
39. Tomatoes, peppers, eggplant, ground cherry, okra are harvested.
40. All onions are harvested and sun cured in a safe, dry place.
41. As in July, attention is paid to plant health, water conditions, soil moisture.
42. Compost tea is used as needed every 3 weeks.
43. The last of the weeds are removed.

## **SEPTEMBER:**

44. The fruiting crops are all harvested until the fruits become misshapen, frost kills them, or the plants die off. A healthy garden in Zone 5 should produce fruiting veggies well into October, sometimes November in a very protected site.
45. The root crops are harvested, leaving wide space for the remaining ones to be pulled in October.
46. Greens continue to be harvested. Kale and chard will bear until November.

## **OCTOBER:**

47. The garden is cleaned up after the plants have been harvested. The plants remains are composted, except for seeds.
48. By the end of October, the garden is top dressed with quality compost, triple mix or castings.
49. The garden is mulched with straw 4-6" thick.
50. All trellising is removed.
51. Areas cleared by early October are seeded with buckwheat or winter rye, as a green manure.
52. All journal entries and photos are consolidated for off-season review.

## APPENDIX C: DIY MOBILE PLANTER / HEATED GREENHOUSES

When I owned The Greener Side, we had the first custom planter made out of metal in 2008.



The second version was made out of recycled olive barrels. Terra cotta coloured 225 litre plastic food grade barrels.

It was much lighter, cheaper, more appealing and also a recycled product.



With further modification to help with water penetration and storage, as well as installing inexpensive internal heaters and a removable plastic or mesh cover, we created the world's smallest mobile heated greenhouse.

In the winter of 2010, The Greener Side was a participant in the CONI II research program at Humber College. We experimented on different watering tube set ups, to see which one worked the best for even water distribution. We also tested different soil make-ups to see which one held, and released moisture the best. Results from that research are shown below.

For a DIY version of our mobile greenhouse planter, please follow the instructions below, with accompanying photos. Also shown are the units in action in Toronto, ON.

### ***Materials:***

1. 220L olive barrel
2. Wine pail, lid
3. Tubing
4. Burlap bag
5. Landscape fabric
6. Drill, wrenches and jig saw or dremel
7. Heating torch and pliers
8. Pebbles and gravel

### ***Optional:***

1. Heating coils with thermostat set at 20C.
2. Plastic sheeting or mesh cover
3. Zip ties
4. Bamboo stakes
5. Wine corks
6. Base on wheels

### ***DIY Instructions:***

1. The olive barrel is cleaned thoroughly, inside and out.
2. The barrel is prepared for hole flap drilling: 4, 6, 8, 9 or 12.
3. The hole flaps are made by drilling holes at the width of each flap. i.e. if the flaps are to be 9 inches wide, the holes are drilled 9 inches apart.
4. Then, a semi circle is drawn above the two holes.
5. It is then sawn out.
6. Heat is then gently applied to the semi circle flap and the top of the flap is grabbed by pliers and slowly pulled out to the desired angle.

7. 8 large holes are drilled into bottom of barrel, or into sides of barrels 4 inches above the bottom.
8. The burlap bag is cut and affixed to the inside, with holes cut for each flap.
9. Moistened high quality triple mix, compost and micro-nutrients are mixed into the barrel.
10. It is now ready for planting.

That is the basic DIY vertical planter instructions. What follows are supplementary modifications to turn it into a mobile heated greenhouse with inbuilt water reservoir and watering tubes.

### ***Watering modifications:***

1. Put wine pail in bottom of barrel. Take lid and drill tube holes.
2. Cut as many tubes as you have hole flaps + 1 to fit 7 inches into pails and 3 inches out from hole flaps. The last tube goes straight up the middle.
3. Drill drainage holes in sides of tubes. Closer together the further into the barrel.
4. Cover the tubes with landscape fabric and install into lid, placing lid on inserted pail.

5. Carefully fill with soil, while not disturbing the placement of the tubes.

When watering, use a long spout to fill up each tube several times, while also watering the top surface.

### ***Heated planter modifications:***

1. Run coils of heating wire around water tubes.
2. Run plug out of one of the hole flaps.
3. Cover all wire with more landscape fabric.
4. Fill barrel carefully with soil.
5. Plug the unit in close to the house. A built in thermostat set to 20C will kick in whenever soil goes below that.

### ***To convert into a 4 season unit:***

1. Cut thick clear plastic 8 feet by 4 feet.
2. Fold it over the growing barrel.
3. Attach ends on either side with zap straps (zip ties), allowing room for some, not much air flow.
4. Cut thin bamboo stakes 24" long and punch in a wine cork sideways. These are used in each hole flap and on the top, to keep plastic from smothering the plastic.
5. Meshing or row fabric can be substituted.



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To convert into a mobile unit, stand on a small square moving cart.

### APPENDIX D: DIY INDOOR/ OUTDOOR FLOW THRU WORM COMPOSTERS

This DIY worm composter is a variant of the 5 tray flow thru indoor worm composter. In this case, recycled wine pails are used. This was one of the worm composters we sold at The Greener Side.

Below are DIY instructions with accompanying pictures.

#### ***Materials:***

6. 6 wine pails
7. 24 Nuts and bolts
8. 2 wine pail lids
9. 1 spigot
10. Drill, wrenches, and saw or knife



## ***DIY Instructions***

1. Cut the wine pails across 9" from the ground. The tops can be used as soil warmers for tender transplants in the spring.
2. On 5 of the pail bottoms, cut two handles into each side. 6" wide by 3" tall.
3. Install 4 nuts and bolts into each of the 5 pails, long end facing inwards, 4" down from the top.
4. Drill 20-30 holes in the bottom of 5 pails.
5. With the 6<sup>th</sup> pail, turn upside down and fit the top (now bottom) into one of the lids. Do not drill this pail.
6. Take the pail without drilled holes and install a spigot into the pail near the bottom. Then attach it at the bottom to the upside down pail. The spigot should be about 12" from the ground.
7. The remaining 5 pails can be fitted one atop the other. The bolts ends prevent the pails from completely nesting on top of each other.
8. The 2<sup>nd</sup> lid is put on top of the top pail.

## ***The flow thru worm composter works as follows:***

1. The first pail with holes is placed in the pail with the spigot. It is the first pail to be filled with soil, up to the level of protruding bolts. 4 layers of newspaper are placed below the soil.
2. The pail above it is also covered with 4 layers of newspaper.
3. Then soil is added, as well as some red wiggler worms.
4. The lid is put on top of this pail
5. After a couple of days, and every few days afterwards, kitchen waste is added to this pail.
6. Water levels and decomposition rates are monitored.
7. When the first pail with worms is filled to 1 inch above the protruding bolts, the second pail with holes is added on top.
8. Soil is added on top, without the newspaper this time.
9. A few worms can be taken from the lower pail to this pail to eat the kitchen waste introduced to this pail.

10. The worms, seeking a fresh food source, will migrate upwards to the second pail thru the holes in the bottom of the pail. The first pail will be full of worm excrement (castings) which is good shit.
11. When the second pail is filled up to above the bolt level, the third pail is added, and then the fourth.
12. When the fifth is full, all 5 are removed. The bottom two pails should be full of castings.
13. The castings are removed and sifted.
14. One of the pails is placed back at the bottom with some soil in it.
15. The 2<sup>nd</sup> empty pail is placed at the top to be filled with soil and waste, continuing the process.

***The worms keep on travelling upwards,  
the castings keep on travelling downwards.***

### ***Troubleshooting:***

The bottom pail with holes is used as a trap pail for excess moisture, rather than the one above, which contains worms and waste. We do not want to drown the worms or make for anaerobic conditions. As this pail has holes, excess water can go thru it into the pail with the spigot. This nutrient liquid can be diluted for a rich organic spray, or placed into root zone of plants.

There should be contact between each pail bottom and the soil/casting underneath it, so the worms can migrate, but it shouldn't be too dense.

If any of the pails soil/ casting mix gets too compacted, remove some of the dense soil and put into the top pail. Aerate the remaining mix with a spatula or knife.





The unit on the right is a hybrid planter barrel/worm composter. This prototype weighed a ton! So we made a version of our olive barrel planter greenhouse with an internal worm composter inside, like this one but actually movable.

## APPENDIX E: INNOVATIVE RECYCLING

Re-using, recycling, up-cycling, etc, are all intrinsic components of a closed loop internally generated garden site.

1. grey water
2. rain water
3. composting
4. vermi composting
5. compost tea
6. urine fertilizer
7. humanure
8. container re-use
9. material re-use

On site recycling makes for the only real garden, the only type of garden that actually produces, without taking from elsewhere at an energy loss.

**GREY WATER:** Waste water from the shower and sinks can be diverted into the garden and lawn.

**RAIN WATER:** Run-off water from buildings can be captured and diverted into the garden. Rain barrels are the norm in arid areas.

**COMPOSTING:** Composting is one of the missing links in our modern world. Once implemented, you wonder how you ever b(r)ought in so many fertilizers and inputs.

**VERMI COMPOSTING:** A way to compost year round indoors or out using composting worms. Care must be given to the types, amounts, and mixes of waste given to the worms, to ensure their health and reproduction.

**COMPOST TEA:** What it sounds like- it's a cold steeped liquid compost extract. More elaborate versions use oxygen to extract and multiply the beneficial microbes available in the compost.

**URINE FERTILIZER:** Urine sitting in a pail is at first a natural, organic fertilizer, then a few days later a pesticide, then a few days more, an herbicide. *"We're all just pissing in the wind."* Virtually unknown as a horticultural practice in North America, it is quite common in parts of Central America as a way to waste less and use more.

**HUMANURE:** This is a heavy topic for many. A taboo. Nightsoil (fully composted human waste) is best used on border trees away from the edible garden. Using it at all is an amazing way to reduce the stress on our municipal waste programs. If more people were competent in basic compost making, I believe the stigma would go away. But maybe not – we eat a lot of food with a lot of additives...

**CONTAINER RE-USE:** Wine pails, larger barrels, oak barrels, wine crates and other wooden boxes are all options for the urban edible garden.

**MATERIAL RE-USE:** Some items like cardboard can be composted or used in the garden. Pallets can be turned into raised beds.

## APPENDIX F: BEHIND THE SCENES: ENERGY REQUIREMENTS

On top of the physical bio-chemical requirements of soil and plants, the feeling in the air and in the ground affects the growth and health of the plants, because the quality of the entire (seen and unseen) environment makes up its current health. Look at some of these unseen-but felt-influences to prevent and correct growing imbalances.

1. life force
2. intention
3. good energy-bad energy
4. traumas/ wounds
5. Inter species communication
6. Energy pathway traffic jams

These energetic dynamics are in the background unnoticed by most, most of the time. But they show themselves in unexpected, mysterious, damaging and serendipitous ways whether you may like it or not.

## APPENDIX G: THE BIG 3: LOCAL, ORGANIC AND FRESH

What are the merits of each as they relate to food? Are they equally important to consumers, growers, and the environment? Are we missing out on other vital components of production/distribution/consumption?

Growing and eating *local* supports the renaissance of decentralized economies. It also drastically reduces greenhouse emissions by minimizing the distance of food and fertilizer transport.

Growing and eating *organic* preserves healthy bodies and ecosystems.

Growing and eating *fresh* highlights the taste of unique plants and animals, while benefiting health.

I believe all 3 qualities are important and vital.

CON: if organic is from far away...

The only con I have against eating fresh is that it devalues the other ways of processing locally produced foods. Rather than buying in fresh produce off season from far away, we can apply the tradition of enjoying preserved and processed local harvests.

At the moment I lean towards the *local* component as being the most crucial to implement, right now. My reasoning is this: Reliance on international shipments for most of our food is killing our environment, literally. The sooner we get on board buying and growing local, we could reduce our greenhouse gas emissions drastically.

More awareness of health issues would increase the number of gardeners who grow organic. And this is already happening every day. This addresses the *organic* component.

Finally, local, organic food is more likely to be enjoyed in healthy ways, which includes eating it *fresh*.

### **APPENDIX H: SUSTAINABLE AGRICULTURE – ATTAINABLE OR FANTASY?**

The culture of food begins with how it is grown and raised.

When the growing techniques and husbandry methods consistently provide healthy food, while enriching the environment from the soil to the air, then there is an increase and deepening of culture and community.

As lasting culture builds and supports, the culture of food is another name for sustainable agriculture.

Agri-culture can also be seen as enriching human culture thru growing crops and tending livestock. The depth of human culture is deepened by observing and participating in natural cycles. Participation with living things, throughout the whole year, heightens peoples understanding of patterns, the movement of interdependent parts, and their varied expressions. Over time, these natural dynamics are understood inside.

For example, if as a farmer, you are buying in your seed and fertilizer annually, then you would not observe and engage in your farm the same way as a farmer who is using their own saved seed and on site recycled compost.

The size of property that can sustain the culture of food is based on how well the different components support each other, and how effortlessly the custodian can manage all of those parts, and have those efforts duplicated. The sustainable property can be backyard garden size, or, it can be several hundred acres.

With the current world population ever increasing, reliance on meat products will decrease to lighten the load on the environment, based on the current agro-business economic model. Other methods of “raising” protein will be explored and developed: aquaponics, integrated animal husbandry, insects, algae, and plant based proteins and oils.

One of life’s purposes is to enrich human culture, by developing oneself and sharing ones strengths. To make more of a lasting impact, one lives and grows in harmony with ones environment. Like the apple tree you planted.

## **APPENDIX I: HOMESTEADING: LARGER GARDENS AND LIVESTOCK**

The country homestead is the rural equivalent by scale to the urban edible garden. With a garden a little or much larger, the homesteader often integrates animal husbandry into its system. Using the materials at hand, chickens and other livestock can be seen as the garden allies that they are, assisting in many functions such as:

- lawn and weed control
- meat, dairy and egg production
- manure, composting and soil making

### **IN THE GARDEN, THE FARM ANIMAL:**

1. cuts the grass
2. eats the weeds
3. eats the bugs
4. provides food
5. provides manure
6. works the soil

## **THE FIELDS:**

1. Allow for crop rotation
2. Provide pasture
3. Are a source for hay
4. Provide oxygen

## **SURROUNDING WOODLAND:**

1. Provide wood for fencing
2. Provide shade for animals
3. Source of materials
4. Provide oxygen
5. Temper weather: wind and temperature
6. Helps lower erosion

## **THE HOMESTEAD YIELDS:**

- Food
- Feed
- Materials
- Income
- Exercise
- At best, a livelihood.

The homestead garden can be more intensive in yield and labour requirements than the larger farm, with higher yields per square foot/ acre. At the same time, the gardens are usually larger than urban ones. Combined with animal harvests, the overall production of a well managed, vibrant integrated homestead can be quite impressive. The yields as well as the look and the feel are greatly dependent on whether one grows for sales, trade or home use, as well as how intensively it is managed.

## **HOMESTEAD ANIMALS**

Just like the urban garden, the right choice for what you're going to grow and raise is based upon not only the site particulars, but also, what you prefer. If you don't like chickens, you won't raise them, even though they might be the best fit for the property.

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ANIMAL	BENEFIT	WASTE PROVIDED	FEED NEEDS	SPACE NEEDED	PROBLEMS	YIELDS
<b>Pig</b>	Great for off season fertilizing in fenced garden. Efficient waste converter	High amounts of manure	Eat a wide range of food. Medium	Small to medium-well fenced	Smell, waste removal	High yields of meat and fat
<b>Chicken/ Turkey</b>	Parasite control	Passive yard and garden fertilizing	High for layers; low to high for broilers	Small to medium: coop, run , yard	Vectors for disease	Eggs, meat
<b>Goat/ Sheep</b>	Lawn/ yard maintenance	Goat bedding and Passive yard and garden fertilizing	Low to medium	Small to medium	Ability to cross fences	Meat and Milk
<b>Cow</b>	High volume of milk/ meat, and manure	Large amount of manure	Medium to high	Medium to high: stall, lean to, corral, pasture	Labour to compost/ remove manure	Meat and milk
<b>Horse</b>	Pleasure, work, transport	Large amount of manure	Medium to high	Medium to high: stall, lean to, corral, pasture	High cost of feeding/ care vs. benefit, unless horses and manure are well used	Pleasure/ Work
<b>Rabbit/ Duck</b>	Small space needed for high quality waste		Low to medium	Small		Eggs, Meat

## **HOMESTEAD EFFICIENCIES AND ENVIRONMENTAL IMPACTS:**

- A. Animals and Plants
- B. Plants only

### **WEEDS:**

- A) Garden weeds and culled crops are fed to animals. Animals waste and bedding are composted.
- B) Garden weeds and culled crops are composted.

### **THE YARD:**

- A) Animals cut grass and eat weeds as feed. Animals fertilize the lawn and garden
- B) The yard must be maintained by humans and tools.

### **GARDEN NUTRIENTS:**

- A) Animal waste fertilizes the garden thru compost, manure and rotations and the yard thru droppings.
- B) In the plant only setting, nutrients come from green cropping and compost.

## **NEGATIVE ENVIRONMENTAL IMPACTS OF HOMESTEADING WITH ANIMALS:**

- 1) Too much of one type of animal
- 2) Too many animals in total
- 3) Improper rotation of animals
- 4) Improper disposal of animal waste

## **NEGATIVE ECOLOGICAL IMPACTS OCCUR AS:**

- 1) Overgrazing
- 2) Soil contamination
- 3) Water contamination
- 4) Garden contamination
- 5) Methane escape
- 6) Proliferation of harmful micro-organisms.

## **PROVIDING GARDEN NUTRIENT NEEDS:**

It's harder to provide garden nutrients with plant waste only, in comparison to plant and animal waste.

## **IDEAL GARDEN SIZE FOR SUSTAINABILITY**

From my experience, the best combination for yield & quality versus labour and inputs is:

- Up to 1 acre for annuals and berries
- Up to 1 acre for fruit trees
- 1-4 acres for grass/pasture
- 1-4 acres for forest.

The sizing above will be sufficient for feeding a large family while also providing food and feed for livestock. Trade and sales to provide a self sufficient lifestyle are possible. This sizing allows for considerable harvest (\$10000 +) while not needing full mechanization, instead using human and animal power.

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The need for tractors is one of the main differences between farming and gardening. For the homestead gardener, who is not selling produce at a market, but rather eating, sharing and storing, it may not be worth the investment of mechanization with its ongoing costs.

It is my opinion that the most efficient garden is the largest one that can be worked without needing continual tractor/ power assistance. Fossil fuel inputs are low, yet the yields are high.

Replacing mechanized (external) inputs with human or horse power increases the physical labour required, it also increases employment. It replaces inputs from elsewhere with local ones. It reduces the ecological footprint dramatically.

A return to agrarian values happens where there are pockets of urban gardens and intensively managed homesteads. A collaborative spirit of production diversity encourages a healthy local trade. A return to agrarian values – one version of a post oil world- can also be seen as a renaissance of pre-industrial values, mixed with the most practical of the post-modern ones.

I believe a higher population of gardeners/ homesteaders/ small farmers, each producing a small surplus to be traded or sold, is preferable to a very few factory farms where operations are powered exclusively by petro powered machines and petro created amendments. For one, if or

when oil runs out, how will anyone grow their food -or how will it be sold or bought- if we are dependent on petro products in production management as well as distribution and consumption?

A universal pressing social issue is that of healthy food production, distribution and consumption.

In our modern world the culture of food enjoyment has been replaced with the business of food production where the produce is treated as a lifeless product.

The disconnect between agri-culture and agri-business continues because we no longer know where our food is grown , how it is grown, and how it is transformed into the products we eat. And most crucially, the wave of unhealthy food and unhealthy lifestyles gains momentum because we have stopped being active and observant, growing, tending, enjoying and preserving our own food.

## **INPUTS OF TYPES OF HOMESTEADS:**

### **A) Homesteads with animals and plants**

Time  
Labour  
Seeds/ Plants  
Garden Tools  
Water

Nutrients

Hay

Feed

Medicine

Animals/ Studding

Shelter

Fencing

Land

## **B) With plants only**

Time

Labour

Seeds/ Plants

Garden Tools

Water

Nutrients

Lawn and garden maintenance

And whatever yields that animals would have provided

## **YIELDS OF TYPES OF HOMESTEADS:**

### **A) Homesteads with animals and plants**

Veggies

Materials for compost

Seeds

Exercise

Items for trade/sale

Clothing materials

Manure

Lawn and yard maintenance

Milk Eggs Meat

### **B) With plants only**

Veggies

Materials for compost

Seeds

Exercise

Items for trade/sale

Clothing materials

## **OF HOMESTEADS AND FARMS:**

Most farms in North America a hundred years ago would be what we what we now call homesteads.

***Compared to the average farm, homesteads are usually:***

1. smaller
2. more diverse in crops and habitat
3. Use smaller or less tools and technologies

***For the same size of land, and per acre homesteads usually:***

- Provide more food and or income

## APPENDIX J: INFLUENCES

I have had many positive influences in the world of gardening and growing:

**ANALOG FORESTRY:** Honours the natural environment by encouraging harvest of compatible perennials within native growth. A great low impact, stabilizing style of agriculture.

**BIODYNAMIC FARMING:** Graduate school for organics. Encourages a pro-active attunement to the rhythms of the natural world (lunar, solar, planetary cycles) to enhance desired growing characteristics.

**CSA:** Locally produced food picked fresh is a superior food experience which benefits the local economy.

### **CO-CREATIVE GARDENING -PERELANDRA:**

Nature is form. Exploring how to work with nature/ form as a partner is the goal of co-creative science and gardening. Relies on intuitive non-verbal communication with the natural world/ world of form to achieve mutually beneficial outcomes.

**COMPOSTING:** I volunteered at a large homestead outside of Nelson where the soil jiggled when you hoed or inserted a shovel. "Excuse me, your soil jiggles..." "That's 13 years of a pet pig!"

**CUBA:** Necessity created self-sufficiency. Cuba has recently become the go to location to learn about sustainable urban agriculture.

**GEOMANCY:** Working with the environment by communicating with its energetic expressions. Call it druidism, or whatever, it is the conscious interface between the seen and unseen.

**GOOD SOIL:** As a friend in passing sang to me once: "Why wear shoes? For if you do, your soles are no longer in contact with the soil and then you lose your soul..." Good soil nurtures the soul and makes you want to walk in it bare foot, to feel more alive. God cannot be that far away...

**MAYA PEDAL (MAYAPEDAL):** A project called P.E.D.A.L. based out of Vancouver and San Andres Itzapa Guatemala where pedal powered machinery is made out of old bicycles.

**MY GRANDPARENTS:** My grandparents grew on rented land across the street until their early 80's. What a bounty. Fresh food, canned food, beautiful flowers. Large ornamental-edible gardens had their lasting impact on my youth.

**MY GUATEMALAN CONNECTION:** I spent 4 winters living in Guatemala on various environmental projects. I learned a lot living amongst communities working on organic farming, recycling and reforestation initiatives.

**OLD ORDER MENNONITE FARMERS:** Work the land with horse, travel by horse and carriage.

**PERMACULTURE:** Self sustaining agricultural and cultural systems created through careful observation and bio-mimicry. Long term environmentally embedded visions are built into perpetuity.

**SACRED GEOMETRY:** The whole of the universe can be explained through simple geometry such as the phi ratio and the Fibonacci sequence. The Fibonacci sequence is demonstrated time and time again in all natural growth patterns, and really, everything.

**SECRETS OF THE SOIL:** A mind boggling book of gardening pioneers operating as if the box never existed, swimming in the endless sea of potential and manifestation.

**SLOW:** Food is best enjoyed after the careful loving preparation which by extension includes the way it was grown. A tasty way to promote a more sustainable way of production and consumption.

### **SMALL INTENSIVE EDIBLE GARDENS**

**(SPIN):** Front and back yard lawns are exchanged for veggie plots that are maintained by an urban farmer. Produce is sold locally and traded as per rental agreement.

**SOLSTICE/ EQUINOX CELEBRATIONS:** Since antiquity, communities have been orienting their position and place in the greater whole through their relation to cycles of nature. Solstices, equinoxes and full moons are commonly celebrated around the world as guideposts throughout the changing seasons.

**100 MILE DIET:** Locally produced food (CSA or local farm) picked fresh is a superior food experience while benefiting the local economy.

**100 FOOT DIET:** Growing food in your own backyard is the ultimate way to savour tasty fresh food while honouring the environment.

## GLOSSARY

**AMENDMENT:** Usually a solid granular application, amendments are added to the soil as needed to increase organic matter, microbe activity, to loosen or to deepen soil, and improve water retention. Amendments can be added to the compost pile as well.

**CLOSED LOOP:** A system set up where the yields and waste of the garden become the resources and nutrients for future plantings.

**COMPOST:** A mixture of soil, organic matter, minerals, microbes and water. It is made from decomposed soil, water, plant and or animal waste.

**CULTIVAR:** Another word for variety. “Blue Hubbard” is a variety or cultivar of Winter Squash.

**HUMUS:** An encompassing word describing the items that makes up stable organic matter, the soil aggregates that are not water soluble. The goal of composting and organic fertilizing is to increase the stable organic matter in the garden soil. Soil with a higher content of quality humus increases yield and immunity.

## **INTERCROPPING/ COMPANION PLANTING:**

Happens when 2 or more different crops are planted beside each other for beneficial results, such as improved health and growth, or improved soil conditions.

**LOCAL:** An input, material, crop, seed, etc that is sourced within a short walking or driving distance

**NUTRIENT CYCLING:** The process where nutrients pass from one part of the system to the next. i.e. kitchen waste into compost into soil, into microbes into plant roots, into leaves and then into harvest.

**ORGANIC:** Inputs, seeds, fertilizers, pesticides, etc that are naturally sourced and without any synthetic or petro-chemical additives.

**PROBIOTICS:** Opposite: Antibiotics. Probiotics help enliven the soil by introducing beneficial microbes that multiply on the plants, in the garden soil and the compost pile.

**ROTATION:** When you plant another timeline of the same crop in a new area, you are plant rotating. This helps reduce problems from having the plants in the same area all the time.

**SOIL:** The most common growing medium for plants. Soil is not only a medium, but a living eco-system.

**SUCCESSION:** After a plant is harvested, another one is planted in its place, either later the same year, or the year following. This is plant succession. Plants should be rotated to provide a new crop in the same area, to help reduce infestations, disease and poor growth.

**SUSTAINABLE:** An item or system that can be produced ad infinitum without negative impacts to the eco-system or planet.

**TILTH:** How the soil feels and looks is its tilth. Soils with good tilth are deep with organic matter, with good root penetration, water retention and dispersal.

**VERMI-COMPOSTING:** Composting with worms. The worms digest the waste or soil, turning out a stable soil mix high in humus, and an assortment of natural growth regulators.

## RECOMMENDED READING

### **Encyclopedia of Country Living**

An Old Fashioned Recipe Book  
Carla Emery  
2003 Sasquatch Books  
ISBN 1-57061-377-x

### **Soil Food Web**

The Field Guide I for Actively Aerated Compost  
Tea (AACT)  
Dr. Elaine Ingham  
2004 Sustainable Studies Institute

### **Organic Manure and its Treatment According to Indications by Rudolph Steiner**

Nikolaus Remer  
1996 Mercury Press  
ISBN 0-929979-62-1

### **Principles of Biodynamic Spray and Compost Preparations**

Manfred Klett  
2006 Floris Books  
ISBN-10 0-86315-542-1

### **Secrets of the Soil**

New Solutions for Restoring our Planet  
Peter Tompkins and Christopher Bird  
1998 Earthpulse Press  
ISBN 1-890693-24-3

### **Co-Creative Science**

A Revolution in Science Providing Real Solutions  
for Today's Health and Environment  
Machaelle Small Wright  
1997 Perelandra Ltd.  
ISBN 0-927978-25-3

### **Rodale's All-New Encyclopedia of Organic Gardening**

The Indispensable Resource for Every Gardener  
Edited by Fern Bradley and Barbara Ellis  
1992 Rodale Press  
0-87596-599-7

### **The Rodale Guide to Composting**

Jerry Minich and Marjorie Leshner Hunt  
1979 Rodale Press  
ISBN 0-87857-212-0



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***This Guidebook was written:***

- As a complete template for courses in organic urban agriculture
- For beginners to learn how to consistently and sustainably grow nutritionally high quality food in any space available
- With an emphasis on small spaces (5 sq ft) to mid size (4500 sq ft 1/10 acre) urban gardens.

Written by organic grower Chris A. MacLuckie.

In 1997, outside of Hamilton, ON, he began his journey into commercial agri-culture via a government sponsored, Canadian Organic Growers (COG) endorsed apprenticeship.

Since then he has farmed organics commercially, volunteered in Guatemala, ran a gardening business, raised and raced sled dogs, tended his livestock, and ridden his horses. This past 20 years he has designed and worked on over a hundred gardens and farms.



As of September 2017 Chris is on horseback gathering material for his upcoming books.

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# **THE URBAN EDIBLE GARDENING GUIDEBOOK**

*Your One Stop Guide for Growing Food in Small Spaces*

**Chris MacLuckie**

**AVAILABLE FOR PURCHASE ONLINE**

**Createspace** -\$19.98 US <https://createspace.com/6798686>

**OR**

**Amazon** -search "Edible Gardening" and look for the cover photo.



## **THE URBAN EDIBLE GARDENING GUIDEBOOK**

**Your One Stop Guide to Growing Food in Small Spaces**

**Chris MacLuckie**

This book is a comprehensive guide covering all the components of urban agriculture. It was written as an easy to follow text ideal for the school, class or outdoor learning environment.

It provides extensive tested practical information on:

- Urban edible gardens set ups of all size ranges
- Comparisons of all types of urban edible gardens
- Monthly maintenance schedules
- Over 100 detailed plant descriptions
- Container and raised bed options
- Inexpensive season extension tips

Most importantly: How to make healthy soil and plant the right way to prevent most garden problems from ever happening!

