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Index

Introduction 1

Soil 3

Test the pH of Your Soil 3

Three types of planting 5

In the ground 5

On the ground 8

Raised from the ground 11

Trees and bushes 12

Why Food Forests? 12

Step 1: Choose Plants 13

Step 2: Prepare the Ground 14

Step 3: Plant 15

What to plant, who to plant together and where 16

What are Companion Plants? 16

Benefits of Companion Planting 16

Popular Companion Plants for Vegetables 17

Companion Planting Chart 17

Different Seasons and Conditions in Poland 19

Starting Seeds and Succession Sowing 19

Start Planning for Fall Vegetable Garden Harvest in Poland 20

Compost 20

The process of composting 21

What to include in the compost 21

How to make compost 21

How to use finished compost 22

Environmental benefits of compost 22

Don't compost this 23

Sensory garden 23

Garden layout 23

Sight 25

Smell 29

Sound 30

Touch 31

Taste 32

Spaces for seclusion but not hiding 34

Introduction

The toolkit you are about to read is a part of a project between CREWS in Norway and Foundation Institute of social Re-integration in Poland. The project is funded by Active Citizen fund and the result has become a collaboration called “Remember the gardens”. This part of the project is a toolkit and a design delivered by CREWS for a social garden in Lodz.

In this document we will break down the process of creating a garden, deriving from the designs and wishes of Institute of social Re-integration and the local community in Poland.

We are going to take you on a journey through this toolbox. We start as one should, with the soil. After that we move on to the three major ways to plant and show you how different ways of plant in a park can utilize soil and air in different manners. Then we have a short guide on what to plant together and where. In the suggestions there were a lot of wishes for trees and bushes, so we have created a guide to establish a food forest. After that we move to where it all ends up, in the compost, and the different ways it is important. In the last part of the toolbox, we touch on the many requests for buildings, events and activities.

Our work summarizes the experience and information that CREWS have after years of working with urban farming in Norway, and we have also used available knowledge about the subjects that will give more detailed information in the process of making the garden in Lodz. The credible online sources that have been used for information are referenced in the end.

The goal is that this toolbox will give empower the participants in the project to make educated choices for their own garden.

Enjoy and good luck!

Soil

The first thing to think about is the soil. Here are some tips on how to know your soil type.

Before you begin planting, dig up a scoop of soil and look at its texture. Is it dense and heavy and clump together when wet? Or is it loose and free flowing, like play sand? Maybe it's somewhere in between, feeling somewhat sticky but crumbling easily, like a freshly baked cookie.

All soils contain a mixture of mineral particles — primarily clay, sand, and silt. Often, they will contain higher amounts of one type of particle relative to the others. That doesn't make them bad growing mediums, but it will affect their density, drainage rate, and capacity to hold nutrients.

With each soil type, there are trade-offs. Here's a quick overview:

- Clay soils have tiny, dense particles that hold large reserves of moisture and nutrients. However, clay soil also drains slowly and can become hard and compacted when dry.
- Sandy soils are just the opposite, with large particles that water moves through easily — along with important nutrients.
- Silts have fine particle sizes that pack together tightly, inhibiting drainage and air circulation.
- Loam is the ideal soil for most plants; it contains a balance of all three mineral particles and is rich in organic matter.

If you have poor soil, consider building a raised garden bed and filling it with a well-balanced soil mix.

Adding organic matter is the best way to make your soil more loam-like and improve its structure. Or take the simple approach by growing plants that do well in your soil type, such as choosing drought-tolerant plants for sandy soils. You can grow a garden successfully in any soil if the plant's roots are adapted to the conditions.

Test the pH of Your Soil

The pH of your soil is one of the most important factors in determining its fertility. If your soil is too alkaline (with a pH above 7.5) or too acidic (with a pH below 5.5), that can make a big difference in which nutrients are available to your plants.

Although most plants will tolerate a wide range of pH levels, they prefer slightly acidic soils (with a pH of 6 to 7) because important nutrients such as nitrogen, phosphorus, potassium, calcium and magnesium dissolve readily in that environment. In soils that are too acidic or alkaline, your plants may get too much of some nutrients and not enough of others.

When testing the pH of your soil, take samples from different sites in your garden because the pH can vary even within a small backyard.

How do you test your soil pH? Here are two options:

- DIY Soil Test Kit: For the quickest results, you can buy an instant-read soil test kit or electronic tester (such as this one from [Amazon](#))
- Professional Soil Analysis: But if you're starting a new garden, it's a good idea to have your soil tested professionally. The soil samples will be sent to a lab, which will analyse your soil pH and nutrient content as well as its capacity to retain nutrients. Try the [Soil Savvy Test Kit](#), also available on Amazon or in spiralized stores.

Be sure to take soil samples from different sites in your garden because the pH can vary quite a bit, even within a small backyard.

Three types of planting

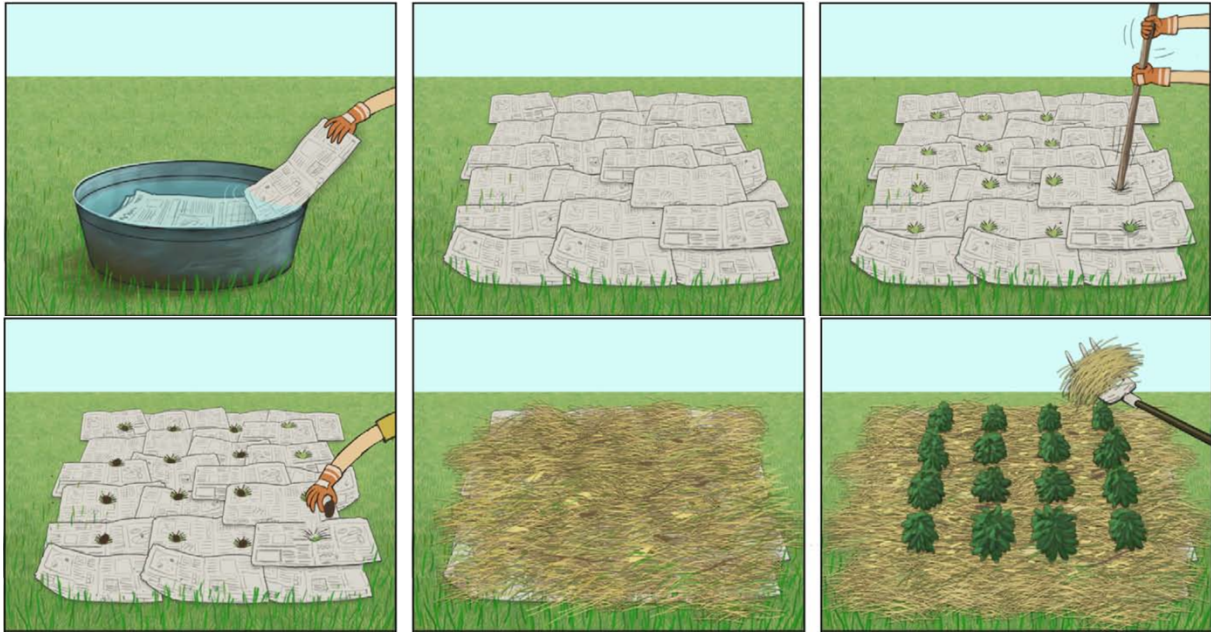
When we work with parks and placemaking, there are many factors to consider. We will go a bit more in to how and when to use planting: in the ground, on top of the ground and elevated from the ground.

In the ground

When growing in the ground in parks there is usually something that is growing there already. You can either plow it yourself or hire a tractor. A fun stunt can also be to invite inn local farmers with a horse.



You can also use the ground as it is. To limit weeds and give your plants the best opportunities.



You should cover the ground with newspapers, cardboard or a decomposable mesh. On top you can amend with organic matter.

How to do it:

Any type of soil can be improved by the addition of organic matter.

Here are three common amendments:

- Composted yard waste
- Manure
- Fallen leaves

In sandy soils, organic matter improves water-holding capacity and the retention of nutrients. In clay soils, it loosens up the minerals that become sticky when the soil is wet and hard when the soil is dry. And in all soils, it provides a rich supply of slow-release nutrients for your plants as well as food for beneficial soil organisms. Over time, a well-amended soil will provide most of the nutrients your plants need, reducing fertilizer requirements.

Enlist the Help of Microorganisms

Don't simply think of soil as dirt. Think of it as microscopic world teeming with a vast array of organisms that breathe life into your garden. These organisms in your soil ecosystem — including earthworms insects, fungi, and a multitude of beneficial bacteria — act as Mother Nature's recycling crew, converting dead leaves and plant debris into readily available nutrients. They also help to aerate the soil and convert organic matter into humus.

Know Your Soil History

The history of your garden and how the soil has been treated — or mistreated — can also make a big difference in what it will take to improve it.

Mulch with Care

Mulch is a layer of material applied to the surface of soil. Mulching allows you to add organic matter to the soil easily because you simply spread it over the surface and let it decompose naturally.

Mulch also helps to:

- Retain moisture
- Suppress weed growth
- Keep the soil cooler during the summer
- Improve soil aeration



On the ground

Crates, containers or raised beds are an excellent way to utilize space combine seating and planting, or to separate growing areas in case you want to create areas for renting or lending out growing space.

Perks:

Garden anywhere. Attractive cedar raised beds are an asset to your landscape. Create perimeter gardens, spice up your entryway, grow food in your front yard, screen an eyesore.

More food in less space. You can set plants closer together, so every square inch is productive. And small-space gardening techniques, such as succession planting and vertical supports, ensure that every square inch of space is used.

Plant earlier. Excess water drains better, and soil warms up faster in spring compared to in-ground beds. Specialized covers and garden fabric help you get started even earlier.

Better soil. A productive vegetable garden depends on good soil. With a raised bed, you start fresh with the ideal soil blend — even if the soil on your site is poor

Fewer weeds. Because raised beds are densely planted, weeds have little room to grow. And when they *do* find space, it's easy to pull them from the loose, rich soil.

Easier pest control. It's simpler to manage insects and exclude animal pests compared to long garden rows. You can easily cover beds with row fabrics or specialized covers.

Match soil to plants. Fill the beds with soil customized to plants. For example, do you want to grow blue hydrangeas? Mix a soil acidifier into the soil prior to planting.

Less bending to tend. Deep Root Raised beds are 30-60 cm high so you bend less during planting, caring for, and harvesting plants

For optimum plant health and productivity, most vegetables should receive at least eight hours of full sun each day. The more sun, the better, so it makes sense to locate your garden in the sunniest part of your yard. Avoid low, wet areas where the soil could stay soggy. Because your garden will need to be watered during the growing season, you'll want to have relatively easy access to a hose.

Good soil is the single most important ingredient for a good garden. Raised beds give you an immediate advantage over a regular garden, because when you fill your raised bed, you can fill it with a blend of soil that's superior to the native soil in your yard. Soil that's loose and rich with nutrients and organic matter will allow the roots of your plants to grow freely and ensure that they have access to the water and nutrients they need to sustain healthy growth.

Before placing your raised beds in their permanent location, be sure to remove grass or perennial weeds from the area. Use a garden fork or shovel to loosen the native soil to a depth of 6-10". This will improve drainage and moisture retention in the raised beds. It also means that even with a 5"-high raised bed, your plants will think they're growing in a bed

that's 12-18" deep — plenty of room for carrots, potatoes, full-size tomato plants and most any other vegetable you'd ever want to grow.

For most situations, we recommend these proportions:

- 60% topsoil
- 30% compost
- 10% Potting soil (a soilless growing mix)

Fill your garden with the types of vegetables *you* like to eat. If you're big on salads, plant head lettuce, a lettuce cutting mix, cherry tomatoes, cucumbers and carrots. If you love cooking, plant onions and peppers, leeks, potatoes and herbs. Try to include at least one vegetable that's new to you. Discovery is half the fun.



Choose vegetables that you like to eat — or try something that's new to you.

Gardening in a raised bed is all about maximizing productivity. The challenge is to grow as much food as possible while resisting the temptation to squeeze in too many plants. Overcrowded plants never reach their full potential because they're stressed by poor air circulation and competition for water, nutrients and root space. There is also opportunities to provide under watering systems where you place tanks below the soil. This allows the plants to self-regulate and makes maintaining them easier.



Raised from the ground

If we want everyone to participate in public life, we must design and build an inclusive public realm that is accessible to all. Public life can't just be available to the abled, young, or healthy.

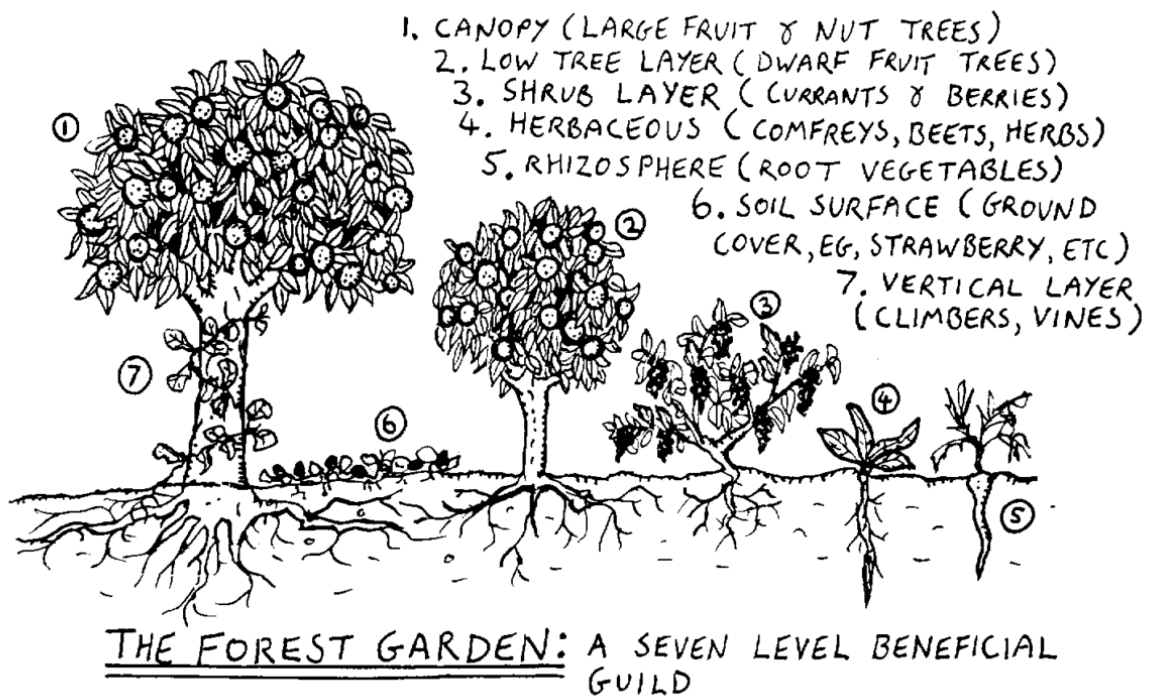
Everyone navigates the built environment differently, with abilities changing across a person's lifespan. The sizeable global population of people with physical, auditory, or visual disabilities, autism or neurodevelopmental and/or intellectual disabilities, or neuro-cognitive disorders will face greater challenges if we don't begin to more widely apply universal design principles.

Keep a universal design in mind. Fields, crates and containers are practical and fun but can prove not accessible for some. Creating some beds that are higher above the ground gives opportunity for more to take part in the joy.





Trees and bushes



Why Food Forests?

Food forests are like the ultimate organic garden. Does a forest need tilling, weeding, fertilizer, or irrigation? Nope. And that's the goal.

Because they're mostly perennial crops, there's no need to till. Not tilling preserves the natural soil structure, preventing the loss of topsoil and allowing all the little microbes and soil critters to do their jobs, cycling nutrients and maintaining fertility. The deep roots of trees and shrubs make them much more drought tolerant than annual vegetables, and they shade the smaller plants below, keeping everything lush and moist in a self-maintaining – in other words, a highly sustainable – system.



Step 1: Choose Plants

The first step in establishing a food forest is to choose your plants. The largest plants will reach into the sun, so most common fruiting trees and shrubs are fair game. The smaller plants generally need to be more shade tolerant, as they will be in the understory. But you can leave sunny patches here and there – like little forest clearings – to accommodate species that need more light (though see Step 3 for a trick to make the most of the available sunlight).

Winter is the ideal time to get started, because most edible trees, shrubs, vines, and herbaceous plants can be purchased and planted while dormant, which is better for the plants – and for your bank account. That's because at this time of year they are sold in "bare root" form – meaning without soil or a pot – which gives the roots a more natural structure and costs less for nurseries to produce. Bare root plants are typically ordered in January or February, for planting in early March, or as soon as the ground thaws in your area. Naturally, you'll want to stick with species that are well-adapted to your region.

Canopy: This layer is primarily for large nut trees that require full sun throughout the day, such as pecans, walnuts, and chestnuts, all of which mature to a height of 50 feet or more.

Understory Trees: This layer is for smaller nut trees, like filberts, and the majority of fruit trees. The most shade tolerant fruit trees include native North American species like black mulberry, Scots pine and Norwegian spruce

Vines: Grapes, kiwis, and passion fruit are the most well-known edible vines, though there are many other more obscure specimens to consider, some of which are quite shade tolerant, such as akebia (edible fruit), chayote (a perennial squash), and groundnuts (perennial root crop).

Shrubs: A large number of fruiting shrubs thrive in partial shade, including gooseberries, currants, serviceberries, huckleberry, elderberry, aronia, and honeyberry, along with the “superfoods” sea berry and goji.

Herbaceous plants: This category includes not only plants commonly thought of as herbs – rosemary, thyme, oregano, lavender, mint and sage are a few of the top perennial culinary herbs to consider for your forest garden – but is a catch-all term for all leafy plants that go dormant below ground in winter and re-sprout from their roots in spring. This layer is where perennial vegetables, like artichokes, rhubarb, asparagus and “tree collards” fit in.

Groundcovers: These are perennial plants that spread horizontally to colonize the ground plane. Edible examples include alpine strawberries (a shade tolerant delicacy), sorrel (a French salad green), nasturtiums (has edible flowers and leaves), and watercress (requires wet soil), all of which tolerate part shade.

Rhizosphere: This refers to root crops. It’s a bit misleading to call it a separate layer, since the top portion of a root crop may be a vine, shrub, groundcover or herb

Step 2: Prepare the Ground

Choose an open, sunny location for your forest garden. It can be as small as 100 square feet – a single fruit tree and an assortment of understory plants – or multiple acres. At the larger, commercial-scale end of the spectrum, forest gardening is often referred to as agroforestry. Several tropical crops, including coffee and chocolate, are grown commercially in this way.

Unlike preparing for a conventional vegetable garden, there is no need to till the earth and form it into beds in preparation for a forest garden. Instead, dig a hole for each individual plant, just as if you were planting ornamental shrubs and trees. However, if the soil quality is poor, you may wish to “top-dress” the entire planting area with several inches of compost prior to planting.

One situation in which raised beds are desirable in a food forest is where drainage is poor. But rather than make the effort to construct conventional raised beds from wood, you may opt to sculpt the earth into low, broad mounds at the location of each tree. Smaller plants may then be positioned along the slopes of the mounds. A variation on this approach is to sculpt the earth into long linear “swales,” which consist of a raised berm (to provide a well-drained

planting location) and a broad, shallow ditch (to collect rainwater runoff and force it to percolate into the soil beneath the planting berm).

You will need to eliminate any weeds, grass or other existing vegetation prior to planting. This can be done manually, or by smothering them under a “sheet mulch,” a permaculture tactic in which sheets of cardboard are overlaid with several inches of mulch on top of the vegetation, starving the plants for light and causing them to compost in place. Compost may be added as a layer between the cardboard and the mulch to add extra nutrients. Permaculturists often employ sheet mulching in conjunction with swales to enhance the area prior to planting.

When you’re ready to plant, simply brush aside the mulch and cut holes in the cardboard just big enough to dig a planting hole at the location of each plant. Then slide the mulch back around the newly installed plant. Maintaining a deep mulch is the key to preventing weeds, conserving soil moisture and boosting organic matter – all things that will help your food forest be self-maintaining and self-sufficient.

Step 3: Plant

The next step is to arrange your plants in the landscape. Position the tallest species (i.e. the ‘canopy’ plants) at the northern end of the planting area, with progressively smaller plants toward the southern end. This way the taller plants will cast less shade on the smaller ones, especially at the beginning and end of the growing season when the days are shorter, and the sun hangs lower in the sky.

Of course, truly shade tolerant plants may be interspersed throughout the understory of the forest garden. You might even consider cultivating mushrooms in the shadiest zones once the large trees have matured. Edible vines may be planted on any accessible fences, arbors, or walls, and you can also train vines up trees, just like Mother Nature does – just be sure the tree is significantly larger than the vine to avoid the tree getting smothered.

The edges of the food forest are suitable for sun-loving annual vegetables, if you wish to include them. Also, keep in mind that it takes decades for large tree to reach their mature size, so in the early years of a food forest there is ample sunlight. Plant sun-loving species in the open spaces between trees and then replace them with more shade-tolerant plants as the forest matures.

What to plant, who to plant together and where.

What are Companion Plants?

Companion plants are plants that complement one another in terms of growth and production. For example, one plant may attract an insect that might protect a companion plant. Another plant may act as a repellent for a bug that might be harmful to the plant next to it.

It is also important to look at the nutrients individual plants need. A companion plant may need less of one specific nutrient while its neighbour desperately needs it to thrive. In this case, companion planting would eliminate the competition between the two plants.

Benefits of Companion Planting

There are many benefits to companion planting. Most gardeners would agree, the more help you can get to achieve a productive, fruitful garden, the better! What and how can companion planting help?

- Natural Supports – Plants and flowers that grow tall and strong will lend themselves as natural, organic supports to crops that grow low or sprawl. An example of this would be planting tall sunflowers next to cucumbers or snap peas. The sprawling crops can use the taller plants as a trellis.
- Plant Health – Growing plants next to their companions can improve the overall health of both plants. By eliminating competition between plants, you allow one to absorb what it may need without depriving the other. Additionally, as nutrients are pulled from the soil by one plant, the result can change the entire biochemistry of the soil. And when done right, the soil can then change or improve the flavour of other plants in the area.
- Optimize Soil – A plant's root system can easily affect the soil it is in. Plants with long taproots like parsnips and carrots will lift nutrients from the depths of the soil. The nutrients can then benefit those plants with shallow root systems. Nitrogen is also important to many plants, and some, such as peas and beans, help to draw nitrogen in from the air, making it more available in the soil for the plants that need it.
- Prevent Weeds – Alternating upright plants and sprawling ones can create a thicker cover across most of the open land in your garden area, which will ultimately prevent weeds.
- Regulate Shade & Wind – Too much sun can damage tender and fragile plants. Companion planting can help prevent this by offering shelter as taller plants protect smaller ones. The same is true for wind. The taller and larger plants will offer protection from harsh winds.

Popular Companion Plants for Vegetables

- Dill and Basil – Dill and basil are natural protectants for tomato plants, keeping away the dreaded hornworm.
- Marigolds – One of the best companion plants out there, marigolds help virtually any vegetable. They are particularly helpful for tomatoes, repelling the nematodes that like to attack the roots of vegetables.
- Mint and lavender – repels both ants and cabbage moths.
- Nasturtiums – Nasturtiums help prevent insects, particularly aphids, from attacking other plants. Aphids love Nasturtiums and will surround them instead of their neighbour plants.
- Zinnias – Zinnias are excellent companion plants and attract ladybugs into the garden. Ladybugs are known to control unwanted pests like cabbage flies.

Companion Planting Chart

Type of Vegetable	Friends	Enemies	Special Notes
Asparagus	Basil, carrots, coriander, dill, marigolds, parsley, tomatoes	Garlic, onions, potatoes	Marigolds, parsley and tomatoes protect against asparagus beetles.
Basil	Asparagus, beans, beets, bell peppers, cabbage, chili peppers, eggplant, marigolds, oregano, potatoes, tomatoes	Rue	When basil is grown about 1 foot from tomato plants, it will increase the tomatoes yield. It also improves the flavour of lettuce.
Beans	Beets, carrots, chard, cabbage, corn, cucumbers, peas, radishes	Garlic, onions	Nasturtiums and rosemary deter bean beetles
Beets	Broccoli, Brussels sprouts, bush beans, cabbage, cauliflower, chard, kohlrabi, onions	Charlock, field mustard, pole beans	Pole beans and beets will compete for growth. Composted beet leaves add magnesium to soil when mixed. Magnesium plays an important role in photosynthesis.

Broccoli	Basil, beets, bush beans, carrots, celery, chamomile, cucumber, dill, garlic, lettuce, marigolds, mint, nasturtiums, onions, radishes, rosemary, sage, spinach, Swiss chard, thyme	Asparagus, cantaloupe, climbing beans, mustard, peppers, pumpkins, strawberries, sweet corn, watermelon	Rosemary repels the cabbage fly that is detrimental to broccoli.
Cabbage	Beets, celery, chard, lettuce, spinach, onions	Kohlrabi, tomatoes	Hyssop, mint, and sage deter cabbage moths
Carrots	Beans, lettuce, onions, peas, peppers, tomatoes	Dill	Chives improve flavor, rosemary deters carrot flies
Corn	Climbing beans, cucumber, marjoram, peas, pumpkins, squash, sunflowers, zucchini	Tomatoes	Tomato worms and corn earworms like both plants. Beans and peas supply nitrogen.
Onions	Cabbage, carrots, chard, lettuce, peppers, tomatoes	Beans, peas	Chamomile improves growth and flavor
Potatoes	Basil, beans, celery, corn, garlic, horseradish, lettuce, marigolds, onions, peas, radishes, spinach	Asparagus, broccoli, Brussels sprouts, cabbage, cauliflower, carrots, cucumbers, eggplant, kohlrabi, melons, peppers, raspberries, squash, sunflowers, strawberries, tomatoes	Cucumbers, tomatoes and raspberries attract harmful pests to potatoes. Horseradish increases disease resistance.
Pumpkin	Beans, corn, marigolds, nasturtiums, squash	Potatoes	NONE
Radishes	Beets, cabbage, carrots, chives, cucumbers, kale, lettuce, spinach, squash	Hyssops	Radish plants will work as a trap crop to protect against certain beetles.

Squash	Beans, corn, dill, marigolds, nasturtiums, peas, radishes, strawberries, sunflowers	Potatoes	Squash has similar traits to pumpkin in terms of companion plants.
Strawberries	Bush beans, caraway, chives, lettuce, onions, sage, spinach, squash	Cabbage family, eggplants, peppers, potatoes, tomatoes	NONE
Tomatoes	Asparagus, carrots, celery, onions, parsley, peppers	Corn, dill, kohlrabi, potatoes	Basil, mint, and bee balm improve growth and flavor
Zucchini	Beans, corn, dill, garlic, marigolds, nasturtiums, oregano, peas, radishes, spinach	Potatoes and pumpkin	NONE

Different Seasons and Conditions in Poland

Here, you are the expert but our research on Poland has given us this results in making a seasonal overview.

Generally, the four seasons in Poland are spring, summer, autumn, and even winter, although some people distinguish two additional seasons, described as early spring and even early winter. Spring starts in March, bringing sunny days and, sometimes, rain and light frost, with regular temperatures ranging from 5°C to 15°C. The summer period can be really hot, with temperatures around 20 to 25°C. It starts in late May or June and lasts up to the end of August. During the autumn the weather is frequently changeable you are likely to enjoy slightly warmer temperatures starts from September to October, while November brings rains and lower temperatures. In winter days become visibly shorter. It is cold and cloudy and brings often snowstorms and relatively low total precipitation. The maximum temperature in January is about -4°C but it can fall as low as -35°C.

Starting Seeds and Succession Sowing

Start sowing again from mid-July onwards, as the ground is cleared by other vegetable plants, and then continue up until the weather gets too cold. That generally means up to the end of August in the north or September additionally south. These sowings will grow at several rates. Sowing in sequence works improves at the end of the year than it does in spring when all the sowings are disposed to catch up with one another. Earlier sowings will be ready from August to late September and can be used as trim and come again plants from then onwards. The more you trim them the longer they stand, so keep cutting, making sure you leave a bit of green to keep the plant alive. They will stop growing but will stand over the winter and begin

to grow again in February. Later sowings will be part-mature at the end of the growing season. They are composed to finish growing in spring and to follow on from the earlier sowings. This two-stage process means you will still be harvesting the right time up until the spring-sown vegetables start to grow-up, and you will infrequently be without some garden produce.

Start Planning for Fall Vegetable Garden Harvest in Poland

Mid to late summer is the period to begin sowing your fall garden plants if you are looking to bring fresh vegetables to your table by the period the cool weather happens. Vegetable plants like Broccoli can be seed-sown in late summer for a fall harvest. Period to maturity will differ by plants, so observe seed packs or tags in seedling containers and plan garden ground to come up with planting dates. For some plants, you will want to program your fall harvest before the first frost occurs. Broccoli, for example, is careful to frost and freeze but you can cover them to protect the growing sprouts in the event of an early cold spell, while Kale, parsnips, and collards can take the frost.

If you have a small garden space, start thinking about how to design space for your fall garden by figuring out which of your spring and summer plants will finish first when summer plants are ready to take out, be prepared with fall vegetable plants to replace them.

Compost



The process of composting

Composting can be as simple as allowing a neglected pile of plant debris to break down on its own, which is referred to as passive or cold composting. However, this can take up to a year or more, with inconsistent results.

Active or hot composting speeds up decomposition by introducing oxygen (turning the pile), adding moisture, and providing the proper carbon-to-nitrogen ratio. This allows microorganisms to do their job more efficiently and raises the core temperature to 50- 70 C, accelerating the process by “cooking” the pile. By employing these tactics, composting can be accomplished in as little as 1 to 3 months.

What to include in the compost

Like a good food recipe, it’s important to have the right mix of ingredients. Carbon and nitrogen are the two essential elements for composting, and the proper carbon-to-nitrogen ratio is crucial for efficient decomposition. The microorganisms responsible for breaking down plant matter digest carbon as an energy source, while nitrogen is ingested for protein synthesis.

An efficient compost pile should contain more carbon than nitrogen. Too much carbon can slow down decomposition, while too much nitrogen can result in unpleasant smells. The optimal ratio is around 2 to 3 parts brown matter (carbon) to 1 part green (nitrogen) by volume.

How to make compost

Break it down: Cut or shred plant material down into smaller pieces to increase the surface area, which allows microorganisms to digest it more quickly.

Make layers: Lay down several inches of twigs or straw first to provide drainage and aeration on the bottom. Alternate layers of brown (carbon) and green (nitrogen) materials on top of each other—much like a pan of lasagne—so that materials are evenly distributed and readily available to microorganisms. Finish off with a top layer of brown matter to help reduce unwanted odours. Fill a small composter as full as possible or create a pile three feet deep.

Add starter: Activators, while not necessary, can be added to kick-start decomposition. Natural activators include chicken manure, comfrey leaves, grass clippings, and fresh weeds (without seed). Other activators or starters are commercially made and available online.

Add moisture: Water the pile just enough to moisten, then repeat occasionally if you don’t receive regular rain. Too much water can make the pile soggy and cool the core temperature, slowing decomposition. Not enough water can slow or halt decomposition entirely. The consistency should be like a wet sponge that has been wrung out. To check the moisture content, pick up a handful of compost and squeeze it. If water trickles out, the pile is too wet. If there are no droplets, the pile is too dry. A few droplets when squeezed indicates that the moisture content is just about right.

Cover: Lay tarps, plastic sheeting, or wood over an open pile to retain heat and moisture.

Aerate: Turn the compost every 1 to 3 weeks with a pitchfork or spin if you have a tumbler. This is also a good time to add more water if necessary to ensure that all parts of the pile stay damp.

Neutralize odours: Add lime or calcium if necessary to deter flies and neutralize odours. If the compost develops an ammonia-like smell, add more carbon-rich materials such as dried leaves or straw.

Monitor temperature: The internal temperature of the pile can be monitored with a compost thermometer.

How to use finished compost

For new beds or borders: Amend the soil prior to planting. Add a layer of compost 1 to 3 inches thick on top of the existing soil and mix it in to a depth of 6 to 12 inches.

For established beds: Add a fresh layer of compost 1 to 2 inches thick on top of the soil in fall after plants die back, or in early spring before plants break dormancy. In addition to feeding plants, the compost layer suppresses weeds and retains moisture.



Environmental benefits of compost

With kitchen and food waste comprising up to one-third of all household garbage, composting is a great way to reduce your garbage, as well as your carbon footprint. When organic matter ends up in landfills, it lacks the necessary conditions for optimal decomposition, creating harmful methane gas in the process which contributes to global warming and climate change. [Kitchen countertop compost bins](#) make it easy to store your scraps before adding them to your compost bin or pile.

Don't compost this

The waste of carnivorous animals—including dogs and cats—can contain parasites and dangerous bacteria that are difficult to kill with traditional composting methods.

Meat, bones, and fish scraps are slow to decompose. They can also attract pests and cause unpleasant odours.

Oil, fat, or kitchen grease are slow to break down and attract pests, as well as cause odours.

Big chunks of wood break down too slowly.

Pressure-treated wood or railroad ties contain harmful chemicals.

Plant matter such as lawn clippings that have been treated with chemical pesticides or fertilizers should be omitted. It's important to produce clean organic compost—especially if you're growing food—so that you're not exposing yourself to chemicals that can be hazardous to your health.

Keep out seeds of invasive plants such as pokeweed and butterfly bush, as well as weed seeds, which can germinate if compost doesn't get hot enough for a sufficient amount of time. It takes 30 days at 60 C to kill most weed seeds.

Don't introduce diseased plant debris, as pathogens can remain alive in finished compost and be spread to healthy plants in the garden.

Sensory garden



A sensory garden is all about stimulating and engaging the five basic senses of sight, smell, sound, touch and taste.

This type of garden not only allows you to connect to nature but also encourages you to become more aware of your surroundings and your response to them, tapping into the principles of mindfulness.

Spending time in a sensory garden can help enhance your sense of wellbeing, reduce stress and calm your mind.

Here are some top tips on how to create your own sensory garden, whether in your garden, terrace, or balcony.

Garden layout for Social Garden in Lodz



The design of your sensory garden may be thematic, laid out to stimulate individual senses at different times, or as a multi-sensory mixture.

Journey through the senses by separating your garden into distinct sense zones, such as sight, smell or taste. Or you can bring together and mix different elements to engage multiple senses at once.



Trees and tulips

Sight

One of the most obvious ways to stimulate the senses in your garden is by sight. Create a sensory feast of diverse plant colour, shape, size, texture and patterns.

You might want to opt for bright and bold flowers, like purple coneflower (*Echinacea purpurea*), pelargoniums, tulips, and alliums. Or perhaps a rainbow of native wildflowers, such as common poppies (*Papaver rhoeas*), ox-eye daisy (*Leucanthemum vulgare*), ragged robin (*Lychnis flos-cuculi*), and corn marigold (*Glebionis segetum*).

These colourful wildflowers will also attract pollinating bees and butterflies, adding movement and an extra visual dimension to your garden.

A variety of architecture, height, shape, hues, and patterns can be created with different species of trees, shrubs and other plants.



Purple coneflower, (*Echinacea purpurea*)



White swan (*Echinacea purpurea*)



Great Broad Walk Borders, Richard Wilford © RBG Kew

Ornamental grasses, such as pampas grasses (*Cortaderia*), and architectural seed heads, can add interesting structure and movement.

Leaves with striking natural designs are treats for the eyes and will add drama to your sensory display.

Persian shield (*Strobilanthes dyerianus*), fan plant (*Begonia rex*), and plantain lily (*Hosta*) are eye-catching examples.

Mix up the presentation by choosing creeping, hanging, straight standing, or miniature plant species.

To liven up the space further, consider including a water feature. A pond, fountain, or even a bird bath will create beautiful reflections, add fluidity and contrasting texture, and attract wildlife and a range of colourful birds.

Having a bench or seating area in your garden can give you the perfect opportunity to sit back, relax and admire your natural surroundings.



Grass Garden



Physalis alkekengi



Teasel (*Dipsacus fullonum*)

Smell

Freshly cut grass, earthy aromas, and beautiful floral fragrances are some of the great garden scents to stimulate your sense of smell.

Enhance your sensory experience with a concoction of various aromatic plants, from strong-scented roses, honeysuckle and jasmine, to lavender, rosemary, mint and sage.

Deliciously scented herbs are particularly great as they are multi-sensory and stimulate your taste sense.



Rosemary



Lavender

Sound

You'll want to include elements in your sensory garden that create contrasting sounds. Stimulate your hearing with trickling water by incorporating a waterfall or fountain in your garden.

Wind rustling through the leaves on trees, bamboo stems, grasses, and plant foliage will make different sounds as they sway with the breeze.

Plant flowers that attract wildlife, such as native wildflowers, to hear the sound of buzzing bees and other insect pollinators.

Keep birds happy and present in your garden by having a bird bath and feeder. Bird song is a beautiful and musical addition to your aural landscape.

Add some crunchy gravel, or small or large stones to an area of your garden. As you walk on them, the hard material will create contrasting sounds to softer elements.

Touch

To create sensory delight for your touch, you'll want to make the most of different surfaces and textures. Incorporate contrasting elements that are hard, soft, smooth, rough, solid or fluid.

The soft furry leaves of Lamb's ears (*Stachys byzantina*), feathery and plumed ornamental grasses, and the smooth surface of succulents are all lovely and soothing to touch.

Rough seedpods, tree bark and spongy mosses all offer a variety of fun textures.

Why not use smooth pebbles to mark out a pathway or circle a pond? Or use rough natural stone boulders to add texture.

Walls, sculptures and other structures can add a stimulating textural element to your garden, whether made from stone, brick, glass or metal.

Water features are wonderful for engaging your touch, as the fluid water flows over your hands, offering a refreshing contrast.



Bark

Taste

Scintillate your taste buds with fresh herbs, vegetables and fruits.

From carrots, chili peppers and tomatoes, to apples, strawberries and blackberries, there are so many fruit and veg options for your taste garden.

Herbs such as basil, coriander, mint and parsley are tasty treats to include.



Colourful chillies in the Kitchen Garden



Chives

Spaces for seclusion but not hiding



In his essay entitled *The Public Realm* (2010), Richard Sennett describes the public as “a place where strangers meet”. In the urban context, a myriad of “publics” exists, recognizable as places where people are unfamiliar with each other. What makes the publics interesting and important is not the unfamiliarity, Sennett argues, it is that what takes place there cannot happen in private: “people can access unfamiliar knowledge, expanding the horizons of their information

In the suggestions there where a lot of ideas for: Reading nooks, conversation pits or Artwalls for local artist. We have included some inspirational ideas and suggestions. A question here is always funding. But just as Rome was not built in one day, there might be an idea to spend more on farming and add on structures for other budgets later if possible.

Following are some suggestions on ways to use upcycled or recycled materials in your garden.

The reading nook





In the design we have assigned space to relax. Here are some ideas for furniture's:







The Pop-up stand

A simple structure that provides opportunity for renting or lending out to community or local entrepreneurs.

There are several ways to construct this from the simplest to the more extensive.

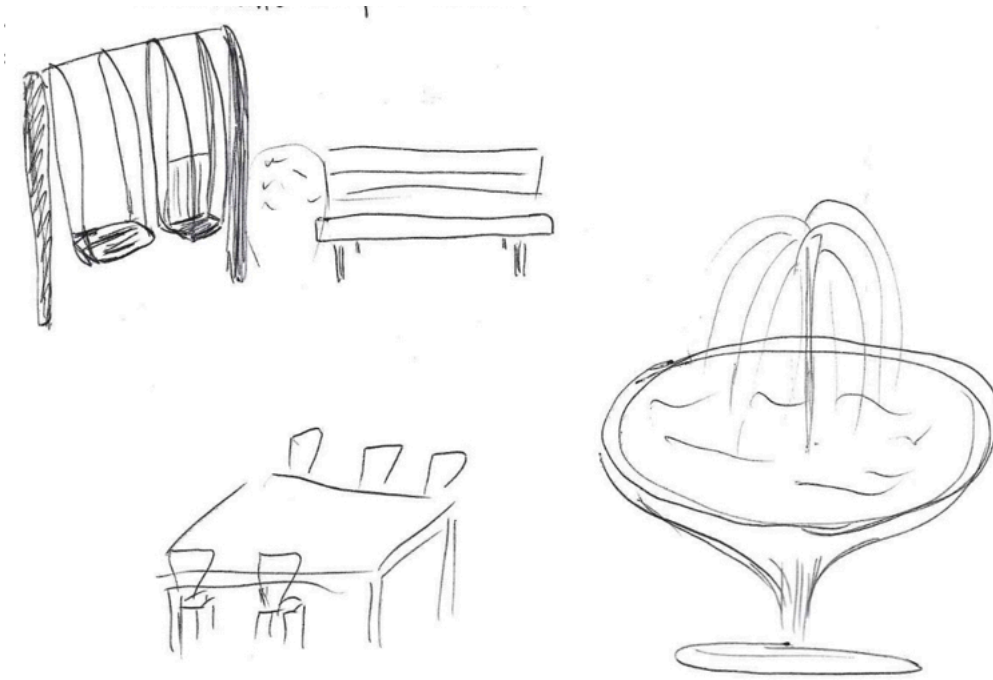








Swing, playhouse, and statues does not have any agricultural use, but can be used to attract crowds. It can also be combined with either pollinators or bird feeding and baths that can also become popular for the bees.



Pick a book



Bird area





Animals

It can be nice and sometime practical to have animals, although some can also eat your crop.

Chickens can help with nutrients from compost and can be let loose in-between crops. But they need managing, love and care.



Bees can provide help pollination but needs management from an expert.



Outdoor kitchen

Gardening is not just about growing but also preparing and eating the food.



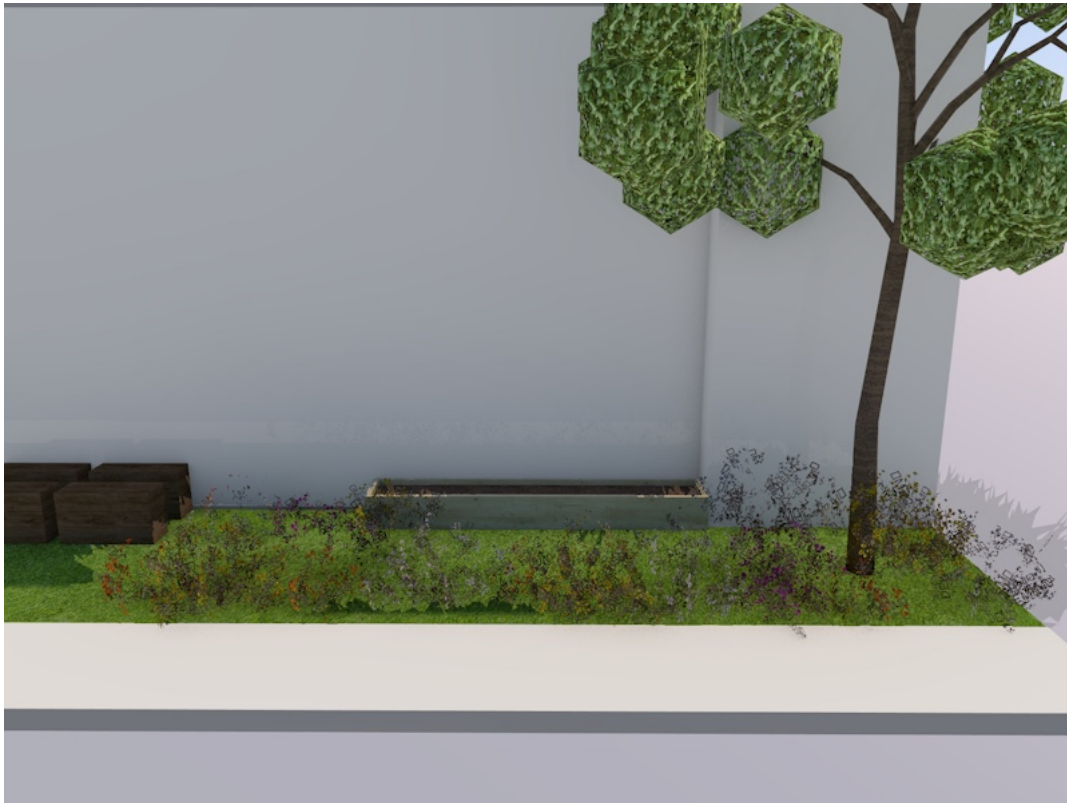
Here are some ideas for an outdoors kitchen.





The flower design

If you want to plant flowers to spell out words or pictures you should plan your design on a piece of graph paper first. Then you loosen the soil and dig in compost or manure if the soil is poor. Rake out rocks, then smooth the soil with the back of your rake. Mark the letters with sand or spray chalk or outline the letters with stakes. Arrange the plants evenly in the design area. Allow 6 to 12 inches (15 to 30 cm.) between each plant. Plants should be dense but allow enough air circulation between plants to prevent fungus and other moisture-related diseases. Water immediately after planting.





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Created by:
CREWS

Project manager:
Mathias Storm Michelsen

Park design by:
Tibet Minh Le

With:
Camilo Heredia
Monika Heredia
Kjetil Marstrand
Vera Holt
Christian Heredia

The project is being implemented by:



CREWS

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