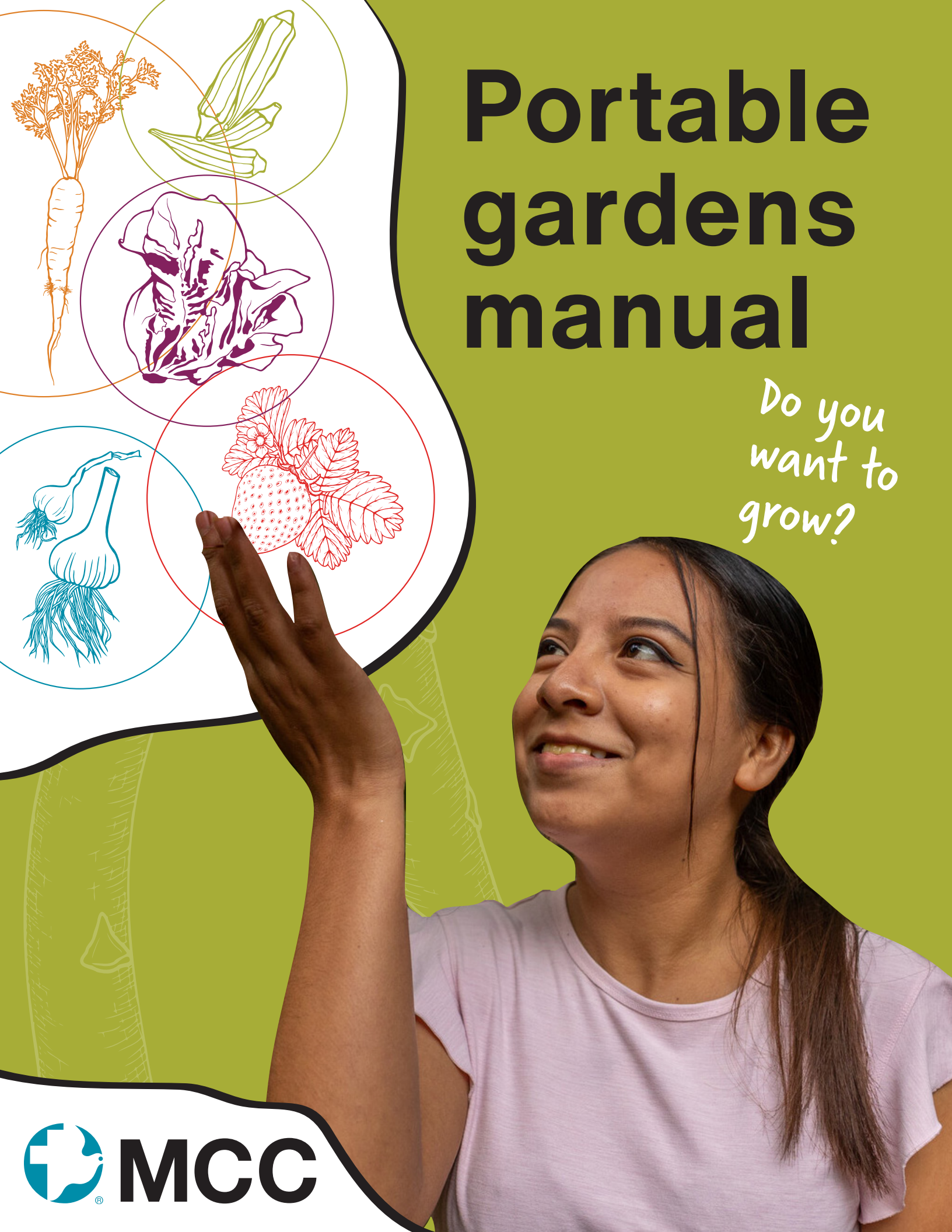
Portable gardens manual

Do you want to grow?



MCC

OUR MISSION

MCC, a worldwide ministry of Anabaptist churches, shares God's love and compassion for all in the name of Christ by responding to basic human needs and working for peace and justice. MCC envisions communities worldwide in right relationship with God, one another and creation.

OUR COMMITMENT TO CARE FOR CREATION

MCC is committed to care for God's creation and accompany marginalized communities who are harmed by climate change.
MCC prioritizes communicating where and how partner communities are affected by climate change. We are called to develop related advocacy responses, uplifting the voices of youth, young adults and groups placed on the margins.

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mcc.org/about/vision

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Erid Roman Rosario, coordinator of Huerto Feliz, an MCC partner, gives a tour of the community garden in Caguas, Puerto Rico.

MCC photo/Laura Pauls-Thomas

Cover: MCC photo/Meghan Mast

Special thanks to Antonio Zua Companhia, 2024 MCC East Coast Peacebuilding Intern, for his work on sections 1-3.

A rose that grew from concrete

Reflection by Talibah Aquil,
MCC East Coast Peace & Practice Coordinator, 2023-24

Growing up in Central Harlem shaped me profoundly. I was raised on the proverb "It takes a village to raise a child," and I was blessed to have so many people and resources as a part of my village. I attended Central Harlem Montessori school from the ages of five to eleven. Our small private school of no more than twenty-five students sat at the top of an old historical church. Like most of the landscape of Harlem, our building was surrounded by many tall skyscrapers, playgrounds, and corner stores, but what made our neighborhood so special was the small garden that lived across the street.

You did not find many gardens in our neighborhood, nor was there much available land to grow one. The garden belonged to our community, grown for us, by us, and we all took turns caring for it. Every Wednesday, from the ages of five to ten, I traveled

with my school across the street to tend to our special garden. We grew cucumbers, cabbage and so many other things. We used the food we grew from the garden to donate to local food banks and I was always so excited when I brought bags of fresh produce home to my grandmother, Mozelle.

I remember my favorite flower in our garden was the Johnny Jump Ups. I can still see the purple and yellow colors so vividly and how very happy they made my six year old self. I only picked them when I was given permission, because I knew from a young age that once I picked it, it would die and they deserved to live and thrive.

From a young age, I knew the value of loving and caring for God's creation and the garden played a big role in teaching me this lesson. The garden was not just a garden to our community, it was a place where we celebrated birthdays and had potlucks using the organically grown foods that we planted. It was a safe haven and an oasis. It was a place of stillness and peace and a beautiful balance to the fast-paced life that greeted us daily growing up in New York City.

The garden belonged to the neighborhood cats, and the Monarch butterflies and the birds....
It was all of OURS. When I just turned ten, the city decided to bulldoze our beautiful garden to build high-rise housing. I remember us coming together as a community in a circle in the garden where we shared beautiful stories about how the garden poured so much into us. I felt so safe and connected to God in that garden.

I still cry a little when I walk past our garden that used to be. You do not find many, if any, green spaces in Central Harlem currently. My deep prayer is that I wish a garden for everyone: To have access to growing and eating healthy and organic foods; To have a space where community and family can come together to connect or disconnect from the hustle and bustle. What I now know is we have the creativity and capacity to grow gardens in the most uncommon places. If a rose can grow from concrete, so can our gardens!

This manual is intended to serve as a guide to creating your own garden, using the resources and community within your reach. May your gardens overflow!

SECTION 1:

Organic approach

The organic approach includes all activities involving working with plants and organisms that can help decompose and benefit the soil.

Christina Xess shows cucumbers from her organic garden in Sakambahal village, India. DISHA photo/Ramesh Chandra Mallick

1.1 Soil preparation

Incorporate manure or compost in the soil during soil preparation for the garden, and always cover the garden with mulch after sowing the seeds.

For small gardens (total area of 36 square feet), incorporate 20 gallons of any organic manure or compost into the soil during soil preparation. Use 10 gallons of organic manure or compost when planting seedlings; place a small amount in each hole before planting.

For medium gardens (total area of 600 square feet), incorporate 100-110 gallons of any organic manure or compost into the soil during soil preparation. Use 50 gallons of manure or compost when planting seedlings; place a small amount in each hole before planting.

For large gardens (total area of 900 square feet), incorporate 400 gallons of any organic manure into the soil during soil preparation. Use 300 gallons of manure or compost when planting seedlings; place a small amount in each hole before planting.

1.2 Crops that work well with organic farming

Different seed sizes need to be planted in different depths depending on the types of soil.

For most of these (except potatoes), seeds can be planted 0.5 inch to 1 inch deep. Potato seeds can be planted 1.5 inches to 3 inches deep, under the soil.

These are crops that are simple to farm and manage in small gardens using organic resources.

- Onion
- Garlic
- Carrots
- Lettuce
- Greens
- Peppers
- Hot Peppers
- Eggplant
- Tomatoes
- Potatoes
- Green Beans
- Okra
- Strawberries
- Ginger

1.3 Importance of organic farming

Organic farming's main objective is to create a balance between the interconnected systems such as soil organisms, plants, animals and humans.

Organic farming:

- Uses organic fertilizers, which increase the quality and yield of agricultural products.
- Does not cause environmental pollution.
- Improves soil texture, water retention and resistance to erosion.
- Provides nitrogen in a usable form, which will help plants to improve plant growth.
- Does not cause burning of roots nor destroy beneficial microorganisms in the soil.
- Helps to prevent diseases by meeting the plant's nutritional needs and enhancing plant tolerance.

Plant wastes such as wood ash, spent grain, rice bran and sawdust are effective as fertilizers. We have the capability and capacity to garden using organic material we have in our neighborhoods, spending zero money or as little money as possible, while having healthy food on the table.

Everything in nature is important.

"I know that everything God does will endure forever; nothing can be added to it, and nothing taken from it. ...Whatever is has already been, and what will be has been before; and God will call the past to account."

– Ecclesiastes 3:14-15 (NIV)

Photo contributed by Laura Pauls-Thomas

1.4 Rainwater helps seeds grow.

Using rainwater in your garden is good for both your plants and the environment. Collected rainwater is free of harmful chemicals, making it gentler on seeds and soil. It also helps save groundwater and can lower your water bill!

Many other factors can influence how quickly seeds germinate, such as seed size, the germination power of the seed, seed planting depth, soil type, frequency of watering and soil fertility.

Photo contributed by Laura Pauls-Thomas

Collect rainwater with a rain barrel! It's a simple way to save water, nourish your garden and care for the earth.

1.5 Advantages and disadvantages of organic and chemical fertilizer

Importance of organic and chemical fertilizer

Chemical fertilizer and organic fertilizer are sets of physical matter with micro and macro nutrients (nitrogen, phosphorus, and potassium) that are important and vital for the proper growth and development of plants when applied directly to the soil.

1. Inorganic fertilizers also known as chemical fertilizers are those fertilizers that are synthesized artificially or mined from non-living materials.
   - Inorganic (chemical) fertilizers are absorbed by the plants relatively quickly compared to organic fertilizer.
2. Organic fertilizers are derived from biological or living materials. These fertilizers take a longer time to release nutrients in the soil. They come in different forms such as:
   - Manure derived from livestock such as cows, chickens and goats.
   - Green manure, which is obtained from plants, especially different types of legumes.

- Compost derived from agricultural waste organic material such as straw, corn stalks or decomposed waste.

Types of manure:

- Large ruminant manure (cow)
- Manure from small animals (goats, sheep)
- Bird manure (chicken, turkey)

Access to organic fertilizer

In order to have access to the resources needed to produce healthy organic soil, it is helpful to build relationships with:

1. Coffee shops in your community and neighborhoods so you can have access to used coffee grounds.
2. Owners of bird and cattle farms in your community for easy access to manure.
3. Compost co-ops, if they exist in your neighborhood or city.

SECTION 2:

Helpful tools

Most of the materials listed in this section are available in stores that sell farming or construction materials. If you already have tools in good condition, you do not have to buy brand new tools. You can find garden tools secondhand or see if you can borrow or share tools with your church or community.

Narciso Diaz is the caretaker of Finca Villa Santa Barbara in Colombia. MCC photo/Annalee Giesbrecht

SECTION 2:

Helpful tools

Tools and materials

- Soil (a mixture of organic matter: clay, rocks, particles, etc.) — one of the fundamental elements for sustaining life on the planet.
- Hoe — useful for aerating the soil, removing weeds and preparing larger areas for planting.
- Fork — allows air and water to reach plant roots more easily, which can lead to healthier plants.
- Rake — a very versatile tool for garden maintenance.
- Shovel — essential for digging and preparing the soil before planting. It helps create planting beds and remove debris from the soil.
- Wheelbarrow — helps transport soil, fertilizer and plants from one location to another, saving time and effort.
- Machete — used for hacking through vines, bushes or tall grass.

- **Rope** — used to align plants in the field.
- **Watering can or hose** — aids in a constant supply of water for your plants. This is essential, especially during dry periods.
- **Gardening gloves** — protect your hands from dirt, thorns and irritants. Choose durable and comfortable gloves.
- **Tape measure** — measures spacing between plants.
- **Stake** — marks planting areas to direct the growth of vines.
- **Hand knife** — necessary for cutting dead or excessive branches, promoting healthy plant growth.
- **Mulch** — used to suppress weeds, enrich the soil with nutrients, regulate soil temperature, improve moisture retention and prevent soil erosion.
- **Seeds** — the fertilized ripened ovule of a flowering plant containing an embryo and capable normally of germination to produce a new plant.

- **Manure** — used as a fertilizer, soil amendment, energy source and even construction material.
- **Hammer** (a wooden or metal attachment) — used to strike objects.
- **Nails** (a metallic objects, typically made of steel) — used to fasten or connect two pieces of material together.
- **Planks** — used to build the raised beds and essential for some stages of the work.
- **Organic insect control** — helps prevent damage to plants by using barriers, traps and natural repellents to discourage pests. (Lemon, hot pepper, cooking oil and garlic can be used).
- **Clean reused plastic containers of all sizes** — used for many different things, including a home to plant the seedlings.

SECTION 3:

How to create an organic garden

MCC photo/Mak Minear

SECTION 3:

How to create an organic garden

Step 1

Plan and clear the area

Before putting your hands in the dirt, take some time to assess the available space. Make sure the place you choose to create your garden has access to sunlight. Once you select your location, whether indoors or outdoors, confirm the size/measurements you want your garden to be (small, medium or large). Next, be sure to clean and clear the space being used.

Sample garden sizes:

- Small garden — total area of 36 square feet, or about 6'x6'
- Medium garden — total area of 600 square feet, or about 30'x20'
- Large garden — total area of 900 square feet, or about 30'x30'

Intentional planning from the beginning of the garden process lays the foundation for a thriving and rewarding organic garden. Knowing the composition and type of soil you wish to use is essential for the development and growth of the plants.

Step 2

Soil preparation

This is the phase where you till the soil. During this phase, it is important to use hoes, big forks, or even shovels.

These tools will make it easier to prepare the soil according to which seeds you plan to plant.

Fertilize the soil

In this stage, it is recommended to use organic fertilizer such as chicken manure, cattle manure or compost. This should be done one month or two weeks before the seedlings or seeds are planted to ensure the nutrients are available in the soil before the planting stage.

Incorporate organic compost or well-decomposed manure to enrich the soil with organic fertilizer. This is where the meaningful relations with your community coffee shop or local farmer come into play. Organic compost promotes soil health, improves drainage and increases nutrients.

A good incorporation of organic fertilizer into the soil helps bring good plants, promotes healthy growth and contributes to an abundant organic garden.

Portable garden

Choosing the right containers for your portable garden is essential to creating the best environment for plant growth and ensuring that the plants have enough space to fully develop. Consider drilling holes in the bottom of your containers for proper drainage.

If you choose pots or containers, make sure they have enough room to allow roots to grow. If you choose raised beds, check the depth of the soil according to the height of your bed. We recommend that each raised bed be filled more than halfway full with soil.

“Mbiro dze mavukunyu ndzo kumukirana.”

A race in the sand is fair when we both start together.

- Parable in Chindau

Photo contributed by Katrina Lefever

Most vegetable and flower seeds sprout in two weeks or less with ideal soil temperature and moisture. If the soil is too hot, too cold or too dry, seed germination rates will be very low.

A soil temperature of 69 to 72 degrees Fahrenheit is ideal for germinating most seeds.

A plastic milk jug can be used for a portable garden to germinate seeds over winter.

Step 3

Sowing

Sowing seeds is one of the most enjoyable phases of the process, and it requires a lot of attention and patience. During this stage, it is important to recognize the size of the seed. Small seeds should be sown or planted at a depth of 0.5 inch to 1 inch and then covered with dry grass or mulch to ensure acceptable soil moisture for germination and protection against birds. This can be done for all types of seeds and seedlings.

It is important to choose the variety of crops that best suits your environment's climate (rainy, dry or snowy season).

Remember, choosing crops you love and want to eat is a very important step towards healthy gardening. The goal is to love the process and enjoy the fruits of your labor, literally!

Sowing seeds

Plant the seeds based on the package instructions and plant them in soil that is already prepared. Water the soil so the soil has moisture. Your garden should be in an open area where it can access the sunlight every day.

Stay committed to watering the garden every day when necessary and intentionally observe the growth of the seeds. This is an exciting and essential step to successfully growing plants in your organic garden.

Step 4

Pest and disease control

When using organic methods to prevent pests and disease within your garden, it is important to know when and what to apply.

This control can be done as soon as the seeds germinate and if there are signs of disease or evidence of pests in the nursery.

- **Crop rotation:** Rotate crops annually or every season to prevent pests and diseases specific to certain plants.

- **Intercropping with repellent plants:** Planting two or three crops on the same garden bed may help repel pests or attract beneficial insects.
- **Beneficial insects:** Attract beneficial insects, such as ladybugs, birds or lacewings, to control pest populations naturally.
- **Handpicking:** Regularly check on your plants for pests and manually remove them to prevent infestations.
- **Soap mixed with garlic, lemon and oil sprays:** Sprays made from oil and other organic produce, or insecticidal soaps, can effectively control pests like aphids, mites and caterpillars.
- **Organic mulch:** Mulching with organic materials like straw or leaves can suppress weeds and create a barrier against soil-borne diseases.
- **Organic fertilizers:** Using organic fertilizers such as compost or manure can improve soil health and plant resilience against diseases.
- **Proper plant spacing:** Maintaining proper plant spacing can help prevent disease outbreaks by reducing stress on plants.
- **Crop diversity:** Plant a variety of crops to discourage the spread of diseases and pests that target specific plants.

Step 5

Mulching

The application of mulch should be a continuous practice. Mulching is a practice that works as an insulator of the soil which helps maintain moisture. Mulch serves as an important organic resource to fertilize the soil.

We recommend applying mulch throughout the entire garden. This can help the plants grow strong and avoid the seeds being eaten by birds or getting splashed out from the garden by water.

Mulch should be applied the same day you sow your seeds and maintained throughout the entire process of growing your portable gardens.

Step 6

Irrigation

Plants need water to grow and thrive. Irrigation is done to soften the soil and dissolve the compost. Irrigation should be done two times a day, in the mornings when it is dry and cool (5am to 8am) and in the afternoon to sunset (4pm-6pm). This is to ensure that the water reaches the plants properly and minimizes the quick evaporation of water.

Watering your seeds and plants should be done every day as soon as you begin putting the seeds into the soil. If it is raining and your garden can get direct rain, there is no need to water the garden on that day (unless the rain does not water the soil enough). This is to avoid suffocating the seeds with too much water in the garden.

Step 7

Daily maintenance

Check your plants for water needs, weeds, and possible pests ***daily***. Don't forget to make sure the soil is always moist!

Step 8

Harvest

Knowing when to harvest in an organic garden is crucial to ensure that the produce is picked at the right time and with good care. The timing of harvest can vary depending on the type of plant you are growing.

Here are some general tips.

1. Regularly checking your garden and observing the characteristics of each type

of crop will help you decide the ideal time for harvesting. Keep in mind that weather patterns, soil health, and different plant varieties can affect the timing of the harvest.

2. Leafy greens (lettuce, spinach, kale): Harvest young and fully developed leaves.
3. Root vegetables (carrots, radishes, beets): Harvest root vegetables when they reach a desirable size. Be mindful of the recommended maturity time for the specific variety.
4. Fruits (tomatoes, peppers): Harvest fruits when they reach the desired size, color, and ripeness.
5. Beans and peas: Harvest beans when they are still tender or softer and the seeds have not fully developed. Harvest peas when the pods are plump but before the peas become hard.
6. Onions and garlic: Harvest them when the leaves have fallen over and have dried; then dig up the bulbs carefully.
7. Potatoes: Harvest potatoes when the plants start to turn yellow and die.
8. Berries (strawberries): Harvest or pick berries when they are fully ripe.

SECTION 4:

Food justice

The food justice movement is a grassroots initiative which emerged in response to food insecurity and economic pressure that prevents access to healthy, nutritious and culturally appropriate foods to under-served communities. Food justice is closely connected with environmental justice and the sustainability movements.

MCC Peace Camp participants at Freedom Farm in Mount Hope, New York. MCC photo/ Yujin Kim.

SECTION 4:

Food justice

Everyone deserves access to reliable food. However, some communities in the U.S. struggle with food insecurity. Black and Brown communities are disproportionately affected due to systemic racism and economic inequality. Food justice issues are important because they address systemic harms that have been intentionally placed on marginalized communities primarily located in densely populated regions. These systemic harms play a role in excluding access to healthy and organic food sources for all.

Creating an ecosystem of encounter

MCC partner Urbe Apie revitalizes food and urban community spaces in Puerto Rico

In Caguas, Puerto Rico, Urbe Apie, a partner of Mennonite Central Committee (MCC) East Coast, is restoring and nurturing local residents' relationships with food and urban community spaces.

Urbe Apie is a non-profit, community-based organization established in 2015 by residents of the Traditional Urban Center of Caguas. Their mission is to revitalize abandoned or disused spaces for social, cultural and economic development and well-being of urban communities. Their name roughly translates to "the city by foot," which embodies their commitment to community building.

Their MCC-supported community garden, called Huerto Feliz, serves as an urban oasis and a community hub. The garden was planted following the aftermath of Hurricane Maria.

MCC photo/Yujin Kim

Fresh vegetables and fruits grown in Huerto Feliz bring the urban community in Caguas, Puerto Rico, together.

continue reading at
mcc.org/creating-ecosystem-encounter

FOOD JUSTICE = RACIAL JUSTICE

Systematic fair treatment of people of all races results in equitable opportunities and outcomes for all.

FOOD JUSTICE = FOOD SECURITY

All members of a community have access to adequate amounts of affordable, nutritious, culturally appropriate food.

FOOD JUSTICE = FOOD SOVEREIGNTY

A nation has control of their food supplies and is able to define its own food and agricultural practices and protect their domestic production.


"If you want to go faster, go alone, but if you want to go farther, go with someone."
- African Proverb
SUSTAINABLE FOOD IS...
Ecologically responsible
Fair and accessible
Local
Healthy
No waste

Portable gardens manual

Do you want to grow?

This manual will help you create your own organic, portable garden, using the resources and community within your reach. Learn about the importance of food justice and access to healthy and organic food for all.

Mennonite Central Committee

LEARN MORE

215-535-3624 ▪ EastCoast@mcc.org ▪ mcc.org