

February
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Issue
0003

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Sustainability

In The City

Dashboard

I want

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Urban farming
& sustainability

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Smart advice, news and information about sustainability, urban farming and real food

Sustainability

Urban farming

Real food

FOR HEALTHIER PEOPLE AND A SUSTAINABLE PLANET

Welcome!

to the third issue of **Sustainability In The City!**

This issue is packed with informative and practical news and articles starting with how a temperature increase of just 2 C could change the planet, a summary of the recently concluded Paris climate deal, why GMO crops have failed to deliver, tips on storing food for longer, a close look at greenhouses (including how to make them), pole gardens, organic farming in Shonan, sustainable housing, and much more. **Dig in!**

How a 2 C temperature increase could change the planet

When the temperature of the human body rises 2 or more degrees, fever hits, vitality slips, and we often end up on our backs sick. Interestingly, a similar phenomenon occurs to our planet. At first glance, an uptick of two degrees in average global temperatures may not seem like much, but climate scientists are warning that this increase could cause heat waves to become more frequent, glaciers to continue to shrink, and the world's oceans to become warmer and more acidic. Prior to the International Conference on Climate Change (see below), the UN released a series of grim forecasts outlining a range of changes – physical, social and economic – that can be expected by the end of this century if average global temperatures cross the 2 C and, perhaps even, 4 C thresholds. [➔ Read more](#)

Paris climate talks – Summary

After years of disagreement over what steps to take to combat climate change, world leaders made history in Paris in December 2015 when they finalized an historic new international climate change agreement pushing for deeper emissions reductions over time. What's in it?

- Reaffirm the goal of limiting global temperature increase well below 2 degrees Celsius, while urging efforts to limit the increase to 1.5 degrees
- Establish binding commitments by all parties to make “nationally determined contributions” (NDCs), and to pursue domestic measures aimed at achieving them
- Commit all countries to report regularly on their emissions and “progress made in implementing and achieving” their NDCs, and to undergo international review
- Reaffirm the binding obligations of developed countries under the UNFCCC to support the efforts of developing countries, while for the first time encouraging voluntary contributions by developing countries too.
- Extend the current goal of mobilizing \$100 billion a year in support by 2020 through 2025.

[Official text](#) [Global climate deal: In summary \(BBC\)](#)
[Short Answers to Hard Questions About Climate Change](#)

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POLE GARDENS

Discover an innovative concept that can enable communities to grow food on urban streets. [➔ Article](#)



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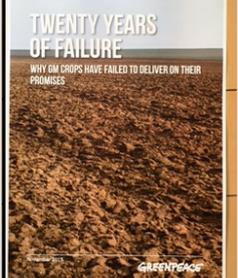
1. How to build a mini raised garden (right)
2. How to build a chain garden
3. 1 urban farming [Teacher/Parent Pack](#).

➔ Simply mail info@businessgrow.net and ask to register!



Report: Why GMO crops have failed to deliver

The first genetically modified (GM) crops were planted in America 20 years ago with bold promises about big benefits. Two decades later, those promises have fallen flat. This comprehensive Greenpeace report explores and debunks 7 myths about GM crops, including “GM crops can feed the world”, “GM crops hold the key to climate resilience”, and more. [➔ More](#)



Growing advice

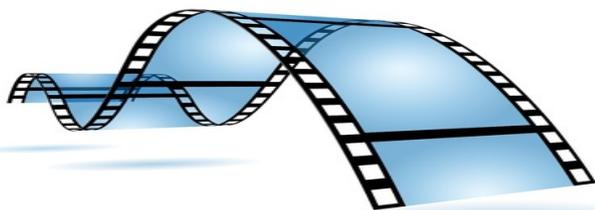


Food storage tips



U R B A N F A R M I N G

Multimedia: Urban farming – behind the boom



Teacher growing green in the South Bronx

Educator **Stephen Ritz** talks about growing green in the South Bronx where he and his students grow gardens for food, greenery, and jobs and became the “greenest class in New York City.”

> [Video](#) [Transcript](#)

How we can eat our landscapes

Learn how plots of unused land can be integrated into a strategy involving community, learning and business to empower people to build resilience and re-invent entire communities.

> [Video](#) [Transcript](#)

What's Possible?



Plastic bottle greenhouses

The easiest way to make the simplest greenhouse is to simply cut a plastic bottle in half and invert and place the bottom portion over a seedling that has been planted in a pot or the ground. This one simple action will create a warmer environment for the plant and protect it from rain, snow, and many pests. **For more ideas**, search for 'Food Havens Tokyo' in Facebook's search bar. See [article overleaf](#).

7 tips to extend the life of fruit and vegetables

It's often taken for granted that we live in a world of refrigerated goods where the produce we enjoy is available on our local supermarket shelves year round. We put food items in the refrigerator and hope to use them up, and often end up throwing them out when they begin to look a little off. Rather than spend a little extra on buying fresh food more often, and disposing of half-finished produce, why not trying some of the suggestions below to extend the life of what you grow or buy?

Here's 7 tips to extend the life of fruit and vegetables:

1. Gas produced by various fruits such as apples and bananas is known to reduce the life of other produce, so be sure to keep them separate.
2. Pears going off quicker than you like? Keep them in a paper bag on the kitchen counter to protect them from the light that speeds up their ripening process.
3. Most refrigerators have a separate area for storing fruits and vegetables. If yours happens to be one that doesn't, try to reserve a shelf exclusively for their storage.

> [Continue reading](#)

Quick-click news & articles

Truck farms driving across America

Have truck, will farm! Check out possibly the ultimate in fast food – truck farms. A truck farm is a garden or small urban farm set up in the bed of a flatbed truck and that is now a movement driving across America.

→ [Read more](#)

Russian Govt completely bans GMOs in food production

Russia has stepped up the fight against GMO food by completely banning the use of genetically modified ingredients in any and all food production.

→ [Read more](#)

UK's first commercial urban aquaponics farm

A warehouse in London will soon become home to the UK's first commercial aquaponic farm with capacity to produce more than 20,000kg of sustainable salads and herbs and 4,000kg of fish each year.

→ [Read more](#)

Why JetBlue is farming at a New York airport?

Find out how and why JetBlue airlines has created a farm to grow potatoes and other produce at New York's John F. Kennedy International Airport.

→ [Read more](#)

News

- [Peddling a new model of urban farming](#)
- [How localizing is the key to our urban future](#)
- [World's first 'robot run' farm to open in Japan](#)

Have any questions about any of the featured topics? Mail us and we'll do our best to answer them.

Greenhouses

Grow more for longer



By Jonathon Walsh

When people pick up a carton of tomatoes outside of the summer months, many never realize that these fruit do not actually grow in a natural environment during this period. So, how and why can we buy tomatoes – and virtually any other fruit or vegetable – year round?

Without considering imported food, the answer – at least domestically – is greenhouses.

Greenhouses play a very important role in the food production system, and in this article we will discover what they do and how they function, four ways we can make and use them to start the growing season earlier and extend it later into the cooler months, and get a glimpse of the exciting present and future of greenhouses and urban food production.

Benefits of greenhouses

The traditional idea of a greenhouse is a house-looking structure made of glass panels secured to steel frames. Sunlight shines through the glass and helps the plants inside to grow. Sound simple? It is, however, greenhouses have many other beneficial functions. They also:

1. Allow growers to start sowing seeds earlier in the season in a controlled environment without fear of losing an entire crop if an unexpected weather event strikes. In the northern hemisphere, seeds are usually sown outside in March/April.

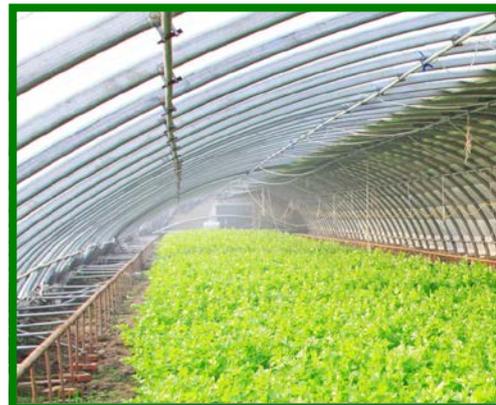


With a greenhouse, seeds can be sown weeks earlier in a temperature-controlled environment that enables them to grow faster and larger, sooner.

2. **Extend the end of the growing season** – This is especially useful in cooler, northern climates where the growing season only lasts a few months, which is not long enough for some vegetables to be harvested.
3. **Help control plants' growing environment** – Basic greenhouses, thanks to their heat-retaining characteristics, can extend the end of the growing season beyond what is naturally possible in an exposed environment. Temperature-controlled greenhouses go one better and can enable year-round food production, which is a huge advantage and how we get those previously-mentioned tomatoes. The ability of a greenhouse to maintain heat, which tropical plants and seedlings need, and humidity, which several vegetables such as peppers thrive in, are also key factors that can promote and encourage vibrant plant health and help maximize production.
4. **Help control the amount of water plants receive** – particularly important during heavy rain and flooding.
5. **Keep pests at bay** – Greenhouses keep out animals and insects that often dig up plants and eat flowers and vegetables before we do.
6. **Help growers grow fresh, organic food all year round.**

All the above makes greenhouses a very versatile component of a food production strategy. How do they work? Let's find out.

> [Read full report](#)



Celery growing in a greenhouse

Build your own Planter Box Greenhouse

After you have sown or transplanted seeds or seedlings into a planter box, simply insert the ends of two thin wires or flexible/curved rods into the soil at opposite ends in an inverted 'u' shape so they are positioned in parallel, and cover them with clear plastic – a plastic rubbish bag should suffice. Ensure a tight seal of the bag around the rim of the planter box to keep the heat in.

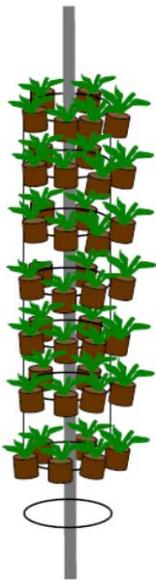
Be sure to water as necessary. After a cold night, condensation should have formed on the inside of the plastic. Tap to make it fall onto the plants.



Pole Gardens

concept diagram

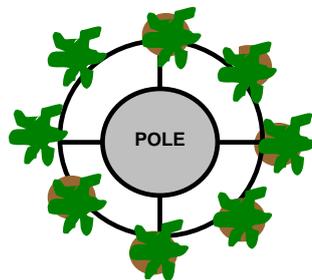
SUSTAINABILITY-FOCUSED FOOD PRODUCTION



A pole garden is a new way communities can grow food on urban streets. It involves attaching large numbers of flower pots to steel rings clamped to ordinary power poles.

Pole garden rings

The rings of a pole garden would be made of steel and consist of inner and outer rings connected by welded spokes. The inner ring would have an adjustable clamp to grip the pole.



How is a pole garden built?

Once the steel rings were made, they would be clamped to power poles at pre-determined vertical spacings. Flower pots containing soil and seeds would then be hooked to the outer rings. One pole garden could potentially hold 160 flower pots.

How can pole gardens be watered?

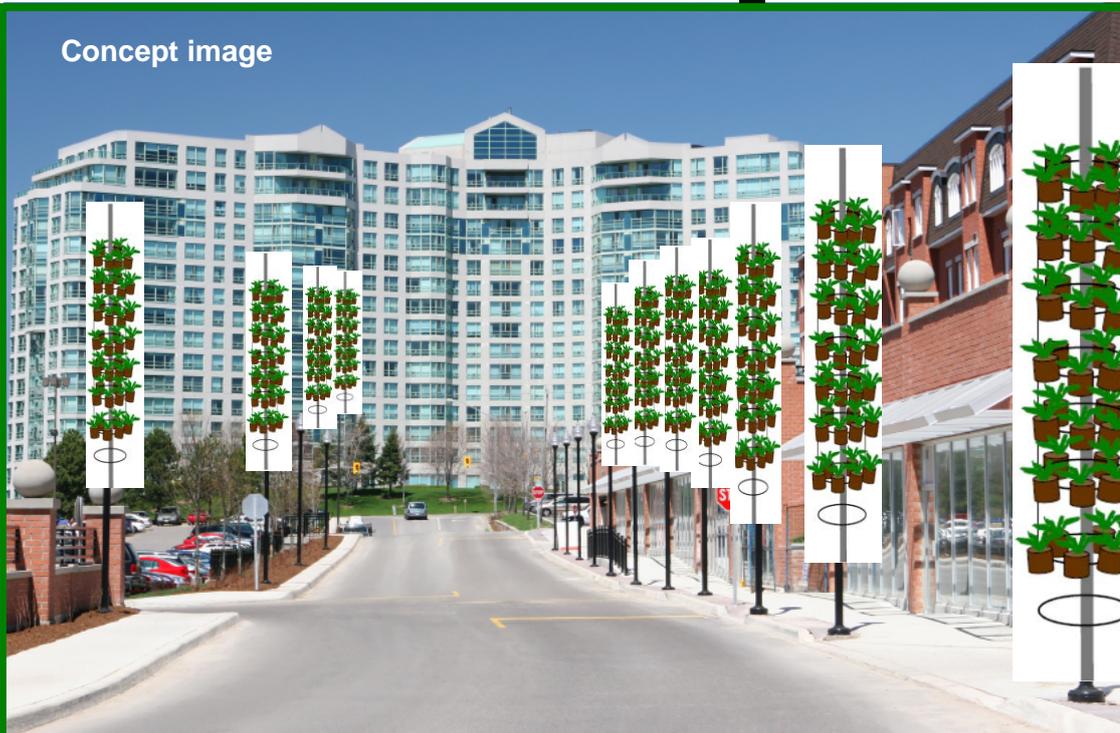
There are a number of options for watering:

1. Water pots individually using ladders.
2. Use a cherry picker vehicle to shoot water into flower pots.
3. Alternatively, a more automated 'one-pour' system could be constructed. This would involve winding a perforated tube around the pole and over each pot so that water poured into a catchment container at the top would drain into each pot.

For more information or to provide feedback, contact:

Jonathon Walsh, Sustainability Consultant
E-mail: info@businessgrow.net

Concept image



Where could pole gardens be set up?

- Streets
- Residential and commercial properties
- Rooftops
- Vacant plots
- Car parks
- Fields
- Mountains
- Beaches
- Large boats
- Hospital rooftops
- Hotel rooftops
- Refugee camps.

Organic Farming Day in Shonan

The Shonan area is usually known for its beaches and coastline but now there's a new feature putting it on the map. **The Organic Farming Day**, run by Alana & Michel Bonzi of [SEGO Initiative](#), is an initiative for corporate directors who want to strengthen team building skills among staff. The day is a cycle of giving. On October 8th and 15th, 2015, corporate volunteers from [Michael Page International](#) provided valuable helping hands to Keiko-san, an organic farmer in the Shonan area, who in turn donated vegetables to [Second Harvest Japan food bank](#) in Tokyo.



Q&A with Alana Bonzi of SEGO Initiative

Who started the urban farming initiative, and why?

SEGO Initiative founders Alana & Michel Bonzi kicked off the initiative to show another side of the Shonan area. "Shonan is known for the beach (satoumi) and we wanted to show the "yama" part of Shonan," Alana says. "We wanted the action to be useful to both the local community and corporate partners. By community we mean the farmer, and Shonan area lifestyle, as well as the needy, via Second Harvest Japan, for whom fresh vegetables can be a luxury."

Are there plans to expand the concept?

"Yes, if we can secure sponsors. We would love to have schools come out. And since many farmers don't have enough help year-round to keep their fields growing, it would be great to have a field as a corporate communal project, where we could have ongoing donations to organizations such as Second Harvest."

What projects are in the pipeline for 2016?

"The other project is our biannual **Fujisawa Beach Cleaning Project**. For this year, our 7th, the cleanup dates are April 24th and September 25th. We welcome teams of corporate volunteers.

Organic Farming Day in Shonan projects are ongoing from May to November 2016, and we are actively looking for corporate teams to participate."



Hands in soil: Participants get their hands dirty on the farm.

Michael Page selected the Organic Farming Day as their very first Global CSR Day, and over the course of two days the entire office participated and planted negis, weeded the fields and chopped wood for bonfires. After their hard work, they kicked back with picnic lunches while chefs created and served farm-to-table meals using Keiko-san's farm fresh vegetables.

Thanks to the support from Michael Page's teams, Keiko-san was able to donate 30 kgs of sweet potatoes to Second Harvest Japan. For Michael Page, it was a chance to give something back to the local community as well as a great team building opportunity, especially for new recruits.

About SEGO Initiative

[SEGO Initiative](#) is a not for profit association established in 2014 by long-term Japan residents Alana and Michel Bonzi. SEGO Initiative has grown out of the couples' Fujisawa Beach Cleaning Project which the Bonzis started in 2009. The idea was to find a way to bring foreigners and Japanese together to do something good for the local community. SEGO Initiative is a continuation of that mindset. One of their goals is to create even more opportunities for corporate engagement in local communities.

For more information, contact Alana Bonzi:

E-mail: alana@segoinitiative.org

URL: [Organic Farming Day in Shonan](#)



The bounty: 30 kgs of sweet potatoes

Photo courtesy
Second Harvest Japan



Smart sustainability

IDEAS FOR A SUSTAINABLE PLANET

Japan's disposable home culture – an environmental and financial headache?

Even though the sturdiness of newer buildings is increasing, a disposable-home culture still persists in Japan, where houses are often seen as worth nothing after 15 years. With 11 times more architects per capita than Canada, the big business of re-building perfectly good houses every 30 years continues, despite problems involving illegally dumped construction waste and excessive CO2 emissions. [→ Read more](#)



What's possible? Floating food farms

This giant floating farm could produce almost 10 tons of food each year



Still on the drawing board but definitely within the realms of possibility is an idea from Spanish architects for a solar powered farm that is estimated to be able to produce over 10 tons of food a year. This 3-level self-sustaining design incorporates the use of desalinated seawater to water a hydroponic farm while generated waste feeds the fish farm below it. [→ Read more](#)

Dame Ellen MacArthur: The surprising thing I learned sailing solo around world

In this TED talk, Dame Ellen MacArthur explains how her prolonged isolation in the cramped cockpit of a yacht lead to insights into our world's finite resources, and how we are consuming them at an alarming pace. She explains how there is hope through her solution of moving from a linear to a circular economy. [→ Video](#)

Quick-click news & articles

Obama rejects Keystone XL pipeline

After a seven-year review, President Obama rejected the Keystone XL pipeline project that would have transported oil across the U.S.-Canada border. [→ Read more](#)

Revolutionary new hydroponic growing facility

Using Japanese growing methods created by Mitsubishi Plastics for growing spinach and other leafy greens with less water and no pesticides, Australia's Kaiteki Fresh farm is creating new jobs while also growing high-nutrient food. [→ Read more](#)

Massive outbreak of jellyfish could spell trouble for fisheries

An alarming description of how Nomura's jellyfish are gradually taking over areas depleted by over-fishing in the Sea of Japan and other regions around the globe. [→ Read more](#)

Birds in the trees benefit coffee crops

Research suggests allocating space for native birds to nest among coffee crops may yield benefits for the birds, the plants and the crops being grown. [→ Read more](#)

Renewable Energy for Japan: A Post-Fukushima Quest

The call for renewable energy in the post-Fukushima era has been steadily growing, however, will only make up an estimated 25% to 35% of Japan's energy requirements by 2030.



Initiators of new renewable energy incentives find themselves bogged down under the weight of multiple environmental study requirements, while nuclear reactors powered down after 2011 are gradually coming back online. [→ Read more](#)

News

- [President Obama signs law banning microbeads](#)
- [Rooftop solar producing more energy than WA's biggest turbine](#)
- [How to make a 5 gallon bucket water filter](#)
- [Canada PM Trudeau pledges strong climate measures](#)

A glimpse at the future of sustainable housing

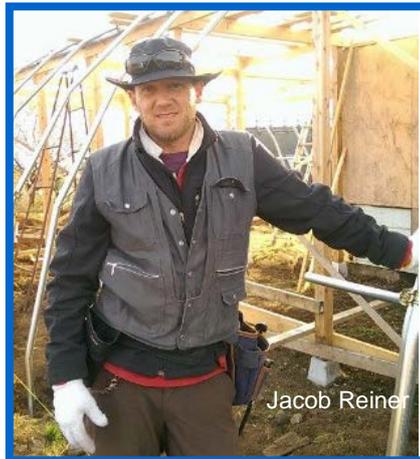
Grant Munro caught up with [Earth Embassy's](#) Jacob Reiner to discuss his work at the Fuji Park Village and the challenges of working in the sustainable housing market.

Why did you start a business building sustainable houses in Japan?

I started in Japan because I was traveling here and came out to Yamanashi to work on the Fuji Park Village to help them get the project started. Starting outside of your own country, you have something new to bring to the project and Japan was behind in organic farming, natural homes and the environment movement in general so I saw a need here. There was a lot of opportunity and resources waiting so it seemed like a good place to start.

How and when did you start Earth Embassy?

It was pretty much myself with a dream and no budget. Through volunteer sites, I had a lot of people coming up to help in the summer. I was going to go back to Tokyo when I fell in love with the little Village of Shojiko where there was 50 old houses that were pretty much untouched and about 25 of them were empty. They were beautiful old wooden handmade houses built in the Meiji or Edo eras with good roofs that had lasted 100 years. With another good roof they will last another 100 years. If nobody did anything, they would just fall apart. So I committed myself to reforming them.



Jacob Reiner

I have done 3 houses there that I have bought, reformed and resold and we have 3 families with kids that have moved into the Village. Our target is people who have an interest in the homes, still have a connection with Tokyo, and who can bring some of their funding in from city but are interested in Village life as well. We are only 90 minutes from Tokyo and the families that moved out still have jobs in the city and are commuting.

What about concerns regarding earthquakes?

The Minka houses (traditional Japanese farm houses) have been through years of earthquakes so they are probably stronger than the house you've been living in at the moment that has only

been up for an average of around 18 years. When people come in and see the daikoku bashira (main pillar), they understand how strong the house is going to be. With old house renovation in particular, the first thing we do is look through it structurally and tend to raise the

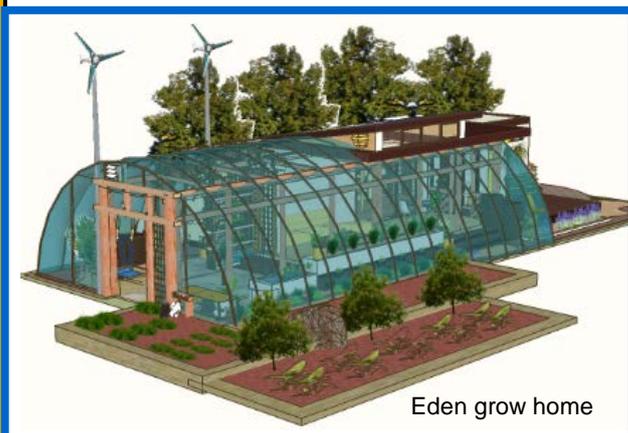


whole house, put in foundations and reinforce everything. We take a solid base and build onto it. With the container house we are building now, the land owners have concerns over the increasing number of storms and super weather events. My policy is that I tend to overbuild things to make them super strong. When we build a house, it's going to last 100 years, and if we build a house to last 100 years, it can last even longer.

What change would you like to see in people's perceptions about building a sustainable home?

I think part of the challenge with eco housing is that it is very much a fringe thing. With some of the new homes we do, the challenge is that clients aren't so concerned with them being an eco-home so it is a bit of a battle getting them to spend on things such as windows for passive solar gain, which means that the home is naturally heated by sunlight and stays comfortable year round with no energy costs. Teaching people that it's OK to put plenty of windows in your house is a challenge at times. Double pane windows have become the norm but when I got here 15 years ago, it was still a kind of a luxury. It was harder 10 years ago but most people now agree to put in solar and it has become the norm. We use all natural materials. Natural materials were a challenge to put in when we started.

[→ Download full report](#)



Eden grow home

PROFILE / CONTACT

Name: Jacob Reiner
Title: Director of Sustainability
Company: Earth Embassy / EDEN Y.K.
No. of staff: 6
Branches: Japan/Hawaii/NY
Launched: Earth Embassy - 2000
Eden Homes - 2006
URL: www.earthembassy.org

Resources

URBAN FARMING TEACHER / PARENT PACKS

Teacher Pack Lesson 1 How to transplant seedlings



Introduction

This lesson shows students one of the basic skills of gardening: how to transplant seedlings.

Lesson preparation

Teacher Pack lesson 1 shows students how to transplant seedlings. This can be done at school with adults, or at home by the parents and child. For best results, it is suggested that students, if possible, are to be prepared with adults, if necessary, who to help set up the plants and check the results for the planting.

Lesson contents

- Lesson preparation
- Lesson introduction
- Lesson content
- Lesson conclusion
- Lesson reflection
- Lesson evaluation

Documents required

- How to transplant seedlings (PDF or Word)
- How to transplant seedlings (PDF or Word)

10 clearly written guides outlining smart ideas that enable even inexperienced gardeners to grow food sustainably, boost self-sufficiency, teach others, and help the planet.

1. How to grow vegetables from seeds
2. How to transplant seedlings
3. How to build a plastic bottle fence garden
4. How to grow food on walls (vertical gardening)
5. Balcony gardening
6. How to collect rainwater
7. Eco-friendly ways to start seeds
8. How to collect and recycle water and food, and make compost
9. Recycling everyday objects into planters
10. How to create a 1-square meter garden.

Did you know it is possible to grow hundreds of lettuces and large amounts of other healthy, great-tasting vegetables and herbs on one sunlit wall? Find out this and more in pack 4 (see right)!

> [Brochure](#) > [Sample](#)



Food Havens

Let's turn the city green!

> [More info](#)

BEGINNERS FOOD GROWING PACK



FOR BEGINNER GARDENERS

– Contains a comprehensive 23-page beginners guide to growing fantastic food in the city, practical food growing guides, key planting information, and loads of useful tips – in fact, everything you need to know to start growing fresh, healthy, great-tasting, no-spray food in the city!

> [Brochure](#)

Sustainability In The City



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