



# Connected Seeds

Edited by Sara Heitlinger





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Introduction

By Nick Bryan-Kinns, Queen Mary University of London

This book is the culmination of our 18 month project investigating what might be the role of technology in sustainable food production and consumption in the city. We start the section of essays from our research team and collaborators with a piece on seed sovereignty, which drove our interest in seed-saving. We follow this with discussions of how we engaged with the local community to co-design an interactive *Connected Seeds Library*, and the role of technology in our investigations. We conclude the essays with an exploration of what space means for community in the city, and how participatory design can show us what else a “Smart City” can be.

The bulk of the book consists of stories and images from Seed Guardians who have been growing seeds for our *Connected Seeds Library*. In the first part of this section they offer personal reflections on their motivations for growing their own food and saving their

own seeds, as well as how these practices influence their feelings and connect them to their heritage. The subsequent part of the book consists of practical advice and reflections on growing the crop varieties that they grew for the library, including how to save seeds.

In addition to the book, the rich crop of material that this project has produced will be available for you to explore in our website *www.connectedseeds.org*, the *Connected Seeds Library* that will live permanently at Spitalfields City Farm in east London, the documentary film, and exhibition.

This book is firmly rooted in Spitalfields City Farm who will warmly welcome you to visit them to experience the *Connected Seeds Library* for yourself and learn in person about growing your own food and saving your own seeds.



# Seed Sovereignty

By Dan Iles, Global Justice Now

## The freedom to keep and save seed is under increasing threat by corporations who want to take more control over seeds

Farmer owned seed systems are under threat from corporate control. For generations, small farmers have been able to save and swap seeds. This involves keeping seeds from current or past harvests and storing them away for the next planting season or swapping them with other farmers. This vital practice is based on knowledge passed through generations enabling farmers to keep a wide range of seeds, knowing which ones are best suited for different climate conditions and which are resilient to crop disease.

But this freedom to keep and save seed is under increasing threat by corporations who want to take more control over seeds. Since industrialisation and with the steady increase in large scale intensive farming the UK has lost much of its local farmer-owned seed infrastructure. Much of the seed system has been commercialised to the extent that many growers look to shops not local seed networks to get their seeds.

Corporate-produced hybrid seeds often produce higher yields when first planted, but the second generation seeds will produce

low yields and unpredictable crop traits, making them unsuitable for saving and storing. This means that instead of saving seeds from their own crops, farmers who use hybrid seeds become completely dependent on the seed companies that sell them and have to buy them year after year. Often the seeds are sold in packages with chemical fertiliser and pesticides which can lead to spiralling debt as well as damaging the environment and causing health problems.

## Seed laws are restricting farmers' freedom to save and swap seeds

Seed laws, like the 'Monsanto law' in Ghana restrict farmers' freedom to save and swap seeds. This legislation is part of Ghana's commitment to the UK-backed New Alliance aid initiative which is accelerating seed law changes in the African New Alliance countries. Philanthropic organisations like the Bill and Melinda Gates Foundation are also supporting the promotion of corporate seeds in Africa which also threaten to displace farmers' seeds.

Farmers and activists are resisting these seed laws and corporate control across the world. Seed sovereignty doesn't just give

## Farmers and activists are resisting these seed laws and corporate control across the world. Seed sovereignty doesn't just give farmers power, it boosts yields, increases diversity and improves farmer income.

farmers power, it is proven to boost yields, increase diversity and improve farmer incomes. For example community seeds banks and libraries are locally governed institutions that help to conserve local plant varieties, restore 'lost varieties', make seeds more accessible (usually for free or at a lower price than commercial seeds) and increase seed sovereignty (the right for farmers to replant their own seeds, and breed, save and exchange them with others).

Seed knowledge is not lost. A growing network of open pollinated seed producers, seed swapping groups, and heritage seed libraries are popping up around the UK. By sharing seeds within local communities, developing new organic seeds and re-establishing lost traditional varieties these organisations are attempting to turn the tide on the UK's privatised seed system and rebuild our seed sovereignty.

## Sharing seeds within local communities is helping rebuild our seed sovereignty



Photos: Meghan Lambert (top), Sara Heitinger (below)



# Community Engagement, Co-design, and Sustainable Food

By Sara Heitlinger, Queen Mary University of London



## How can digital and networked technologies support more sustainable food practices in the city?

Over the last year and a half we have attempted to answer this question in a research project called Connected Seeds and Sensors by working with seed-savers – or Seed Guardians – to co-create a *Connected Seeds Library*, owned and maintained by the community at Spitalfields City Farm.

This book forms one of the final outputs (alongside an exhibition, a documentary film, a website, and an interactive seed library) from the project. It includes essays, growing information and stories about the crops grown for the library, and experiences from Seed Guardians. It also forms a physical record of the digitally-augmented library, a record for when the technology fails, as it inevitably will.

Photos: Sara Heitlinger

## Seed Guardians

Throughout the 2016 growing season, fourteen Seed Guardians – people around east London from all walks of life – committed to grow one or two crops from seed, and to donate some of the seeds they would collect at the end of the season to the *Connected Seeds Library*. They have come from all walks of life, different cultural backgrounds, and with varying levels of gardening experience. Countries of origin include: Bangladesh, the Caribbean, Turkey, Zimbabwe, Ireland, France and England. Many of the Seed Guardians have no garden of their own, but by volunteering at community growing spaces such as Spitalfields City Farm, or carving out small plots on the communal land of the housing estates where they live, they have succeeded in growing their own food.

Seed Guardians were given digital cameras and a notebook, and were asked to document the growth of their plants throughout the life cycle, from the moment they sowed their seeds, to when they harvested crops and seed at the completion of the cycle. In this book you can read about their experiences, motivations, values, rewards and challenges of small-scale urban farming and seed-saving, gleaned from interviews conducted with the guardian-participants as part of the research process.

At the same time we built and deployed networked environmental sensing devices that measure the environmental conditions under which the plants were grown, as a way of exploring the potential value such technology could provide to the community. Hamed Haddadi discusses some of the challenges and opportunities of working with these sensors on page 16.



There were many challenges to conducting our community research. It required the committed engagement of diverse participants, located across many geographical locations, over many months. One participant was given notice on his house and had to move to another part of London, forced to give his plants away. Others spent the crucial summer months abroad to help aging and ill relatives. One became a parent for the first time, while another's job became all-consuming. Gardens took a back seat as life got in the way.

There were also challenges inside the gardens, typical of small-scale and community agriculture that makes a commitment to eschewing chemical fertilisers and pesticides. Crops failed due

to pests, but also because of the vagaries of an uncertain climate. This unpredictability is set to increase with climate change. Therefore it is ever more important for growers to have access to locally-grown and adapted seed, that is viable and resilient for local conditions.

This is precisely what the *Connected Seeds Library* offers: dozens of seeds from crops, many of which are not typically grown in the UK, held in commons as a free resource for the community. But not only do we have the seeds, we also have records of the experiences and knowledge of the people who grew them.

**The seeds alone form a treasure chest of the highest value, able to sustain many people. The records that accompany them makes them even richer.**

Despite the challenges of small-scale and community urban food-growing and seed-saving, the rewards are clear, and run in threads throughout this book. One thread relates to the positive contribution gardening has on Guardians' mental and physical health, whether as a de-stress, through eating healthy fresh food, or gentle physical exercise. Another thread draws attention to the social benefits that arise through gift exchange of seeds and other garden produce, or by helping Guardians overcome social isolation and cultural barriers, and connecting them with neighbours and family members across generations. These activities have afforded a sense of agency and control over Guardians' lives by saving them money and reducing reliance on corporations.

### Co-designing With the Community

Discourses around technology design, particularly in the emerging domains of “smart” sustainable cities and Internet of Things (IoT) – see Hamed Haddadi's piece on page 16 and Carl DiSalvo's piece on page 24 for more on this – are often about automating processes, making them more efficient and therefore more sustainable. But what values are we compromising if we automate small-scale and community gardening? The people we worked with don't want to forego a connection with the land, nor the labour and care that goes into tending their gardens. They don't want to lose opportunities for face-to-face communication. How, then, can we design technologies to bring people together, to learn from each other, to share, and meet in physical space? We can begin to answer this question by involving the people who will be affected by the designs, into the design process itself.

During previous research at Spitalfields City Farm (conducted during my PhD), it became apparent that there is immensely rich and diverse knowledge around food-growing from around the world that is collectively held by the local community, but there are many challenges for accessing and disseminating this knowledge. Together with farm staff we developed the idea for the *Connected Seeds Library*, as a way for digital technologies to help collect and share this knowledge.

At the start of the *Connected Seeds and Sensors* research we organised a number of workshops with the farm community to understand the needs, practices and values of small-scale and community urban growers and seed-savers. We also organised various events throughout the growing season, including



Photos: Sara Heitlinger





seed-swaps, seed-saving workshops, garden visits and design sessions. The aim of these activities was to support a community of practice, where people could share skills and knowledge. Another aim was for the research team to gain an understanding of how future technology design could be grounded in the needs, practices and values of these communities.

**The Connected Seeds Library**

The *Connected Seeds Library* is the outcome of this process. Visitors to the library can join for free and take some seeds home to grow. They are encouraged to keep some of the harvest for themselves, and to bring some seeds back to the library at the end of the season, thereby ensuring that living stock is maintained.

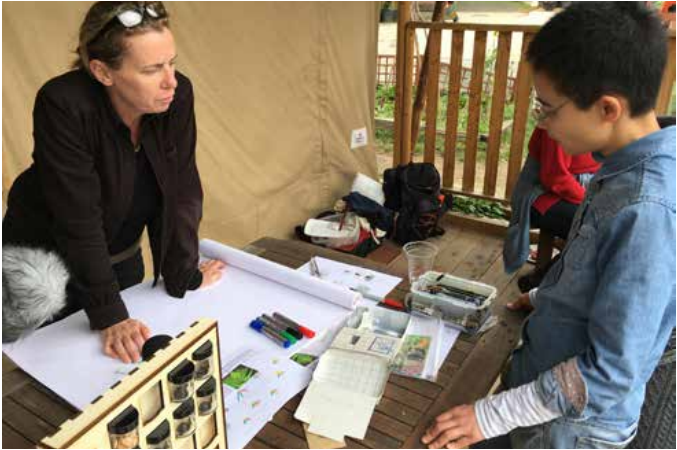
The library itself is augmented with digital technology: a seed variety can be selected and then placed on a special pad, which triggers a slideshow to play on a screen, showing images of the chosen plant. Visitors then have the option of turning a wooden wheel to hear, over a loudspeaker hidden inside the library cabinet, the voice of the Seed Guardian who donated that seed, talking about their experiences of growing. If the visitor turns the wheel, they will get the next instalment of the story, and in this way they can access different types of content relating to the motivations, experiences, lessons learnt and food recipes from the Guardian.

The *Connected Seeds Library* was designed as an engaging, interactive and playful artefact that does not require any particular technical skill or ownership of smartphone or computer. It is intended as an educational resource for the farm, with the aim

**The Connected Seeds Library celebrates the diversity of urban food-growing and seed-saving practices**

of drawing in new audiences and visitors, and sharing and celebrating the diversity of urban food-growing and seed-saving practices with a wider public. In particular, we hope it will increase skill and knowledge of growing “exotic” crops (i.e. not typically grown in the UK), which are in particular demand in this part of the country due to large scale immigration and ethnic diversity. In turn, we hope that this will empower communities by connecting them to their heritage through stories around food. It will decrease their reliance on consuming shop-bought produce thereby saving them money, as well as contribute to a healthy diet of freshly grown local vegetables. In addition to contributing to biodiversity, it is my hope that the library will inspire people to grow their own food, thereby reducing the CO<sub>2</sub> emissions of food that must travel large distances from the site of production to the shop shelf.

In these ways, *Connected Seeds and Sensors*, and other research projects like it, have the potential to positively impact on environmental sustainability, social inclusion, and healthier, more resilient urban communities.



Photos: Sara Heitinger





# Digital, Networked and “Smart” Technologies in Community Urban Agriculture

By Hamed Haddadi, Queen Mary University of London

As digital and mobile technologies become smaller and cheaper, they have started to enter all aspects of our lives. The Internet of Things (IoT) refers to the proliferation of sensors, devices, and data processors connected together and to the Internet, that are now in our everyday objects. The term has been used in a variety of contexts such as connected domestic appliances and monitoring devices around cities and urban areas. Increasingly common examples include “smart” thermostats and washing machines that can be controlled from a mobile phone, and that “learn” their users’ preferences. The term “Smart Cities” refers to the monitoring and automation of urban processes through the Internet of Things. For example, the ability to monitor live bus arrival times from bus stops or your phone. The research challenge that sparked Connected Seeds and Sensors project was to explore how these digital networked, or “smart”, technologies could support more sustainable urban food practices.

Typically, “smart” technology for food-growing involves the use of networked sensors and other computational devices to

automate monitoring and control of environmental growing conditions. The benefits are increased plant health and productivity, and, by optimising processes such as watering and heating, these processes may become more efficient and therefore more sustainable. However, little research has been conducted into IoT for small-scale and community urban agriculture. This is the gap our project aimed to fill.

Within the *Connected Seeds and Sensors* project, we aimed to collect information about the environmental conditions of the Seed Guardians’ gardens from networked sensors. These sensors included: air temperature, air humidity, air pressure, soil moisture, and ambient light. The sensor packs needed to be waterproof and robust. We needed to build a system of data collection that was reliable and energy efficient, in order to minimise the disruption to participants in terms of home visits, availability of WiFi and electricity, and the need for manual intervention and actions. Our platform had to run independently and reliably for a few weeks at a time without any disturbance to the user.

Figure 2– Data visualisation by TraceMedia

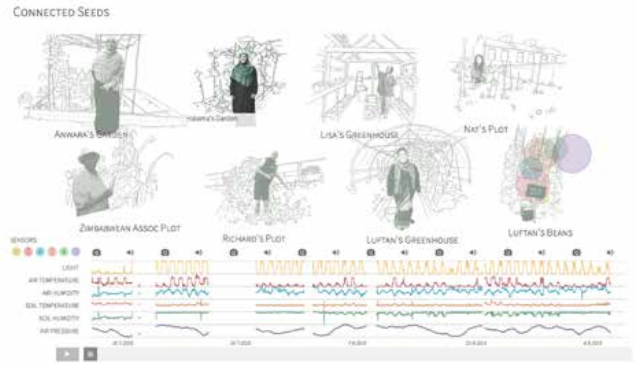


Figure 1– Sensor unit



In order to address these challenges, we used the open source Arduino board, with high precision sensors embedded in a purpose-built packaging in order to protect the sensors, the battery pack, and the board from potential rain or moisture in the environment. We used a dedicated 3G network module to send the environmental data. A reading was taken from the sensors every hour, and, in order to save on battery life, sent once a day to a web server. Figure 1 demonstrates the sensor box in a typical installation setting.

We built and deployed sensor units to 8 of our Seed Guardians’ gardens, where they collected data for on average 3 months. At the end of the growing season we hired a data visualisation company to make sense of, and visualise, the data we had collected over this period, in an engaging, interactive, easy-to-understand way. In addition to the quantifiable data produced from the sensors – represented by a graphical animation across a timeline – the visualisation also includes images and audio clips from the Seed Guardians. Figure 2 shows a screen grab from the data visualisation of a typical sensor box. The interactive visualisation is available from the Connected Seeds website<sup>1</sup>. The circuit design, sensor specifications, and code from the project is available on our website.

1 — [www.connectedseeds.org](http://www.connectedseeds.org)





Photo: Sara Heitlinger

# Community Space for Growing In

By Mhairi Weir, Spitalfields City Farm

**Space a common dictionary definition –  
“An extent or expanse of a surface or  
three-dimensional area”**

Space has always been an issue and I am talking physical space, there is never enough of it, we fight over it, we cherish it, we abuse it, we take it for granted and we do not like people who are not invited coming into our space, and so the list goes on.

Living and working in London where any piece of “spare” ground can become a towering block of “luxury apartments” almost overnight, the little pockets of green space we have are to be nurtured and used by all. Please do not think that London is devoid of such spaces. If you look closely you will find quite a few of them. But what is perhaps most surprising is that the majority of these spaces are used for growing food on. This can range from your own little allotment (highly prized) to growing in a small space on your balcony in a pot. There is really nothing more satisfying than seeing the miracle of planting a seed/seedling growing into a potato, a tomato etc. And of course it will taste way better than if bought in any shop. All it takes is a space, the seed, earth, manure for feed and of course attention to ensure that it is free from pests and allowed to bloom. Yet, without space we would not be able to

enjoy this miracle of growth. So therefore it is so important to use the existing spaces we have and to ensure that as little as possible is lost.

Space not only allows for the growth of plants but the growth of people and communities. They act as beacons for people to meet and share stories, the time of day, growing and just enjoying the space for what it is: a little bit of green in a busy, very polluted city. Space needs people to come together and care for it and protect it, to form alliances to use the space and to share whatever it produces.

Here at Spitalfields City Farm it remains my primary purpose to allow all of these things and more to happen in and on our space. Sharing not only the space but also sharing seeds, planting and then the joy of cooking and sharing what has been grown. Not only are we in danger of losing our space to grow, but all the varieties of what can be grown. That is why it is so exciting to have the seed library on site and yet another reason for people to engage with the space.

So, I suggest that you look around and you will be amazed at all the spaces that are used and if you see one unused and unloved, ask your neighbour/friend if they would help to save this space.





Photo: Sara Heitlinger

# A Guide to Saving Seeds

By Anton Rosenfeld, Heritage Seed Library, Garden Organic

## Seed saving has always been an essential part of growing our own food

Ever since we started cultivating crops, it has been vital to save seeds to ensure that we can continue to produce harvests for the future. In the more recent times, many growers have become more detached from this process as we have left seed production to the hands of specialised seed companies. Although this may bring some advantages such as specialisation and economies of scale there are many reasons why growers should have a go at saving their own seed:

### Locally saved seeds become better adapted to local conditions

A grower that has repeatedly saved seeds from the best performing plants in a locality will have developed a stock of seed that has a proven track of growing in that place. Their variety will perform better than a stock of seed that has been bred commercially and grown in a different location.

### Seed saving is one step further to self sufficiency

If you have already taken the step to growing your own food, then reducing your dependence on commercial seed companies is

another step to producing sustainable food. It shortens supply chains and reduces dependency on external inputs.

### Seed saving is fun and satisfying

For a plant to produce seed, you need to allow it to complete its entire life cycle. This can be very satisfying and a new learning experience. For some plants such as beans, we are familiar with watching the plants produce seeds, but for other plants, it might be something completely new. How many of us have seen a lettuce produce seeds before?

### Seed saving can preserve heritage and unusual varieties

Some varieties are rare to find in seed catalogues and seed saving might be the only way of preserving them. Some of these varieties may have traits that are not present in regular commercial varieties, so maintaining them through informal seed saving networks is a good way of boosting genetic diversity.

### Seed saving can save you money

Although the cost of a packet of seeds might not seem like much, if you are growing a large selection of things, the price can soon mount up. Seed saving makes sense if you are growing a diverse range of crops in small quantities.

Things to Consider

You might decide to save seeds from just a few crops rather than from everything. If you do decide to have a go, then there are a number of considerations you might want to take into account:

Does it grow well here?

Anything that has already been grown in the location will be a better bet as it already has a proven track record. That doesn't stop you experimenting, but be prepared that it might not work, especially if it has come from a different country. Any F1 hybrid seeds are produced from the crossing of two different parents, so saving seeds from these will produce a mixture of plants with different features.

How long do you have to grow it for?

Some plants have to be grown for much longer than others before you get seeds from them. Anything that we normally eat the fruits or pods from such as beans, squashes or tomatoes will produce seeds within a normal growing season. Some plants such as carrots need to be left for over a year. You may decide that you don't want something in the ground that long, if space is limited.

Will my varieties cross with others?

The danger of different varieties of plants that are the same species close together is that they will cross and produce seeds that are



Photos: Sara Heitinger

not the same as the original. Some plants cross much more readily than others, and steps need to be taken to isolate them if you want to produce seed that is pure. Plants can be isolated by distance, use of physical barriers such as a net or in time by only growing one variety for seed each year. The isolation requirements of individual crop types are given in the Heritage Seed Library guide to seed saving.

Seed Saving from Non-traditional Food Crops

There are many non-traditional food crops that have been introduced more recently to the UK to reflect the multicultural nature of our food growing communities. Some of these have a longer track record of growing in the UK than others. Often these seeds are difficult to find in UK seed catalogues, so seed saving can be the best way of maintaining these varieties. There are a number of extra considerations when growing these crops for seed:

Is the growing season long enough?

For plants that are sensitive to cold, the UK has a short growing season, sometimes only 5 months can be guaranteed to be warm enough. Even within a glasshouse, the light levels drop dramatically after September, so plants grow much more slowly. Many crops from warmer climates take a long time to flower and produce seeds, often longer than nine months. These varieties are unlikely to be able to reach the stage of seed production within the UK growing season. Selecting early maturing varieties are likely to be more successful for seed saving in our climate.

Is the plant sensitive to day length?

Many plants grown closer to the equator will only flower and produce seed if the day length is close to 12 hours. Once transported to our latitude, the long 16 hour days of summer just encourages the plants to produce lots of leaves and never flower. This might be fine if you are trying to harvest a leafy crop but is no use if you wish to save seeds to be able to grow it next year. Chancing on varieties that are not sensitive to day length can be a matter of luck, although varieties grown at higher latitudes are likely to be more successful. For example, some of the Asian types of gourds are also grown in Southern Europe, and these varieties are more likely to be successful in the UK.

Does it have the right pollinators

Many of the more unusual crops are happily pollinated by our bees and other UK insects so don't present a problem for seed saving. However there are one or two that have more specific requirements. Many of the gourds have flowers that open at night and are pollinated by moths in their countries of origin. These need to be hand pollinated to achieve successful seed production. We have found that this works fine if it is done first thing in the morning – there is no need to go out in the middle of the night!



# What Else Might a Smart City Be?

By Carl DiSalvo, Georgia Institute of Technology

Nearly every player in the technology sector has made a claim to Smart Cities, from providing end-user services to global infrastructures and everything imaginable in-between. Cisco, IBM, Siemens, and many others have presented us with their visions of Smart Cities in whitepapers, concept videos, and demos. Of course, these visions are malleable and are made to adapt as changes occur in science, in policy, and in politics. But across and throughout, these visions hold fast to common ideals of control and efficiency. These ideals and their attendant practices and techniques have a long history in city planning and connect to histories such as those of cybernetics and other varieties of systems science. The primary visions of Smart Cities are thus, unsurprisingly, mostly just updated versions of logistics and supply chains applied to cities and civics.

**If we have an interest in other forms of cities, other configurations of public life, then it seems the question is no longer “What is a Smart City?” but rather, “What else might a Smart City be, or become?”**

It’s not as if design has been absent from this affair. Designers from all fields actively participate in crafting these visions of

Smart Cities. The images, diagrams, animations, and prototypes that express the prevailing visions of Smart Cities are compelling precisely because of the quality of design thinking and making that goes into their production. Indeed, Smart Cities, as we are coming to know them, may be exemplars of a new kind of total design, which attempts to fold together information, environment, and experience in previously impossible detail, to produce an absolutely mediated civics.

If we want Smart Cities to be something else, or to be something more, something in addition too, then we don’t just need more design, what we need is a different design.

Participatory design—particularly as exemplified in the *Connected Seeds and Sensors* project—offers us one way of doing design differently. The origins of participatory design are in the shop floor, engaging and collaborating with workers to strive towards a more democratic workplace, which values the skills of labor and the tools workers use to express those skills. Contemporary participatory design, in many ways, retains these motivations, albeit in new contexts and practices that express the changing landscape of labor, which includes knowledge workers, the creative industries, diverse and community economies, and even citizenship. Affect and precarity characterize these new conditions.

What participatory design offers is a commitment in the form of a practice, a commitment to workers and labor, a commitment to endeavoring together with, to collectively strive for possibilities and potentials rooted in the desires and capacities of those who are doing the work—whatever that work might be.

And make no mistake, despite all sorts of claims about automation, Smart Cities are sites of labor and require work in order to function. One question to ask is “How can we bring those whose work it will be to build, use, and maintain the Smart City into the design process?” Another question to ask is “What new forms of labor might emerge in Smart Cities, and how might we design, together, in anticipation of those new forms of labor?” And yet another question to ask is “What kinds of work are being overlooked in the rush to make cities smart, and how might the technologies and services of Smart Cities affect these ignored or disregarded sites and practices?”

Small-scale agriculture, gardening, foraging, and other forms of diverse agricultures and community food systems are examples of the kind of work largely being overlooked. Yes, there is some attention given to these topics and how they might become “smart”—as food culture possesses a certain cache´ in the moment—but that attention fades as we move beyond the star chef or starred restaurant. Rather than generically romanticizing the “small” and “alternative” we should attend much more closely to the particularities of these sites and most of all to the work of these practices. Sensing and automation, data mining and machine learning and other technologies of Smart Cities may have a role to play in diverse agricultures and community food systems. Perhaps even more provocatively, small-scale agriculture,

gardening, foraging and the like may be able to contribute insights into the building, use, and maintenance of Smart Cities. After all, these sites and practices are lasting examples of an inventiveness that manipulates and exceeds the standard logics of the built environment toward other desires. What is the skilled work of these diverse agricultures and community food systems? How will the labor of cultivation and care, of providing for self and others, of building and sustaining belonging, be affected by the structures and infrastructure of Smart Cities? How might we envision services as tools of value to these practices?

Answering these questions is an important endeavor, which design can, and should contribute to. The answers cannot come from designers alone. In fact, it’s not even certain that designers should take the lead. And this is where a participatory approach to design is of such great value. What design can offer are methods and techniques for elicitation, representation, and performance. What design can offer are compelling modes of enactment that—like the more common visions of Smart Cities—can lure us into considering, perhaps even wanting, a Smart City, but in these cases, a different notion of what a Smart City might become.

This is the value and importance of projects such as *Connected Seeds and Sensors*. We will not, through design or other means, soon replace the modern city. We will not thwart or oust those technologies of monitoring and prediction that Smart Cities are bringing into being. But, through other approaches to design, we may be able, together, to support a more pluralistic notion of what we want our cities and our civics to be like in the 21st Century — how we want, and might be able, to imagine and enable the skilled work of togetherness.











# Ahmet Caglar

## Grew Chickpeas and Purslane

In his back garden in Walthamstow

My name is Ahmet. I'm originally from Turkey. I'm using my back garden for this project. It's a small garden. Actually there is only one raised bed and some containers.

## Why I grow my own food

It's very exciting and it's valuable. At least the effort of it, all the process of growth and being busy in this process, and getting the results. And in some ways sharing it with friends and neighbours, when possible, is very rewarding.

## Why I save seeds

I don't always save seeds to be honest. I sometimes save seeds that I find difficult to find here. That's one reason. And also sometimes to share with friends and neighbours. It's a resource and we can keep it and we can continue with it and we can share it. Otherwise it's a waste of money, waste of resources. And it's a continuous chain, which is also exciting, to know the history of the seed. There are lots of other stories attached to it.

## Connection between growing and my heritage

Two plants I tried to grow in this project are linked to my background, to my childhood. The purslane, my mother used to cook. It has some sort of emotional link attached to it. Similarly the chickpeas, we used to eat them fresh. In the markets they used

## Being active, doing things outside, working in the soil, with soil, these things can change moods easily

to sell them and they are eaten like a delicacy, green and very delicious. I was excited to grow and eat them like that.

## How I feel when I work in the garden

Failures are sometimes frustrating. But as a process I think it's rewarding, it's something you do with your hands and also your mind. You make structures and you make some plans. And also you care for them, especially in their early stages.

I work as a counsellor, and in two of my work places I work in the garden with clients. Gardening facilitates a lot of positive things in the work and in their world because it's a process. It's about life. It's about growth and death and decay, which is all together. And when they see it, when we see it together, in the garden throughout seasons, it's more valuable and important than talking about it as a kind of theory. Also being active, doing things outside, working in the soil, with soil, these things can change moods easily. It also reminds them a lot of childhood memories. And also it helps them to build their confidence, that they can do something, they can grow things and then harvest and then use the seeds and sow seeds again and seeing the process, the cycle.





# Anwara Uddin

## Grew Runner Beans and Mustard

At the Selby Street Gardening Club, Tower Hamlets

My name is Anwara. I'm a housewife. I have two children. I live in a small flat. About four years ago Katherine came from Spitalfields farm and invited us to come and grow some vegetables. In the beginning we were scared and shy. I thought, how can I go outside, dig soil and grow food and vegetables? But my friend Halema and me, and then the other ladies, we made the Selby Street Gardening Club. Each time we meet in Selby Street community hall. At the end of the year we have a party. Everyone makes a separate dish. We take pictures of our vegetables and display them in the community hall, and everybody shares their experiences and seeds.

## Why I grow my own food

I love growing my own food. I enjoy it. And I eat fresh food from my garden.

## Why I save seeds

I save my own seed because next year I don't have to buy seed.

## Connection between growing and my heritage

I come from Bangladesh. When I was small I saw my mother growing these vegetables. I would help her. I have a brother and sister. We had a competition, whose plants grew quicker, which one produced more food. I saw how my mother looked after the garden. I learned with my mum.

Photo: Sara Heitlinger

**When I came to this country I missed everything. After 20 years I started gardening. I am happy now I am growing my favourite plants. Gardening gave me this opportunity. It changed my life.**

## How I feel when I'm working in the garden

When I came to this country I missed everything. After twenty years I started gardening. I live in a flat, without a garden. I am happy now I am growing my favourite plants. I feel better now. Before I thought, how can I go outside? It was very difficult for me. Now I feel very comfortable. I'm not scared of anything.

Before, all the neighbours spoke English. Just me, Bengali. When I went downstairs I said "Hello." Nothing. I thought, oh my God, how do I speak? If I make a mistake they will laugh. I felt very shy. I was scared and thought how can I go outside and meet people and talk to them? But now I speak, and everybody is friendly. We talk a long time about their family, my family, about this country, the weather. Now I can discuss everything. I feel comfortable and very proud. Gardening gave me this experience and opportunity. It changed my life.



# Basilia Gondo

## Grew Zimbabwean Pumpkin and Zimbabwean Maize

With the Zimbabwean Association at Spitalfields City Farm

I'm Basilia Gondo, from Zimbabwe. A mother of five girls and six grandchildren. I am 72 years old. Married.

### Why I grow my own food

We grow our own food because it's got the taste we want, the taste which we grew up with. If we eat things from here the taste is not the same as we grew up with, and we get depressed. So we grow our own maize and our own pumpkins and kale. They are organic, because in Zimbabwe we eat organic food, we don't use a lot of fertiliser or other chemicals.

We really love to come here and meet other people from our home. And other people from other places and introduce them to our crops and we see their own crops here. Some are similar to our crops but not the same. Each time we cook our food here people really like it, because they didn't know that people can eat pumpkin leaves and put peanut butter or onion and tomatoes and cook them well. But now they've learnt a lot and they are very interested in our small garden.



### Why I save seeds

We keep our own seeds for the next season, and we share the seeds. We give others. Seeds are very expensive, and you are not sure what type of maize it is. They give names but in the end you see it's not the one you wanted. So if you keep your seed, you know your seed. And you have saved money. And I like saving seeds to share. I feel proud of giving people my seeds. That's how you get friends, you know? And if someone gives you a seed, you say "Oh your maize is...I got it from Basilia, I got it from Dorothy, I got it from Rose, from Etracy, this is a seed from her." Then we share. We give it to other people all over the UK, we post it to them.

## The seeds were kept by old people, the grannies... So me, I am 72, I am the granny.

Because the seeds were really kept by old people, the grannies. When you said, "I am looking for a seed," they said "Go to that old lady, she's the one who keeps seeds." You know, children, young people, we were reckless keeping the seeds. So me, I am 72, I am the granny. So each time when it's ploughing season they always phone me, "Have you got seeds for mustard? Have you got seeds for maize?" I say, "Ok I'll post them to you." So I have posted a lot of people this year, a lot of them, the seed. They call it my seed.

### Connection between growing and my heritage

We are stressed because we are not home. We are out somewhere overseas. When we take pictures we send home they always laugh, "Have you got a field in UK?" I said, "Yeah we have a field!" They said, "Oh we thought the UK was just full of cement and tired places. We didn't know there's soil there. So you've got a farm?" So we just take a picture of a small portion then we laugh, and say, "I've got a big farm!" We grew up farming. We are farmers.

### How I feel when I work in the garden

We talk, we sing, we chat about what's happening at home and what's happening here. When you come here and see some maize in the background, you just feel like you are at home. Each time you talk to someone and they are stressed you say, "Just come to the garden." We are here five or six hours. Sometimes they phone



back, "Oh, today I am feeling well because I have seen the maize, I have seen the pumpkin leaves. I just feel like I am home." It's relaxing you know. It takes your stress.

I just feel happy, relaxed. I don't think of other things. I am just thinking of my plants and chatting to other people. Gardening is therapy, especially for us. We get a bit homesick. Some are even sick, you know mentally sick. So we are trying to rehabilitate them, and ask people to come together and chat. Seeing seeds, sharing seeds, sharing ideas, singing. We always laugh here, we always sing. It makes us happy. I think it's a good thing, and it's healthy.



# Debbie Mitchener

## Grew Greek Giant Beans

At the Wilton Estate Community Garden, Hackney

The allotment space is part of the wider community garden that's on this council estate. I'm the chair of the Tenants and Residents Association and I help to manage the community gardening here.

## Why I grow my own food

I grow my own food for my sanity. The food is a bonus, to be able to pick something and eat it fresh. I love cooking and I love baking, so to have those fresh ingredients is a bonus. But it actually helps alleviate symptoms of depression. Being outside and being surrounded by nature and having that dose of vitamin D even in winter, is a real boon to the system. It gives headspace. Especially in an urban environment where there is very little space for people. And time. It is all about space and time to think.

## Why I save seeds

It's an interesting experiment because you never know whether it will work and it always shocks me when it does. Having grown up in an environment where everything was bought commercially and covered in chemicals and had to be given chemicals to grow, and that was the way that it was dealt with, to think that I can grow a broad bean here, save the seed and plant it next year without all of that added interference from the chemical industry! And it still grows. And it's still fine. I think the chemical industries and the seed industry is quite toxic. It's a balance of nature and politics for me.

Photo: Sara Heitlinger

It gives headspace. Especially in an urban environment where there is very little space for people. And time. It is all about space and time to think.

The very fact that we've got a heritage seed library in this country that cannot sell its seeds is totally and utterly ridiculous, because someone hasn't given them a license. Yet those seeds have been grown for hundreds of years. Why does it have to be managed in such a way that it's all about making money? You know, seeds, food, water, the air that we breath, they're all basic human rights, and I think business needs to back off.

## Connection between growing and my heritage

I grew up on a market garden. My father was a professional market gardener, so from the age of nine I was out picking tomatoes, planting lettuce, all of that sort of stuff. My father just bought from the big companies. He still does bless him. He wants to know that they've been treated because some treatments that they put on seeds are done to stop them from bolting. And he's all for genetic modification as well. So I was brought up very much on the opposite side of all of that. There's a constant headlock with that. I suppose you always do the opposite of what your parents did.

## How I feel when I work in the garden

I feel very peaceful. I'll often come out here thinking, "Oh I need to do the weeding," and I feel stressed, and I feel there's pressure on me that I need to do things. But within minutes of being out here, all that's gone and suddenly an hour has gone by and you lose yourself completely in it, and it's almost like a meditative state that you get into very quickly. It has a real grounding and calming influence.





**Even with Halema, we are from the same Bengali community, but we didn't know each other well. Now we know each other better. Sometimes I have some seeds that she doesn't have, and I'll give her. This women's group has helped to build the community.**

## Fatema Khanom

### Grew Black Chili and Potoi

#### At the Selby Street Gardening Club, Tower Hamlets

I've been living here for 22 years. But four years ago I started gardening. Before then I didn't know anything about gardening. Katherine (from the farm) helped us, how to make a garden, how to grow our own vegetables. Then we started gardening. Now, every year I grow my own vegetables. I grow the vegetables that I like, or my children like.

#### Why I grow my own food

The flavour is nice. A garden tomato is flavourful, tasty, smooth. It's very nice, very yummy! That's why I like gardening. The flavour is different from the shop. When you grow your own things you feel so proud of yourself. It looks nice. "I made that vegetable!" When I've been in the garden for one or two hours, it just goes, and I think, "Oh, I've been gardening for two hours!" Before, I didn't know my neighbour, Rosemary. We just said, "Hi, hello." That's it. "How are you?" But now we talk about gardening, what she's been doing, sometimes she asks about me. And sometimes I give her some vegetables. We know each other more. Even with Halema, we are from the same Bengali community, but we didn't know each other well. Now we know each other better. Sometimes I have some seeds that she doesn't have, and I'll give her. This women's group has helped to build the community. I think gardening is the

best idea. And it's good for your health. When you're sitting at home you don't do that much. When you are gardening, pulling, picking, it's like exercise. I feel good.

#### Why I save seeds

Sometimes when we buy seeds the quality is not good. Sometimes it's rotten seed. But if you save your own seed, it's 100% ok. That's why I save the seed: the quality. You can also save money.

#### Connection between growing and my heritage

I remember back home they grew vegetables. Now I'm growing the same vegetables. Sometimes I send pictures to my cousin back home, "This year I grew that." They ask me, "You are growing that in the UK?!" I say, "Yes! We are still Bengali, our roots are Bengali. That's why I grew that!" I ask them, "What did you grow this year?" Even here I still ask my cousin, my sister, "What did you do with your gardening?"

#### How I feel when I work in the garden

I'm happy when I see flowers coming, or a plant growing. But when a plant is dying, I feel so sad, because it's tiny, so little. Sometimes you see it's dead and you feel so sad. And when the plant is growing vegetables I don't want to pick them!! Because I feel like they are my children. How can I pick them? Everyone tells me, "Take it. It's ripe." I say, "No, not today, I'm going to take it tomorrow." Chillies, tomatoes, potol, kodu, everything, I say, "No. Not today. I'll take it tomorrow." But I feel sad when you see it growing every day, how its shape comes. And at the end of the day, you're going to cut the vegetable. It feels so sad. It's living.





Photo: Sara Heitlinger

# Halema Begum

## Grew Potal and Coriander

At the Selby Street Gardening Club, Tower Hamlets

My name is Halema Begum and I live in Selby Street. I've lived in this country more than 25 years. I came from Bangladesh. I'm the mother of three children, I have two daughters and one boy, and I love to do gardening!

## Why I grow my own food

It's like joy! It's your own products that you are eating, and you know there are no chemicals, you just grow organically. Organic food at the supermarket is really expensive. So even if I grow a little bit in my garden, at least I have some of my own produce here.

## Why I save seeds

People can buy seeds from shops but I like to save and grow from my own seeds. I want to see then how they grow again. And then more vegetables come and I save again. Because this is the way my mother and grandmother did it. They always saved their own seeds. They never bought from shops or anywhere. I think it's a good idea, because you know your own seeds, how to grow them, what kind of soil they need, and from experience, you know the best way to do it.

**This is the way my mother and grandmother did it. They always saved their own seeds. I think it's a good idea, because you know your own seeds, and from experience, you know the best way to do it.**

## Connection between growing and my heritage

In Bangladesh I was born and brought up in a village. I used to see the other people do farming. My grandfather, he loved to do farming. So I saw how he grew rice and beans. My mum and my grandma were always growing in the house. We had a big yard so they grow their kodu and beans. I didn't join in when I was little but I saw the way they were growing vegetables. That's why I love to do it.

## How I feel when I work in the garden

I feel so happy and so relaxed. It's like I'm in my own world. I'm digging and looking. And sometimes other people, our neighbours, they just come and give me advice or they just talk to me about themselves, their problems, and I'm just listening and doing my own work. It's really nice.



# Kate Williams

## Grew Red Russian Kale and Winter Squash

In her back garden in Hackney

I've been growing food and gardening for flowers for as long as I can remember. I keep the seeds and I keep plants living their whole life for the animal biodiversity so there's insects coming in and the birds eat the seeds. So there's enough there for everyone.

## Why I grow my own food

I'm very keen about growing vegetables, their nutritional value, and just the fact that you can walk out your kitchen door and pick your dinner. Particularly in a world that's got far too many pesticides and chemicals in it. So I value that. And also just the benefit to one's health. I do it for my mental health more than anything else. London's quite stressful, I couldn't really be here without a garden.

## Why I save seeds

I save seeds because of cost, and provenance. Seeds that grow in your own location become stronger about growing in that space. Buying in seeds might have come from, say 150 miles away, and that's a different kind of climate. So growing several generations of your own seed in its location means that's strong and viable seed.

The portfolio of my seed box keeps growing. The seed box is really, really key. Ok I might move to a different area and they're not actually from that area, but then you start again. The seed box



is really important. And it's cheap, well it's free. The cost of seed is quite extraordinary actually. Six pumpkins seeds, you know, a couple of quid. And then it gives you something to share with your friends and encourage other people to grow. People come for dinner, share your food and you say "I grew this in the garden." They are like, "Wow this is amazing!" I'm like, "Got some seed if you want to take some with you." Send them in with a Christmas card maybe. So yeah, trying to spread the excitement to people who don't have experience of gardening to get them involved. Because it is so simple.

I save seeds because of cost, and provenance. Seeds that grow in your own location become stronger about growing in that space.

## Connection between growing and my heritage

I was raised on a farm. We grew all our own food in the vegetable patch and then we had animals and crops. So I've always been in that relationship, it's in-built in me, it's not something I've consciously gone out and learnt. Well I have a bit, I've gone and studied horticulture and have expanded what I know by working for other people. But in essence it's in me to grow things.

My mum, always, every year bought new seeds. I always thought it was a bit bonkers frankly, but that's what she'd do. It was an interesting time. Modern agriculture came in and slightly devastated all traditional farming methods. So the concept of saving seed went out the window.

Whereas I save seeds and I do my best not to buy seeds and in fact I do my best not to spend anything on the garden, the garden has to pay for itself. Twenty quid a year I probably spend on my garden. And I've gone back to more organic production and traditional farming and gardening methods, which is the difference between me and my parents' generation. In the 70's and on they



were like "Get out the old, don't need it any more." And now I'm putting it all back.

## How I feel when I'm working in the garden

Oh, it's a total de-stress. It's meditative and it has a kind of compulsiveness, but that's not a bad thing you know. Also, because you're concentrating on something that's a menial task, weeding, you can zone out. It's a meditative thing. I wouldn't be able to sit in a room and meditate. It's having a task that's quite simple that becomes a routine, or it becomes a natural thing to do for half an hour a day. If I'm working I'll come back and garden for half an hour before I can relax. That is my relaxing time.

Photos: Sara Heitlinger (1-3), Kate Williams (4-5)





Photo: Sara Heitlinger

# Lisa Lueaffat

## Grew Pak Choi

At the Wilton Estate Community Garden, Hackney

Last year was the first year I got an allotment bed to grow, and I went mad. I had about thirty something different varieties going in that one little plot.

## Why I grow my own food

Once I started the garden, I had to buy very few vegetables and I've dropped ten kilos over the year. Sometimes I spend five to eight hours on my days off in the garden. So it's one way to lose weight. I control what I actually eat. Even my doctor is saying my health is much better this year. I know there are no pesticides in it.

And cucumbers that come off the vine, that you've just picked, are so crunchy! The radishes last year didn't make it out of the polytunnels because I ate them. They were delicious. Lovely, spicy, peppery. You don't get that in the ones from the supermarket.

## Why I save seeds

The seeds I save I know exactly what plant they come from. I'm not particularly fond of the hybrids and whatnot, because some of them, you're not exactly sure what they've done to them. I like the heritage stuff. We have lost a lot of heritage varieties because people stopped growing them. With these commercial ones, all they need is one thing and it'll wipe out the whole lot. And there's nothing saved, no backup.

**We have lost a lot of heritage varieties because people stopped growing them. With these commercial ones, all they need is one thing and it'll wipe out the whole lot. And there's nothing saved, no backup.**

## Connection between growing and my heritage

My grandmother grew up in the country so they always planted their own food. They didn't have money to buy stuff so everything was grown. They had a big garden, so their job as kids was to plant and take care of it. They saved their own seeds because they were too expensive to buy. When they opened a pumpkin they'd take all the seeds out and dry them. They saved the corn to grow the next year. They saved seeds from peas. They grew pigeon peas, black eyed peas, red beans. What they were accustomed to eating they grew, and they saved the beans for the next year to grow. So they didn't really buy much of anything.

## How I feel when I work in the garden

Ah, relaxed. No pressure, no nothing. I just enjoy the fresh air, the insects. When anybody passes, I stop and talk to them, encourage them, show them what I'm doing.



Photo: Hayley Madden

# Lutfun Hussain

## Grew Kodu and Lablab Beans

### At Spitalfields City Farm, Tower Hamlets

My name is Lutfun Hussain. I started here in 1999 as a volunteer and began working as the Healthy Eating Coordinator in 2000, originally it was called Ethnic Minority Support Worker. I work with the Coriander Club, which is a gardening club. People come and help me with gardening, planting seeds, whatever I need. I teach people how to garden. Every month I also run healthy cooking workshops. In my register there are 27 women. I give them some fresh vegetables that they can share with their families.

### Why I grow my own food

I came to this country from Bangladesh in 1969. In that time you couldn't find fresh Bangladeshi vegetables. I missed the taste of the fresh food we used to eat: kodu, lablab, amaranth. I tried at home to grow some but I wasn't successful because of the weather. In the first year all the plants died. I tried again and again. The weather is different in Bangladesh. This is the way I learnt. With the weather.

### Why I save seeds

There are many types of kodu. You need to know which one you are growing, which one is good. Same with beans and amaranth. If you keep your seed, you know which kinds of seed you kept. It's organic. You know it's good seed. If you buy in the shop you don't know how old it is, and how quickly it will germinate. My seed germinates quickly.

**I came to this country from Bangladesh in 1969. In that time you couldn't find fresh Bangladeshi vegetables. I missed the taste of the fresh food we used to eat: kodu, lablab, amaranth.**

### Connection between growing and my heritage

The vegetables we eat are connected to our culture. I love Bangladesh and I feel proud when I grow my country's vegetables. When the community sees the vegetables from Bangladesh growing here they show their children and feel proud. Even people from other cultures appreciate it, and ask me how to grow and cook. I feel a connection to the village where I grew up when I see these vegetables freshly cut. I am proud that I am the first to grow these vegetables from Bangladesh successfully in London, and it gives me good memories.

### How I feel when I work in the garden

I feel healthy. I enjoy growing and cooking. Other people enjoy when I share with them. When people appreciate what I do, it inspires me to grow more. I take part in many growing competitions, and I have won lots of trophies and certificates. I feel happy and proud.





# Meghan Lambert

## Grew Tomato and Pumpkin

### In her back garden in Hackney

I am lucky enough to have a lovely, decent sized garden with a big veg patch and lots of sunshine. I have very little experience gardening. I moved house so now I have this garden. This year was the first year that I really tried to go all out.

### Why I grow my own food

I have a six year old and I want him to understand and learn about where our food comes from and how it gets to our table, and the whole process from the very beginning to the end. Also for myself as well since I've lived in cities my whole life, and sometimes I forget. And also because I have the space, so I feel like I have a responsibility to make the most of it. And actually it's kind of a hobby now. And it's good to spend time outside, to have an excuse even on a cold day.

### Why I save seed

Just the fact that we can save our own seeds and grow our food for the next year from those seeds. That's so, so basic that it's absolutely incredible, and very easy to take for granted. I guess just one seed becomes this kind of sacred potential in so many different ways. So I've been inspired and now I'm collecting as many seeds as I can.

### Connection between growing and my heritage

My dad always says that my granddad was the first Irish man to

## I feel connected to family and people, and myself, and my son in a different way when I'm in this garden space

grow peaches in Ireland. And then my granny would always have loads of rhubarb in her garden and she'd have tomatoes in her greenhouse. When my gran passed away I spent a week going through everything in our house and sorting everything out. It was in the summertime, in August, so we spent a lot of time in the garden. There was this big rhubarb. My mum wasn't there (this was my mum's mother) and I remember bringing the rhubarb back to London, and baking rhubarb crumble for my mum, and all of us, for dinner one night and it felt like we were eating there with my gran. Because this was one of her favourite vegetables.

### How I feel when I'm working in the garden

One thing that has become very apparent is just how relaxing it is. Sometimes if you feel a bit of stress and if you practice a bit of meditation and yoga, yeah that will be helpful. But sometimes it feels like a lot of effort to try and just clear your mind or still your mind or just observe the chaos of your mind. Whereas with gardening it's completely effortless. You just start gardening and all of a sudden you enter a whole new way of being, a different realm, and it's almost as if stresses and your daily life gets put to the side and you get to be very present and you get to exist in a different way that is very enjoyable. I feel very alive.





# Nat Mady

## Grew Thai Basil and Runner Beans

### At Cordwainers Garden in Hackney

I'm a part of Cordwainers Garden. This year we've dedicated a plot to seed-saving for this project.

### Why I grow my own food

I grow my own vegetables because I really enjoy growing things, and being able to grow things that I know are healthy and nutritious. I like doing it with other people, as part of a community garden. And it's always nice, each year, to try something different and experiment. And I like being outside in the fresh air.

### Why I save seed

I save seeds for a few different reasons. For political reasons around seed sovereignty. There's lots of worrying regulations at a global level around seeds. Also because I've learnt that the seeds that you save yourself from your local area and climate and conditions are always, each year, more adapted to the environment. And it means you have free seeds. We always get a lot of seeds so we can give them away to other people. And also it's just really fun! I'm quite fascinated by seeds, so being able to save them and collect them is something I really enjoy doing. Food sovereignty is linked with having control over our food and the plants and the crops that we grow. Over the years lots of seed varieties and heirloom seeds have been lost in favour of

## It's nice just to have a real break and just be away from technology or from things

commercially grown crops. So for me seed sovereignty is about taking the control back and being able to collect our own seeds and being able to carry on doing practices that farmers have been doing for a long time all over the world.

### Connection between growing and my heritage

My parents would grow vegetables and always had a vegetable patch. My dad is from Egypt, so there were certain things that he grows like broad beans (or fava beans). I really vividly remember (and also there's a photo of me) podding peas as a child. Because they always saved their bean seeds, when I did start growing crops on my own that just came naturally to me because it was what I'd seen and what I'd grown up with.

### How I feel when I'm working in the garden

I usually feel quite relaxed. Although we're still in an urban area, we're quite hidden. People can see us, but you sort of feel like you're a little bit tucked away and a bit hidden, almost like no one can really find you. It's quite nice just to have a real break and just be away from technology or from things. And it's really nice just having the sounds of the garden. It's very different to any other kind of day-in, day-out city environment. Mostly I feel quite calm and relaxed and it's always having a bit of a time out when you're here, even if you're working quite hard.





# Nathalie Aby

## Grew French Chillies

At Spitalfields City Farm, Tower Hamlets

I'm originally from France, but I've been living here for more than 20 years now. I've been volunteering for three years. I work with Lutfun on the vegetable garden. I try to come here at least once a week. I like the space and I like what they grow here, especially what Lutfun grows which is mainly Asian vegetables. It's an interesting experience to see what you can grow in the UK, what is normally grown in Asia.

## Why I grow my own food

To grow your own thing is fascinating. Nature gives you a different sense of time.

## Why I save seeds

I save them, well just to keep going with them. I think it's important to keep a reserve. Because I like the experience of growing from seed. So every year I will start again from the seed. I like the idea of taking care of the seed and then seeing the final fruit. The entire cycle. That's what I enjoy. And I'm happy to share them as well if people are willing to have the same experience.

## Connection between growing and my heritage

My parents had a little house in the countryside. We lived in the city, just outside of Paris and we had a small house one hour away from Paris and we used to go every weekend. My dad was a keen

**I like the idea of taking care of the seed and then seeing the final fruit. The entire cycle. That's what I enjoy.**

grower as well, and I think that's where I got the love of it. I started when I was about eight. And then as a teenager I was probably interested in other things. It's something that came back to me.

## How I feel when I work in the garden

Nature is very rewarding in a very simple way. That's what I like, the simplicity. I've been away for two weeks and in two weeks it's amazing to go back to the garden and see how it's grown. I think during the cycle it's a good experience to go away for a couple of weeks, come back and see how nature has progressed. It's just the simplicity of it, and the space. I think it's a wonderful space here. To be able to access that space when you live in London has become almost a luxury. It has become precious. I live in central London, so you can imagine what it is just to have this little spot. It's like a little oasis here. And I found some nice people as well. And learnt a lot.

It's good in general for the mind. It's relaxing. You focus on something simple. It's a manual activity as well, which I realised I like in my life. It's doing simple things with your hands. And look at the reward! It's pretty amazing.





Photo: Sara Heitlinger

## Richard Walker

### Grew Calaloo and Green Orach

#### At Spitalfields City Farm, Tower Hamlets

I'm a community gardener at Spitalfields City Farm. I'm responsible for a little area of land, 0.167 acre, a community garden. And I run workshops on that land as well as growing vegetables on that land.

#### Why I grow my own food

I grow food because I enjoy it. Because I enjoy eating. Because I don't like the predominant food chain. To be honest, I'd love to have my own plot, but there are so many benefits to growing on a community garden, like all the skill-sharing. And all the social side of it is massive. So it's probably something that, you know, you'd like to be isolationist and off growing on your own. But actually if you were, you'd probably be a bit lonely.

#### Why I save seeds

I want to have crops that are adapted for my ground. I want to have more productivity for less work. If I've got successful germination and plants that are doing really well, then they'll just end up being more productive. I mean you can get a plant that's supposed to be really really productive, but it's not productive if it's sat on your ground not germinating. So something that I've got that germinates really well and grows really well, will end up being more productive. And I want to save money.

**To be honest, I'd love to have my own plot, but there's so many benefits to growing on a community garden, like all the skill-sharing. And all the social side of it is massive.**

#### Connection between growing and my heritage

Well my dad's side is from Birmingham, English, inner-city, slum people really, and they always grew vegetables. So it's interesting to know that in that city vegetable growing was a very working class experience. The Irish side were self-sufficient farmers on the west coast. And the last few generations were quite well-to-do, so there was quite a lot of luxurious things grown like currants for making jams. So it wasn't just subsistence.

#### How I feel when I'm working in the garden

Rage. Bored. Happy. Peaceful. Productive. Overwhelmed. A range of emotions.





## Sayada Sultana

### Grew Runner Beans and Achocha

At the Selby Street Gardening Club, Tower Hamlets

This is my third year I'm gardening. In these three years I've learnt a lot. In the first year I didn't know anything about gardening. Actually this is my first time saving seed. Before, every year I bought seeds. My garden is doing well.

### Why I grow my own food

It's fun and it looks nice to see green things. When I came here, I saw lots of people gardening. So I showed my interest to them, and they said "OK you can do it too." I live in a flat, but they gave me a plot two buildings after my building. So there I do my gardening. It's nice to see plants growing, green things coming up, and food coming up. And my children really enjoy it too.

### Why I save seeds

Because then we know and understand where this seed came from. Sometimes if we buy seeds from a shop or market, we don't know if the seed is ok, if it works or not. Sometimes we buy seed from the market that is not as good as we think. It's like, we own a little plant, little life, so we put it in the next year. That's really nice. And it saves money as well, because buying seed is a lot of money.

**When I'm looking after my plants, I feel like I'm looking after my children. And it feels really good to see the seed growing up and it gets bigger, and then again it's dry. It's really nice to see.**

### Connection between growing and my heritage

My mum grew plants every year when I was little. She grew different types of vegetables and fruits. And now I have the opportunity I want to try and grow the plants that I used to in Bangladesh, in my country of origin. So I want to try and grow tomatoes. And kodu. Because in this cold country, these are difficult things. I didn't manage to grow any kodu fruit, but I can still eat the leaves. I'm trying lots of our cultural plants.

### How I feel when I'm working in the garden

It's a really good feeling. When I go to the garden, I feel I need to spend more time here. When I'm looking after my plants, I feel like I'm looking after my children. And it feels really good to see the seed growing up and it gets bigger, and then again it's dry. It's really nice to see.



# Locations

## Community Gardens

### Spitalfields City Farm, Tower Hamlets

The farm has a wide variety of green spaces that visitors and volunteers can enjoy. Volunteers provide all the hard work, enthusiasm, fun and expertise with a wide range of gardening/ landscaping/food growing/wildlife skills. There are several spaces for volunteers to learn how to grow food. Raised beds have been created in every space available and filled with lots of edible greens. In the vegetable garden, volunteers learn the benefits of companion planting. Volunteers are involved in all aspects of cultivating the vegetable garden and some tasks are more hard work than others.

Lutfun Hussain runs the *Coriander Club*, where, with the help of volunteers primarily from the local Bengali communities, she grows crops in rotation in raised beds and polytunnels. Volunteers provide the labour, learn new skills, and take home some produce at the end of the day.

Richard Walker co-ordinates volunteers at the *Spiralfields* permaculture Garden at the farm. This garden has no mains water, and is designed to be drought-resistant. Richard works with volunteers from different backgrounds. Nathalie Aby volunteers at the farm. She grows her chillies in pots in the polytunnel.



Basilia Gondo and other members of the Zimbabwean Association meet regularly at the farm, where they grow Zimbabwean crops on a couple of raised beds, and sometimes cook meals for everyone.

### Cordwainers Garden, Hackney

This small community garden was created on the site of a former shoe-making college. The garden's focus is on the wider uses of plants and it has a small medicinal plant bed. Regular dye workshops are held using flowers, leaves, weeds and bark gathered from the garden. Nat Mady is co-director of *Cordwainers Grow*, an environmental social enterprise that manages the community garden.

1–Spitalfields City Farm, 2– Cordwainers Garden, 3 & 4 – Selby Estate Gardening Club.



5&6–Wilton Estate Community Garden, 7– Meghan's garden (photo: Meghan)

### Selby Estate Gardening Club, Tower Hamlets

The Gardening Club was established by Katherine Jackson from *Spitalfields City Farm*, and it has been recognised as empowering residents by helping teach horticultural skills and grow their own vegetables. Seed Guardians and residents Halema Begum, Anwara Uddin, Fatema Khanom and Sayada Sultana grow their own food on individual raised beds constructed on the communal lawns of the estate.

### Wilton Estate Community Garden, Hackney

This community garden is located on the internal green space

of the estate. It consists of raised beds, greenhouse, herb gardens and wildlife areas. Residents can use a raised bed (for a token amount) and can access the greenhouse. Seed Guardians Debbie Mitchener and Lisa Lueaffat are active members in the gardens.

## Individual Gardens

Ahmet Caglar grows food in his back garden in Walthamstowe. Kate Williams and Meghan Lambert both grow food in their back gardens in Hackney.





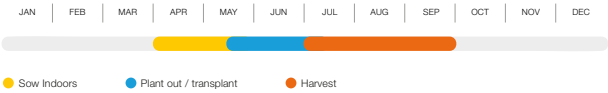
# Achocha & PotoL

Achocha was a originally grown by the Incas in South America. It is a member of the Curcubit family of plants, that includes squash and cucumbers. In a good year, this plant can take over if not controlled. Sow seeds into pots under glass or on the windowsill in April/May and set out when all danger of frost has passed; or grow under glass. Warmth (rather than heat) and humidity are what achochas like best. Needs support, preferably with netting as it has gripping tendrils. Will not cross with cucumbers or squashes and is self-fertile.

## Halema on PotoL

### Where the seeds came from

I first saw the plant at Spitalfields farm and I didn't know what it was. I just liked the leaf. So I bought it and put it in my garden. Then I saw the vegetable, and I didn't know what it was. Once day, when I was working in my garden, there were two ladies talking with each other, saying "That is potoL," and talking about how



Photos: Fatema Khanom (4,6,8); Sayada Sultana (2,3,5,7); Sara Heitlinger (1)

nice it tastes. I asked them what it is. They said, "It's a Chinese vegetable. It tastes really yummy." They told me how to cook it. That is how I learned about potoL.

### How to grow

It likes a sunny spot. It's quite easy to grow. Water it every 2-3 days in dry weather. It takes up a lot of space.

### How to save seed

I left some of the potoL on the plant for a long time. When it turned dark and wrinkled I picked it, took out the seeds and left them to dry in the open air. This is my first year growing and saving potoL seed, so next year I will find out how good the seed is. I don't know yet.

### Recipe

I make prawn curry with potoL. I put some in my fish curry too. The taste is really amazing. It tastes like baby courgette.

## Fatema on PotoL

I bought the plant, put it in my garden, and it grew well. I got lots of potoL and gave them to many people. Everyone say it's very tasty. It's easy to grow. Three or four plants will grow into a big bush. You need to give it something to climb on.

### Recipe

It tastes a little like beans. You can eat with fish, with other vegetables, or prawns. Clean it. Then fry onions, coriander, garlic,

chili powder, turmeric and salt. Stir, then 3 or 4 minutes later add the potoL. You don't need to add water. It cooks in a few minutes.

## Sayada on Achaocha

### Where the seeds came from

Lutfun from the farm gave me the seeds and so I said, "OK, lets try it." She said it's potoL, but when I saw the seed I thought, "It's not potoL, it's something else. Let's see what happens." When I saw the fruit growing, I thought, "Oh my god what is it, how can I eat this one?" I was scared about what the taste would be like. I didn't have any idea what it is. The smell is a bit strong. I thought, "Let's be brave and try it. What will happen?" One day I cooked it and it was really good.

### How to grow

Growing it is easy, and it grows fast. It takes loads of space. It goes everywhere in my garden.

### How to save seed

I left the achaocha to dry in the garden, then I picked them and removed the seed from the fruit, and put the seed in paper.

### Recipe

I cut it into long pieces, and then put onion and garlic and a little bit of oil. After it turns brown I add the achaocha. It is cooked in 5 minutes. It's really tasty. The strong smell disappears when it's cooked.

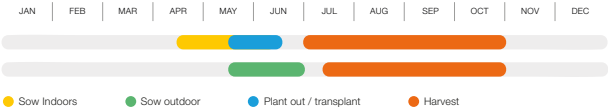


# Calaloo

Like all amaranths, calaloo has edible leaves and seed, and has a huge range of leaf colours, shape and size. Once established, plants are quite drought tolerant.

Calaloo grows well even outside in the UK. If starting indoors, sow in modules at 15-22°C. Germination is quick, within 7-10 days, but plants grow slowly until mid to late April (due to low light levels in the UK) so there isn't much gained from sowing earlier. Plant out once frosts are past.

If sowing directly outside, wait until soil temperatures are 15°C or over. In warm damp conditions, first leaves can be picked weeks after sowing. Remove flower heads to keep leaf production.



Photos: Sara Heitinger

## Richard on Calaloo

### Why I grow calaloo

The food that I and a lot of my volunteers cook involves a lot of leafy greens. Calaloo is a persistent source of leafy greens throughout the summer. It's quite drought tolerant, and I'm trying to do everything here without mains water. And I just really enjoy the flavour.

### Where the seeds came from

It was hybridised here from a Nigerian calaloo and a Jamaican calaloo, so it's got hints of red from the Jamaican calaloo and hints of green from the Nigerian one. It came from my friend Joan two years ago. I should have kept the strains pure but they crossed.

### How to grow

It needs to be really warm to germinate, so you would wait till May, June, maybe you'd even get away with July and still get a crop off of it. If you wanted to start them off in modules inside in a warm place, you could do that. Pot it on, then plant it outside when it gets really nice and warm. Or you could sow it directly into well prepared soil. It needs lots of sun. And you water it. You don't need to water it too much. Certainly when it's tiny you'd want to keep on top of the watering. Once it gets to about a foot high, then you start harvesting it. Snap the stalks off so it grows out into a bush.

### Tips and challenges

I had loads of them decimated by slugs and snails when they were babies. So you want to be thinking about that. It was also getting greenfly. That didn't affect the plant but it just means you've got to be a bit careful when you're washing it for cooking if you're

squeamish about greenfly in your food, which I am. The biggest thing that's going to impact on the slugs and snails is things like the blackbirds and the thrushes, so make sure you've got lots of shrubbery, and keep a pond for frogs. It's not like an immediate cure, but it's a sustainable long-term cure, and it makes life a lot easier to correct that imbalance in the biodiversity, rather than intervening too much.

Plant flowers to feed the hoverfly. They lay their eggs near colonies of aphids and their babies eat the aphids. So your marigolds and other flowers are helping with that keeping the hoverflies coming in.

### How to save seed

It forms these wind-pollinated flowers. They're not flowers like you'd think about in a marigold, they're more like in grasses. They eventually produce flowers which droop over and give out seeds which are beautiful little shiny black seeds, very very tiny. Which are also a food source in themselves. You shake them down in a tray and winnow and thresh them and blow off all the chaff.

### Recipe

I will have it as a salad or cook it up like a spinach. I'll fry off some onions, garlic and chili, move on to tomatoes, add the calaloo, then add some sour and hot with a bit of chutney that you'll have made the September before. Then a tight lid so the steam builds up and it wilts. And then serve it with some rice.

It tastes like spinach. With calaloo a lot of it is about enjoying the stalks. You keep hacking it frequently so you get these long tender stalks. So it's a texture experience. It's a flavour experience. There's a very specific calaloo smell. Very subtly sulphurous.

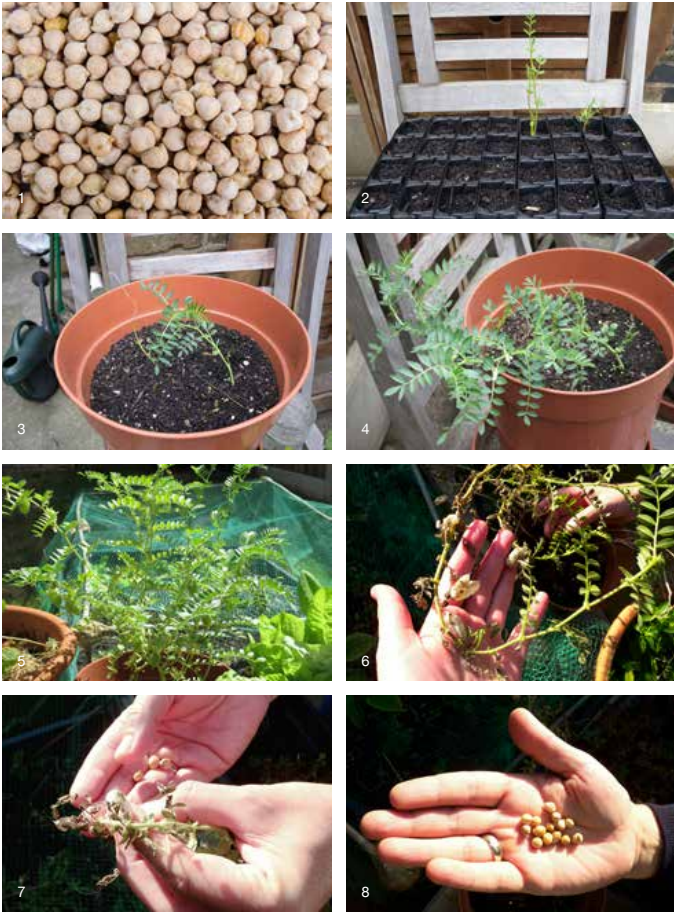
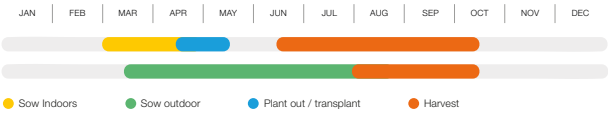
# Chickpeas

Chickpeas are a new crop to the UK although they have been cultivated for centuries in Asia and the Mediterranean. They are small leaved annual legumes, growing about knee-high, with great drought resistance and freedom from most pests. Plants are not fully hardy although capable of withstanding light frost.

With attractive grey-green foliage and the capacity to fix nitrogen, chickpeas show great promise in the warmer and drier parts of the country for a long season of production, with low demands for water or nutrients and little effort needed to grow them.

Depending on site, chickpeas can be sown direct from late March to early April and if required successionally throughout the season until mid June. Many people growing chickpeas plant seeds sold for sprouting, as these will be fresh enough to germinate readily: they are also unlikely to have been treated with pesticides.

Although in hotter climates they are grown for the familiar dried pea-like seeds, in our damper climate they are best harvested green as a luxury crop, like petit pois, with a taste somewhere in between fresh raw French beans and garden peas.



Photos: Ahmet Caglar (2,4,5,11); Maggie Hoffman (10); Sara Heitinger (3, 6-9); Wikimedia (1)

## Ahmet on Chickpeas

**Where the seeds came from**  
I got seeds from two different seed companies.

**How to grow**  
I started indoors, in April or early May, in these root trainers, and I just sowed them in each section. I put the water at the bottom of the trainers and left them indoors. When they germinated and the seedlings grew, I transplanted them outside. Two or three plants germinated.

**Tips and challenges**  
In some places they say it's not a fussy plant, don't worry about the soil condition, just sow them. But in other places they say the roots are very fragile, be careful, and that sort of thing. Some places advise using root trainers in order not to disturb the roots. Which I did. But it didn't work actually. I sowed more than sixty seeds and only two plants came up. I collected only around nine or ten seeds. This is a failure for this crop. But I would like to try again.

**How to save seeds**  
I just waited for them to dry on the plant. Then when I saw that they were dry enough I collected them. It's very easy to collect seeds.



**When I was a child we would buy a big bunch, you just ate them like that. There were plenty.**

**Recipe**  
My intention was to eat them fresh, without cooking. I ate a few green pods. But that's it. It wasn't like when I was a child. We would buy a big bunch, and you just ate them like that, and there were plenty. When we cook dried chickpeas we generally boil them. We use them in salads, or we cook them as a separate dish, with some onions and tomato and tomato paste and chili, and then eat with rice or bulgur wheat.



# Chili

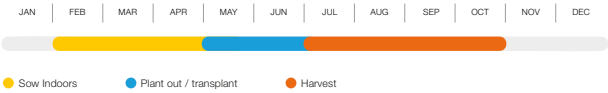
Chili peppers originated in Mexico, but are now used in many parts of the world as both food and medicine. Red chilies contain large amounts of vitamin C.

## Nathalie on French Chili

This type of chili is from the southwest of France. It's grown in a town called Espelette. My sister gave me some chilies and I decided to grow them here. That was three years ago.

### How to grow

Around April I would normally put the seeds in moist cotton wool to make them germinate. When they reach between 2-5 cm, with small leaves, transfer them to compost. They start germinating pretty quickly, within a couple of weeks you will start seeing the shoot coming out of the seed. When the plant is strong enough and has built a root system, then you can transfer them into compost. They don't need manure in the early stages because it might burn them. Transfer the plant when it's about 10 cm and it's got enough leaves into bigger pots, and then add manure. Water either from



French chili. Photos: Nathalie Aby (bottom row); Sara Heitlinger (others)

Black chili. Photos: Fatema Khanom

the top, or just leave some water in a little reserve at the bottom. You can start seeing fruit end of July, but they're still green. The fruit will probably turn red end of August or September. They are ready as soon as they're red.

### Tips

A chilli requires heat and sun. In the southwest of France they are perfectly happy outdoors. Here it's safer to grow them indoors. They don't require a lot of maintenance or attention. They are pretty easy to grow.

### How to save seed

Once they're dried, I will cut them open and remove the seeds. Put them in a little jar and store them in the cupboard.

### Recipe

I dry them for cooking. The taste is sweet, not too spicy. I use them to replace pepper, just to give that extra kick. It could be in a curry or any fried dish.

## Fatema on Black Chili

### Where the seeds came from

Someone gave them to my mum, who gave me the seed. I've been growing it for the last two years and saving the seed.

### Why I grow black chili

Because I love chili. It smells so nice. Sometimes you feel like, "No I don't want to eat green chili, I want to eat black chili." I eat lots of chili.



### How to grow

It takes time, nearly two weeks to start growing. I put it in a hot dark place. When it has two leaves I take it out and put it somewhere sunny. After a couple of weeks I put it in my garden. I feed banana to chillies. Yes, banana. I cut a piece of banana, and put it in the soil to help it grow quickly. Yes, chili plants need banana. It is a fertiliser. Every month I add banana to the soil.

### Recipe

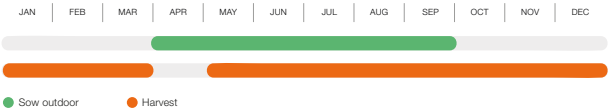
Sometimes we just bite it, when we eat rice. Sometimes I put a whole chili in a curry I'm making. The fresh chili has a nice taste and smell. I don't dry it unless I'm saving seed.

# Coriander

Coriander is a Middle Eastern and Asiatic herb. As it is quite expensive to buy as a green leaf and doesn't keep well, it makes sense to grow this crop so that you can use small amounts when required.

Coriander likes a well-drained, moderately fertile soil and is best sown directly into a warm (15°C), finely cultivated bed. Sow thinly into 1cm deep drills, 20cm apart. Rolling or pressing the soil will improve germination. It can be sown from late April onwards and will take 1-2 weeks to germinate.

During the summer plants will bolt fairly quickly, so repeat sow every 2-3 weeks to maintain supplies of leaves. The flowers are particularly attractive to beneficial predators such as hoverflies.



Photos: Halema Begum (2,4-6); Sara Heitlinger (1,3)

## Halema on Coriander

### Where the seeds came from

My coriander seed originally from Katherine from the farm 3 or 4 years ago, and since then every year I have saved my seed.

### How to grow

I just dig to prepare the soil and then put the coriander seed in and cover with another layer of soil. If you sow your seeds in July or August you can eat the leaves until December. They like hot, summery conditions. But they grow well in winter too. They are more scented in summer time.

### Tips and challenges

Slugs and snails are the main problem. I put egg shell around my plant to stop them from going near. I also pick them up with my hands and throw them away. Same with the caterpillars.

### How to save seeds

If you want to save seeds, don't pick the flowers. You can continue picking the leaves, but leave the flower untouched. Leave the seeds to dry on the plant. When they are dry, cut the stem and hang it upside down. Or pick the seeds and dry them for 2 or 3 days in the open air, and then store them in a paper bag.



**If you want to save seeds, don't pick the flowers. You can continue picking the leaves, but leave the flower untouched. Leave the seeds to dry on the plant.**

### Recipe

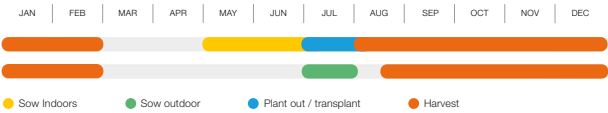
We use the fresh leaves in our curries and chutneys. And we use coriander powder in our curries. You can make powder from the coriander seed, and then use it like a curry paste.



# Kale

Kale is a group of vegetable cultivars within the plant species Brassica oleracea. Until the end of the Middle Ages, kale was one of the most common green vegetables in Europe. Curly-leaved varieties of cabbage already existed along with flat-leaved varieties in Greece in the fourth century BC.

Red Russian kale is sweeter than traditional varieties of curly kale. It's sweetness is maintained whether it's eaten as a baby leaf or fully grown. It has frilly leaves and a crimson veining.



Photos: Sara Heitlinger

## Kate on Red Russian Kale

### Why I grow it

I grow it because it's robust and it goes through the winter. It's a hardy British arable crop. We grow it to feed cattle. It's a new superfood for humans, but it really is quite an easy thing to grow. It's not like other cabbage plants where you're trying to get hearts and cabbages and you've got issues of white butterflies and caterpillars eating your crop. It's the joy of cutting and coming again. You just keep hacking it back and it just keeps growing. I'm really keen on crops like that, particularly in a small space, so you've constantly got fresh greens without having to worry.

### Where the seeds came from

I was working in an organic garden last year and there were a couple of seedlings that were going in the bin that I rescued. I quite like rescuing plants. So I was eating the kale last year, left some to go to seed, which have now come to seed this year, ready to grow again next year.

### How to grow

I probably sowed them late April into a simple seed tray with compost. They don't need to be propagated indoors, they're quite a tough hardy plant. So just defending them from the slugs and

snails, who love seedlings of any sort. Once they're decent sized plants, three to four inches high, transfer them into the garden in rows. I actually did sow some direct. It's just protecting them from the little critters. They're quite quick to come up, maybe in a couple of weeks. And we've been picking it all summer. And that'll be going through all winter.

### Tips

I'll leave one of them for next year, and that will be the next seeds. I'll start again in spring from fresh crops. So it's keeping it going and keeping a lifecycle whole for seeds.

### How to save seeds

Keep one plant, let it flower, and when its seed pods are full, and it's starting to dry, cut it and hang it up. Winnnow it over paper on the table. Basically scrunch up the seeds, they will all fall down and you get rid of the waste, that goes back in the compost, and then fold up the paper, pour it into a jam jar, or envelope, and that's your seeds. It's good to keep in envelopes because there is some kind of exchange if there's any moisture left.

### Recipe

I strip the leaves off the stem, wash them, chop them up and steam them. It's really nice to walk out the door, grab whatever green thing is out there, chop it up, stick it in the pan, fry it off for a little bit, add a little chilli and an egg and that's generally my breakfast every day.

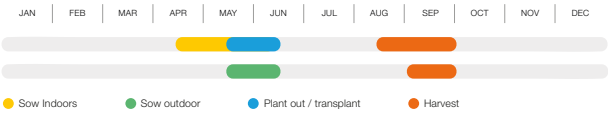
# Kodu

Bottle gourd, kodu, or dudi are eaten widely within the Asian community. They have been cultivated for around 8,000 years. Regular consumption has medical effects including lowering blood sugar, cholesterol levels and blood pressure.

Sow seeds in twos in 9 cm pots at 18-22°C. Germination is within three weeks. Choose relatively infertile soils with full sun and regular water supply.

Kodu is a very vigorous climber and needs substantial support: it will overwhelm bean-poles but can be grown over a sturdy shed.

Beautiful large white blossoms appear from July onwards. Male flowers have longer stalks and open first. Female flowers have a baby fruit just behind the petals.



Photos: Sara Heitinger

## Lutfun on Kodu

**Where the seeds came from**  
This is my seed. I have saved it here every year for the last 17 years.

**How to grow**  
You have to know the timetable properly if you want to be successful. Kodu seed is difficult to germinate. At the farm I use a propagator to germinate, but at home I don't use a propagator.

At home, end of March, I start planting seeds in a pot. I put it on top of the boiler where it is warm. When the seeds start to germinate, I put the pot on a sunny window.

If you leave it on top of the boiler too long, the plant will grow too big and it won't survive. You can start with a few seeds in one pot, but when they germinate you need to separate each seedling into a separate, larger pot.

Keep them inside for April-May. End of May, beginning of June, after the frost, put them outside. Plant the kodu in new organic compost or manure. Don't plant too many, as they need space. Give the plants support with sticks, then make a *macha* – a trellis structure for the plant to climb up. Water it regularly.

**You have to know the timetable properly if you want to be successful. Kodu seed is difficult to germinate.**

**Tips**  
You need to hand pollinate the flower to get the kodu fruit. Wait till the male flower is open, which is in the early morning or evening. The male is the flower with no fruit behind it. Peel the petals off the male flower to expose the part that looks like a cotton bud covered in pollen. Gently rub this onto the female flower, which has a fruit growing behind it.

**How to save seeds**  
Keep the first fruit for seed. The seed from the first fruit can produce good quality and many fruit. In November cut the fruit from the plant and let it mature until January. Then take the seeds out, and clean with a sieve. Dry them somewhere warm, but not too hot, like on top of the boiler.

**Recipe**  
When the kodu vegetable is young we peel it, chop it and cook it with vegetable curry, fish curry or meat curry. The Bangladeshi people harvest the young leaves and stem, which you have to peel. We use it like spinach. Wash it, chop it, put it in the curry or stir fry with garlic and onion, and not too many spices. Add green chili and salt and eat with plain rice.

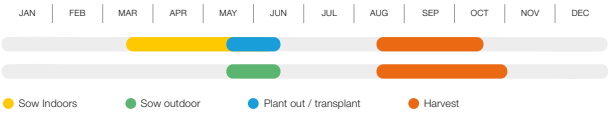


# Lablab Beans

Lablab beans are grown as a food crop mostly in India and Bangladesh. They come in all shapes and sizes, so much so that the extremes resemble different species. The beautiful, long lasting flowers mean that lablab or hyacinth bean is popular as an ornamental garden plant throughout the tropics.

Seedlings emerge within 14 days or less at a temperature of 18-22°C. Any reasonably fertile, well-drained soil in sun is suitable for growing. Flowering usually begins in July followed shortly by pods and continues until the first frosts. Pick pods as soon as they are big enough to eat. Fresh pods don't keep well: store in a fridge for a few days if you have surplus.

Lablabs will not cross with other bean species, and can self-pollinate. Allow pods to dry until yellow before picking and drying thoroughly. Some lablabs have pods that don't split open when ripe – store as pods instead of seeds until you come to sow them again. Lablab seeds remain viable for about two years if stored cool and dark.



Photos: Hayley Madden (opposite page, bottom right); Sara Hettlinger (others)

## Lutfun on Lablab Beans

### Where the seed came from

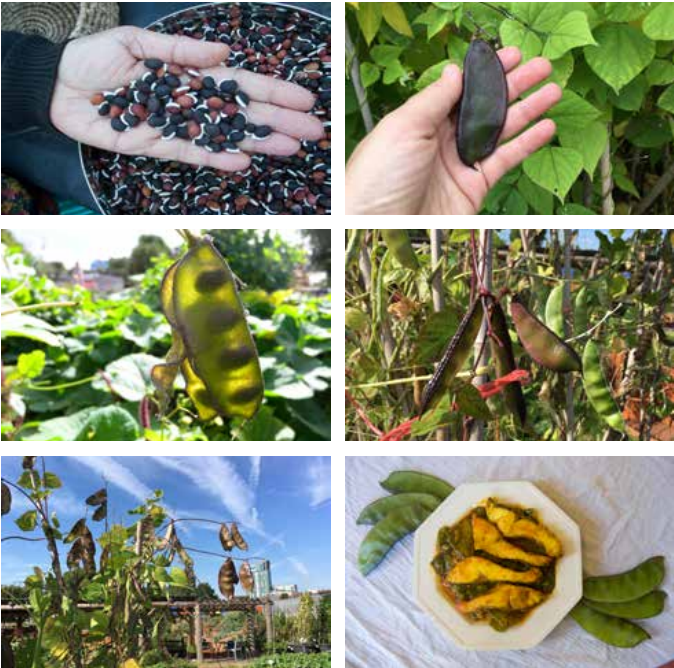
First time I tried to grow it here it didn't work. The Bangladeshi beans don't produce fruit here because of the weather. But one of my club members has family in America, and she brought the seeds for lablab beans six years ago. This is the beans that I succeeded growing here. It's the same bean but adapted to the climate.

### How to grow

Beans are easy to germinate. Plant them the second week of May inside or in a greenhouse. Look after them for three weeks inside your home. In the first week of June, when there is no chance of frost, put them in the ground in fresh compost or manure. You have to be patient, otherwise the plant can die if there is frost. Give them support, with long sticks to climb up. Water regularly. At the farm I don't use any chemicals, I just fertilise with organic manure or compost. At home, when the flowers come, you can use some plant food.

### Tips and challenges

Blackfly like beans. Use a hosepipe to wash them off properly.



### Recipe

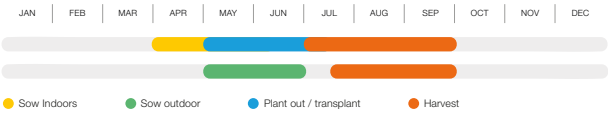
I make a curry with fish and spices, and serve it with rice. Fry onion and garlic in oil, then fry mixed spices, add a little bit of water to make a paste. Cook the fish and take it out once it's done. Then add a bit of water and add the beans till they're cooked. Then add the cooked fish. Boil for 5 minutes. Add chili. Garnish with coriander. Serve with rice.

# Maize

Maize, of which sweetcorn is just one variety, was first cultivated 10,000 years ago in Central America.

Maize used in Zimbabwean and Afro-Caribbean cuisine is a white-coloured, hard-textured grain, which is made into flour and cooked as a porridge. This maize is not sweet, and quite starchy tasting.

It needs a longer growing season, so should be started into growth by early April. You will need somewhere to keep it growing frost-free until May or June when it can be planted out as ordinary sweetcorn but at rather wider spacing, as the plants are slightly larger. Harvest is late, often into October.



Photos: Sara Heitinger

## Basilia on Zimbabwean Maize

### Where the seeds came from

A friend brought this corn from Zimbabwe. She had about three cobs and she dried them and she gave to others. But now what we have noticed is that the corn is not the same as our Zimbabwean corn which has big white seeds. These are a bit smaller and a bit yellowish. So now we are growing that one because it's good here. It came to be a different corn but the taste is still the same, it's not like sweetcorn.

### How to grow

When there was a little shoot we put them in pots with manure, and when they were about two or three inches, with two leaves, then we brought them to the farm to plant. Half we planted first in a pot, and the others we just put a hole in the soil, and we put two seeds in there. After two, three weeks they were out.

### Tips

Each time we grow maize we have to put pumpkins in between, because they grow well together. There is something nutritious about the soil for the maize. Even back home maize is grown together with pumpkin. That's how we grow it.

Each time we grow maize we have to put pumpkins in between, because they grow well together. There is something nutritious about the soil for the maize. Even back home maize is grown together with pumpkin. That's how we grow it.

### How to save seed

If we are keeping the seed, once there is a maize cob and it's starting to grow big, we cut the flower, or shoot, on top. Then the cob continues growing. We leave it until it's dry on the stalk. Then we take it and dry it in the sun. Then later on we take off the seeds and keep them for next year.

### Recipe

Cornmeal, which we call sadza, is our main meal, like other people will eat rice or yam. We grind it to get cornflour. Then you cook it like a thick porridge and we eat it with pumpkin leaves or kale.

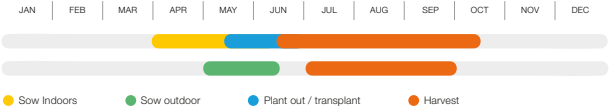


# Orach

Orach is a species of plant in the amaranth family. Native to Asia and Europe, it was commonly grown in Mediterranean regions since ancient times until spinach became the more favoured leaf vegetable.

It has a salty, spinach-like taste. The leaves are used cooked or in salads. The leaves appear in red, white and green varieties.

It is commonly grown as a warm-weather alternative to spinach because it is more tolerant of heat and slower to bolt in warm weather.



Photos: Sara Heitinger

## Richard on Orach

### Where the seeds came from

The green orach came from a seed company last year, and I saved them. So they're from here.

### How to grow

Orach will germinate slightly colder than calaloo so you might get away with sowing it in April. Somewhere between March and May really. You could bring it on in modules inside or put it straight in the ground. Doing it first of all inside means that you'll protect it from the slugs and the snails until they get a bit bigger. And you can start it earlier because you're moderating the temperature a little bit. Once you get it outside, you're waiting for it to be about a foot tall. And then you snap the tops off to create a bush.

### Tips

I'm trying to breed them drought resistant so I don't tend to water them too much, especially when they're bigger. Just make sure they're in a soil which is moisture-retentive, well mulched. So that they can survive off the rain water.

### How to save seeds

They're in little paper envelopes which I tend to leave them inside. But I just thresh them off the branches and pack them away for the next year in their little paper envelopes. So they're a bit bulkier.

### Recipe

Cook it like a salad or a spinach. Generally I'll put it in a mixed

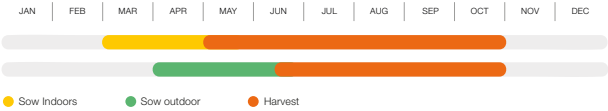


salad with whatever leaves are around the garden. I'll make a salad dressing with the five or so flavours: sweet, sour, salt, bitter, umami. So it will be an aioli and vinegar dressing, and it might have some chutney for a little bit of sweetness and sourness. And it might have a little bit of soy sauce for the umami. And then for the grease it might have a bit of peanut butter or pumpkin seed butter.

# Pak Choi

Pak choy, or bok choy, is a type of Chinese cabbage. It is very popular in China and South East Asia. Because it is winter hardy, it is becoming increasingly grown in Northern Europe.

Sow March-July directly into moist soil with lots of organic matter, 1 cm deep in rows spaced 45 cm apart. They can be grown as cut-and-come again plants, baby leaves, or fully mature plants. Gradually thin seedlings to 7.5-10 cm for baby leaf, to 20 cm for semi-mature plants and to 25-30 cm for mature plants. The thinnings can be eaten. Keep plants well watered throughout the growing period to avoid bolting (running to seed) and lack of flavour.



Photos: Sara Heitinger

## Lisa on Pak Choi

### Where the seeds came from

I got them from a Chinese friend. I put the pak choy seeds and they came up nicely.

### How to grow

I planted them end of June. They took a long time to come up. It's quicker if you soak them for a couple of days. The pod splits and when you see the little root coming out, then you put it into soil. It gives them quite a boost in growth time. Once you've sown them you can start harvesting the leaves within six weeks. You can harvest the whole plant after two months, when it is fully mature. Unless you want to get seeds.

### Tips and challenges

They like warmth and water. They are water loving plants. If you don't water them every other day, or every day if it's very hot, they will wilt very quickly. The ones I grew in the greenhouse have grown much better than the ones outside. They like a bit of protection.

Slugs and snails love to eat the leaves because they are nice and succulent. So you have to be watching them all the time. I put



petroleum jelly and pepper around the pot. The slugs and snails didn't bother them after they went to seed.

### How to save seeds

Pick the outer leaves, but leave the centre to flower. Don't use the whole plant. Leave the flowers to turn to seed.

### Recipe

The stems are very crunchy and the leaves are soft. You can put it in rice. You can put it in vegetable stir fry. You can put it in soup. You can stuff it. One of my friends said she'd buy any excess off me because her kids just love pak choy. She makes a nice light soup. She just puts the whole thing in, and it wilts down and the children love it. It's a really good vegetable.

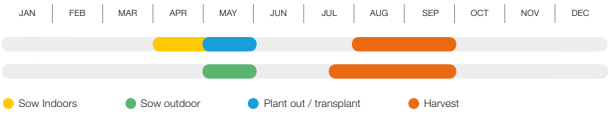


# Pumpkin & Squash

Pumpkins and squash, also known as cucurbits, were first cultivated in the Americas and are now grown around the world for their edible fruit and seed. The fruits are good sources of vitamin A and C. From bright orange winter pumpkins to summer’s soft green courgettes, the cucurbit family is an easy vegetable to grow organically.

Winter squashes - have a hard skin and usually orange flesh, and they can be stored undamaged for many months in a cool, dry environment. From October onwards is the best time to enjoy winter squashes. Just be sure to plant into rich, composted and well-mulched soil - cucurbits are greedy plants.

Summer squashes - do not store well, and are better eaten when young. Courgettes and vegetable marrows are a good example.



Photos: Sara Heitinger

## Meghan on Pumpkin

**How to grow**  
The pumpkin was bigger than a human head. I knew that I needed a lot of space, but I didn’t know how much space I needed. It became this big tangle. It was one of the sunniest spots of the raised bed. From seedling I dug a little hole and planted it there and that was that. It was actually very low maintenance. It became massive very quickly so we hardly even noticed the pumpkin and went away on holiday in August for two weeks and came back and it was big.

**How to save seed**  
When we were preparing the pumpkin to eat I scooped the seeds out, put them in a pot and let them soak overnight, then put them in the strainer. They were still quite slimy and didn’t dry off for ages so then I put them in the oven, on really low temperature to dry them off.

**Recipe**  
We had pumpkin soup for a few days. I fried onions in coconut oil and then added chopped up pumpkin and cinnamon, nutmeg, a bit of salt and a bit of pepper. Fresh coriander. Blend it up. It was good.

Photos: Meghan Lambert



## Kate on Winter Squash

### Where the seeds came from

This is a large variety of winter squash, with delicious yellow flesh. I started growing it about four years ago. I bought the seeds originally from Tamar Organics. I started out with a pack of six because when you buy squash seeds you don't get many. Since then I've been keeping my seeds and getting more and more and more, and been sharing them with friends.

### Why I grew it

I wanted a vegetable that could sit through the winter, that you're not like, "Shoot we've got to eat tonnes of this at the moment." These can keep, as long as you keep them in the cool, for months. This one's four and a half kilos. We're still eating the soup that I made on Monday, so it's given us many meals of that.

### How to grow

I make my own paper pots, fill them with compost and put a seed in, a couple of inches deep. Add water. Squash seeds like heat to propagate, so you need to keep them indoors around twenty degrees. Anything less than that they don't really like it. I make my own propagator out of a clear plastic box, upside down so the base is the lid. Then you keep them watered and warm. In a week they'll pop up. When they're sturdy little plants, three to six inches, I'll transplant them to the garden. And then they basically run riot



around the garden. It's quite incredible how fast they grow. Keep them watered and wait. I sowed them on the 15th of May and the first squash seeds poked up on the 22nd. We picked this one in September. There's a couple of smaller ones still out there. I'll bring them in before the frosts start happening because then they'll start to rot.

Photos: Sara Heitinger (bottom right), Kate Williams (others)

### Tips

The key thing about squashes is you mustn't plant them too close. They mustn't be less than a meter and a half apart because they'll suffer from mildew. They need a bit of space and aeration. They like a high nutritious soil. I cut my nettles and I steep them in water for a couple of weeks. It smells revolting but it's actually a very good fertiliser. So most things have a drink of that every now and again.

### Recipe

I generally make soup out of it and gnocchi. To make the soup I chop it up into wedges and roast it with some oil, some sage leaves squished on top, and some garlic bashed and thrown in. Then I'll roast them for about forty minutes. Then I add some apples like coxes or desert apples, with a bit of a tang but not as heavy as a bramley. Core those and chop them up roughly, throw them in. When everything is caramelised, take them out, skin the pumpkin. Take out the sage leaves and keep them separate. Blend the lot with some stock. Sprinkle with the sage leaves, and then chilli oil on top. It's delicious.

## Basilia on Zimbabwean Pumpkin

### Recipe

When it's tender, take the leaves, clean the stalk. Then we cook the leaves together with the flowers. We put peanut butter, or we cook with tomatoes and onion. The pumpkin fruit we cut and cook, and then we blend with peanut butter and eat it like a pudding.

Photos: Basilia Gondo



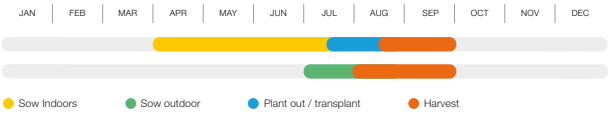


# Purslane

Purslane is used widely in Mediterranean countries, throughout Europe, the Middle East, Asia and Mexico. The stems, leaves and flower buds are all edible. Purslane may be used fresh as a salad, stir-fried, or cooked as spinach is, and because of its mucilaginous quality it also is suitable for soups and stews.

Purslane contains more omega-3 fatty acids (alpha-linolenic acid in particular) than any other leafy vegetable plant.

Sow purslane inside from mid March to July, or outside when there is no chance of frost, from late May to August. Sow the seeds thinly, and keep well watered. The seeds germinate very quickly. Thin the seedlings out to 10 cm apart, and when they reach 5-7 cm in height, cut them back close to the ground. Harvest the leaves in the morning or evening, in order to preserve the plants’ juiciness.



Photos: Sara Heitlinger (top left); Ahmet Caglar (others)

## Ahmet on Purslane

**Where the seeds came from**  
I got the seeds from Turkey.

**How to grow**  
This is a warmer climate plant, therefore it’s better to wait until May to sow outside. Or maybe even later, to make sure that the soil and the weather is warm enough for germination.

Prepare a good seed bed and then sow it. I never started inside or in a seed tray. I directly broadcast the seeds, that’s my way. They are not fussy. Within six weeks you can start picking.

**Challenges**  
I found the germination a bit erratic. In some parts it worked, in some parts it didn’t germinate.

**How to save seeds**  
Towards the end of the season you can get seeds. Collecting is easy. They are actually in the tip of the plant, the cluster of very tiny black seeds. Actually you feel them because they start to open up, the seed pods, and there are many small black seeds. Then just bring an envelope and gently touch the seed head, and they will fall.

Photos: Sara Heitlinger



Somewhere in Turkey they call purslane “seed thrower”, because the black seeds throw themselves onto the soil. And the next year you may find some plants, as they can germinate from there.

**Recipe**  
Take some purslane, wash it and then add yoghurt, garlic, virgin olive oil, a little bit of salt. That’s it, that’s one recipe. And the other is grating some tomato into the purslane, add vinegar and garlic. That’s another quick recipe. They are different but both delicious.

Purslane is a bit fleshy. It doesn’t have a kind of distinct flavour, but maybe this fleshiness gives it some sort of substance.

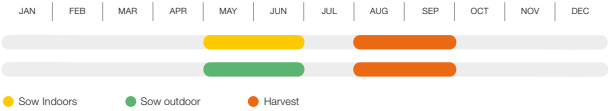


# Runner Beans

Runner beans are one of the easiest vegetables to grow. Most runner beans are tall, climbing plants, but there are dwarf varieties and some, called half runners, that are bushy with one or two long shoots. All need a long growing season.

Runner beans are pollinated by bees. They will cross with other runner bean varieties readily, though cannot cross with other types of bean.

They need a support to climb up and well-watered soil. Sow indoors late April to May, outdoors May to June. Provide a support for the beans to climb up and sow 2 to 3 seeds at the base of each support. Beans are ready for picking about 3 months after planting. Pick them regularly to encourage the production of beans.



Photos: Sara Heitlinger (top); Lisa Lueafat (below)

## Nat on Runner Beans

### Where the seeds came from

Three years ago I went to one of the events of the London Freedom Seed Bank and everyone was encouraged to take some seeds away, and that was the pack that I took.

### How to grow

I planted some straight in the ground, and I also sprouted some first, soaking them and waiting for the shoots to come out and then only planting the ones which had germinated. And that worked quite well. And then watered them, gave them a feed a few times through the season. I fed them with a mix of a nettle tea and some compost tea from the worms. Got quite a good crop of them, not as good as in past years I think because it was so dry. I've left most of them to go to seed to collect. They do like quite a lot of water. The more sun they have the healthier the plants will be and the more they'll produce.

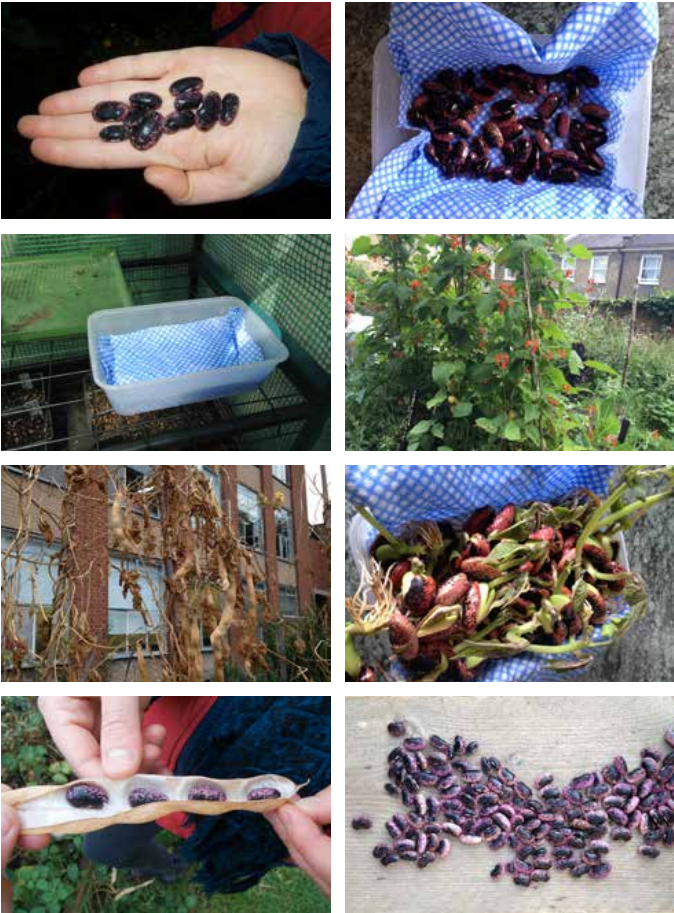
### Tips

Make sure you build quite a strong structure for them to grow up. They can grow quite tall and become quite heavy. So if they're in a windy spot they can fall over.

### Recipe

I quite like eating them raw. So I chop them up and put them in a salad or just boil them or steam them. They're really versatile to use.

Photos: Nat Mady





## Anwara on Runner Beans

### Where the seeds came from

Katherine from Spitalfields Farm gave me this bean when I first started gardening, and I saved them each year. This is the fourth year. I love these runner beans, they're my favourite. They grow quickly and it's very easy to harvest the seeds.

### How to grow

I grow it first inside the home. I put it in compost, and after 3-4 days it starts growing. Then, once it's grown a little, if the weather is good, I plant it in the soil. It gives so many beans. It's not hard work, it just needs water every couple of days.

### Challenges

This year is not a good year. Every year I get a large plant and many beans. But this year has not been good. Ants have attacked this plant, and snails and slugs.

### Recipe

I cook it with meat or fish. I fry it with onion, chili, coriander leaf. It's very nice. I love this. My family, my children love this.



Photos: Anwara Uddin

## Sayada on Runner Beans

### How to grow

First of all plant runner beans inside. Sow them at the end of May. Runner beans grow really fast. So if you grow them too early, they will be very big, but you can't put them outside because it's too cold. So it's better to sow them later. Runner beans like to climb, so they need climbing space. If you put a trellis in they can climb. If they can climb then they will produce more beans. If they can't, then the crop doesn't grow properly.

### Recipe

When the bean is young you can eat the whole pod. We cook it with fish or with chicken. When the bean is older, you can cook the seeds. Soak the bean seeds for two hours, then wash off the outside black skin. Then cook the bean seed with fish. Or you can eat it with chapati bread or rice.

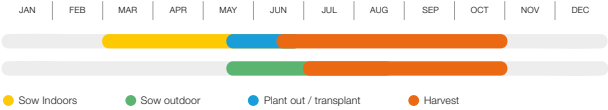
Photos: Sayada Sultana



# Thai Basil

Thai basil is a member of the mint family. It has a sweet flavour with hints of anise, liquorice and clove. It is popular in Southeast Asia, and is generally used fresh in recipes.

Thai basil plants need at least six hours of direct sunlight to grow well. Keep it well-watered but don't water the leaves, as they will become yellow and drop off.



Photos: Sara Heitlinger (top left); Nat Mady (others);

## Nat on Thai Basil

### Why I grow it

I like growing herbs to cook with and it's a nice one that you can have raw, add to a salad, and the flowers are really pretty. I think the bees quite like the flowers because they're purple flowers, and it's a really nice fragrant herb.

### Where the seeds came from

The seeds originally came from a packet of seeds that I bought, but I've been saving them from plants I've grown.

### How to grow

The seeds take quite a while to germinate and have to be at quite a high temperature. So I usually germinate it indoors in a heated propagator.

Sometimes there are seeds that don't work and you have to sow them again. But I had one successful batch, so I just separated those out and then planted some outside and some in a little greenhouse. So you either have to have an indoor space and use a higher temperature or you have to wait till later in the season until it's warmer and the ground has warmed up.

**I add it to salad. I use it as a garnish on curry or spicy dishes. I've also made tea from it before and that's quite nice. It's sweet, and very fragrant.**

I usually transplant them into their own pot, and put that in the mini greenhouse until they're about ten centimetres. I then plant them outside, in June or July. The ones in the greenhouse grow a lot faster. They come from a really hot climate so they like a lot of sun and heat. And they like to be watered but not waterlogged. So more like humid heat. They've done ok outside.

### Tips

You can crop it quite hard a few times and it will bush out.

### How to save seed

After it's flowered you just let it go. Wait until it looks brown and dried out. Then you can just take the seed heads off and crumble them. The seeds are inside little seed-casings. It's quite easy to get the seeds out if you harvest on a dry day.

### Recipe

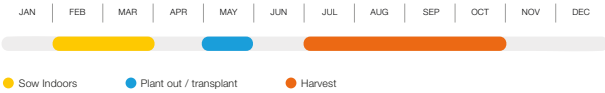
I add it to salad. I use it as a garnish on curry or spicy dishes. And I also made a sugar syrup and infused that for herbal cocktails. I've made tea from it before and that's quite nice. It's sweet, and very fragrant.



# Tomato

Tomatoes belong to the nightshade family, and originate from Central and South America. They are easy to grow from seed, and can be grown in any size garden providing they are in a warm, sheltered spot.

Sow indoors from February – April. To ensure all its energy goes into producing fruit, snap off the shoots that grow in leaf joints. Water plants daily. When the plant starts to flower, give it some fertiliser every week to ensure the best fruit.



Photos: Meghan Lambert

## Meghan on Tomatoes

### Where the seeds came from

These are dark cherry tomatoes. The seeds were given to me by a friend last year.

### How to grow

I planted the seeds in March in a small pot just slightly underneath a bit of soil. Then I put them in my little shed in the garden with big glass windows. Although it's still cold outside at that time of year, it's a bit like a greenhouse. After a couple of weeks they started to grow. Then I took the little seedlings, potted them individually, and then left them in there again. I'd water them every day or every second day. When they were about 6 cm tall I put them in a bigger pot until they were 20 cm tall, and then I planted them out.

I chose the sunniest, warmest spot of the garden and planted each one with 30 cm between each plant. So they were in the raised bed with new compost and soil that had been mixed and left to rest for six weeks or so.

Every so often I'd pick the sprouting bits that come between each stalk. They all grew very well. After a few weeks I put bamboo and loosely tied a bit of string, to make sure they were growing up straight and had support. And about three months later you could see little hairs and you could smell the tomatoes. Then in August there were hundreds of tomatoes. We went away on holiday for two weeks and when we came back they were all red and ready to eat.

### How to save seed

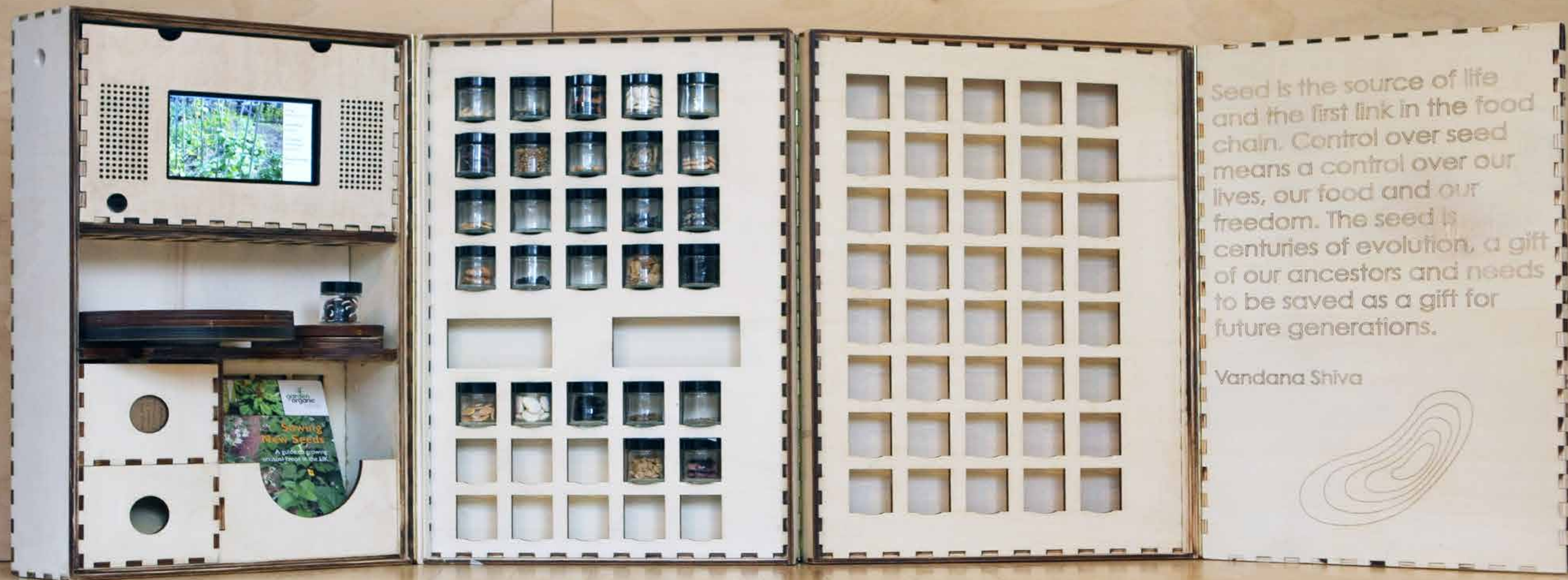
I cut the tomatoes in half and took the seeds out so that I could still eat the rest of the tomato. I soaked the seeds for a couple of hours, then put them in a strainer under water, washed off the outer bits of tomato and then spread them out on a tissue and left them out in the sunshine to dry.

### Recipe

They were delicious. They tasted so good that you could eat them all on their own. A little bit of olive oil, a little bit of salt and occasionally I'd cook them. Some of them were still green when they fell off, and those ones I'd cook up and sometimes eat with feta or rice. When you grow your own things it's nice to eat the food in a very simple way.

CONNECTED SEEDS LIBRARY





Seed is the source of life and the first link in the food chain. Control over seed means a control over our lives, our food and our freedom. The seed is centuries of evolution, a gift of our ancestors and needs to be saved as a gift for future generations.

Vandana Shiva



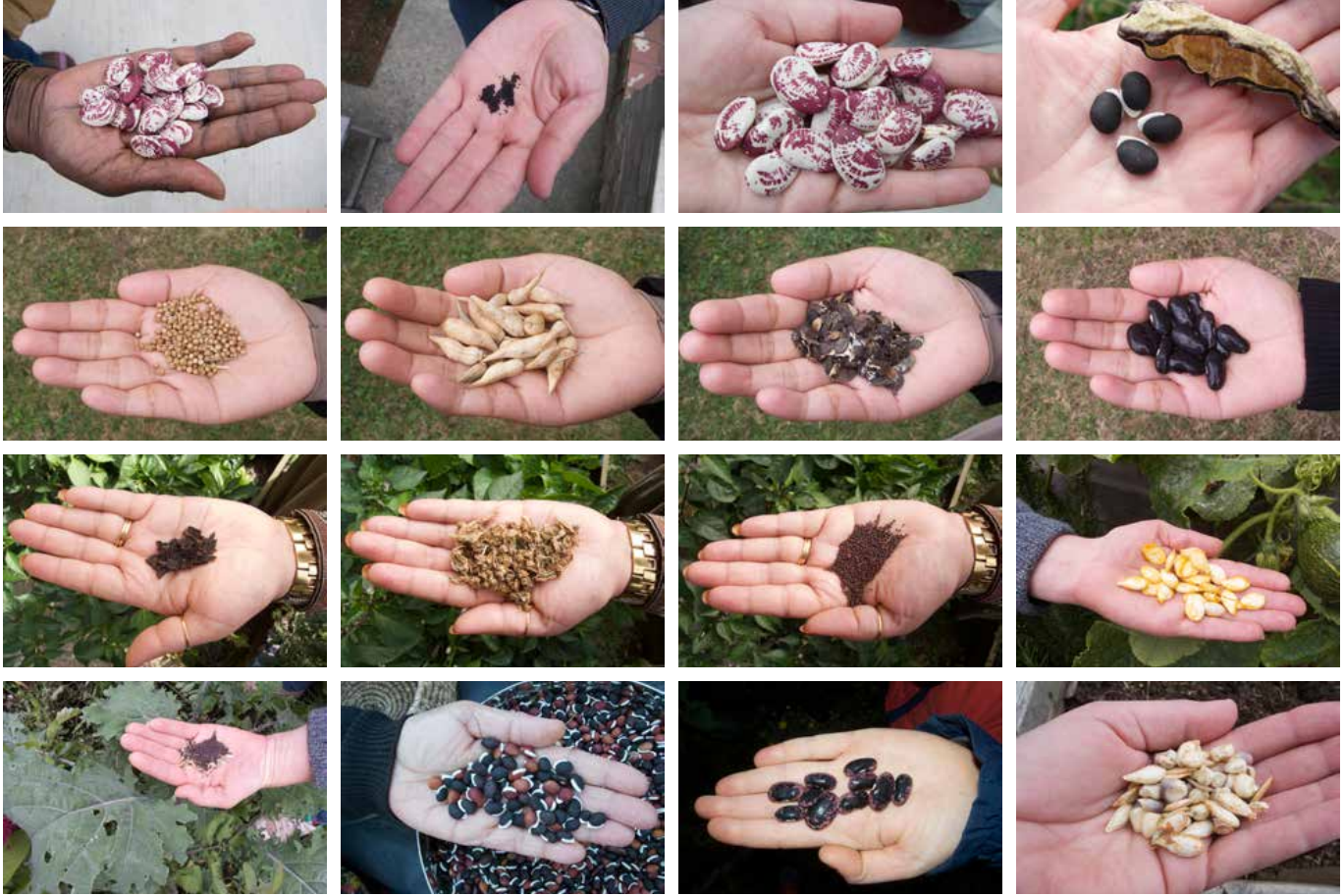


Photos: Sara Heitinger





Photos: Sara Heitinger



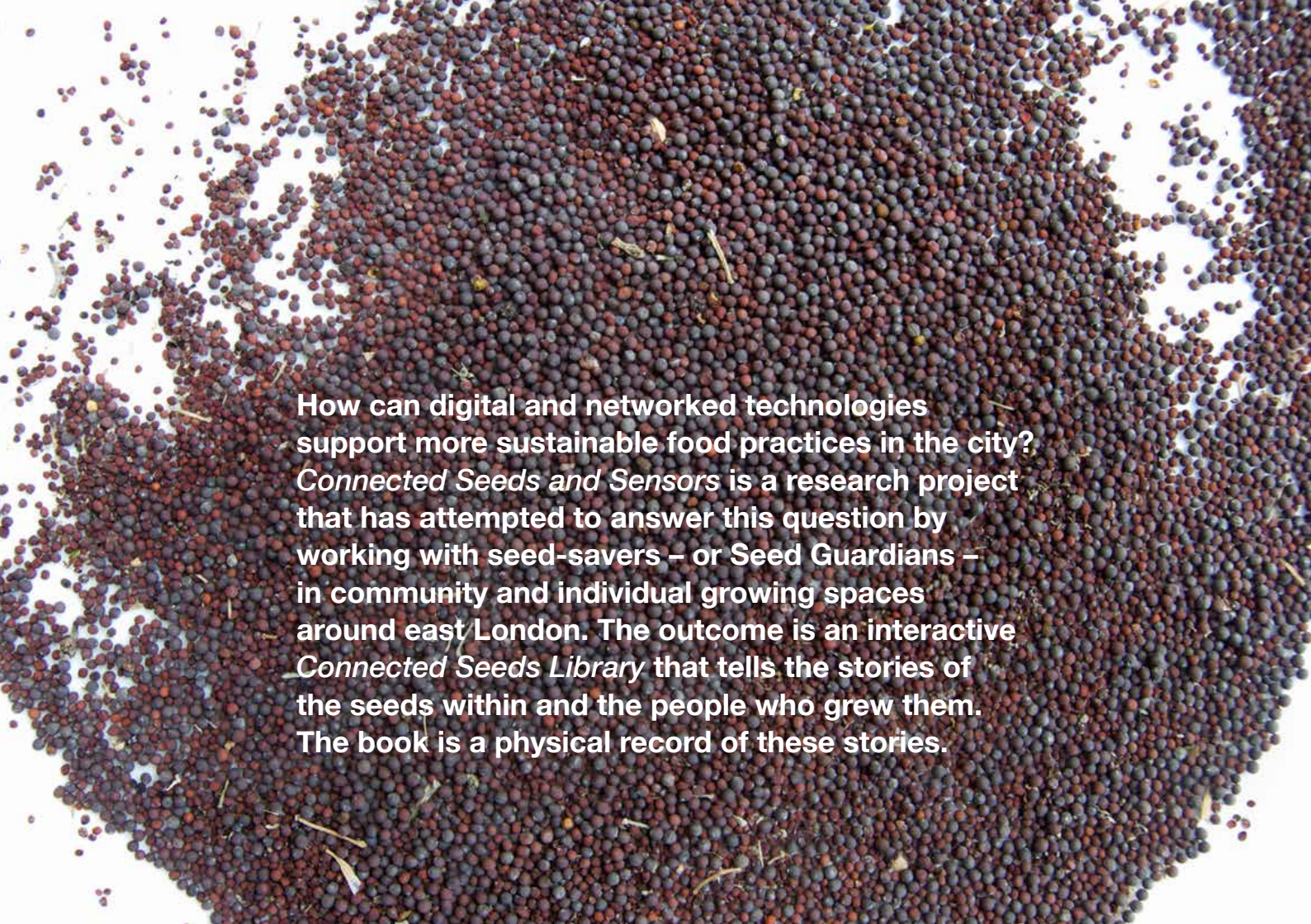




Photos: Franc Purg, Donna Lipowitz and Sara Heitlinger







How can digital and networked technologies support more sustainable food practices in the city? *Connected Seeds and Sensors* is a research project that has attempted to answer this question by working with seed-savers – or Seed Guardians – in community and individual growing spaces around east London. The outcome is an interactive *Connected Seeds Library* that tells the stories of the seeds within and the people who grew them. The book is a physical record of these stories.