Farming Concrete

DATA COLLECTION TOOLKIT

Methods for measuring the outcomes and impacts
of community gardens and urban farms

August 2015

This toolkit is a project of:

DESIGN TRUST
FOR PUBLIC SPACE

Farming Concrete

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INTRODUCTION

What is the *Farming Concrete Data Collection Toolkit*?

The *Farming Concrete Data Collection Toolkit* can help you measure all of the good things growing in your farm, garden, or yard—from hot peppers to happiness. Urban farmers and gardeners contribute to the social and environmental health of their communities every day. The *Toolkit* helps you track your outputs to showcase the benefits of your farm or garden, to improve and share your practice, and to raise awareness of your farm or garden's impact to funders and policymakers.

The *Toolkit* was created by and for urban farmers and gardeners in collaboration with the Design Trust for Public Space and Farming Concrete. It contains twenty different methods for measuring, tracking, and analyzing how well a garden is meeting its goals on a range of issues—from the pounds of vegetables harvested on a farm in a season to the number of times a visitor is made to feel joyful as a result of walking through the garden gate.

Why use it?

• By gathering and tracking information about your farm or garden's activities, you may see new opportunities to refine your garden work to better accomplish or expand goals.

• Having more concrete information will help your garden showcase the value of its activities so you can make the case to policymakers and advocate for your farm or garden's goals.

• Collecting data that describes your farm or garden's activities and outputs may also help you raise funds to support your ongoing work and future projects.

• When starting a new garden project, the *Toolkit* can serve as a guide to refine your vision and identify clear objectives. It can also help you assess who in your community holds knowledge about these activities.

Who is it for?

This *Toolkit* is designed to be used in urban farms and community gardens in any city on Earth.

How to use it

This *Toolkit* is free and available to all who want to use it. It has two components:

1. **Publication of methods & worksheets**: This toolkit publication includes 20 detailed methods for collecting data on activities in urban farms and community gardens. The user-friendly instructions and worksheets will help you measure your garden's productivity and impact. You can print the specific methods you'd like to use and take them out in the field with you.

2. **Website for tracking data**: The *Toolkit* website at farmingconcrete.org serves as a repository for the data of urban farms and community gardens from cities all over the world. The 'Barn' on the website is the place where you enter your data after it is collected and where it will be securely stored for your reference at any time. If you have a smartphone, you can skip the step of printing the methods and enter your data directly into Barn in the field. Once you've entered your data into Barn, you can print a report with graphs that detail your output, or download your raw data, with the click of a button. Barn is also home to a video series that walks you through each method. The 'Mill' on the website takes all the data collected with the *Toolkit* and makes it available to the public.

GETTING STARTED

Invite all of the active members of your community garden or urban farm to a special two-hour workshop at the beginning of the season. Tell them to bring an open mind and an open heart to thinking about the purpose of the garden or farm. The process of setting goals and objectives can be hard work, especially when many different people and perspectives are involved. Yet like any good gardening practice, a little bit of extra effort at the beginning can help your garden or farm grown stronger over time.

Before the workshop, write each of the following phrases on a single sheet of paper:

1. The Challenges We Face Together
2. Our Vision of the Future
3. Our Gardening Practices
4. Our Measures for Success
5. Our Objectives for the Season

Use big and colorful markers to make the words stand out on each sheet of paper.

If you are meeting indoors, tape the five sheets of paper to a blank wall face down (so the words are not visible) using the following sequence:

1. The Challenges We Face Together	3. Our Gardening Practices	4. Our Measures for Success	5. Our Objectives for the Season	2. Our Vision of the Future

If you are meeting outdoors, gather together at a large table and place the five sheets face down. Arrange them in a way that allows everyone to see them clearly.

Step One: Naming Our Current Challenges

Community gardens create change: in individuals, in neighborhoods, in cities, and maybe even across the globe. What is *your* garden trying to change about the world *right now*?

Invite each person in your group to name two or three problems or challenges they want to change through community gardening or urban farming: for individuals, for the local neighborhood, or for the wider world. Give the group five or ten minutes to write each of their thoughts on an individual sticky note. If you are working indoors, flip sheet #1 up on the wall ("The Challenges We Face Together") and invite the group to post all of the sticky notes underneath. If you are working at a table outdoors, flip the same sheet face up on the table and collect the sticky notes on the nearby surface.

Facilitation Tip: Remind the group to focus on *problems* (for example, "It isn't easy to find fresh and healthy food in groceries in our neighborhood."), rather than solutions that create change (for example, "We will grow fresh and healthy food in our neighborhood."). Solutions will come later. First the group needs to identify the problems that inspire it to take action.

As a whole group, discuss all of the ideas on the sticky notes for five to ten minutes. Move the sticky notes around to create categories of similar or related ideas.

Step Two: Our Vision of the Future

What will the future look like if your community garden or urban farm is successful? What will change? What will stay the same?

Invite each person in your group to name two or three things that will

happen *in the future* that are different from the current problems or challenges named earlier in the workshop. Give the group five or ten minutes to write each of their thoughts on an individual sticky note. If you are working indoors, flip sheet #2 face up on the wall ("Our Vision of the Future") and invite the group to post all of the sticky notes underneath. If you are working at a table outdoors, flip the same sheet face up on the table and collect the sticky notes on the nearby surface.

Facilitation Tip: Remind the group to focus on creating a clear picture of the *future*. For example, if one of the problems identified in Step One had to do with needing better access to fresh and healthy vegetables in your neighborhood, a vision of the future might be "Everyone in our neighborhood has access to fresh and healthy vegetables and their health is improving." Think big and be precise. Your collective vision of the future should be a clear and crisp story that inspires everyone to take action.

As a whole group, discuss all of the ideas on the sticky notes for five to ten minutes. Move the sticky notes around to create bigger categories of similar or related ideas.

Mid-Point Check-in: At this point your group has:

1. Named the current challenges your garden or farm aims to change.

2. Described a vision of the future it believes will result from gardening or farming.

These collective ideas, the current challenges, and future vision, frame and shape the rest of your discussion in the goal setting workshop.
As a whole group, take five to ten minutes to discuss the connection between the current challenges and the future vision. Ask participants to name any new ideas that help complete the picture and identify any ideas that don't quite fit the pattern.

Step Three: Naming Our Practices

Community gardens and urban farms are busy places. Some places just focus on growing food, but most have many other tasks: keeping open hours for the public, growing beautiful ornamental plants, hosting events, field trips and workshops, composting, and even collecting rainwater.

Invite each person in your group to name two or three tasks or activities that frequently happen in your garden. Give the group five or ten minutes to write each of their thoughts on an individual sticky note. If you are working indoors, flip sheet #3 face up on the wall ("Our Gardening Practices") and invite the group to post all of the sticky notes underneath. If you are working at a table outdoors, flip the same sheet face up on the table and collect the sticky notes on the nearby surface.

Facilitation Tip: Remind the group to focus on *tasks* and *practices* that frequently happen or are under way at your garden or farm. You're looking for action words!

As a whole group, discuss all of the ideas on the sticky notes for five to ten minutes. Move the sticky notes around to create bigger categories of similar or related ideas. Discuss how each action in the garden works to change a current problem or challenge into your vision for the future. Ask: Do all of our practices connect to a current challenge? Will all of our practices help create our vision for the future?

Step Four: Our Measures for Success

The *Toolkit* offers 20 fun and easy ways to measure many of the good things happening in your garden.

Invite each person in your group to review a copy of the chart on page 11

and circle all of the methods that connect to your gardening practices. The first column on the chart names a method in the *Toolkit*. The second column tells you what kinds of activities and outcomes each one can help you measure.

As a whole group, discuss everyone's choices. Pick the methods you want to use to measure the good things happening in your garden this season. Write the name of each method on a sticky note. If you are working indoors, flip sheet #4 face up on the wall ("Our Measures for Success") and post all of the sticky notes underneath. If you are working at a table outdoors, flip the same sheet face up on the table and collect the sticky notes on the nearby surface.

Step Five: Setting Solid Objectives

Each method in the *Toolkit* helps you keep track of a specific number of good things happening in your garden, like the pounds of food grown or the number of good moods that people experienced. But *how much* of each good thing does your garden want to create? *How many* pounds of food? *How many* new good moods?

Working as a whole group, discuss and agree on a specific numerical objective for each of your gardening practices. Write each goal on a sticky note. If you are working indoors, flip sheet #5 face up on the wall ("Our Objectives for the Season") and post all of the sticky notes underneath. If you are working at a table outdoors, flip the same sheet face up on the table and collect the sticky notes on the nearby surface.

Bringing It All Together

Not everything that matters can easily be measured. The *Toolkit* gives your community garden or urban farm a few simple methods for measuring some of the good things happening in your garden, but don't feel

pressured to capture it all. Stick to the basic things that matter most in your community and start small. You can always take on more methods next season.

As a whole group, review all of the ideas you've generated. Discuss the following questions to connect everything together and add, subtract, or change ideas as needed:

1. Do our gardening practices match the problems we identified at the start of the workshop?

2. Will the objectives we defined for each of our practices help to bring about our vision for change in the future?

Going Forward

At the start of every major farm or garden meeting, review your vision and your objectives for the season, as well as your methods and related garden practices. Record the main takeaways from the meeting on the Getting Started worksheet. Compare your vision and your objectives to the data you are collecting each day and discuss whether you need to adjust your vision *or* your practices. You can change your vision and objectives, and the practices you use to achieve them, any time of year, based on actual conditions at the farm or garden. If you do, make sure to record the updated information on a new Getting Started worksheet. Keep flexible and remember: this is a learning process!

TOOLKIT METHODS	EXAMPLES OF RELATED GARDEN PRACTICES
Crop Count, Harvest Count	• Growing fruits and vegetables
Landfill Waste Diversion by Weight or Volume	• Environmental education • Farm management training • Seed saving • Reusing garden equipment and trash
Compost Production by Weight or Volume	• Composting with worms or tea • Bin or pit composting
Rainwater Harvesting by Surface Area or Volume	• Collecting or harvesting rainwater • Reusing rainwater, e.g. irrigation
Participation by Geography, Task, or Project	• Idea sharing, e.g. compost training • Volunteer programs • After-school programs • Community events, e.g. harvest events
Skills & Knowledge in the Garden and Sharing with Other Gardens	• Job training and skill development, e.g. internal farm/garden workshops
Reach of Programs	• Idea sharing, e.g. compost training • Volunteer programs • After-school programs • Community events, e.g. harvest events
Changes in Attitude: Yum & Yuck	• Produce taste sampling for children • Healthy eating program
Good Moods in the Garden	• Building spaces for social interaction • Community events
Healthy Eating	• Cooking classes • Produce nutrition facts, recipe cards
Beauty of the Garden	• Garden beautification, e.g. flower planting, creating peaceful spaces
Market Sales	• CSA or farmer's market sales • Restaurant sales • Direct produce sales
Donations of Food	• Donations of produce

GETTING STARTED

Garden:	Contact:	Phone/Email:

Date:

Our vision:

OUR RELATED PRACTICES

FARMING CONCRETE METHODS	OBJECTIVES (include amount & time span)

0. FOOD PRODUCTION DATA

0.1 CROP COUNT

Crop Count helps you record the total number of crops in your garden and determine how many plants of each crop type grow by bed, row feet or square feet. By recording this data, you will be able to track the number of plants an individual bed or the entire garden cultivates and understand your annual productivity. Counting up the number of edible plants grown in a garden can also help you explain the value of your garden's work to funders and local politicians.

What You'll Need

- A **tape measure** for measuring the dimensions of raised beds or growing areas
- Enough copies of the **Crop Count worksheet** to cover all of your garden's raised beds

Instructions

Assign numbers or names to the raised beds if they don't exist already, and note the dimensions in feet. For each raised bed or growing area in the garden, count the number of plants per crop and record it on the worksheet. For example, record the number of cherry tomato plants, the number of cucumber plants, and the number of summer squash (zucchini) plants, etc. You may use row feet if planting rows of hard-to-count crops like salad mix or radishes. For some crops, like strawberries, it may be impossible to identify the number of plants or row feet. For these crops only, estimate the area in square feet. Enter your data into Barn.

Example:

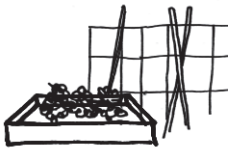
At their June garden meeting, Green Acres Community Garden decided to make an inventory of their crops. Gardeners split up into pairs and each took a section of the garden. Martha and Tricia took the row of beds in the front, which they assigned numbers 5-20. Martha, a seasoned gardener who can identify a tomato plant even before it's laden with summer fruit, counted the number of plants per crop and announced them to Tricia, a new gardener, who wrote them down on the worksheet.

"Bed 11—this one is eight feet by four feet, just like the other two," Martha noted. "It has four lettuce plants, ten radishes, two square feet of strawberries, and five hot pepper plants." As she spoke, Tricia added the crops to the Crop Count worksheet.

When they were done, they handed the Crop Count worksheets to Beatrice, the data coordinator for the garden, who took the forms home and entered the data into Barn.

0.1

CROP COUNT



Garden: | Gardener Name: | Phone/Email:

Bed #:	Bed #:	Bed #:
Dimensions:	Dimensions:	Dimensions:

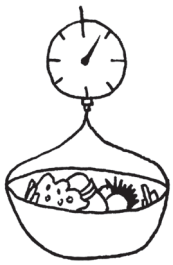
CROP NAME	VARIETY NAME	# of plants or row feet	# of plants or row feet	# of plants or row feet

0.2 HARVEST COUNT

Harvest Count enables you to track the amount of your harvest by pound. If you or your site has specific goals and objectives for harvests each year, keeping track of produce can help you know which goals are being met and what issues need to be addressed. Tracking how much food your garden grows can help your site in a number of ways. Knowing how much of any fruit or vegetable you harvest each year can help you discover what thrives in different areas and under different conditions. Recording the amount of produce you grow can also help funders and local politicians understand the value of gardening in your neighborhood.

What You'll Need

- A **hanging basket** or **countertop kitchen scale**
- A copy of the **Harvest Count worksheet**



Instructions

Harvest Count can be measured by individual gardeners or by one person for the entire farm or garden. Every time there is a harvest, use a scale to weigh the number of pounds harvested for each crop. Your garden or farm may harvest some crops like collard greens, kale, and herbs into bunches. Weigh a few of these bunches to get an average weight, and multiply this average weight by the number of bunches harvested to tally the total pounds. Enter your data into Barn.

Example:
On August 15th, Susan harvested tomatoes, pole beans, and summer squash from her plot at the Smith Street Community Garden. Before heading home to cook dinner with her harvest, Susan used a kitchen

scale stored in the garden's shed to weigh each harvest separately. Susan found that she had harvested two pounds of cherry tomatoes from six plants in three beds, a half-pound of pole beans from two plants in one bed, and a three-pound summer squash from one plant in one bed.

		Date: 8/15	Date:	Date:	Date:	Date:
CROP NAME	**# of plants**	**POUNDS**	**POUNDS**	**POUNDS**	**POUNDS**	**POUNDS**
TOMATOES	6	2				
POLE BEANS	2	0.5				
SUMMER SQUASH	1	3				

0.2

HARVEST COUNT

Garden: | Contact: | Phone/Email:

Date:	Date:	Date:	Date:	Date:

CROP NAME	# of plants	POUNDS	POUNDS	POUNDS	POUNDS	POUNDS

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1.
ENVIRONMENTAL DATA

1.1 LANDFILL WASTE DIVERSION

Many community gardens and urban farms invite neighbors to drop off kitchen scraps, dead leaves, yard clippings, and other organic material for composting on-site. These compost drop-off programs help reduce the amount of trash that goes into landfills. Tallying up the amount of compostable trash diverted from the waste stream can help your garden better manage its composting program. Goals for waste diversion may vary, but knowing how much you divert per year can help your garden better understand its environmental impact and improve its compost numbers from year to year.

Measuring by Weight or Volume

Some gardens may find it easier to measure the volume of waste that goes into making compost. Others may find it easier to measure in terms of weight. This method includes ways to measure waste diversion by either weight or volume. If you are working with both methods, you might find the need to convert from one to the other. The US Environmental Protection Agency has put together a handy table for converting the volume of the types of waste that go into compost into measures of weight.

WASTE TYPE	VOLUME	WEIGHT
Grass	1 cubic yard	280 pounds
Dried leaves	1 cubic yard	344 pounds
Produce waste	1 cubic yard	1,443 pounds
Wood chips	1 cubic yard	329 pounds

MEASURING THE WEIGHT OF WASTE DIVERTED

What You'll Need

- A basic **bathroom scale**—the old fashioned kind will work well, though you can also use a digital scale if one is readily available
- A **5-gallon bucket** to collect waste for weighing before it gets incorporated into the composting system
- A copy of the **Landfill Waste Diversion by Weight worksheet**

Instructions

Weigh the empty bucket on the bathroom scale to determine its tare weight, and record it in the Measuring Landfill Waste Diversion by Weight worksheet. Fill the bucket with the diverted waste and place it on the scale. This includes "browns" such as leaves, wood shavings, and sawdust. Keep a tight lid on the container to prevent smells and deter pests. Before you empty the bucket into the compost system, weigh it using the bathroom scale. Record the date and weight on your worksheet. You may want to do this as you accept the diverted waste and properly store it, or maybe you want to weigh your diverted waste as you make your compost pile or bin. Enter your data into Barn as you go or after your worksheet is full.

Example:
On June 14th, Jake incorporated a half-full bucket of kitchen scraps and a full bucket of dead leaves into the composting system at Jones Street Community Garden. He weighed each bucket and tallied the results in the Landfill Waste Diversion by Weight worksheet, like this:

DATE	WEIGHT
6/14	17 LBS
6/14	8 LBS

At the end of the season, Jake added up all of the weights recorded on the worksheet throughout the season, totaling 300 pounds. Before entering this total into Barn, Jake subtracted each weight recorded by the 3 lb tare weight. He then entered the waste weights recorded for each date into Barn.

1.1

LANDFILL WASTE DIVERSION BY WEIGHT

Garden:	Contact:	Phone/Email:

Container Tare Weight (lbs):

DATE	WEIGHT	DATE	WEIGHT

MEASURING THE VOLUME OF WASTE DIVERTED

What You'll Need

- Any receptacle with a known volume, like a **32-gallon garbage pail** or a **5-gallon bucket**
- A roll of **duct tape** or **masking tape**
- A copy of the **Landfill Waste Diversion by Volume worksheet**

Instructions

Using masking tape or duct tape, mark off the approximate 1/4, 1/2, and 3/4 volumes of the pail or bucket on its side. Throughout the season, use the receptacle to collect kitchen scraps or any other waste that makes its way into the compost pile that would otherwise end up in a landfill. This includes "browns" such as leaves, wood shavings, and sawdust. Keep a tight lid on the container to prevent smells and deter pests. Every time you empty the pail or bucket into the compost system, record the approximate volume of waste it contained to the nearest fourth. Enter your data into Barn as you go or after your worksheet is full.

Example:
East Side Community Garden collects kitchen scraps in a 5-gallon bucket and dead leaves in a 32-gallon trash can by the garden entrance. On June 14th, Frances incorporated a half-full bucket of kitchen scraps and a full can of dead leaves into the composting system at the East Side Community Garden. She noted the volume of waste in each pail and tallied the results in the Landfill Waste Diversion by Volume worksheet like this:

DATE	1/4	1/2	3/4	Full	TOTAL
6/14		X			2.5
6/14				X	32

1.1

LANDFILL WASTE DIVERSION BY VOLUME

Garden: | Contact: | Phone/Email:

DATE	1/4	1/2	3/4	Full	TOTAL

1.2 COMPOST PRODUCTION

Measuring the amount of compost you make can tell you whether you're reaching the goals and objectives you set at the start of the season. Knowing how much compost you have on hand can also help you plan and prioritize soil amendment projects throughout your farm or garden.

Measuring by Weight or Volume

Some gardens may find that it's easier to measure the volume of compost they produce. Others may find that it's easier to measure in terms of weight. This method includes ways to measure compost production by either weight or volume. If you are working with both methods, you might find the need to convert from one to the other.

MEASURING THE WEIGHT OF COMPOST PRODUCED

What You'll Need

- A basic **bathroom scale**—the old fashioned kind will do nicely, though you can also use a digital scale if one is readily available
- A **5-gallon bucket** to collect waste for weighing before it gets incorporated into the composting system
- A copy of the **Compost Production by Weight worksheet**

Instructions

Weigh the empty bucket on the bathroom scale. Note its tare weight (the weight of the empty bucket) in your Compost Production by Weight worksheet. Fill the container with finished compost, place it on the bathroom scale, and measure its weight. Record the date and weight in your data worksheet. Enter your data into Barn as you go or after your worksheet is full.

Example:
On June 14th, Maureen and Tracy used a 5-gallon bucket to take out a portion of finished compost from their windrow system, and they used it to amend the soil at Franklin Street Neighborhood Garden. First they weighed the empty bucket. Then they filled the bucket to the brim and weighed it again. They needed a bit more compost for job, so they filled the bucket halfway and placed it on the scale. Maureen then recorded both weights on the Compost Production by Weight worksheet like this:

DATE	WEIGHT
6/14	13 LBS
6/14	7.5 _BS

By October, the garden logged compost 14 times. Tracy added up all of the weights recorded on the worksheet throughout the season, totaling 300 pounds. Before entering this total into Barn, Tracy needed to subtract the tare weight from the compost weight recorded on the worksheet. To save herself some time, she multiplied the bucket's tare weight (3 lbs) by the number of times compost was logged (14), and subtracted the total bucket pounds (42) from the total compost pounds (300), to find that Franklin Street Neighborhood Garden produced 258 pounds of compost from June to October.

1.2

COMPOST PRODUCTION BY WEIGHT

Garden:	Contact:	Phone/Email:

Container Tare Weight (lbs):

DATE	WEIGHT	DATE	WEIGHT

MEASURING THE VOLUME OF COMPOST PRODUCED

What You'll Need

- Any receptacle with a known volume, like a **32-gallon garbage pail** or a **5-gallon bucket**
- A roll of **duct tape** or **masking tape**
- A copy of the **Compost Production by Volume worksheet**

Instructions

Using masking tape or duct tape, mark off the approximate 1/4, 1/2, and 3/4 volumes of your container on its side. Throughout the season, use the same bucket or pail to collect finished compost. Before using the finished compost in the container, observe where the level of compost is, and record this information on the data worksheet. Enter your data into Barn as you go or after your worksheet is full.

Example:
On July 1st, the compost team at Victory Urban Farm filled half of a 32-gallon garbage pail with finished compost. They noted the volume of compost in their Compost Production by Volume worksheet, like this:

DATE	1/4	1/2	3/4	Full	TOTAL
7/1		X			16

1.2

COMPOST PRODUCTION BY VOLUME

Garden: | Contact: | Phone/Email:

DATE	1/4	1/2	3/4	Full	TOTAL

1.3 RAINWATER HARVESTING

There are several ways a garden site can collect and store rainwater, such as barrels, tanks, or cisterns. Your garden may be collecting rainwater solely for irrigation purposes, but this practice can be important to record for two reasons: 1. Knowing how much water your garden needs, uses and collects; and 2. Accessing small stormwater management grants from local government agencies.

Measuring by Roof Surface Area or Volume

Rainwater harvesting systems are built in a variety of ways. This method includes two ways to measure the same thing, the volume of rainwater collected, to accommodate particularities of each system. Measuring using roof surface area is an approach best used for systems that collect runoff from garden sheds or other structures with an easily accessible roof. Barn does most of the work for you when using this method. Measuring by observing the volume is best if you don't have access to your roof. If your system includes either a transparent strip or a removable lid, you can eyeball the amount of rainwater harvested by using tape to mark off volumes on the tanks themselves.

RAINWATER HARVESTING BY ROOF SURFACE AREA

What You'll Need

- A **basic tape measure**—25' long should be enough for most roofs, but if you are using a large building, perhaps you'll want to consider finding a 100' long tape
- In the case that you cannot gain access to the roof at all, consider asking the building superintendent for a **drawing of the roof** with dimensions
- A copy of the **Rainwater Harvesting by Roof Surface Area worksheet**

Instructions

The first step is to figure out which part of your roof is draining into your collection tank. Note that this method will not work for buildings with pitched roofs. Once you have determined your roof is flat, you can figure out if your tank is collecting rainwater from all or part of your roof by several methods, including counting the number of downspouts or asking the gardener who set up your harvesting system.

The next step is to measure the length and width of the rooftop, either physically or on the computer, and record these numbers in the first two boxes on the Rainwater Harvesting by Roof Surface Area worksheet.

Write down the "start date." If at any point in the season so much rain falls that your containers are completely full, record that as an "end date." When the containers have emptied a bit and are ready to take in more water, record a second "start date."

Barn does all the work for you to measure how many gallons of rainwater your garden harvests. Record your roof dimensions and stop and start dates in Barn, and the system will automatically calculate the gallons of rainwater your garden harvested over the course of the season using rainfall data from local weather stations.

Example:
The West Side Community Garden installed a rooftop rainwater harvesting system with help from a local volunteer group. The system was designed to hold up to 600 gallons of water in a large plastic tank. Julia, a long time garden member, wanted to measure the number of gallons of water the system collected during its first full season. With some help from the garden's neighbors, she gained access to the roof and measured the drainage area that fed into the rainwater collection system: 12 feet in length by six feet in width. She then made a copy of the Rainwater Harvesting by Roof Surface Area worksheet and recorded these dimensions in the spaces provided.

On the same worksheet, Julia recorded the date of the first day the spigot on the rainwater harvesting system was opened: April 2. She placed the copy of this worksheet on a clipboard in a central area so others could record start and end dates.

A few days later, it began to rain. Within a month, the big plastic tank was full of water and the gardeners shut off the spigot. Julia noted the first end date: May 3. After a few weeks, the spring rains stopped and the gardeners started using water from the tank. Within a few days, the water level began to drop and the gardeners re-opened the spigot that connected the big plastic tank to the roof. Julia noted the new start date: June 6. After that point, the system stayed open to collect rainwater throughout the dry summer. When the gardeners drained the system at the end of the season, Julia noted the final end date: September 20.

Julia entered the numbers on her worksheet in Barn and the system calculated that West Side Community Garden harvested 1,300 gallons of

rainwater throughout its first season.

START DATE	END DATE
APRIL 2	MAY 3
JUNE 6	SEPT. 20

1.3

RAINWATER HARVESTING BY ROOF SURFACE AREA

Garden:	Contact:	Phone/Email:

Roof length:	Roof width:

START DATE	END DATE	START DATE	END DATE

RAINWATER HARVESTING BY VOLUME

What You'll Need

- A **marker** or **sharpie**
- A roll of **duct tape** or **masking tape**
- A copy of the **Rainwater Harvesting by Volume worksheet**

Instructions

Use three pieces of tape to write the amounts "1/4", "1/2", and "3/4." Using the tape, and your best judgment, indicate the volumes of the container on its side. Accuracy may be challenging due to the varying styles of barrels, tanks and cisterns, but approximate to the best of your ability where these measurements would be. Before the next rain, make sure to record the existing volume of the container, if there is any water in it already. When the barrel gets full, or the next time you want to use some of that rainwater, record the new volume and the date on the worksheet. This will tell you how much water was collected between then and the previous date. You can also keep track of how much water you use by recording the volume after you extract some of the water for irrigation, etc.

By keeping track of the new volumes and the dates, you can track both how much water you collect by rainfall, and how much of that you are using for your garden. Don't forget to enter your data into Barn when your worksheet gets full!

Example:
On May 1st, Sonia came to water the beds at La Finca. Sonia noted that the amount of water in the barrel was half of the container, and recorded

this amount on the Rainwater Harvesting by Volume worksheet. The total amount the barrel can hold is 40 gallons. When she returned a week later, it had rained, and she noted that the container was now about 3/4 full. She recorded this new water level on the worksheet. Sonia saw that it was going to rain again the next day, and she had some plants that looked like they could use a bit more water, so she decided to use some of the rainwater. After she finished watering, Sonia observed that the container now read about a quarter full, and again recorded this on the worksheet. By now, Sonia had used the first three lines of her worksheet. By subtracting the values she recorded, Sonia calculated that the amount of water collected while she was gone was about ten gallons, and that she had used about 20 for watering.

1.3

RAINWATER HARVESTING BY VOLUME

Garden:	Contact:	Phone/Email:

Container Volume (gallons):

DATE	1/4	1/2	3/4	Full	TOTAL

2. SOCIAL DATA

2.1 PARTICIPATION BY GEOGRAPHY

Some community gardens and urban farms have general goals for the number of volunteer hours they generate each year. Funders and policy-makers often want to know how many people are involved in a garden before lending their support.

This method allows you to track and record people who participate in the activities of your garden and the total hours each individual worked while visiting. The Participation by Geography worksheet also provides space to include other information you may want to capture about each visitor.

What You'll Need

- Five **8.5x11 sheets of paper**
- A **marker** or **sharpie**
- **Pushpins**
- **Foam** or **cork board**
- A copy of the **Participation by Geography worksheet**

Instructions

Use the sharpie to write this on a piece of paper: "For every half hour of work you volunteer, stick a pushpin on the paper that best describes how near the garden you live."

Display the 8.5x11 sheet of paper. Then, pin or tape the remaining four sheets of paper in a grid to a foam or cork board in a common space in the garden. Ideally, the paper grid will go in an area that is protected from

rain, like a garden shed. Use the sharpie to write the following on sentences on each piece of paper:

I live in the same neighborhood as the garden.	I live in the same borough or district as the garden, but not in the same neighborhood.
I live in the same city as the garden, but not in the same borough or neighborhood.	I live outside of this city.

You can either stick several pins into the bottom of this sheet, or place them in a container next to the instructions and paper grid. Designate a member (or several members) who will be in charge of asking others to record the hours they work by placing a pin on the paper under the sentence that best describes them. After several weeks, or once the papers are full of pushpins, tally the number of hours worked by visitors and record this information on the Participation by Geography worksheet. Then enter the data into Barn. This step can also be accompanied by taking a photo of the grid for your records.

If your garden has open hours, the person or group tracking hours worked by members should also be in charge of making sure each visitor is recorded on the Participation by Geography worksheet. During open hours, place a copy of the worksheet on a clipboard, and greet every visitor as they enter the garden. Have a conversation with them about who they are,

why they are visiting, and record their answers. Enter the information into Barn.

Example:

On Monday, July 3rd, Bob set up a foam board inside the gate at the Live and Learn Community Garden. He pinned four pieces of paper in a grid with sentences written on them that indicated different proximities to the garden. During the course of the week, members dropped by to water the garden's ornamental beds, tidy up the mulch pile, and turn some compost. After each day, the members totaled their hours of work, and inserted one pushpin for every half hour of work they performed on the paper that best described how close to the garden they lived. By the end of the week, the foam board had various clusters of pins, with a lot of them on the paper that said "I live in the same neighborhood as the garden." Bob was also happy to see that a good number of pins represented visitors from outside the neighborhood. Bob snapped a picture of the board, and logged the 13 volunteer hours indicated by 26 30-minute pins on the Participation by Geography worksheet, categorized by the "in" the neighborhood and "out" of the neighborhood subheaders, like this:

START DATE	END DATE	1/2 hour	TOTAL
7/3	7/9	In: 18 | Out: 8	13

After logging the results, Bob pulled out all of the pushpins to start again the following week, looking forward to all the visitors.

2.1

PARTICIPATION BY GEOGRAPHY

Garden: | Contact: | Phone/Email:

Tally up the 1/2 hour and 1 hour pushpins for the time spent by volunteers from "in" and "out" of your garden neighborhood.

START DATE	END DATE	1/2 hour		TOTAL
		In:	Out:	
		In:	Out:	
		In:	Out:	
		In:	Out:	
		In:	Out:	
		In:	Out:	
		In:	Out:	
		In:	Out:	
		In:	Out:	
		In:	Out:	
		In:	Out:	
		In:	Out:	
	Subtotal:			

2.2 PARTICIPATION BY TASK

Every garden and farm has an ongoing list of tasks that need to be completed, like weeding, planting, and making repairs. Sometimes special projects such as building a shed or hoop house require many hours over a short period of time. This method helps to measure the number of participant hours per task or project. Recording this information can potentially provide opportunities for resources or funding by showing community commitment and support.

What You'll Need

- A deck of **Garden Task cards**
- A small, **weatherproof box** or **envelope** to collect cards
- A copy of the **Participation by Task worksheet**

Instructions

Leave an unused deck of Garden Task cards in a dry, easy-to-access place in the garden. Instruct participants to fill out a card each time they engage in a task by including their name, the date, and the time the task was started and completed. Create a small box, using a shoebox or large tin can, with a large slit at the top where participants can drop the completed cards before leaving the garden. You can also use a large envelope. Make time to collect the cards and record this information on a Participation by Task worksheet. Enter your data into Barn.

Example:
All of the members of Beagle Street Farms donate volunteer service hours to keep the garden running smoothly. On Tuesday, Jonathan stopped by

after work and spent an hour watering the garden's communal beds. On Wednesday, Samantha spent a half-hour turning compost and another half-hour tidying up the garden shed. Both Jonathan and Samantha filled out Garden Task cards before leaving, dropping them in a box in the shed to log the hours they'd donated to the garden that week. On Sunday morning, José gathered up all of the cards in the box and tallied up the hours spent on each task, logging them in the Participation by Task worksheet and in Barn.

2.2

PARTICIPATION BY TASK

Garden: | Contact: | Phone/Email:

Tally up the time spent on each task, based on the cards in your mailbox.

Start date:

End date:

TIDYING UP Hours:

COMPOSTING Hours:

WATERING Hours:

BUILDING / FIXING Hours:

WEEDING / PRUNING Hours:

PLANTING / SEEDING Hours:

COORDINATING Hours:

OPEN HOURS Hours:

OTHER TASKS Hours:

Total hours:

DESIGN TRUST FOR PUBLIC SPACE

Farming Concrete

TIDYING UP

Name:

Date:

Start time: | End time:

TIDYING UP

Name:

Date:

Start time: | End time:

TIDYING UP

Name:

Date:

Start time: | End time:

TIDYING UP

Name:

Date:

Start time: | End time:

COMPOSTING

Name:

Date:

Start time: | End time:

COMPOSTING

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Start time: | End time:

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COMPOSTING

Name:

Date:

Start time: | End time:

WATERING

Name:

Date:

Start time: | End time:

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Name:

Date:

Start time: | End time:

WATERING

Name:

Date:

Start time: | End time:

WATERING

Name:

Date:

Start time: | End time:

BUILDING / FIXING

Name:

Date:

Start time: | End time:

BUILDING / FIXING

Name:

Date:

Start time: | End time:

BUILDING / FIXING

Name:

Date:

Start time: | End time:

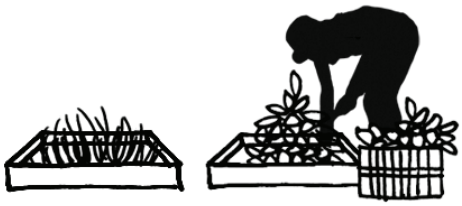
BUILDING / FIXING

Name:

Date:

Start time: | End time:

WEEDING / PRUNING

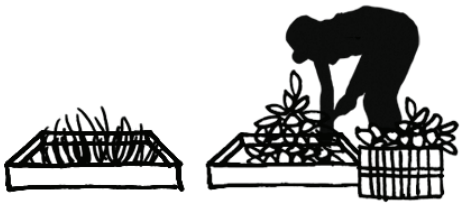


Name:

Date:

Start time: | End time:

WEEDING / PRUNING

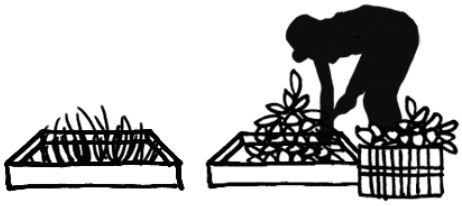


Name:

Date:

Start time: | End time:

WEEDING / PRUNING

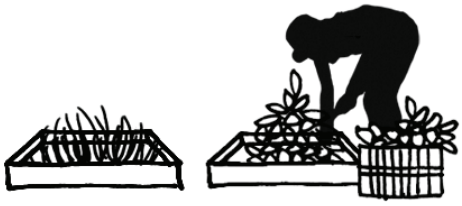


Name:

Date:

Start time: | End time:

WEEDING / PRUNING



Name:

Date:

Start time: | End time:

PLANTING / SEEDING

Name:

Date:

Start time: | End time:

PLANTING / SEEDING

Name:

Date:

Start time: | End time:

PLANTING / SEEDING

Name:

Date:

Start time: | End time:

PLANTING / SEEDING

Name:

Date:

Start time: | End time:

COORDINATING

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Date:

Start time: | End time:

OTHER TASKS

Name:

Date:

Start time: | End time:

OTHER TASKS

Name:

Date:

Start time: | End time:

2.3 PARTICIPATION BY PROJECT

Sometimes, gardens take on a special project that has a clear beginning, middle, and end. These projects differ from ongoing tasks, such as weeding or watering. Projects may include building a new fence, laying down new walkways, painting a mural, cutting down damaged trees, or constructing a new shed. They are often created and prioritized from one season to another, and they offer valuable opportunities for participation each year.

What You'll Need

- A **clipboard**
- A copy of the **Participation by Project worksheet**

Instructions

Some community gardens and urban farms have specific projects they hope to complete each year, such as repairing a garden gate or replacing old compost bins. Before getting started with measuring volunteer hours according to projects, you may find it useful to explore your garden's priorities for what needs to get done this season. Invite your fellow gardeners to have a conversation about the top three projects you'd like to complete this season.

Each garden has its own leadership process for making these kinds of decisions. Regardless of how the decisions are made, projects should end up with at least one point-person or project coordinator to keep the ball rolling. Project coordinators will need to take responsibility for tracking the number of hours worked by each participant. Coordinators can schedule a series of workdays for garden members to contribute to

a particular project. At each workday, the coordinator will bring a copy of the Participation by Project worksheet on a clipboard and use it to record each volunteer's name, the time that they began, and the time they finished working that day. Taking photos of participants at the start of the work session, the end of the work session, and at moments in between can also help the project coordinator remember everyone who participated in the project in case a volunteer goes unrecorded on the worksheet. The coordinator can either enter the information from each worksheet into Barn at the end of each work session or wait to enter the data from all of the forms at one time once the project is completed.

Example:

Members of the Jones Avenue Community Garden came together in March to begin planning for the growing season. During the meeting, the membership voted to install a rainwater harvesting system in the garden. Frank took responsibility for leading the project, and by May 2nd, 15 members pitched in to build the rainwater harvesting system. Frank spoke to these volunteers and scheduled several days for members who wanted to help build the system to work together in the garden. At the start of each work session, Frank passed around a clipboard with a blank Participation by Project worksheet attached. He asked all of the members to sign in with their name and the time of day they came to the garden to work. Throughout the course of the day, as new members came to help and others left early, Frank reminded them to sign in and sign out with the times they began and finished work. At the end of each work session, he added up all of the time spent by garden members installing the rainwater harvesting system. Once the project was complete, he collected all of the Participation by Project worksheets he filled out for each work session and entered the data into Barn.

2.3

PARTICIPATION BY PROJECT

Garden:	Contact:	Phone/Email:

Project title:	Work date:

PARTICIPANT NAME	TIME IN	TIME OUT	HOURS

Total hours:

DESIGN TRUST
FOR PUBLIC SPACE

Farming Concrete

2.4 SKILLS & KNOWLEDGE

This method creates opportunities for deeper networking within your garden or farm community. Understanding and discovering all of the skills and knowledge within the community of a site can help make connections at the beginning stages of visioning a new garden, or even in an already established garden when looking to widen your garden's participation or start a new project. By using this method you can measure the number of skills, new ideas, and development within your garden.

Before getting started with measuring the skills and knowledge in your garden this season, you may find it useful to explore your garden's vision and objectives in this area. Invite your fellow gardeners to have a conversation and use the Getting Started worksheet to record your thoughts.

Measuring Skills & Knowledge in the Garden and Sharing with Other Gardens:

Sharing expertise and knowledge with your fellow garden members can benefit both you, and the garden. It can create better overall gardening practices, and also enhance your own personal experience as not just a community member, but also a gardener in general. If your garden has successfully used Skills & Knowledge in the Garden, you may want to take these experiences further by thinking of ways of assisting other gardens in your neighborhood. For example, you might arrange a "skills swap" with another garden offering to teach their members to build raised planting beds in exchange for their knowledge about growing shade-tolerant crops. By sharing your expertise, you will build networks of support in your local community and improve your garden's work.

SKILLS & KNOWLEDGE IN THE GARDEN

What You'll Need

- Four large **poster boards** or **flip charts**
- Stacks of **sticky notes**
- **Markers**
- A deck of **We Connected cards**
- A copy of the **Skills & Knowledge in the Garden worksheet**

Instructions

Invite your gardening community to a special skill-share meeting, either indoors or at the garden. Using four pieces of poster board or large sheets of paper, mark each sheet with the following titles written across the top:

Skills I Can Share and Teach

Concepts I Can Share and Teach

Skills and Concepts I Want To Learn

Projects I Want To Collaborate On

Provide each participant several sticky notes and ask them to spend ten or 15 minutes writing responses to each of the poster prompts. Participants should write their names on the back of each sticky note and then have them place their sticky notes on the posters they are most interested in. At the end of 15 minutes, invite all of the participants to explore the results and begin to connect with each other. They can use the names written on the back of each sticky note to find its author and begin a con-

versation. This can be a good opportunity to also consider how to develop and work on ideas pertaining to all four posters and what next steps can be taken. At the conclusion of this activity, have someone record this information on to the Skills & Knowledge in the Garden worksheet and enter this into Barn.

Ask participants to keep track of the connections they make and their intentions to collaborate, using We Connected cards. The cards ask participants to note their names, phone numbers, and emails, and make a quick note about the topic that connected them. The cards can be torn in thirds, allowing participants to follow up with each other after the event. If you are unable to print new copies of the We Connected cards, feel free to use blank or scrap paper instead.

Example

Water Street Community Garden has more than 25 active members. On April 3rd, the garden's members came together for a skill-share meeting. Jane, the garden's vice president, planned the event. She booked a community meeting room at the local library, purchased markers, posters, and sticky notes, and arrived early to set everything up for the meeting. As members arrived, she invited them to take a seat, handing them a few We Connected cards and a handful of sticky notes as they walked inside. When everyone was settled, Jane invited the members to write answers to each of the prompts on the four posters pinned around the room, using one sticky note for each idea.

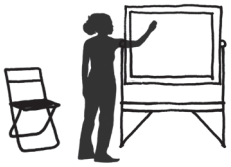
After 15 minutes, Jane invited participants to put down their pens and pin up their sticky notes on the posters. Once all the sticky notes were up, she asked the members to walk around and see what others had written, looking for opportunities to connect and collaborate by sharing new skills and knowledge with each other. For the next half hour, members walked around and discovered new things about the gifts and talents the each brought to the garden. The sticky notes inspired a lot of new conversations and connections between gardeners. Some came up with new ideas

for projects to work on together. Others promised to teach each other how to grow more bountiful tomato harvests or how to build raised vegetable beds. They noted their new links on We Connected cards, traded contact information, and provided Jane with a piece of the We Connected card that noted each of their names.

Using a Skills & Knowledge in the Garden data worksheet, she recorded the event date, the number of participants, the number of skills shared, the number of concepts shared, the number of projects proposed, and the number of ideas to learn generated during the meeting.

2.4

SKILLS & KNOWLEDGE IN THE GARDEN



Garden:	Contact:	Phone/Email:

Event date:	# of participants:

 # OF SKILLS SHARED .....

 # OF IDEAS SHARED .....

 # OF PROJECTS PROPOSED .....

 # OF IDEAS TO LEARN .....

 # INTENTIONS TO COLLABORATE SUBMITTED .....

WE CONNECTED

about:

Name:

Name:

Let's reconnect about:

Let's reconnect about:

Name:

Name:

Phone #:

Phone #:

Email:

Email:

WE CONNECTED

about:

Name:

Name:

Let's reconnect about:

Let's reconnect about:

Name:

Name:

Phone #:

Phone #:

Email:

Email:

SKILLS & KNOWLEDGE SHARING WITH OTHER GARDENS

What You'll Need

- A **Skills & Knowledge Sharing with Other Gardens worksheet**

Instructions

Ask your fellow gardeners if they have the interest to share some of their skills and knowledge they have with other gardeners in your community. If the answer is yes, then advertise your collective skills and knowledge by reaching out directly to neighboring gardens or by working with garden advocacy groups to get the word out through email listservs, newsletters, and even word-of-mouth.

Keep a Skills & Knowledge Sharing with Other Gardens worksheet in the shed for gardeners to track the time they spend helping other gardens, and the particular projects or programs they help realize. You can also log into Barn and make a record of your interaction as you go. At the end of the season, Barn will tally up all of the times you helped out another garden with your local expertise.

Example:
Westervelt Community Garden used the Skills & Knowledge in the Garden exercise to determine the expertise of its members. They thought it would be a good way to connect newer members with more experienced gardeners living in the St. George neighborhood of Staten Island. After holding a skill-sharing event at the garden, Sally, a new member and resident, arranged several compost training sessions with Dan, a master composter and 25-year member of the garden. Sally learned quite a bit from Dan and developed a deep enthusiasm for composting.

Sally went home and looked up all the community gardens in her area. She compared these to a map of gardens she found that participated in composting. Two of the gardens within a mile of the Westervelt Community Garden did not appear to have active compost programs. She looked up their open hours and scheduled time to meet with gardeners the next week. The first garden she visited was well established but really small. They decided not to have a compost bin because it would take up too much space. The second garden, Jersey Street Grows, was more recently established and was still setting up its space and activities, and its membership. They were interested in composting but did not have any members with related experience.

Sally offered to help them set up a three-bin system if they could find the materials. She also offered to give compost tutorials. A month later, the garden's composting program was well underway, with 12 gardeners participating. Sally agreed to visit the garden regularly and help with other projects as they needed. They also offered to return the favor.

Back at Westervelt Community Garden, Sally noted the time she spent with gardeners at Jersey Street Grows on the garden's Skills & Knowledge Sharing with Other Gardens worksheet and made a mental note to talk to her fellow gardeners about sharing some of their skills.

2.4

SKILLS & KNOWLEDGE SHARING WITH OTHER GARDENS

Garden: | Contact: | Phone/Email:

DATE	GARDENER/S	SHARED WITH	PROJECT / PROGRAM DESCRIPTION

2.5 REACH OF PROGRAMS

When you host events, workshops, or programs at your garden, your attendees can be a diverse group of people from within, and outside of, your community. These events are different from tasks and projects because they typically have a beginning, middle and end; they rely on staff or special volunteers to plan and coordinate; and they will often strengthen the overall work flow existing in the garden.

You can use this data to see whether you're meeting your basic program goals each season and to demonstrate the value of your garden or farm to policymakers and funders.

What You'll Need

- A **program leader**
- Copies of the **Thanks for Attending Our Program! survey**
- A copy of the **Reach of Programs worksheet**

Instructions

Every time your garden or farm hosts an event, use the Thanks for Attending Our Program! survey to record the age, zip code, and gender of your attendees. If the program is geared toward youth, ask parents to fill out a basic questionnaire beforehand that notes the participant's age and zip code.

Record this information into the Reach of Programs worksheet, and include the other important information about the event like the date and event name.

If a program happens more than once in a year, create a new worksheet each time it happens. For example, if you host the same internship programs three times per summer, create a new worksheet for each time you host the event. Enter your data into Barn.

Example:
Daniel's Garden offers programs in the summer for the surrounding community to learn how to compost at home and in the garden, as well as parties for picking up trash on the blocks surrounding the garden. Over the past two growing seasons, Jen, the leader of the composting program at Daniel's Garden, has noticed that many more people have started to come to the two-hour training sessions she holds each month on how to use a three-bin composting system. In order to make her composting training sessions the best they can be, Jen would like to know more about who attends these events and how they heard about them.

Before her May compost training session, Jen reached out to Dave, the Outreach Director of the Montrose Senior Citizens Center next to Daniel's Garden, to see if any of his visitors would like attend. Jen also hung flyers advertising the session around the center. On the day of her event, Jen took the Reach of Programs worksheet out of her *Toolkit*, and made several copies of the surveys. Jen greeted each attendee at the garden gate with a survey, and invited them to gather by the compost bin. Before beginning the session, Jen explained that she'd like to know more about the folks attending her program in order to make it better for them. She asked them to write their age, zip code, and gender on the survey sheet. She also asked everyone to turn their survey sheet over and write down how they heard about the program. Another member of Daniel's Garden collected they survey sheets while Jen answered questions from the group.
After the event was over, Jen looked through all the survey responses and began filling out the Reach of Programs worksheet. She counted the program start and end as the day's date, noting that the program lasted two hours. She checked 'Yes' to both of the questions about collaborating with another organization for the garden program, noting that the orga-

nization was Montrose Senior Citizens Center. As Jen was tallying up the ages of attendees, she noticed that the majority were 25-34 or 65+, and that older attendees all lived within the same zip code as Daniel's Garden while the younger attendees did not. Jen marked that the program included garden education training, and noted that the program also covered compost. Jen looked at the back of each completed survey to see how attendees found out about the program, and noticed that the majority of them found out "from a friend." When Jen entered the data she collected into Barn, she noted this information in the "comments" section of the web worksheet. Jen thought of all the possible things she could find out from this survey worksheet, and decided that she'd ask attendees of her June compost training session to write down one skill they'd like to learn from attending the program on the back of the survey forms.

She filled out a Reach of Programs worksheet for each composting program she held this growing season, and at the beginning of the fall to be able to see the demographics of her attendees, and know more about successful ways for recruiting participants. By collecting this data, Jen found out that she taught 250 people to compost this summer from all five boroughs. After quantifying the number of people her program reached, Jen used this information to secure an in-kind donation from her local hardware store for equipment. Jen also shared the reach of her programs with the owners of two of her favorite neighborhood restaurants and convinced them to donate their food waste to Daniel's Garden as a way of contributing to the resiliency of their community.

2.5

REACH OF PROGRAMS

Garden: | Contact: | Phone/Email:

Program name:

Hours each day:

Start date:

End date:

Did you collaborate with another organization to host this program?

☐ **No** ☐ **Yes** → Was this the first time you worked together? ☐ **Yes** ☐ **No**

YOUTH AGES

Under 10:

11–14:

15–19:

20–24:

ADULT AGES

25–34:

35–44:

45–54:

55–64:

65 & older:

GENDER

Male:

Female:

Other:

LOCATION

In garden zip code:

Outside garden zip code:

THIS PROGRAM INCLUDES

Check all that apply.

- ☐ Cooking Demos
- ☐ Workforce Training
- ☐ Science Education
- ☐ Performances
- ☐ Festivals
- ☐ Community Meetings
- ☐ Fundraisers
- ☐ Markets or Sales
- ☐ Art Projects
- ☐ Holiday Events
- ☐ Social Gatherings
- ☐ School Visits
- ☐ Neighborhood Cleanups
- ☐ Exercise & Training
- ☐ Health Education
- ☐ Garden Education
- ☐ Political Events
- ☐ Volunteer Events
- ☐ .....
- ☐ .....
- ☐ .....
- ☐ .....
- ☐ .....
- ☐ .....

THANKS FOR ATTENDING OUR PROGRAM!

Help us learn about the reach of our programming by filling out this short survey.
One Survey per Participant

Your age:	Zip code:	Gender:

THANKS FOR ATTENDING OUR PROGRAM!

Help us learn about the reach of our programming by filling out this short survey.
One Survey per Participant

Your age:	Zip code:	Gender:

THANKS FOR ATTENDING OUR PROGRAM!

Help us learn about the reach of our programming by filling out this short survey.
One Survey per Participant

Your age:	Zip code:	Gender:

THANKS FOR ATTENDING OUR PROGRAM!

Help us learn about the reach of our programming by filling out this short survey.
One Survey per Participant

Your age:	Zip code:	Gender:

3. HEALTH DATA

3.1 CHANGES IN ATTITUDE: YUM & YUCK

Many children discover that they love the taste of fresh fruits and vegetables after trying them for the first time in a community garden or urban farm. Some don't. Either way, a number of gardens encourage kids to try new foods grown from their local soil. Gardeners and educators often hope that a little taste will go a long way toward changing attitudes about what is yummy—and what isn't. Adults can use this method to see how attitudes about the flavor of fresh fruits and vegetables change when kids do a taste-test in the garden.

What You'll Need

- Fresh **vegetables, fruits** or **herbs** to taste
- Empty and clean **tin cans, jars** or **containers** of similar size
- A bag of **dry red beans** and a bag of **dry white beans**
- Two **large bowls**
- A copy of the **Changes in Attitude: Yum & Yuck worksheet**

Instructions

Begin by taking note of any fresh vegetables or fruits that are ready to be picked in the farm or at the garden. Before children come to visit, choose two or three ripe crops for the day's harvest. Prepare a short table or picnic bench at the entrance to the garden. Lay out two large bowls; one filled with dry red beans and another filled with white beans. Use an index card or large sheet of paper to label one bowl of beans with the word "Yum" and the other with the word "Yuck." For each vegetable or fruit you've chosen to harvest, set out a jar. Each jar should be accompanied by a fresh vegetable, fruit, or herbs, or have a clear image of the produce being tasted

glued or taped to the front. Two or three different samples of fruits and vegetables should be enough for any given day.

As children enter the garden, invite them to spend a minute quietly thinking about each of the vegetables and fruits on display. One by one, invite them to pick a "Yum" bean or a "Yuck" bean to describe how they feel about each vegetable. Ask them to put their beans in the corresponding jars. When all of the children have voted, move on with the day's planned activities—harvesting and tasting these fruits and vegetables.

While children are busy harvesting and tasting, have an adult empty the jars into individual re-sealable bags. Use a permanent marker to tag these bags with the word "Before." Seal the bags and set them aside. When the children are done harvesting and tasting, invite them to vote once again, in the same way, to register their attitudes about the fruits, vegetables, or herbs they just ate.

At the end of the day, tally up the red and white beans in the re-sealable bags and the mason jars. Note the changes in attitude in a Yum & Yuck worksheet. Share the results with other gardeners, teachers, and funders who may be interested in learning more about your programs. Don't forget to enter your data into Barn.

Example:

Jeanine is a children's workshop leader at the little community garden in Memorial Park. Every summer, she works with fifth graders from a local summer day camp to plant rows of corn, green beans, and tomatoes. The children harvest the crops as they ripen throughout the season, tasting each harvest and bringing some of the produce home with them in little paper bags. The children always have a lot to say about what they've tasted, but Jeanine struggles to keep track of how their attitudes change as a result of growing and tasting the vegetables for themselves.

Last year, as the green beans and tomatoes started to ripen and harvest time approached, Jeanine got ready to track what the children thought

about the taste of these two vegetables. She took two large tin cans out of her recycling bin, cleaned them, and taped a colorful drawing onto the front of each can: one of a big red tomato, the other of a bushel of green beans. She bought a bag of dry red beans and a bag of white beans at her local grocery, and poured each bag into separate bowls.

The next morning, Jeanine arranged the bowls and the jars on a picnic bench in the garden. After the children arrived and got settled, Jeanine briefly taught them how to harvest the tomatoes and green beans. She then invited each one to step up to the picnic bench and pick a "Yum" bean or a "Yuck" bean to describe what they thought about tomatoes—a red bean for "Yum" and a white bean for "Yuck." Their choice made, they dropped their bean into the tin can labeled with the drawing of a tomato and then did the same thing again for the green beans.

While the children worked in the garden with Jeanine, another adult gardener poured the contents of each jar into separate plastic bags and set them aside for Jeanine to count out later. After the harvest was over, everyone tasted a tomato and a green bean—some for the first time. Jeanine then invited the children to step up to the picnic bench once more to register how they felt about tomatoes and green beans after harvesting and tasting them. When the children left for the day, Jeanine counted out the red beans and white beans in each of the plastic bags and compared them to the beans left in the jars. She found that there was an increase in "Yum" opinions about tomatoes by the end of the day, and a small increase in "Yuck" opinions about green beans. She logged the results and shared them with other gardeners and began thinking about ways to make the next harvest more appealing to children in the garden.

3.1

CHANGES IN ATTITUDE: YUM & YUCK

Garden:	Contact:	Phone/Email:

Event date:	# of participants:

	BEFORE TASTING		AFTER TASTING	
VEGETABLE NAME	**YUM**	**YUCK**	**YUM**	**YUCK**
			Change:	Change:
			Change:	Change:
			Change:	Change:
			Change:	Change:
			Change:	Change:
			Change:	Change:
			Change:	Change:
			Change:	Change:
			Change:	Change:
			Change:	Change:
			Change:	Change:
			Change:	Change:

Total changes:

3.2 GOOD MOODS IN THE GARDEN

Some research suggests that spending time in community gardens and other green spaces can be good for the mind, reducing stress and increasing feelings of happiness and peacefulness. Does your garden make people feel better after a stressful day at work? Does your farm help people find a sense of calm after a hard day of horticultural activities? Finding out how your green space influences emotional wellbeing in and around its surrounding community can help you make a case for the value of gardening in your neighborhood.

What You'll Need

- A sheet of **tear-off flyers** tagged with "mood words" (included in the *Toolkit*)
- A small, **weatherproof box**
- Two **regular envelopes**
- A copy of the **Good Moods in the Garden worksheet**

Instructions

Print sheets of the mood word flyers (see pages after the Good Moods in the Garden worksheet). Purchase a small box, or use a weatherproof envelope. Inside the box, insert two simple letter-sized envelopes—one labeled "How I Feel Walking into the Garden" and the other labeled "How I Feel Walking out of the Garden." Post the flyers and the box (or envelope) near the entrance to the garden, being careful to protect the paper from rain and wind.

Invite garden members to tear off a word from the flyer and drop it into the "How I Feel Walking into the Garden" envelope each time they enter. They should do the same as they leave the garden. At the end of each week, count the positive and negative words of each envelope in the box and post a new set of flyers to start the process over again. Tally up the different good and bad moods going in and out of the garden, and share the results with others in your community. Discuss ways to increase the number of good moods people feel as they leave the garden. You may find the data useful when discussing the value of community gardening or urban farming with local elected officials and potential funders. Log the moods on the Good Moods in the Garden worksheet and enter this data into Barn.

Example:

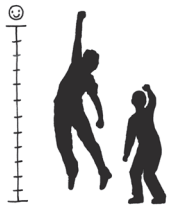
Jevon and his friend Samantha are regular volunteers at the Tenth Street Neighborhood Garden. The neighborhood went through some tough times in recent years and residents looked to the garden as a refuge and a source of hope. Samantha wanted to get a better sense of how people felt after interacting with the garden in order to come up with ways to make the space even more of a resource for local residents. Jevon wanted some evidence that the garden had a positive impact on the neighborhood in order to apply for a $500 grant that would cover the cost of a nicer garden gate.

Jevon and Samantha teamed up to measure the good moods coming out of the garden during the summer. They printed a sheet of mood words and clipped the tags to look like a tear-off flyer on a community bulletin board. They posted the flyer by the garden gate near a cheap box they purchased at the local hardware store. At the first garden meeting of the season, they invited participants to take a moment upon entering and leaving the garden to pause and choose one word that best described how they felt, tearing the word from the flyers and dropping them into the appropriate envelopes in the box.

After a week, Jevon and Samantha opened the box and counted up the number of words in each envelope. They found that a number of people walked into the garden feeling sad, anxious, or tired, and left feeling peaceful, calm, and rested. They posted fresh sheets at the garden gate, logged the results, and shared them at the next garden meeting. After a few weeks, Jevon had enough data to make the case that Tenth Street Neighborhood Garden had a positive impact on people that came through the gate. He discussed the findings in his grant application. Samantha used the findings to jump-start a conversation with other gardeners that explored ways to make their green space even more welcoming, enriching, and relaxing for anyone who walked through the gate.

3.2

GOOD MOODS IN THE GARDEN



Garden:	Contact:	Phone/Email:

Tally up the "mood words" for your time range.

Start date:	End date:

ATTITUDES WALKING IN

Happy:

Peaceful:

Excited:

Calm:

Rested:

Sad:

Anxious:

Angry:

Tired:

Frustrated:

ATTITUDES WALKING OUT

Happy:

Peaceful:

Excited:

Calm:

Rested:

Sad:

Anxious:

Angry:

Tired:

Frustrated:

AS I WALK INTO THE GARDEN I FEEL...

Happy

Peaceful

Excited

Calm

Rested

Sad

Anxious

Angry

Tired

Frustrated

[REMOVE]

[REMOVE]

Happy

Peaceful

Excited

Calm

Rested

Sad

Anxious

Angry

Tired

Frustrated

[REMOVE]

Happy

Peaceful

Excited

Calm

Rested

Sad

Anxious

Angry

Tired

Frustrated

[REMOVE]

Happy

Peaceful

Excited

Calm

Rested

Sad

Anxious

Angry

Tired

Frustrated

Happy

Peaceful

Excited

Calm

Rested

Sad

Anxious

Angry

Tired

Frustrated

TODAY THE GARDEN MADE ME FEEL...

Happy

Peaceful

Excited

Calm

Rested

Sad

Anxious

Angry

Tired

Frustrated

[REMOVE]

[REMOVE]

Happy

Peaceful

Excited

Calm

Rested

Sad

Anxious

Angry

Tired

Frustrated

[REMOVE]

Happy

Peaceful

Excited

Calm

Rested

Sad

Anxious

Angry

Tired

Frustrated

[REMOVE]

Happy

Peaceful

Excited

Calm

Rested

Sad

Anxious

Angry

Tired

Frustrated

Happy

Peaceful

Excited

Calm

Rested

Sad

Anxious

Angry

Tired

Frustrated

3.3 HEALTHY EATING

Recording how people use garden-grown produce in their kitchens provides an additional opportunity for community members to come together by sharing recipes about preparing food grown in the garden. It can also influence what your garden plants each year.

What You'll Need

- A stack of **index cards**
- A small, **weatherproof box** or **envelope**
- A copy of the **Healthy Eating worksheet**

Instructions

Leave a stack of index cards in a prominent place in the garden and invite other garden members to take one home each time they harvest a vegetable to cook in their kitchens. Next to this stack, leave a small box or envelope. Instruct gardeners to write the recipe they prepare with the garden's produce, or a description of the meal on the back of the card, and draw, paste, or tape an image of the vegetable or cooked meal on the front. They can drop their finished cards back off in the box the next time they visit, mail it back to the garden, send the recipe and photo in an email, or post the recipe to social media, tagging the garden. You could even encourage them to bring a sample of what they cooked with the garden produce. Count up the number of recipes you receive to get some sense of the number of meals prepared using food grown in your garden.

Example:
Javier loves to cook with the tomatoes he grows at La Quinta Community Garden down the street from his apartment. He picks about a pound of

tomatoes each week during the harvest season, takes them back to his kitchen, and prepares a variety of things to eat. Each time he harvests tomatoes he grabs a blank index card from the garden shed. After cooking his meal, he snaps a photo of the results with his phone and shares it on Twitter. When he's particularly proud of what he cooked, he'll write down the recipe on the card and sketch a tomato on the front, dropping the card in the garden's box on the way to work the next morning.

Ellen is the coordinator for La Quinta Community Garden. She receives recipe cards from Javier and four or five other gardeners throughout the season. As she receives them, she keeps track of the number of meals made with produce from the garden. She eventually wants to make a recipe book to share with all of the gardeners.

3.3

HEALTHY EATING

Garden:	Contact:	Phone/Email:

START DATE	END DATE	# OF RECIPES

Tally up the recipes for your time range.

RECIPE

For:

From the kitchen of:

Ingredients:	Directions:

RECIPE

For:

From the kitchen of:

Ingredients:	Directions:

3.4 BEAUTY OF THE GARDEN

Community gardens and urban farms add a bit of greenery to any neighborhood and can make city dwellers feel proud about the place where they live. Simply walking past a garden can brighten anyone's day. This may be why property values seem to be higher in neighborhoods with well-tended gardens, according to one study. Measuring a garden's impact on the mood of a whole neighborhood can be tricky, but not impossible. Neighbors are usually willing to share their opinions, and this method will help you discover what everyone living near the garden feels about its contributions to the community.

What You'll Need

- A box of large **black markers**
- A stack of extra-large **price tags**
- A **poster-size sign** that says "Tell Us What You Like About Our Garden"
- A copy of the **Beauty of the Garden worksheet**

Instructions

Choose a weekend afternoon to set up a small table and chairs outside your garden gate. Lay out a stack of extra large price tags and markers. Invite garden visitors and passers-by to "tag" any part of the garden they see from the street that they find particularly beautiful or that they regularly appreciate. Invite them to write a few thoughts on the tag about how their favorite thing makes them feel.

After two or three hours, or as long as you like, take photos of all the tagged garden elements and log the results. Repeat this experiment as many times as you like in any given season to get different snapshots of what people appreciate as they walk past the garden. This method can be adapted to gain valuable feedback from school field trips to the garden and other programs. Enter your data into Barn.

Example:
Gloria is a founding member of the Franklin Street Garden. For years, Gloria's neighbors told her how much they appreciated having the garden nearby—even if they didn't always go past the gate. Some neighbors would occasionally suggest planting more of one thing, less of another. One day last spring, Gloria set out to learn more about local attitudes toward the garden. On a sunny Saturday afternoon, she set up a card table and a few chairs just outside the garden gate. She laid out some markers, a stack of extra-large manila price tags she bought at the local office supply store, and a pitcher of lemonade with paper cups. She taped a large poster in front of the card table that read: "Tell Us What You Like About Our Garden—Free Lemonade!"

Gloria sat and waited for neighbors to walk past. One by one, people came up to the card table to see what was going on. Gloria invited them to take a price tag and write a few words about one thing they could see in the garden as they walked past that they found particularly beautiful, inspiring, or just worth mentioning. As her neighbors filled out the price tags, she urged them to walk inside the garden and tag the object they'd chosen to write about. Over the course of three hours, the front of the garden became decorated with price tags—a visual record of everything the neighborhood valued about the look of the garden as they walked past day by day.

When she was ready to leave, Gloria snapped photos of the garden covered in price tags. She removed all of the tags and saved them to share with other garden members later that week.

3.4

BEAUTY OF THE GARDEN

Garden:	Contact:	Phone/Email:

Event date:	# of participants:
# of tags:	# of items tagged:

Did you take photos of the tags in the garden to upload to **www.farmingconcrete.org/barn**?

☐ No ☐ Yes

WHAT WAS TAGGED

WHAT DID SOME OF THE TAGS SAY?

Tagged item:	Tagged item:	Tagged item:
Comment:	Comment:	Comment:

4. ECONOMIC DATA

4.1 MARKET SALES

Making fresh, healthy vegetables accessible and affordable to city-dwellers is one of the joys of urban gardening. Some gardeners sell their produce from a folding table set up right outside the garden gate. Others haul their produce to a weekly farmers market. However you sell the fruits and vegetables grown in your garden, it's important to keep track of what's coming in and going out. Once money is involved, good record-keeping is essential.

What You'll Need

- Enough copies of the **Market Sales worksheet** to record an entry row for each sale

Instructions

Use a Market Sales worksheet to record the date, product name, appropriate unit (pound, bunch, jar, etc.), price per unit, amount before market, amount after market, total amount sold, and total sales.

Use your Market Sales worksheet to track the number of items you sold and the appropriate unit of measurement, the price you listed each for, noting if you gave discounts or package deals. When you get home, or to the office, enter the data into Barn.

Once you have the hang of tracking sales, and if you're handy with smartphones or other devices that can access the internet, consider directly entering your sales into Barn at the market.

Example:
Dana is a member of the City Heights Community Garden. Every season, she grows tomatoes, radishes, and squash to sell at the Saturday farmer's market down the block from her apartment. She visits one or two local grocery stores each week to find out how much her neighbors are paying for tomatoes, radishes, and squash, and sets the prices for her farmers market sales appropriately.

When Saturday rolls around, Dana prints a new Market Sales worksheet and fills out the date and the list of vegetables she plans to sell at the farmers market.

Dana uses the worksheet to keep track of how much of each product she sells throughout the day. She notes the amount of tomatoes and radishes she has at the start of the day, and then records any remaining produce at the close of the market.

At the end of the day she determines the quantity sold by subtracting any remaining produce from the amount she started with when the market opened. Then she multiplies by the unit price to calculate the total value of her sales. She enters the results in Barn to keep track of her sales throughout the season.

4.1

MARKET SALES

Garden: | Contact: | Phone/Email:

Date:

PRODUCT	UNIT	UNIT PRICE	UNITS BEFORE MARKET	UNITS AFTER MARKET	TOTAL UNITS SOLD	TOTAL $

4.2 DONATIONS OF FOOD

Many community gardeners are motivated to grow fresh and healthy vegetables for food banks, soup kitchens, and other charitable organizations. Tracking the amount of food you donate can help pantries better manage their weekly inventories. It can also help your garden talk about the important role it plays in creating a healthy community.

What You'll Need

- A **hanging basket** or **countertop kitchen scale**
- Enough copies of the **Donations of Food worksheet** to record what you are donating that day

Instructions

Each time you harvest food for donation, use a kitchen scale to weigh the number of pounds you harvest for each fruit or vegetable. On the Donations of Food worksheet, note the name of the produce donated, and the number of pounds harvested for each. Try to be as specific as possible with crop names: hot peppers or sweet peppers? Enter your data into Barn.

Example:
Harold is a member of Green Acres Garden. The food he grows will feed his neighbors and fellow members of his church congregation. For the decades he's lived in the Bronx, he's always given away food to anyone walking by the garden. It brings smiles to stony faces, it turns strangers into friends, and it gathers the community together in times when it seems like nothing is for free anymore. He's never made a big deal about tracking the food he gives away, and it feels strange to "count pennies" on

a gift from his heart.

But this season, Harold has a new motivation to track his generosity: financial support for his garden from city programs and some charitable foundations. All he has to do is document how much he's giving away and he will be eligible for a micro-grant from a local family foundation.

To get started, Harold prints out the Donations of Food worksheet and brings it to his garden on a clipboard. He hangs a scale by the garden gate where he talks to most of his visitors. When Maria comes by, he happily bags up some hot peppers, then makes a point to hang it on the scale and jot down how much it weighs. With a smile Harold presents the bag to Maria. She says, "Thank you! But what is that new scale about?" He replies, "This is going to help me grow more food, and get some help doing it. Hopefully, you'll have extra tomatoes next year!"

	Date: 8/15	Date:	Date:	Date:	Date:	Date:
PRODUCE NAME	**POUNDS**	**POUNDS**	**POUNDS**	**POUNDS**	**POUNDS**	**POUNDS**
HOT PEPPERS	2					
NAPA CABBAGE	3					

4.2

DONATIONS OF FOOD

Garden: | Contact: | Phone/Email:

PRODUCE NAME	Date: POUNDS DONATED	Date: POUNDS DONATED	Date: POUNDS DONATED	Date: POUNDS DONATED	Date: POUNDS DONATED

BACKGROUND

What is Farming Concrete?

Started by gardeners in 2009, Farming Concrete is an open, community-based research project to measure how much food is grown in community gardens and urban farms. Farming Concrete is fiscally sponsored by the Open Space Institute, Inc., as part of their Citizen Action Program.

Between 2009-2012, Farming Concrete provided approximately 200 free scales, record keeping materials, training, and customized reports to New York City gardeners, who recorded harvests through their online platform. Farming Concrete's 2012 Harvest Report revealed the yield of more than 195 crop varieties from the data of 106 gardeners across the city.

Farming Concrete is now dedicated to expanding its support to gardeners and farmers across the world by using more comprehensive data collection tools available on this website.

What is the Design Trust for Public Space?

The Design Trust for Public Space is a nonprofit organization dedicated to the future of public space in New York City. Their projects bring together city agencies, community groups, and private sector experts to make a lasting impact—through design—on how New Yorkers live, work, and play. The Design Trust's work can be seen, felt, and experienced throughout all five boroughs—from parks and plazas to streets and public buildings.

What is the *Five Borough Farm* project?

In 2009, the Design Trust issued an open call for projects to improve public space in New York City, and selected nonprofit organization Added Value's proposal to demonstrate the value of urban agriculture and encourage the creation of new farms. In 2012 the collaborative project, known as *Five Borough Farm*, established policy recommendations and a framework to

measure the broad range of activities happening at the city's farms and gardens in a 169-page book, *Five Borough Farm: Seeding the Future of Urban Agriculture in New York City*.

The Design Trust established a partnership with the NYC Parks Department in Phase II, to develop strategies for expanding and improving urban farming and gardening in the city, and to implement several project policy recommendations, such as increase access to land, soil and compost, and funding. The Design Trust also collaborated with Farming Concrete to develop a robust set of tools and methods for data collection. In 2014, the Design Trust published a 147-page book *Five Borough Farm II: Growing the Benefits of Urban Agriculture in New York City*.

The third phase of the *Five Borough Farm* project culminated in the *Farming Concrete Data Collection Toolkit* and the website, a multi-media platform for farmers and gardeners to measure their output to showcase the benefits of their work. Design Trust Fellows worked with farmers, gardeners, and policymakers to hone the *Toolkit* and to expand its reach.

How did the *Farming Concrete Data Collection Toolkit* come to be?

The *Five Borough Farm* project discovered that reliable and consistent metrics documenting the benefits of community gardening and urban agriculture did not exist in New York City and across the country. Design Trust and Farming Concrete co-developed the first comprehensive *Farming Concrete Data Collection Toolkit* with farmers and gardeners to fill the need for urban agriculture data nationwide. Design Trust Fellows Philip Silva and Liz Barry recruited and led over 30 participants for a day-long workshop called Making the Measure. These farmers and gardeners brainstormed new ways of generating and collecting data in order to refine strategies for measurement that were simple, realistic, and achievable.

The Fellows distilled the draft methods into a data collection toolkit that was field-tested by farmers and gardeners throughout that grow-

ing season. The Fellows, Philip and Liz, joined by Sheryll Durrant and D Rooney, incorporated feedback from the 2013 and 2014 growing seasons and finalized the it to include a total of 20 methods organized into five categories, corresponding with the *Five Borough Farm* metrics framework: Food Production Data, Environmental Data, Social Data, Health Data, and Economic Data.

Based on this valuable input, the Design Trust and Farming Concrete expanded www.farmingconcrete.org to track the full range of meaningful contributions farms and gardens make to residents, communities, and the city at large. The website was expanded to include the digital *Toolkit*, providing online forms for each of the methods. Farmers and gardeners can download all of their raw data at any time and generate PDF reports to summarize and visualize their results. The raw data is also available for download by researchers, policymakers, funders, and others. Additionally, farmers and gardeners can access a series of instructional videos that guide users on how to implement the measurement methods and use the website to strengthen and expand their work.

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Five Borough Farm Project Partner + Collaborator

NYC Parks

Farming Concrete

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