

*We will be using Slido  
for poll questions  
throughout the webinar.*

*Please register at*

*[www.slido.com](http://www.slido.com)*

*#80223*

# SUMMER INSTITUTE FOR GARDEN-BASED TEACHING

## GARDENING BASICS



WASHINGTON  
YOUTH GARDEN





# Summer Institute Schedule



Each session will be held 3:00 p.m. - 4:30 p.m. EST

**THURSDAY, JULY 9**

Webinar 1:

What Is Your Why?  
School Gardens with  
Purpose

**THURSDAY, JULY 23**

Webinar 3:

Gardening Basics

**TUESDAY, JULY 14**

Discussion 1:

Logic Models for Different Types  
of School Gardens

**TUESDAY, JULY 28**

Discussion 3:

Ask a Gardener

**THURSDAY, JULY 16**

Webinar 2:

Designing Your  
School Garden and  
Team

**THURSDAY, JULY 30**

Webinar 4:

Outdoor  
Classroom Management

**TUESDAY, JULY 21**

Discussion 2:

Digging into  
School Garden Planning

**TUESDAY, AUGUST 4**

Discussion 4:

Adapting Outdoor Teaching  
for Coronavirus

**THURSDAY, AUGUST 6**


Webinar 5:

Teaching in the Garden


**TUESDAY, AUGUST 11**

Discussion 5:

Curriculum Brainstorming



*All webinars will  
be recorded &  
uploaded to our  
Schoology  
course page*



# HOUSEKEEPING

This webinar is being recorded -  
please mute your audio!

Use the chat box to ask  
questions!  
We will save them for the  
Ask a Gardener Discussion  
Session on Tuesday

We will upload this webinar to  
Schoology and include  
automatic captioning.

We will occasionally ask  
questions on slido.com.  
The code is #80223



# PRESENTERS & TOPICS



**Nadia Mercer**  
*Director of  
Institutional Relations*



**Start With the Soil**



**Allie Arnold**  
*Off-Site  
Program Manager*



**Your Planting Plan**



**Emilia Kawashima**  
*Garden Coordinator*



**Weeding  
& Watering**



**Xavier Bure**  
*Garden Manager*



**Pest Control**



A close-up photograph of a person's hands, wearing a red and black plaid shirt, planting a small green seedling into dark, rich soil. The person's fingers are visible, and a gold ring is on the ring finger. The background is a bright blue sky with some dry grass and foliage. A semi-transparent grey banner is overlaid across the middle of the image.

# START WITH THE SOIL





# SOIL: WHY IT'S IMPORTANT (AND COOL!)

- More than just dirt and rocks!
  - Minerals, microbes, and other microscopic things
  - A plant's primary source of nutrients and water
- A living thing!
- Where most food comes from!

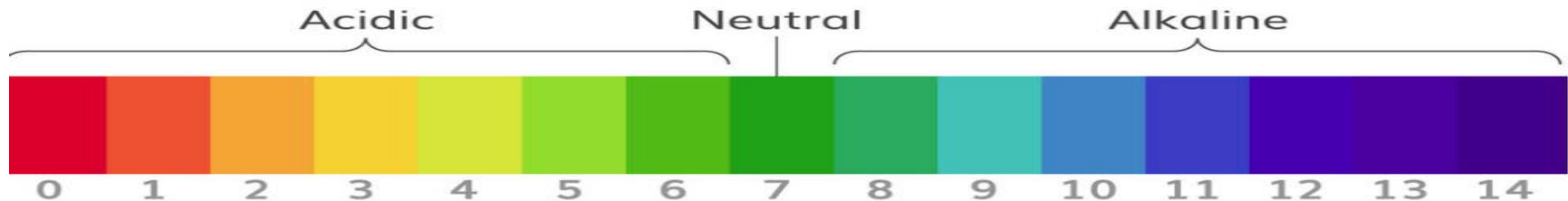






# PROVIDING THE BEST START FOR OUR PLANTS

- Understand plant needs and soil type
  - **Soil Composition** - what's in it? Sand, silt, clay
  - **Soil Texture** - how does it look and feel?
  - **Soil pH level**
    - 6.5 is ideal
    - The range of 6.0 to 7.0 is good for vegetables





# TESTING YOUR SOIL

- Ensure that there are no heavy metals (lead) present in your soil; check pH and nutrient levels of nitrogen (N), phosphorus (P), potassium (K)
- Two options for testing:
  - **Expert:** Extension services at land grant universities (like UMass Extension - Soil and Plant Testing Laboratory)

DIY: Rapitest Soil Test Kit



When you know better,  
you do better.

- Maya Angelou

Analysis	Value Found	Optimum Range	Analysis	Value Found	Optimum Range
Soil pH (1:1, H <sub>2</sub> O)	6.9		Cation Exch. Capacity, meq/100g	23.8	
Modified Morgan extractable, ppm			Exch. Acidity, meq/100g	0.0	
Macronutrients			Base Saturation, %		
Phosphorus (P)	92.1	4-14	Calcium Base Saturation	84	50-80
Potassium (K)	210	100-160	Magnesium Base Saturation	14	10-30
Calcium (Ca)	3976	1000-1500	Potassium Base Saturation	2	2.0-7.0
Magnesium (Mg)	413	50-120	Scoop Density, g/cc	0.96	
Sulfur (S)	26.5	>10	Optional tests		
Micronutrients *			Soil Organic Matter (LOI), %	10.4	
Boron (B)	1.2	0.1-0.5	Nitrate-N (NO <sub>3</sub> -N), ppm	17	
Manganese (Mn)	5.6	1.1-6.3			
Zinc (Zn)	4.1	1.0-7.6			
Copper (Cu)	0.2	0.3-0.6			
Iron (Fe)	4.9	2.7-9.4			
Aluminum (Al)	6	<75			
Lead (Pb)	✓ 1.2	<22			

\* Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the norm found in soils and are for reference only.

### Soil Test Interpretation

Nutrient	Very Low	Low	Optimum	Above Optimum
Phosphorus (P):				







# ADJUSTING & AMENDING YOUR PLANTS' HOME

## ISSUE

## SOLUTION(S)

TOO HARD  
(POOR DRAINAGE)



*Coarse sand*



*Compost*



*Peat moss*



*Coconut coir*



TOO LOOSE  
(DRIES OUT QUICKLY)



*Humus*



*Aged manure*



*Peat moss*



*Sawdust*





# ADJUSTING & AMENDING YOUR PLANTS' HOME

## ISSUE

## SOLUTION(S)

LOW PH  
(TOO ACIDIC)



*Lime*



*Wood ash*



HIGH PH  
(TOO ALKALINE)



*Sulfur*



*Peat moss*



*Organic materials*







# ADJUSTING & AMENDING YOUR PLANTS' HOME

## ISSUE

## SOLUTION(S)

LOW NITROGEN (N)



*Compost*



*Worm castings*



*Composted manure*



*Fast-acting nitrogen (liquid)*



LOW POTASSIUM (K)



*Bone meal*



*Kelp meal*



*Green sand*



LOW PHOSPHORUS (P)



# WHAT GOES INTO A RAISED BED?



*Top with mulch!*

**10% SOILLESS GROWING MIX** *(coconut coir or peat moss)*

**40% COMPOST**

*(organic matter, living things, nutrients)*

**50% TOPSOIL**

*(minerals - sand, silt, clay)*

*Test and see if you need to add any other  
amendments to adjust nutrient levels*





# ORGANIC MATTER

- The cure -all
  - All soil types can be improved with organic matter!
- Many forms
  - Leaf mold
  - Manure
  - Compost
- Improves:
  - Soil texture
  - Nutrient availability





# ORGANIC MATTER

- Mulch
  - Suppresses weed growth
  - Conserves soil water
  - Keeps soil cool
  - Use a 1-2" layer of chopped leaves or straw, grass clippings, or compost
- Cover crops
  - Fixes nitrogen
  - Suppresses weed growth
  - Retains nutrients
  - Use field peas, buckwheat, crimson clover, rye, oats



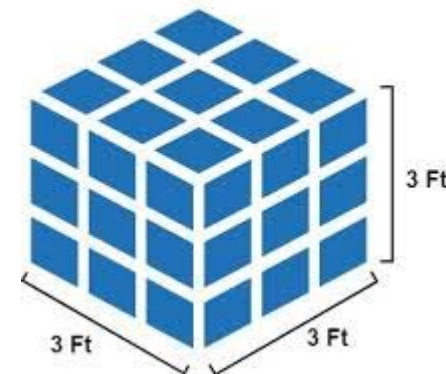


# SOURCING MATERIALS

- **COMPOST:** Veteran Compost \$35/cubic yard + delivery fee <https://www.veterancompost.com/our-products/>
- **TOPSOIL & MULCH:** Merrifield Garden Center; can deliver a maximum of 12 cubic yards on one truck <https://www.merrifieldgardencenter.com/product-category/landscape-delivery/>
- **HORSE MANURE:** Rock Creek Park Horse Center
- **BLOOM:** Class A composted humanure - DC's finest! <https://bloomsoil.com/>
- **STRAW BALES:** Todd Greenstone \$7/bale if you pick up <http://www.toddgreenstonecustomfarming.com/hay-and-straw-for-sale>



1 Cubic Yard





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**Are you composting at your school?**



# BENEFITS OF COMPOSTING AT SCHOOL

- Reduces waste and keeps organic matter out of landfills
- Great teaching tool
- Engages students in meaningful work
- Fosters empathy to non-human living things
- If offering a community compost system, increases community connection and engagement





# TAKING CARE OF COMPOST

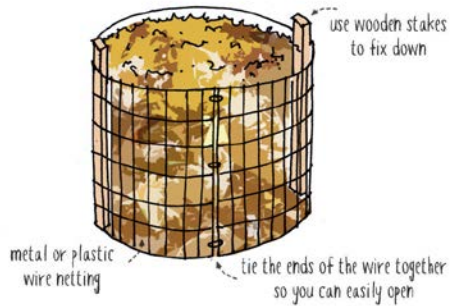
- Needs exactly what you need to survive
  - Air, water, and food
- Supported by the FBI:
  - **F**ungus
  - **B**acteria
  - **I**nvertebrates (or insects)
- Brown & Green organic matter
  - Browns = Carbon source
  - Greens = Nitrogen source



GREEN (Nitrogen)	BROWN (Carbon)
<b>Aged Chicken Manure 7:1</b> <i>Fresh manures are way to hot and can burn your plants and roots!</i>	<b>Leaves 60-80:1</b> <i>One of the most important ingredients for composting, especially shredded or broken down (leaf mulch).</i>
<b>Food Scraps 17:1</b> <b>Vegetable Scraps 25:1</b>	<b>Straw, Hay 90:1</b> <i>The best way to use is to shred for faster breakdown.</i>
<b>Coffee Grounds 25:1</b>	<b>Sawdust 500:1</b> <i>Commercially produced compost is high in sawdust or shredded bark chips. Use very sparingly!</i>
<b>Grass Clippings - Fresh 17:1</b> <i>Dry clippings would be higher in Carbon. Therefore, use as carbon source if necessary.</i>	<b>Woody chips &amp; twigs 700:1</b> <i>Be sparing. Best use is small material at bottom of bin or pile.</i>
<b>Fresh Weeds 20:1</b> <i>Make sure you don't compost weeds with seeds, unless you insure that your pile gets hot - over 140°F/60°C.</i>	<b>Shredded Newspaper 175:1</b> <i>Has no nutrient content. Best used in vermicomposting. Always shred and soak in water for fast breakdown.</i>
<b>Fruit Wastes 25-40:1</b>	<b>Nut shells 35:1</b>
<b>Rotted Manure 20:1</b> <i>Horse manure should not be used because it contains undigested seeds that can sprout in the bin.</i>	<b>Pine Needles 80:1</b> <i>Use sparingly. Very acidic and waxy; breaks down slowly.</i>

# COMPOSTING OPTIONS: Start Small

## 1) GARDEN WASTE



## 2) DROP IT OFF



## 3) WORM COMPOST



## 4) TUMBLER



## 5) THREE BIN SYSTEM



## 6) DGS PARTNERSHIP (Industrial Composting)





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# THE WHY & YOUR PLANTING PLAN

















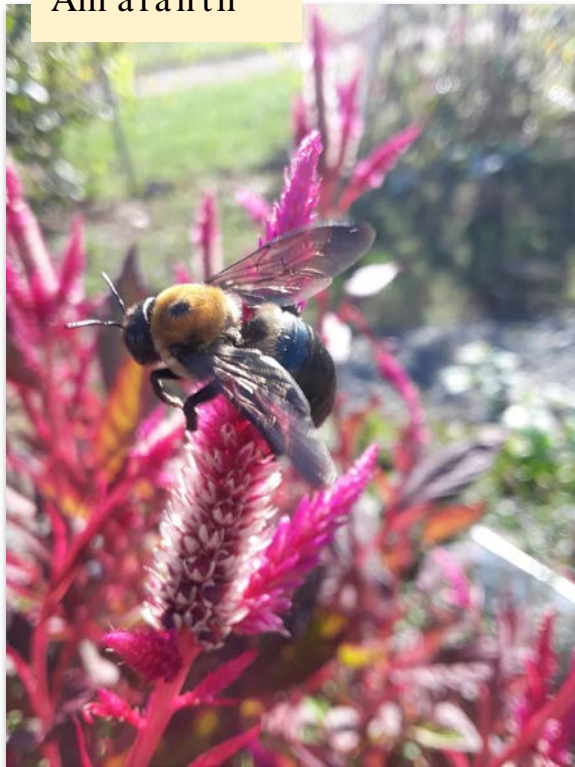




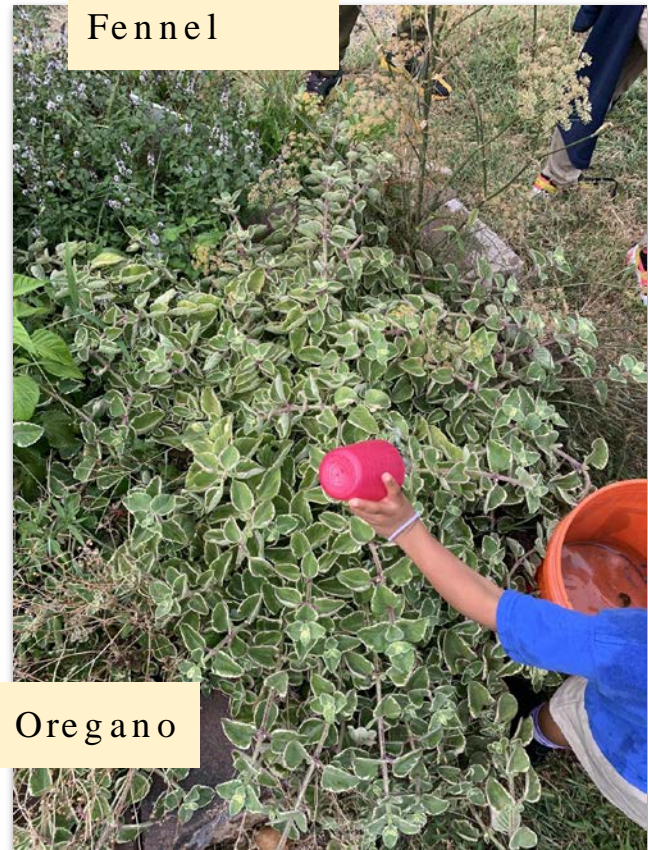
Mint



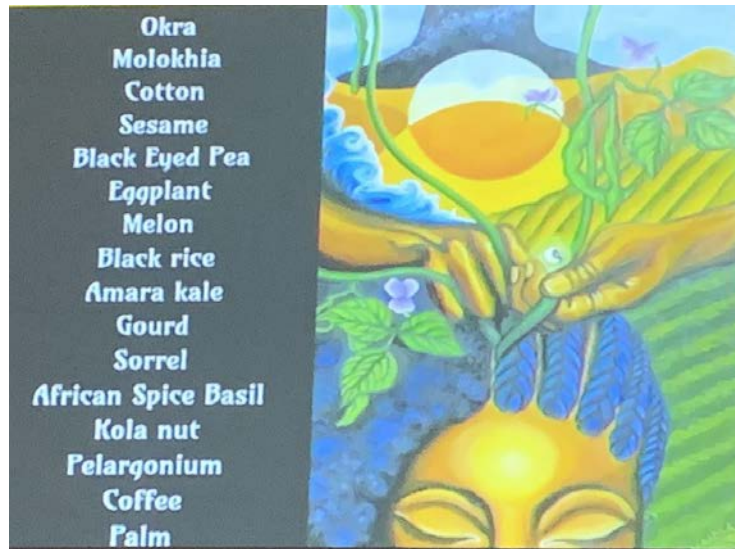
Am aranth



Fennel



Cuban Oregano



Okra  
Molokhia  
Cotton  
Sesame  
Black Eyed Pea  
Eggplant  
Melon  
Black rice  
Amara kale  
Gourd  
Sorrel  
African Spice Basil  
Kola nut  
Pelargonium  
Coffee  
Palm

Soil testing  
Vermicompost  
African Dark Earth  
Jaden Lakou  
Terraces  
Swidden Agriculture  
Hoe  
Irrigation  
Rotational Grazing  
Food Preservation in  
Ash and Ferment  
Raised Beds  
Konbit  
Susu  
Festival



@soulfirefarm @amanipoet @katanimusic

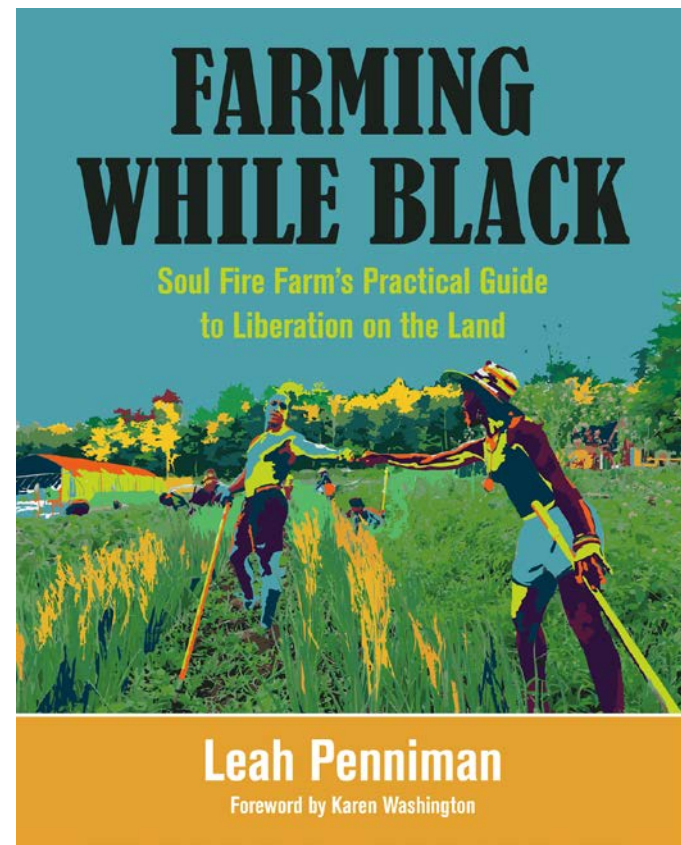
[www.soulfirefarm.org](http://www.soulfirefarm.org)



[love@soulfirefarm.org](mailto:love@soulfirefarm.org) [amani@soulfirefarm.org](mailto:amani@soulfirefarm.org)

[chat@amanipoet.com](https://chat.amanipoet.com)

[www.amanipoet.com](http://www.amanipoet.com) Amani O+ [misogynah.com](http://misogynah.com)



# FARMING WHILE BLACK

Soul Fire Farm's Practical Guide  
to Liberation on the Land

Leah Penniman

Foreword by Karen Washington





# TOP TEN PLANTS

*to grow in a school garden*





## A cluster of fresh, round white radishes with green leafy tops, resting on dark soil. The radishes are plump and smooth, with long, thin taproots extending downwards. The green leaves are vibrant and appear to be freshly cut. The background is a dark, rich brown soil, providing a stark contrast to the white radishes.

## Hakurei (F1) Turnip Seed

Plant **August 15th** for  
September 20th harvest

35 days to harvest

Product ID: 706

This white salad turnip sets the standard for flavor.

The smooth flat-round, white roots mature early, just after radishes, and are best harvested young up to 2" diameter. Eaten raw, the flavor is sweet and fruity, and the texture is crisp and tender. The dark green, hairless tops are useful raw or lightly cooked with the roots. Hakurei stays smooth as it sizes. Avg. 181,650 seeds/lb. Packet: 400 seeds.

Less ^

SIZE	PRICE	QUANTITY	AVAILABILITY
Packet	\$4.35	<div><div>-</div><div>0</div><div>+</div></div>	<div>In Stock</div> <div>ADD TO CART</div>







## Red Meat Radish Seed

25-30 days to harvest

"Watermelon" radish for fresh eating and fermenting.

Large 2-4" (depending on harvest date), round radishes with unique, dark pink f sweet, delicious taste. Great for pickling, fermenting, or winter salads. Thin to 4" spring when kept at recommended storage conditions. Excellent fresh, grated, or salads. NOTE: For summer to fall sowing only; will bolt to seed from spring sowir Packet: 250 seeds.



## Rainbow (F1) Carrot Seed

85-95 days to harvest

A blend of colors in one variety.

The flavor varies a bit with root color, but all are tender, sweet, and flavo Rainbow is a single variety with color variability, it will mature uniforml using several different varieties. Medium-tall, strong tops. Nantes x Imp **compliant pelleting.** Avg. 284,600 seeds/lb. Packet: 750 seeds.



## Adirondack Blue Seed Potatoes

70-90 days to harvest

Dark purple skin and flesh.

High yields of large, oblong tubers with consiste create a unique look. High in antioxidants.



Large “seed,” low maintenance







Garlic

Fun for kids to break apart, very large “seed”

LONG GROWING PERIOD:  
Plant in October, harvest in June

Hardneck varieties can harvest  
the scape in the Spring!







# GREENS

Direct seed/Transplant



Kale

Kale is an exceptionally cold-tolerant crop with a sweet flavor enhanced by frost and cold weather. The open-pollinated varieties are excellent for harvesting at either full size or baby-leaf stage, while the frilly hybrids are best for full [More](#) ▾

40-50 days to harvest

# LETTUCE/ SPINACH

✧ Renee's Garden ✧

## Baby Leaf Lettuce Heirloom Cutting Mix



*Antique lettuces in a luscious blend  
of colors, textures and flavors.*

Direct seed

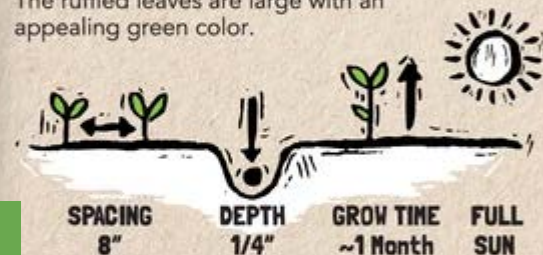
40-50 days to harvest

sustainable sprout

## Lettuce

(Black Seeded Simpson)

An early producing green leaf lettuce. This is one of the most tender and delicately flavored leaf lettuces ever bred. The ruffled leaves are large with an appealing green color.



- Plant in prepared soil 1/4 inch deep.
- Thin plants to 8" apart.
- The young thinnings can be eaten and are considered "baby greens".
- Plant again in late summer for a fall harvest.



For more details and additional info visit:  
[www.sustainablesprout.com](http://www.sustainablesprout.com)





# FLOWERS

## Edible Flowers

Nasturtium  
Borage  
Calendula  
Violet/pansy  
Marigold  
Snapdragon  
Lavender

Anise hyssop  
Spilanthes  
  
Field peas  
(cover crop)  
  
Chamomile

Cilantro  
Fennel  
Dill  
Chives  
Basil  
Mint  
Oregano

Thyme  
Sage  
Rosemary  
  
Arugula  
Kale/broccoli  
Squash/zucchini









# BEANS/PEAS







# MILPA/ 3 SISTERS





# BONUS: SUNFLOWERS



[www.slido.com](https://www.slido.com)

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The background image shows several black plastic seedling trays filled with soil and young plants. Some trays contain small green seedlings, while others have more developed plants with distinct leaves. White identification tags are placed in the soil of several trays. The lighting is bright, suggesting an outdoor or well-lit indoor setting.

**OKAY, I know what I want to plant,**  
*now when do I plant them?*





### Suggested School Garden Plant List

Herbs, flowers, fruit trees you want: include in notes or as a comment -- flowers can grow in-ground without worry of lead in the soil

Season	Family	Crop	Variety	Planting Date Range	Weeks before setting out	Days to Harvest	Transplant/Direct Seed	Plants per Square Ft
Spring	Legume	Peas		March 1- April 15	2	55-70	Either	9
Spring	Spinach	Spinach		February 15- April 15	4-6	50	Either	9
Spring	Spinach	Beets		March 15-April 30		60	DS	
Spring	Spinach	Chard		March 15-April 30	4-6		TP	
Spring	Allium	Onion		March 15-April 30	8-10		TP	
Spring	Brassica	Arugula	<a href="#">hakurei</a>	March 15- April 30		30	DS	25
Spring	Brassica	Turnip	<a href="#">hakurei</a>	March 15- April 30		35	DS	9
Spring	Brassica	Kale		April 1-May 15	4-6	40-50	TP	1
Spring	Brassica	Salad Blend		April 1-May 15		35	DS	25
Spring	Brassica	Radish		March 15-April 30		25-30	DS	16
Spring	Brassica	Collards		April 1-May 15	4-6	60	TP	1
Spring	Brassica	Tatsoi		April 1-April 30	4-5	40	TP	4
Spring	Aster	Lettuce, Head		March 15-April 30	4-5	70-85	TP	2
Spring	Aster	Lettuce, Loose Leaf		March 15-April 30		40-50	DS	9
Spring	Parsley	Carrots		March 15-April 30		85-95	DS	16
Spring	Parsley	Celery		April 15-May 15	10-12	110	TP	4
Spring	Nightshade	Potatoes		March 15-April 15		70-90	DS	4
Summer	Cucurbit	Squash		May 1-June 30		45-60	DS	1
Summer	Cucurbit	Cucumber		May 15-June 30		60	DS	2
Summer	Cucurbit	Gherkin		May 15-June 30		60	DS	2
Summer	Cucurbit	Melon		May 15-June 30		80-90	DS	2 squares/plant
Summer	Cucurbit	Pumpkin		June 1-June 30		90-120	DS	2 squares/plant
Summer	Nightshade	Tomatoes		May 15-June 30	6-8	65-90	TP	1
Summer	Nightshade	Peppers		May 15-June 30	8-10	60-70	TP	1
Summer	Nightshade	Eggplant		May 15-June 30	8-10	65	TP	1
Summer	Nightshade	Ground Cherry		May 15-June 30	8-10	60	TP	1
Summer	Legume	Bush Beans		May 1-June 30		60	DS	9
Summer	Mallow	Hibiscus		May 15-June 30	8-10	75	TP	1
Summer	Mallow	Okra		May 15-June 30	4-6	70	Either	1
Summer	Grass	Corn		May 1-July 15		70-100	DS	4
Summer	Parsley	Celery		June 15-July 15	10-12	110	TP	4
Summer	Morning-glory	Sweet Potato		May 15-June 30		110	Transplant slips	4
Summer	N/A	Edible Flower Mix		April 15-May 30				
Summer	N/A	Pizza Garden		April 15-May 30				
Summer	N/A	Three Sisters		April 15-May 30				
Fall	Spinach	Spinach		Sept 1- Oct 15	4-6	50	Either	9



### Suggested School Garden Plant List

Herbs, flowers, fruit trees you want: include in notes or as a comment -- flowers can grow in-ground without worry of lead in the soil

Season	Family	Crop	Variety	Planting Date Range	Weeks before setting out	Days to Harvest	Transplant/Direct Seed	Plants per Square Ft
Fall	Brassica	Turnip	<a href="#">hakurei</a>	Aug 15-Sept 15		35	DS	9
Fall	Brassica	Kale		Aug 15- Sept 30	4-6	40-50	TP	1
Fall	Brassica	Salad Blend		Aug 15- Sept 30		35	DS	25
Fall	Brassica	Radish		Sept 1- Oct 15		25-30	DS	16
Fall	Brassica	Collards		Aug 15- Sept 30	4-6	60	TP	1
Fall	Brassica	Tatsoi		Aug 15- Sept 30	4-5	40	TP	4
Fall	Aster	Lettuce, Head		Aug 15- Sept 30	4-5	70-85	TP	2
Fall	Aster	Lettuce, Loose Leaf		Aug 15- Sept 30		40-50	DS	9
Fall	Parsley	Carrots		Aug 1- Sept 15		85-95	DS	16
Fall	Allium	Garlic		Oct. 15- Nov 15		forever	DS	9

Resource is on Schoology!

D.C. is zone 7a (Plant Hardiness Zone)



# Example Planting Plan

Bed	Spring			Summer			Fall		
	Planting Date	Crop	Harvest Date	Planting Date	Crop	Harvest Date	Planting Date	Crop	Harvest Date
1	March 18th	Peas	May 25th	May 11th	Edible Flower Mix	June 20th	September 1st	Spinach	October 20th until frost
	March 9th	Lettuce, Loose Leaf		June 1st	Tomatoes	September 1st	August 10th	Bush Beans	October 10th (or earlier)
2	March 15th	Onion	June 25th-July 1st	June 1st	Pumpkin	~October 1st	August 15th	Collards	October 15th
	March 18th	Potatoes	June 10th						
							October 15th	Garlic	June 15th

We are here



# GARDEN MAINTENANCE

*Weeding, Watering, & Pest Control*



# WEEDING

- Why is it important?
  - Weeds can be very overwhelming
    - Especially for baby plants!
  - Competing for sunlight, water, and nutrients



*How many seeds  
can one pigweed plant  
produce?*

**250,000**



*How about crabgrass?*

**150,000**







# WEEDING TIPS

- Pull when flowering
- Mulching
  - Protects, insulates, enriches soil
  - Straw, grass clippings, leaves
  - Add more than you think!
- Adjust technique based on crop
  - Root veggies are more sensitive than leafy greens



*Mulching  
with paper*

**Turnips**

- Keep it simple
  - 1-2 types of plants per bed
- Easier for fellow teachers and students to help
- For a guide to garden tools, watch Common Good City Farm's video ([link in Speaker Notes below](#))

**potatoes**





# WEEDING TIPS: Pathways around the garden

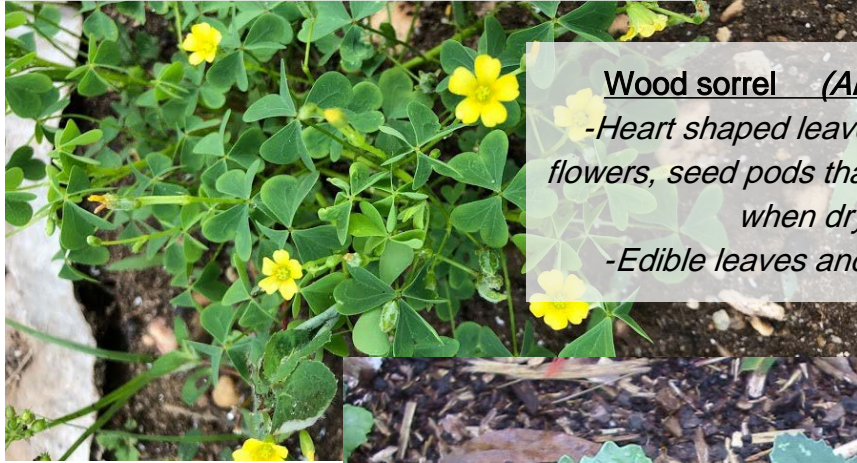


*Sheet mulch, weed block,  
wood chips on pathways around beds  
at KIPP Webb*





# COMMON WEEDS



## Wood sorrel (AKA oxalis)

- Heart shaped leaves, yellow flowers, seed pods that pop open when dry
- Edible leaves and flowers



## Ground ivy

- Perennial weed that creeps over the ground
- Scalloped leaves and purple flowers
- Medicinal!



## Lambsquarters

- Green, sometimes silvery or dusty looking leaves
- Edible leaves, in the same family as spinach
- One of the most nutritious wild vegetables



## Wire grass

- Grass that spreads under the ground
- Very hard to remove: every bit of root can grow a new plant, and it loves mulch

- *Reference: Photographic list on Schoology*





# FOR MORE INFORMATION ABOUT WEEDS:

[https://extension.umd.edu/hgic/topics/  
weed -identification -photos](https://extension.umd.edu/hgic/topics/weed-identification-photos)



Get Help

Topics

Library

Maryland Grows Blog

Master Gardener

Ask an Expert

[Home](#) » [Home and Garden Information Center](#) » [Topics](#) » [Plants](#) » [Weeds](#)



# WATERING

- How much and how often?
  - Early morning if possible
  - Check the soil
- Too much or too little?
  - Overwatering: leaves are curling
  - Underwatering: yellowing leaves or wilted/shriveled leaves
- Retention
  - Mulch
- Water the soil, not the leaves!
- Fertilizer





# WATERING

- What makes sense for your space?
- Hand watering
  - Watering cans
  - Hose with nozzle
- Irrigation
  - Sprinkler and hose
  - Set up timer
  - Drip irrigation



*Students watering beds  
at Hendley Elementary*

← *Drip irrigation at KIPP Webb*



# PEST CONTROL



Slugs and snails

## Damage

*Eat leaves, stems, flowers, and roots*

## Season/Conditions

*Wet spring*

## Prevention Techniques

- Water plants in the morning
- Clear the bed of weeds
- Add crushed eggshells around the plants
- Add copper (sponge) around stems of the plants









# PEST CONTROL



## Damage

*Destroys plants by sucking sap from stems or leaves*

## Season/Conditions

*Spring, summer, fall*

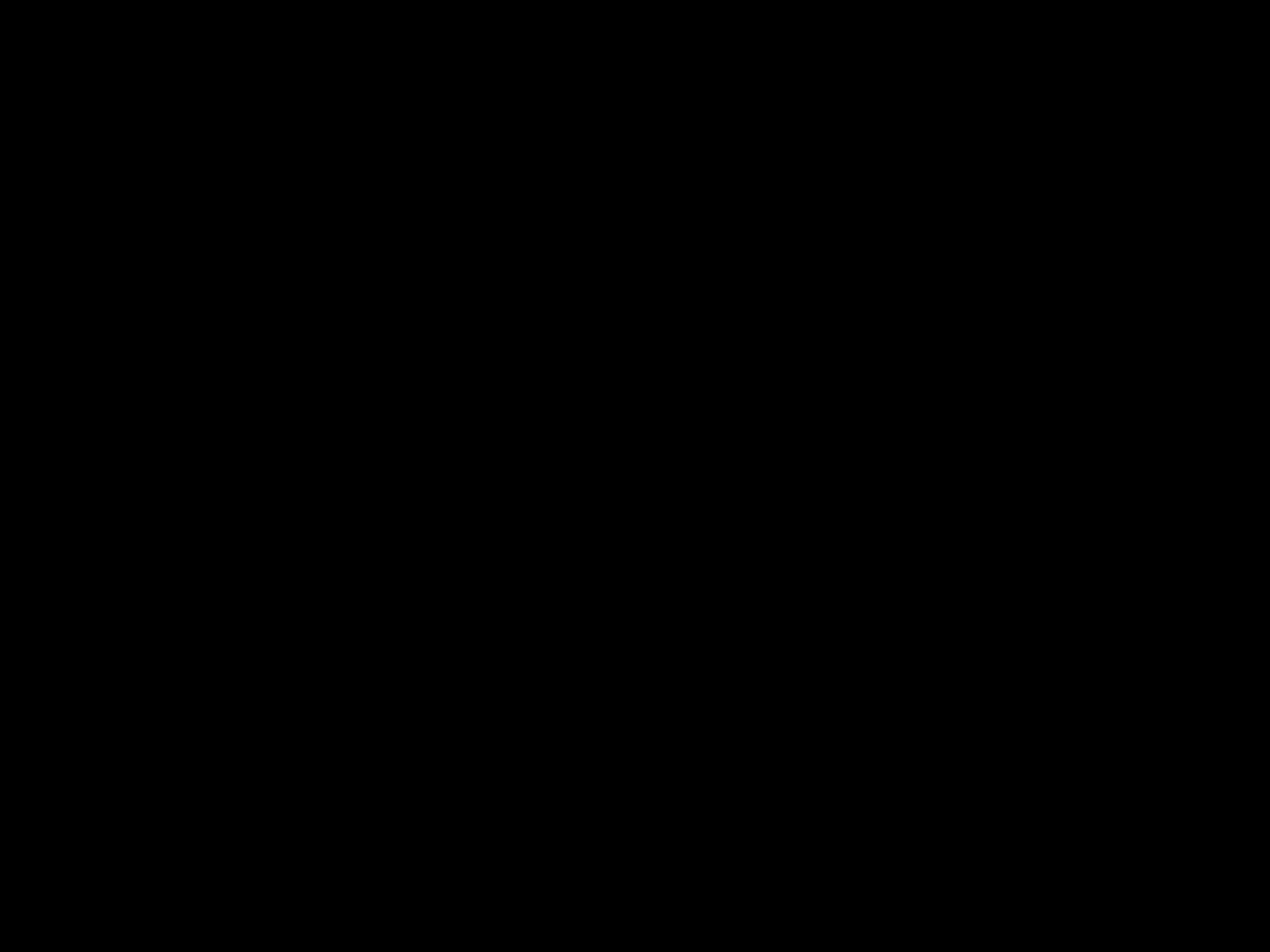


Aphids

## Prevention Techniques

- Mix 1 tbsp of baking soda with biodegradable soap and 650 ml (~3 cups) water, and spread around the plants
- Maintain a good number of ladybugs in the garden, which will eat the aphids (you can buy ladybugs!)







# PEST CONTROL

## Damage

*Attacks brassicas  
(kale, collards,  
broccoli, etc.)*

## Season/Conditions

*Middle to late spring/summer*



Cabbage  
worm



## Prevention Techniques

- Kill worms as you spot them
- Use a fabric row cover
  - Mature worms (butterflies) fly around looking for plants on which to deposit their eggs







# PEST CONTROL



Cucumber  
beetles  
(*spotted and  
striped*)

## Damage

*Spreads bacterial wilt  
disease, which  
eventually kills the plant*

## Season/Conditions

*Appears in spring and stays all summer  
(usually waits for cucurbits family plants  
like cucumber, summer or winter squash)*

## Prevention Techniques

- Select plants with bacterial wilt resistance
- Yellow sticky traps
- Don't plant potatoes near cucurbits
- Cut diseased plants out and wash tools before touching other cucurbits

*Cucumber with  
bacterial wilt*









# WHY DO MY PLANTS LOOK SAD?

**Black/yellow spots:** may be a bacteria problem


- Pruning
- Use organic or non-toxic products like neem oil or baking soda
- Mix 1 gallon of water with 1tbsp of neem oil (or 3 cups of water with 1tbsp of baking soda), then spread for about 7-14 days
- If you don't see results, consider replacing the plant






# FOR MORE RESOURCES, VISIT SCHOOLOGY!




2020 Summer Institute for Garden-Based Te ...

 **Topic 2: Designing Your Garden and Team**


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 Add Materials ▾  Options ▾ 


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 [School Garden Area Checklist and Work Plan Template \(Word\)](#) 808 KB


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 [School Garden Area Checklist and Work Plan Template \(PDF\)](#) 326 KB


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 [Designing and Building Your School Garden](#)

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
 [School Garden Committees and Communities](#)

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 **Planting and Maintenance Resources**

-  [An Incomplete Guide to Choosing Plants \(WYG\).docx](#) 59 KB
-  [D.C. Planting Calendar \(OSSE\)](#) 473 KB
-  [Sample School Garden Planting Plan - 2019 \(WYG\)](#) 19 KB
-  [Planting Guide \(Collective School Garden Network\)](#) 548 KB
-  [Planting Chart Cheat Sheets \(Square Foot ...](#)
-  [6 Season Garden Maintenance Guide \(WYG\)](#) 410 KB


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 **Topic 3: Garden Skills**


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 Add Materials ▾  Options ▾ 


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 [D.C. Urban Growers Network](#)


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 [TRAINING: DPR Urban Grower Webinar Courses](#)


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 [Starting Seeds Under Grow Lights - General Tips \(WYG\).pdf](#) 410 KB


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 [Setting Up an Irrigation System](#)


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 [Flower and Vegetable Growing Guides \(Cornell ...](#)


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 [List of garden resources](#)


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 [Training: Selecting, Installing and Managing ...](#)

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 [Common Growing Spaces in School Gardens](#)

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 [Guide to Weeds.pptx](#) 31 MB





# Summer Institute Schedule



Each session will be held 3:00 p.m. - 4:30 p.m. EST

**THURSDAY, JULY 9**

Webinar 1:

What Is Your Why?  
School Gardens with  
Purpose

**THURSDAY, JULY 23**

Webinar 3:

Gardening Basics

**TUESDAY, JULY 14**

Discussion 1:

Logic Models for Different Types  
of School Gardens

**TUESDAY, JULY 28**

Discussion 3:

Ask a Gardener

**THURSDAY, JULY 16**

Webinar 2:

Designing Your  
School Garden and  
Team

**THURSDAY, JULY 30**

Webinar 4:

Outdoor  
Classroom Management

**TUESDAY, JULY 21**

Discussion 2:

Digging into  
School Garden Planning

**TUESDAY, AUGUST 4**

Discussion 4:

Adapting Outdoor Teaching  
for Coronavirus

**THURSDAY, AUGUST 6**


Webinar 5:

Teaching in the Garden

**TUESDAY, AUGUST 11**

Discussion 5:

Curriculum Brainstorming



*All webinars will  
be recorded &  
uploaded to our  
Schoology  
course page*



Remember to register for Schoology!  
Access code **SC64-MJKW-9SFBC**