

*Northern Shenandoah Valley Master Gardener  
Association*

# Beginning Vegetable Gardening Series

**Webinar 2 of 6: Setting up your Garden Space**

**Presenter: Julie Edmonds**



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# Overview: Setting Up Your Garden Space!

1. Choosing a site
2. Deciding on garden type
3. Soil testing
4. Soil amendments
5. Transplanting/direct sowing
6. Watering systems & mulching
7. Record keeping
8. Questions



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# Choosing your site: LIGHT

- Find a sunny spot!
- Minimum 6 hours per day
- For most vegetables 8-10 hours per day is ideal



# Choosing your site: LIGHT

- Avoid planting too close to trees and buildings
- If you can, track the path of the sun the season before so that you know where shadows will fall



# Choosing your site: LIGHT/SHADE

- Vegetables have different light requirements!
- Some early-season crops such as leafy greens and the cabbage family will do well with fewer hours of sunlight and can benefit from some shading from the hot summer sun



# Choosing your site: WATER

Make sure your chosen site is accessible to a water supply or that you have a plan to get water to it

(more about this later)



# Choosing your site: CONVENIENCE

- Plant the garden where you will be sure to pay attention to it.
- Also, make use of what you have to avoid unnecessary work!



# Choosing your site: SLOPE



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# Choosing your site: SLOPE

- If an area with a steeper slope is your only option, you will need to terrace.
- One way to do this is by creating raised beds, step-fashion.
- Make sure to place walkways between beds or make narrow enough to be easily tended



What type  
of garden is  
best for  
you?

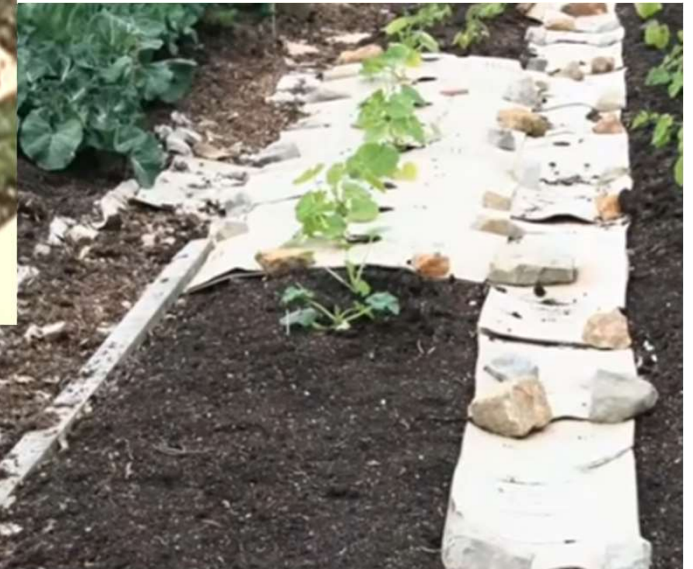


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# Raised beds: ONE WAY TO DO IT



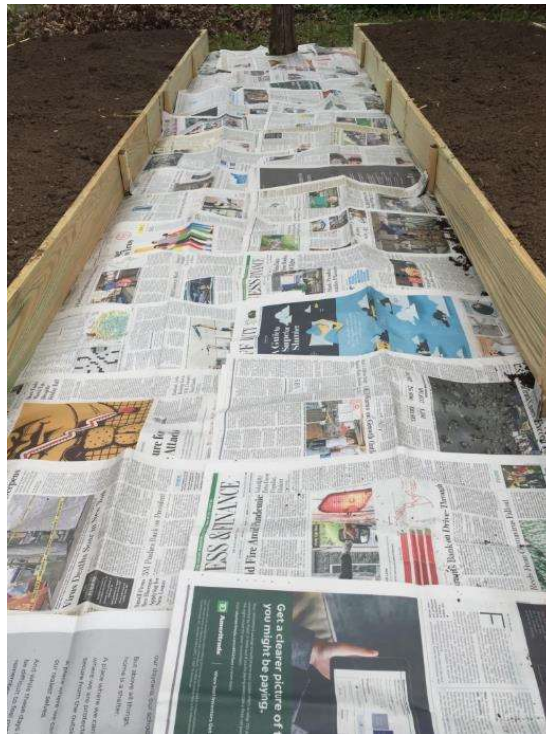
# No Dig In-ground Bed



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# Pathways for tending and harvesting

- VIP to keep weeds in check
- Also prevents need to walk on garden





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# Container Gardening

- Provide a lot of flexibility
- Can grow vegetables on a patio, windowsill, balcony or doorstep



# Ideas for container gardens



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# The Dirt on Soil!

- Good soil essential
- Soil DOES NOT provide food for the plant! But it does provide nutrients essential for good growth
- Ideal soil is at least 6 in deep, well-drained and has good structure



# What is your soil like? SOIL TESTING

- Check soil fertility and pH at least once every 3 years
- Soil sample kits are available from your local (VA) Cooperative Extension Office
- Cost is \$10 per sample (cheaper than private labs!)

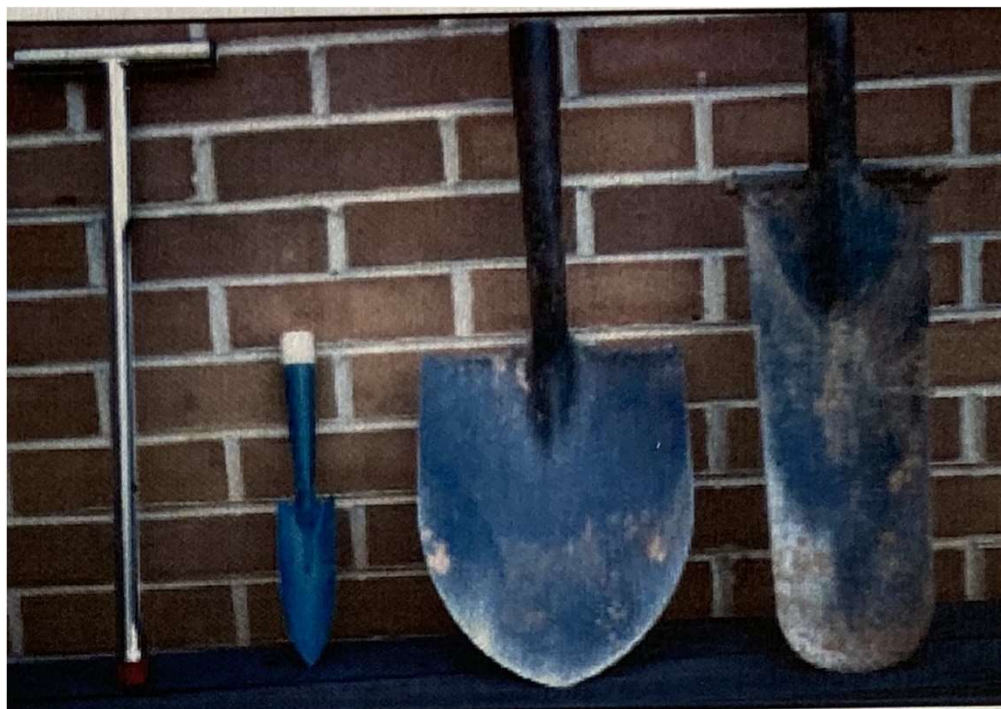
 <b>Virginia Cooperative Extension</b> Virginia Tech • Virginia State University		Virginia Tech Soil Testing Laboratory Publication 492-125 Revised 2019
<b>Soil Sample Information Sheet</b> <b>Home Lawns, Gardens, Fruits, and Ornamentals</b>		
<u>PLEASE PRINT AND PRINT LEGIBLY. Please complete only one.</u>		
This form is for home lawns, gardens, and fruit trees. For the general method for sampling soil, see the Virginia Cooperative Extension publication, "Soil Sampling for Home Lawns, Gardens, and Fruit Trees." For the general method for sampling soil, see the Virginia Cooperative Extension publication, "Soil Sampling for Home Lawns, Gardens, and Fruit Trees." For the general method for sampling soil, see the Virginia Cooperative Extension publication, "Soil Sampling for Home Lawns, Gardens, and Fruit Trees."		
Your Name _____ Send To: Box Number, City, _____ State and Zip _____	Plot No. _____  What are you growing on this plot? _____ _____ _____	Do you sample at _____ MONTHLY _____ SEASONALLY _____ OTHER (specify) _____ _____ _____
City _____ Private Water Soil is tested separately _____ (For tips, see "Know what to do," page 10)	If Plot No. is 000, 001, 002, 003, 004, 005, 006, 007, 008, 009, 010, 011, 012, 013, 014, 015, 016, 017, 018, 019, 020, 021, 022, 023, 024, 025, 026, 027, 028, 029, 030, 031, 032, 033, 034, 035, 036, 037, 038, 039, 040, 041, 042, 043, 044, 045, 046, 047, 048, 049, 050, 051, 052, 053, 054, 055, 056, 057, 058, 059, 060, 061, 062, 063, 064, 065, 066, 067, 068, 069, 070, 071, 072, 073, 074, 075, 076, 077, 078, 079, 080, 081, 082, 083, 084, 085, 086, 087, 088, 089, 090, 091, 092, 093, 094, 095, 096, 097, 098, 099, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 6	



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# Soil Sampling: TOOLS

- Any of these tools will do the job
- Mix multiple samples from your site and put a portion into the sample box
- Mail to VA Tech



# Example Soil Test Result

- Relative amounts of macro (High, Medium or Low) and micronutrients (sufficient or insufficient)
- pH
- Organic matter (if you pay extra)
- Recommendations for fertilizer as well as any amendment to alter pH if necessary



Lab ID: 20-15207 2020-03-05 PAGE / 139

## Virginia Cooperative Extension Soil Test Report

**Questions? Contact:**  
Page County Office  
215 West Main Street Suite C  
Stanley, VA 22851-3804  
540-778-5794

**Virginia Tech Soil Testing Laboratory**  
145 Smyth Hall (0465)  
185 Ag Quad Ln  
Blacksburg, VA 24061  
www.soiltest.vt.edu

**SEE NOTES:**  
**1 19**  
at www.soiltest.vt.edu under Report Notes

**EDMONDS JULIE**  
**1402 KIMBALL ROAD**  
**LURAY, VA 22835**

**SAMPLE HISTORY**

Sample ID	Field ID	LAST CROP		LAST TIME APPLICATION		SOIL INFORMATION				
		Name	Yield	Months Evec.	Tons/Acre	SMU-1 %	SMU-2 %	SMU-3 %	Yield Estimate	Productivity Group
1402V										

**MACRO NUTRIENTS**

Analysis	P (lb/A)	K (lb/A)	Ca (lb/A)	Mg (lb/A)	Zn (ppm)	Mn (ppm)	Cu (ppm)	Fe (ppm)	B (ppm)	Sulfate (ppm)
Result	252	212	6135	450	44.8	29.8	8.9	44.4	0.9	
Rating	VH	H	VH	VH	SUFF	SUFF	SUFF	SUFF	SUFF	

**MICRONUTRIENTS**

Analysis	Soil pH	Buffer Index	Est. CEC (meq/100g)	Acidity (%)	Base Sat. (%)	Ca Sat. (%)	Mg Sat. (%)	K Sat. (%)	Organic Matter (%)
Result	6.7	6.30	18.0	3.3	96.7	84.9	10.3	1.5	

**FERTILIZER AND LIMESTONE RECOMMENDATIONS**

Crops: VEGETABLE GARDEN (210)

619. Lime recommendations: NONE NEEDED.

991. "Explanation of Soil Tests, Note 1" and other referenced notes are viewable at [www.soiltest.vt.edu](http://www.soiltest.vt.edu) under Report Notes.

225. FERTILIZER RECOMMENDATIONS: Apply a nitrogen-only fertilizer, such as one of the following amounts per 100 sq. ft. — 1.25 lbs (2 cups) of nitrate of soda (16-0-0) or 1.33 lbs (2 2/3 cups) of calcium nitrate (15-0-0) or 1.0 lb (2 1/2 cups) of ammonium sulfate (21-0-0) or 0.4 lbs (1 cup) of urea (46-0-0). Do not over fertilize! These products will burn plants at high rates! If you are unable to find one of these fertilizers, apply a turf-type (lawn maintenance) fertilizer that is high in nitrogen with little or no phosphorus and potassium at a rate close to 0.2 lb of nitrogen per 100 sq. ft., such as applying two-thirds of a pound of either 26-0-2 or 32-0-4. For additional information on fertilization, see Note 19.

*If use*      *Recomm*      *amt per bed*

Nitrate of soda      1.25 lbs / 100      —      0.75 lbs

Ca Nitrate      1.33 lbs / 100      —      0.8 lbs

NH4 Sulfate      1 lb      —      0.6 lbs

urea      1 cup      —      2/3 cup

**(DON'T OVER DO IT!)**

## LAB TEST RESULTS

### MACRO NUTRIENTS (ON LEFT OF RESULT TABLE)

Analysis	P (LB/A)	K (LB/A)	Ca (lb/A)	Mg (lb/A)
Result	252	212	6135	450
Rating	VH	H	VH	VH



# LAB TEST RESULTS

## MICRO NUTRIENTS (ON RIGHT OF RESULT TABLE)

Analysis	Zn (ppm)	Mn (ppm)	Cu (ppm)	Fe (ppm)	B (ppm)
Result	44.8	29.8	8.9	44.4	0.9
Rating	SUFF	SUFF	SUFF	SUFF	SUFF



## PH RESULT IS AT THE BOTTOM LEFT OF THE RESULTS TABLE

Analysis	pH
Result	6.7



# Soil Test Fertilizer Recommendations

Recommendation: 1.25 lbs (2 cups) of nitrate of soda (16-0-0) per 100 sq ft

Area of bed: 64 sq.ft

Amount per bed= $(64/100) \times 1.25$  lbs

= 0.8 lbs nitrate of soda per 64 sq ft bed

OR IN CUPS

$(64/100) \times 2$  cups=1.28 cups per 64 sq ft



# Improving your soil

- Chemical fertilizer: **follow recommendations from soil test**
- Important to get the calculation of the amount of fertilizer or other chemical amendment correct



# Amending Your Soil: pH

- Most vegetables grow best at a soil pH of 6.2-6.8, or just slightly acidic
- To raise the pH of acidic soils (common in VA) lime can be added
- If the soil is too basic, agricultural Sulphur is added
- **ALWAYS follow the advice given in your soil test results**



# Need Help?

- Contact your nearest Cooperative Extension Office and ask to be referred to your County's Extension Master Gardeners.
- We are here to help!



# Amending Your Soil: Organic Matter

- Most cost-effective way to improve your soil's structure and fertility is by the addition of organic matter
- Good sources are:
  - Compost
  - Leaf mold
  - Sawdust
  - Straw
  - Manures



# Getting your garden planted: TIMING

- Check your USDA hardiness zone vs what you want to plant
- Some plants such as peas, leafy greens and the cabbage family can withstand cooler temperatures and even tolerate some frost
- Even early season crops can benefit from protection



# Getting your garden planted: TRANSPLANTS

- Grown by you indoors (see Webinar 1)
- Grown by the plant nursery



# Transplanting Tips

- Transplant on a shady day or in the early evening to prevent wilting
- Water seedlings a few hours before transplanting
- CARE! Don't disturb the roots or damage the stems
- Dig a hole deep enough to hold the roots
- Set the plant so that the stem is just slightly deeper than it was in the starting tray or pot



# New Transplants



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# Getting your garden planted: DIRECT SOWING

- Recommended for certain crops such as corn, cucumbers, melons and beans. Also for dill and parsley
- Follow the recommendations on the seed packet!



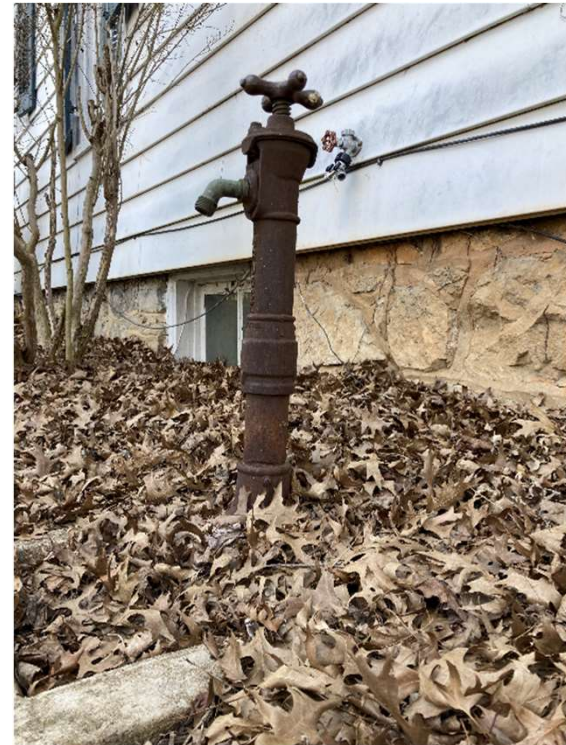
# Newly-Planted Seed

- Seeds planted in rows and clearly marked with seed type and date of planting.



# Watering your garden: HOW MUCH?

- In the growing season need enough to wet the soil each week down to 6 inches
- This translates to 1 inch of water per week (65 gallons per 100 sq ft)
- During dry periods, one thorough watering per week (65-120 gal/100 sq ft) is enough for most soils



# Watering your garden: BY HAND

- **Hand watering** is sometimes the only way possible
- Get a long handled wand for your hose and apply water at the roots (DO NOT USE AN OVERHEAD SPRINKLER!)
- Deep thorough watering once or twice a week is better than a little every day

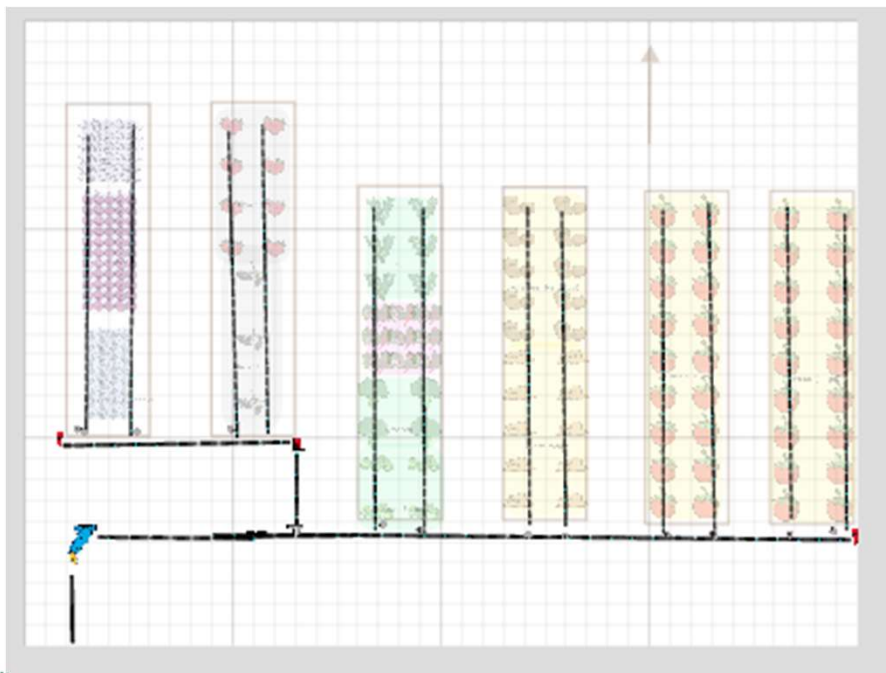


# Watering your garden: Irrigation System

- Trickle irrigation watering system is efficient
- More frequent or continuous application of water prevents soil dryness
- Pretty easy to install



# Draw Irrigation System and Make Parts List



45 Cave raised b... 2021 x

Plan Plant List **Parts List** Notes 45 Cave raised beds 2021

	Part	Quantity
	Emitter Tubing (1/2")	61' 10" *
	End	3
	Emitter	13
	Dripline (1/4")	182' 1" *
	Elbow	1
	Supply Tubing (1/2")	3' 3" *
	PSI Regulator	1
	Hose Filter	1





# Rain Barrels

- Collect rain run-off from your roof and use for irrigation
- If it is up off the ground, can get good flow to a connected hose or watering system



# Save water: APPLY MULCH

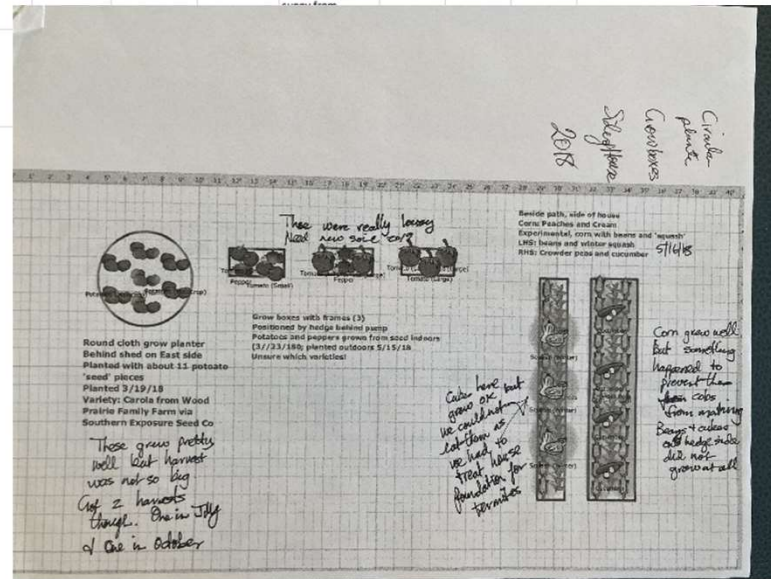
- 2-3 inches of mulch can reduce evaporation by as much as 50%
- Shading and windbreaks can also help reduce water loss in the heat of summer



# Don't Forget: KEEP RECORDS

- Garden planners VIP (refer back to first webinar in this series)
- Record EVERYTHING
  - Seed source
  - Dates planted/transplanted
  - Dates germinated
  - Where planted
  - Growing observations

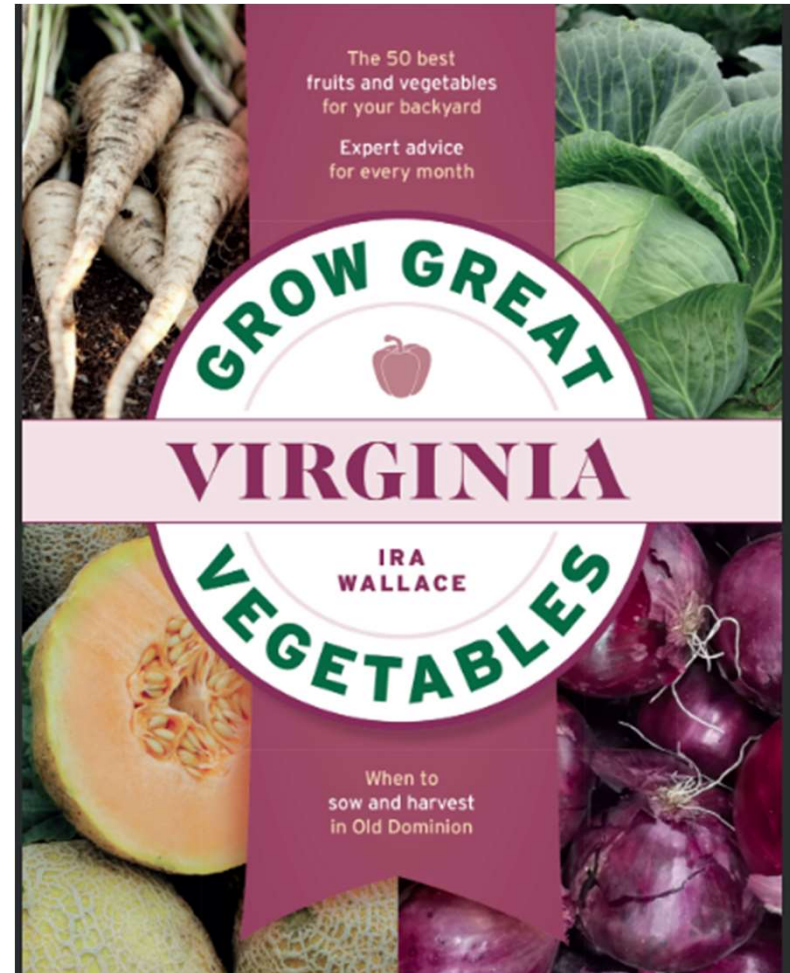
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Seed and Seedling Planting Schedule															
Plant Name	Type	Source	Date planted indoors in peat pods	Date of Germination	Comments	Date Planted Outdoors	Location	Spacing (Inches)							
Parsley	Dark green Italian	Liberty Garden	2/22/17	3/4/17	3/30/17 Thinned to one per pod 3/22/17. Placed outdoors 3 hrs per day when sunny from 3/30/17				6	None of the herbs grown from seed survived. Purchased seedlings from Farm Coop					
Dill	Bouquet				Thinned to one per pod 3/22/17. Placed outdoors 3 hrs per day when sunny from 3/30/17					Purchased seedlings from Farm Coop					
Coriander										Purchased seedlings from Farm Coop					
...	...	...	...	...	...	...	...	...	...	...					



A great book for vegetable growing in VA!



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# Contact Our Green Help Lines

County	Phone	Email
Clarke	540-955-5164	<a href="mailto:NSVMGA.info@gmail.com">NSVMGA.info@gmail.com</a> (include "Clarke County Gardening Question" in the subject line)
Frederick	540-665-5699	<a href="mailto:GreenHelpLine.FrederickCo@gmail.com">GreenHelpLine.FrederickCo@gmail.com</a>
Page	540-778-5794	<a href="mailto:NSVMGA.info@gmail.com">NSVMGA.info@gmail.com</a> (include "Page County Gardening Question" in the subject line)
Shenandoah	540-459-6140	<a href="mailto:greenhelpline@gmail.com">greenhelpline@gmail.com</a>
Warren	540-635-4549	<a href="mailto:GreenHelpLine.WarrenCo@gmail.com">GreenHelpLine.WarrenCo@gmail.com</a>



# Visit Our Seed Lending Libraries

- Clarke County Library, 101 Chalmers Court, Suite C, Berryville, VA 22611
- Page Public Library, 100 Zerkel Street, Luray, VA 22835
- Shenandoah County Library, 514 Stoney Creek Blvd, Edinburg, VA 22824

<http://nsvmgga.org/programs/seed-lending-library/>



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# Check Out Our Upcoming Events

- Future Beginning Vegetable Gardening **Webinars**
  - April 15, 7 p.m.
  - May 20, 7 p.m.
  - June 17, 7 p.m.
  - July 15, 7 p.m.
- Online **Plant Sale**, First Saturday in June
- Gardening in the Valley **Tour**, June 26

[NSVMGA website](#); [Facebook](#)



# *QUESTIONS?*



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# Contact

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Jennifer Adams, [jadams2@su.edu](mailto:jadams2@su.edu)



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