

Vegetable Gardening: *Getting Started*



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Presented to Camelot Garden Club
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Based on **Vegetable Gardening Without Fear**
<https://mgnv.org/mg-virtual-classroom/ug-class-video/vegetable-gardening-no-fear-2022/>



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Virginia Cooperative Extension (VCE) & Master Gardeners of Northern VA

- Volunteers serving Arlington & Alexandria
- Celebrating 40 years promoting public education on environmentally sound gardening practices since 1985 through:
 - **Help Desk Support via email, phone or in-person**
 - o <https://mgnv.org/programs/help-desk/>
 - **Plant Clinics at Arlington/Alexandria Farmers Markets and Libraries**
 - **Free Virtual Classes**
 - o <https://mgnv.org/mg-virtual-classroom>
 - **Demonstration Gardens, including organic vegetable garden**
 - **Online resources:** <https://mgnv.org/>
 - o Search tip — site:edu, site:gov



Potomac Overlook Organic Vegetable Garden



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Nine Steps to Starting Your Own Vegetable Garden

1. Pick Your Location
2. Prepare and Care for Your Soil
3. Plan Your Garden Layout
4. Obtain Seed, Plants, Equipment, and Supplies
5. Plant Your Garden
6. Water Properly
7. Keep Down Weeds
8. Control Pests & Diseases
9. Harvest at Peak Quality



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Quick Facts for Northern Virginia

- Arlington & Alexandria, Virginia are in Zone 7a/b/8a of the USDA Plant Hardiness Map
- Average last killing frost (Spring): 4/1 to 4/10
- Average first killing frost (Fall): 11/1 to 11/10
- Growing season of >180 days
- Hotter summer days (>90°F) & nights (>70°F)
- Average annual rainfall in this area: ~40 inches
 - In 2018, we broke a longstanding record for annual rainfall with 64.4 inches of rain; in 2020, 57.3 inches
- Clay Soils Dominant



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Step 1: Pick Your Location



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Site Options



Balcony



Traditional Garden Plot



Window Box



Container



Existing Landscape Bed

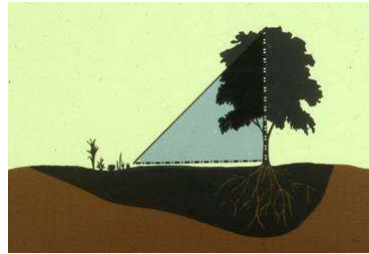


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Site Selection

- Convenient location
- Water supply
- Air flow
- Wind protection
- Sunlight
- Proximity to trees & shrubs
- Soil condition
- Water drainage



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Sunlight for Vegetables

- Fruiting plants need 6-8+ hours (full sun)
 - Tomatoes, eggplants, peppers, squash, cucumbers
- Root vegetables like 5-6 hours
 - Radishes, carrots
- Greens may take partial sun (4-5 hours)
 - Lettuces, spinach, chard
- Many herbs tolerate partial sun
- Shade is less than 4 hours of direct sun
- Right Plant – Right Place
 - Select Plants to Fit Your Conditions

**Use Sun
Mapping to
determine daily
hrs of sunlight**



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Properties of Healthy Soil

- Nutrient-rich (Nitrogen-Phosphorous-Potassium (NPK) and trace elements)
- Proper soil pH range (6-7)
- Perform tests to check if:
 - Well-drained
 - Friable
 - Not compacted

Tilth: Physical condition of soil, especially in relation to its suitability for planting or growing a crop. Factors that determine tilth include the formation and stability of aggregated soil particles, moisture content, degree of aeration, rate of water infiltration, and drainage.



VA Tech Publication 426-711, Building Healthy Soil
<https://www.pubs.ext.vt.edu/426/426-711/426-711.html>



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Testing the Chemical Properties

- Plants all need some nutrients from the soil, but their ability to extract nutrients depends on the amount of nutrients present and the pH (acidity or alkalinity) of the soil.
- **How to test:** You prepare the soil sample, indicate what you want to grow, and send the sample to a testing facility, such as Virginia Cooperative Extension Service. VCE test kits are free, and the analysis costs up to \$16 per sample (in-state).
- **Solution:** Follow recommendations for remediating pH and nutrient deficiencies.

For Information: Virginia Tech Publication 452-129, "Soil Sampling For The Home Gardener"
<https://www.soiltest.vt.edu/fees-and-forms.html>
<https://www.pubs.ext.vt.edu/452/452-125/452-125.html>

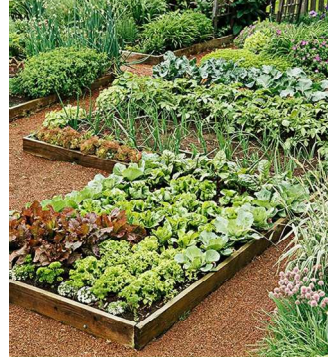


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Raised Beds Offer Advantages

- Better drainage
 - Good choice for heavy, poorly drained soils
 - Roots develop in soil above water-logged or compacted zones
 - Incorporating organic matter improves soil structure, drainage & nutrient-holding capacity
 - Allows concentrated soil preparation in small areas for efficient use of soil amendments
- Higher yields
 - Improved soil provides better root growth
 - More plants in smaller area than in conventional rows
- Expanded growing season
 - Better drainage speeds soil warming for earlier spring planting
 - In wet seasons, soil dries faster for more planting time
- Easy maintenance
 - Physically less demanding: less stooping for weeding, watering and other chores
 - Intensively planted raised beds provide dense foliage cover, shading out much weed growth
- Use of difficult sites
 - Enables gardening on challenging sites, e.g., rooftops & solid rock
 - Terraced raised beds turn hillsides into productive growing areas while reducing soil erosion potential



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Containers Are An Option

- Containers can be placed on any level surface: decks, balconies, doorsteps, along driveways and sidewalks, or on soil in an existing landscape planting
- When placed on dollies, containers are mobile and can be easily moved
- Hanging baskets, window boxes, and grow bags are also an option
- Select containers deep enough for plant's roots

Contained Excitement: Outdoor Container Gardening Basics and What's Trending
<https://mgnv.org/mg-virtual-classroom/ug-class-video/outdoor-container-basics-2021/>
University of Maryland Extension Growing Vegetables in Containers
<https://extension.umd.edu/resource/growing-vegetables-containers>



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Next Steps—Locating Your Garden Based on Where You Live & What You've Learned

- **Case 1** Apartment: Balcony, Patio, or Ground Floor Adjacent Beds
- **Case 2** Townhouse: Balcony, Patio, Adjacent Beds or Common Area
- **Case 3** House: Dedicated Garden Beds, Flower Beds, Balcony, Patio, Driveway, Hell Strip
- **Case 4** Community Garden
- **Case 5** Friend's Garden
- **Case 6** Kitchen Garden
- **Case 7** Volunteer at a School, Church, or Community Garden



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Step 2: Prepare and Care For Your Soil



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Soil Preparation for New Gardens

- Removing lawn and weeds from identified garden plot can be accomplished by loosening soil via garden fork or rototilling and removing exposed lawn and weeds by hand.
- Depending on available time/season, smothering methods can be used to kill lawn and weeds, including roots.
- Compost, topsoil, manure, and fertilizer should be worked into the top 4-6 inches before planting.
- Other elements may need to be added per recommendations from soil test.

University of Maryland Extension Low-Till Gardening

<https://marylandgrows.umd.edu/2024/03/04/what-is-low-till-gardening/>

Oregon State Lasagna Gardening

<https://extension.oregonstate.edu/catalog/em-9559-sheet-mulching-lasagna-composting-cardboard>

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Soil Preparation for Existing Gardens

- Remove any weeds that have emerged over the winter/early spring
- Add 1-2" of compost to beds in fall or early spring prior to planting
- Large amounts of organic matter may be needed for several years
- Resist rototilling & turning soil completely:
 - Causes soil compaction
 - Disturbs balance of microorganisms
 - Causes layers of coarse organic material to be buried too deeply for insects and microbes to break down
 - Uncovers weed seeds
- Consider using a broadfork to aerate your soil



Photo credit: Earthtools.com

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Raised Bed Soil Options

- Raised bed in existing garden (soil in good shape)
 - Add 2-4 inches of compost (homemade or purchased) and mix it with the top 4 inches of soil using a garden fork or spade.
 - You can also add and mix in topsoil from your pathways to increase the soil depth and backfill with wood chips.
- Creation of new framed raised bed
 - Drive a garden fork or spade into the base soil and rock it back and forth, repeating every 6-8 inches.
 - Add a mixture of compost and purchased topsoil in a 1:2 or 1:1 ratio, or
 - Fill the bed with compost and a soilless growing mix in a 1:1 ratio.

For additional information: <https://extension.umd.edu/resource/soil-fill-raised-beds/>



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Growing Medium for Containers

- Select a high quality, organic potting mix
 - Good soil structure and nutrients
- Avoid using soil from your garden
 - Insects, weeds, and disease
 - Clay holds too much water and too little air
- Avoid soilless mixes
 - Sterile with few nutrients
 - Too light to support plant roots
 - In light containers, taller plants may blow over
- Avoid mixes with water-absorbing polymer products
 - Can pull moisture OUT of tiny root hairs



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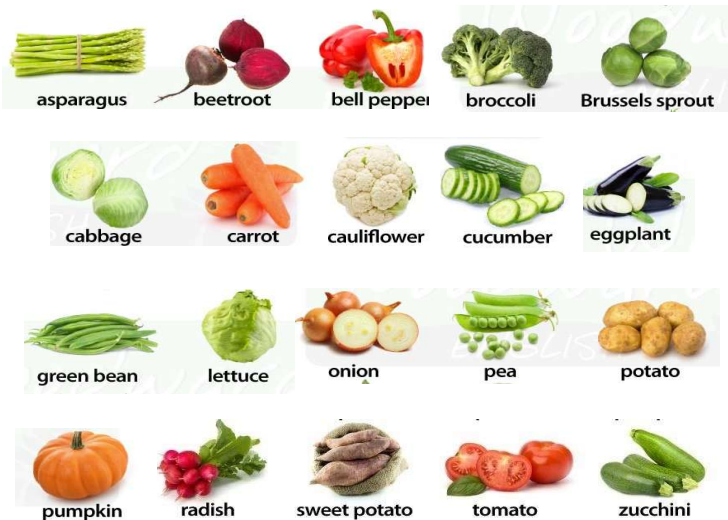
Step 3: Plan Your Garden Layout



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Grow What You Like!



Vegetable & Herb Crop Profiles (University of Maryland Cooperative Extension)

<https://extension.umd.edu/resources/#!/category/3/subcategory/828>



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Vegetable Selection

- Quality and taste
- Effort to grow
- Size of mature plant
- Efficient use of space
- Low vs. high yield
- Days to harvest
- Disease resistance
- Heirlooms vs. hybrids
- Plants suited to our area



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Top 10+ Vegetables Recommended by MGNV Potomac Overlook Veg Garden

1. Lettuce (Leaf & Romaine)
2. Spinach
3. Kale/Collards
4. Roots (Radishes/ Carrots/Beets)
5. Beans (Bush & Pole)
6. Tomatoes
7. Peppers
8. Cucumbers
9. Squash (Summer & Winter)
10. Okra



BONUS:

- Alliums
- Herbs

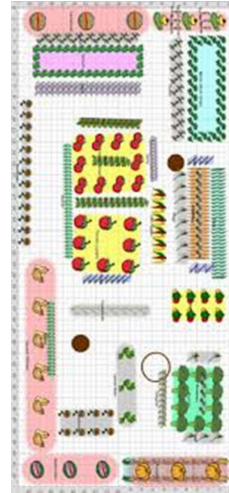


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Design Considerations for In-Ground or Raised Bed Gardens

- Establish size of garden
 - Can use 1-2' rows with paths between or wider 3-4' beds and use intensive planting practices
- Map location of each vegetable, spacing between rows or beds & approximate dates for each planting
- Plant tall crops north or west of shorter crops to avoid shading
- Space rows/beds to allow for growth of plants, ease of cultivation & efficient use of space
- Control erosion: plant rows across slope — not up & down



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Trellises, Cages, Other Support Structures



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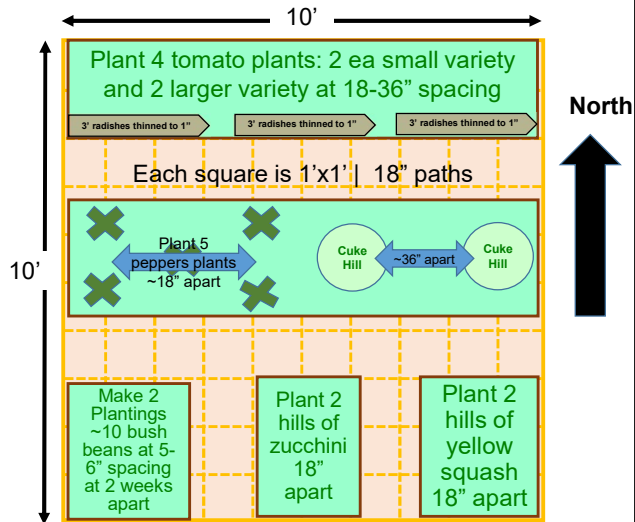
Example: 10'x10' Summer Garden Design

Vegetable Shopping List

- 2 tomato plants
- 2 Sun Gold tomatoes
- 2 Bell peppers
- 2 hot peppers
- 1 Shishito pepper
- 2 cucumbers
- 18 bush beans
- 1 row radishes, divided
- 2 zucchini
- 2 yellow squash

Optional additions:

3 basil plants
Marigolds
Zinnias



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Additional Garden Layouts



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Opportunities to Increase Yield: Attract Beneficial Insects

- Vast majority of garden plants require insects for pollination
- Insectary: Assortment of flowers & herbs attracts pollinators and predators, e.g. syrphid flies, lacewings & tiny parasitic wasps
- Plan for continuous flowering succession—spring, summer and fall
- Helps control pests such as aphids, leafhoppers, spider mites & cutworms



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Popular Pollinator Selections

- | | |
|--|------------------------------------|
| • Alyssum ~ <i>Lobularia maritima</i> | • Dill ~ <i>Anethum graveolens</i> |
| • Anise Hyssop ~ <i>Agastache</i> (P) | • Goldenrod ~ <i>Solidago</i> |
| • Aster (P) | • Marigold ~ <i>Tagetes</i> |
| • Bachelor's Buttons ~ <i>Centaurea</i> | • Milkweed ~ <i>Asclepias</i> |
| • Bee Balm ~ <i>Monarda</i> (P) | • Oregano ~ <i>Origanum</i> (P) |
| • Blazing Meadow Star ~ <i>Liatris</i> (P) | • Salvia (P) |
| • Borage ~ <i>Borago</i> | • Sunflowers ~ <i>Helianthus</i> |
| • Calendula ~ <i>Calendula officinalis</i> | • Verbena ~ <i>Vervain</i> (P) |
| • Coneflower ~ <i>Echinacea</i> (P) | • Zinnia |



Source: <https://homesteadandchill.com/top-23-plants-for-pollinators/>

P = Perennial in Zone 7



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My Lessons Learned

1. Evaluating the quality of your soil is a no-brainer.
2. Time initially invested in killing turf and/or fully removing invasive weeds is time well spent.
3. Understanding where your sunny/shady spots are will lead to improved success re veggie yield.
4. Be realistic about your availability to garden and don't overplant.
5. Leave no bare spots – cover planting areas and paths. Mulch will help soil retain moisture and cool soil. Weeds are very opportunistic.
6. Experiment with different vegetables, flowers, herbs. Try different varieties.
7. #1 tomato tip: pick tomatoes once they show a blush of color and let them ripen inside. No need for sun nor refrigeration, just time.
8. Over time, apply lessons regarding how much plants will grow up, spread, and need support to your garden design.
9. Adding compost every year is worth the investment.
10. Keep a journal and take photos. At the end of each season, jot down what worked and what didn't work.



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Nominal Schedule for Zone 7

- **January/February:** get seed catalogs, plan garden, test soil
- **March/early April:** prepare soil – cultivate, mix in organic matter; start seedlings indoors, start select cool weather crops
- **Late March/April:** plant cool-weather crops outdoors, mulch
- **May (Mother's Day Rule):** plant warm-weather crops (seeds and transplants) outdoors, mulch
- **June/July/August:** nurture, water, fertilize, harvest!
- **August:** plant cool-weather crops for fall harvest, preserve your vegetables for winter enjoyment
- **Fall:** start sheet composting over turf for new garden next year, clean up existing beds, mulch for the winter, plant cover crop



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Best Management Practices

- Test the soil to learn the pH and nutrients already present
- Determine soil drainage capacity before planting
- Improve compacted soil by aerating, double digging, incorporating organic matter
 - Plant cover crops/green manures to improve soil nutrients & structure
- Practice right plant, right place to take advantage of garden microclimates - hot areas, light angles & moisture sinks - when planning your garden layout
- Select cultivars of plants & seeds bred for resistance & tolerate local conditions
- Use companion planting/intercropping to attract beneficial insects, take advantage of symbiotic biochemical and cultural benefits before taking remedial action using the least toxic alternative
- Identify insects (friend or foe), diseases or weeds and susceptible life cycle stages; and evaluate the extent of the problem
- Rotate crops to avoid the build up of pathogens & pests in the garden



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Virtual Resources

- **Between the Rows** – MGNV's online monthly guide on WHAT to do WHEN for veggie gardening
<https://mgnv.org/veg-herbs/between-rows/>
- **Vegetable Gardening Online Resources** – a collection of resources that supplements this presentation
https://mgnv.org/resources/veg_references/
- **Master Gardener Virtual Classroom** – a treasure trove of recorded training classes on topics ranging from Edible Landscapes to Seed Starting to Soil Improvement and more
<https://mgnv.org/mg-virtual-classroom/>



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