



Vegetable Gardening in Los Angeles

Supplement to "Lawn Be Gone" Handbook

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In-Ground Vegetable Beds

Perhaps the easiest way to grow vegetables is directly in the ground. This is particularly true if you want to plant low water use fruit trees, berries, perennial herbs and large vegetables such as winter squash. In general, vegetables grown in the ground require LESS water than those in raised beds because the imported soil in raised planters usually drains more quickly.

Additionally, perennial plants in the ground develop deeper root structures, reducing the need for irrigation.

Crop Selection

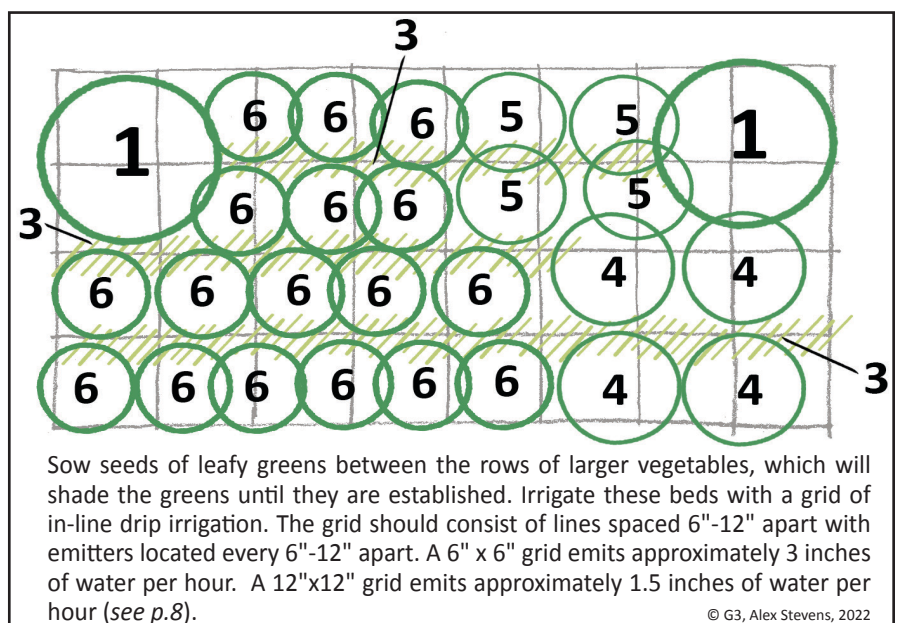
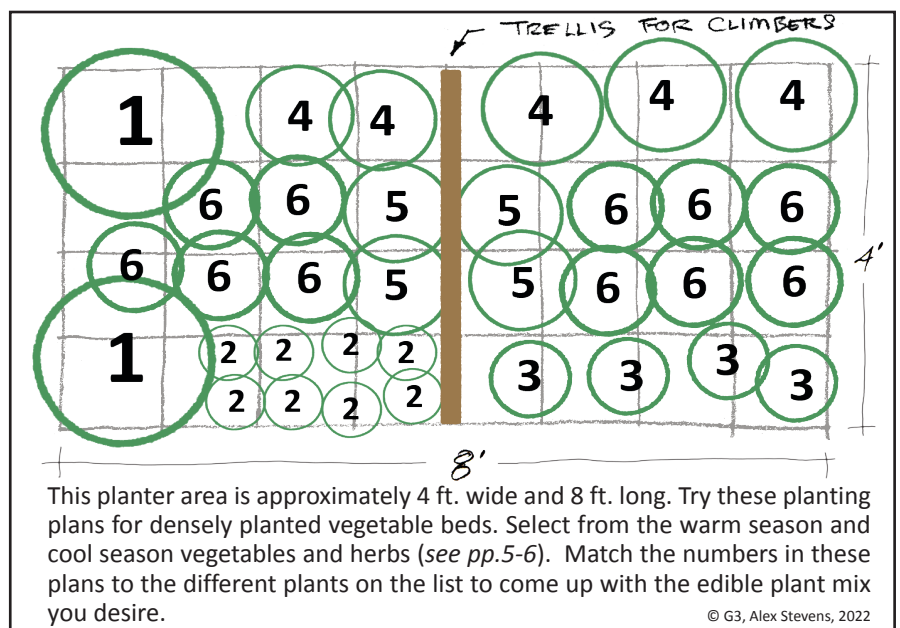
Whether in-ground or in planters, be sure to rotate your crops by growing different annual and biennial vegetables in the same spot each year. This practice ensures that the soil does not become depleted of any single nutrient or inadvertently nurture plant pathogens.

Irrigation

Water is critical for plant growth. It is generally better to underwater rather than overwater edibles because too much water may compromise fruit quality. One way to avoid overwatering is to watch the plants' leaves midday and evening. If a midday wilted plant has perked up in the evening, it does not yet need more water; this is a technique the plant uses to conserve moisture.

Consider harvesting rainwater from your roof in a rain barrel or cistern and using it in the vegetable beds to reduce the need for irrigation. Or, try using an olla, buried in the bed, to provide supplemental moisture on a hot dry day.

In an area where the planting is uniform, use an in-line drip irrigation grid, just as would be used in a raised planter (see p.8). For shrubs, vines, and trees that are part of the permanent landscape, use either on-line or in-line drip irrigation in a random pattern (see p.8).



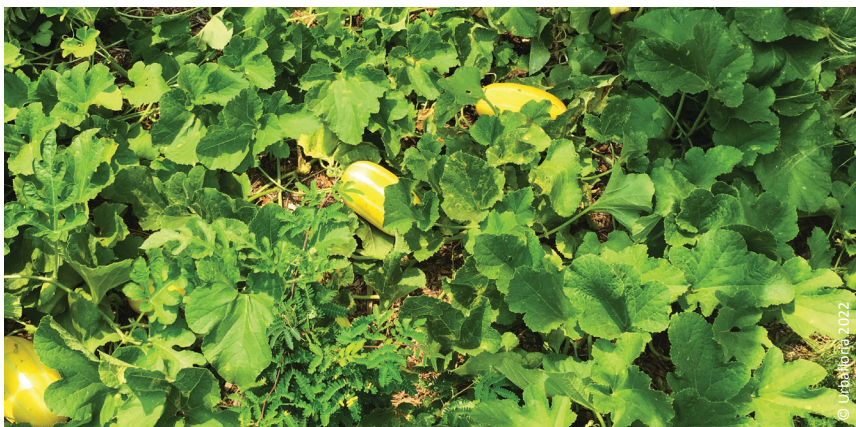


Climbers such as beans, peas, and cucumbers appreciate a structure for getting off the ground. You can add cages, or as pictured above, trellises or posts for climbers to grow vertically, saving valuable bed space. Whether you are planting in the ground or in raised beds, place your vegetable beds as close to the kitchen as possible, or select another sunny spot in the garden where you will see and walk by the beds on a daily basis. Do not locate your edible garden in the farthest corner of your yard unless that area gets the most sun. Select low water need plants you are excited to eat, as this will keep you motivated to continue growing your own food and sharing the abundance with others.

Amendments

Amend the native soil with plenty of organic compost, either made right on site or purchased in bulk. The addition of good quality compost to the soil every season and maintaining a 3"-4" layer of mulch are the two most important things to do for building a healthy living soil sponge and reducing irrigation requirements.

Soil becomes depleted when organic matter is not cycling through the system, so continue adding compost, worm castings, or applying compost tea on at least an annual basis.



To save water, plant more densely and in layers. Try using squash as a summer groundcover that shades leafy greens planted by seed.



Look for the
Water-Saving Tip!

Eat Your Yard

1. **Select the Sunniest Location** that gets at least 6 hours of full sun per day.
2. **Remove Weeds and Residual Turf**, either by digging out or by covering the area with a dark tarp for several weeks. Weeding and soil preparation is easier to do by softening the soil with a deep soak a few days beforehand.
3. **Spread 1" of Good Compost or More** over the area you wish to plant.
4. **Aerate Soil with Shovel or Digging Fork** (a broad fork). This will help you uncompact areas. A hard rake also will be needed to smooth the surface of the soil, particularly if you are planting seeds.
5. **Install Drip Irrigation** lines according to the planting plan. For perennial herbs, shrubs and trees, use 1/2" solid tubing with emitters punched into the tube at each plant. For the areas with annuals or other vegetables, use a grid of 1/2" in-line drip tubing spaced no more than 12" apart with emitters 6"- 12" on center (see p.6).
6. **Look for Healthy Vibrant Seedlings** at the nursery, avoid plants with yellowing leaves and ones that have fruits on them.
7. **Sprinkle Mycorrhizae Powder** on the roots of the seedlings before planting in the ground and coat legume seeds (beans and peas) with inoculant specifically made for this situation.
8. **Fresh, High Quality Seeds are Needed** for the best germination. Be sure to store extra seeds in a cool, dry, dark place.
9. **Plant Vegetables Densely** to shade the soil and maximize yields.
10. **Give Fruit Trees and Perennial Plants Sufficient Space** for reaching mature size without pruning and shaping.
11. **Mulch 3"-4"** with compost, leaves, fine wood, or chopped cover crops around all of the plants, and use mulch in your pathways. Take care not to touch the plants with the mulch. If planting from seed, wait until plants are a few inches tall to place mulch.
12. **Manage Critters with Compassion** by never using rodenticides, as they migrate up the food chain and kill household pets, wild birds, and other native species.



Vegetables in Raised Planter Boxes

Choose to grow your vegetables in raised planters if the existing soil is compacted, infested with persistent weeds, or otherwise is in rough shape and you want to improve the soil quickly to obtain higher yields. Soil toxicity also may be a concern that would lead you to use a raised planter. If your sunniest garden spot is close to a building foundation (especially older homes) or where animals frequently walk by, your best bet is using a raised garden bed.

Since a raised planter can be built on top of concrete or any other hard surface that can support the weight of heavy wet soil, this strategy is good for small spaces or places where the flexibility to move the box is important to you. Boxes also can be constructed with heavy duty wheels so they can be moved around to capture more sun as seasons change.

Amendments

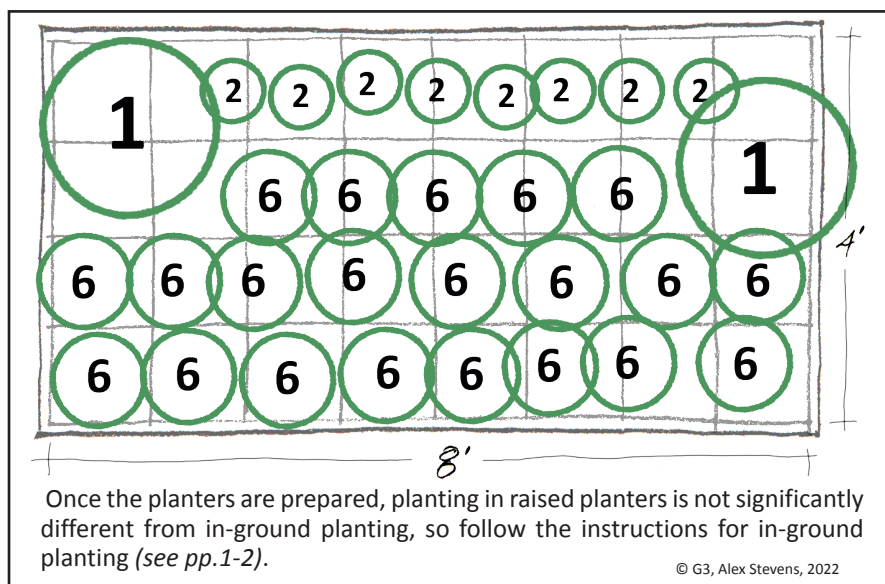
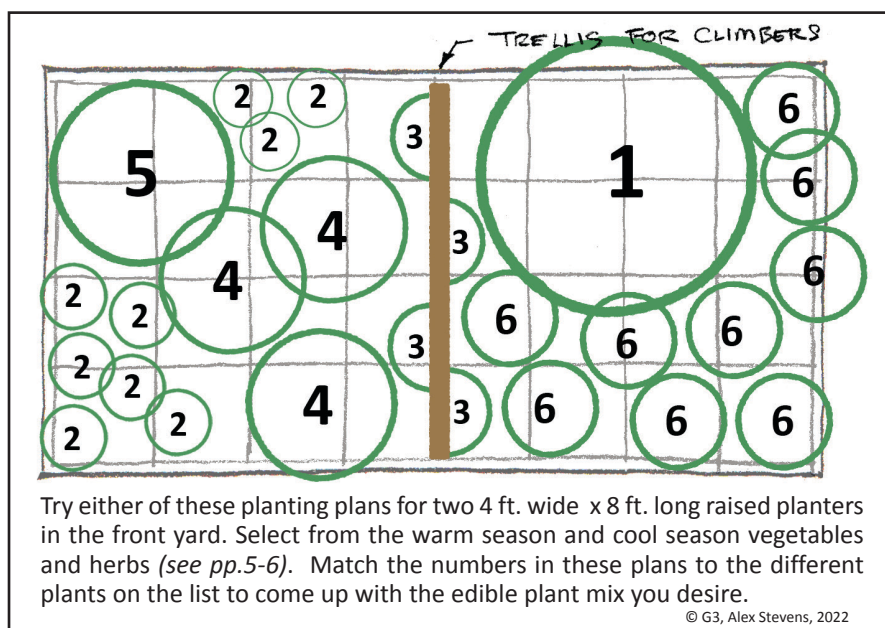
Always purchase the best quality soil you can afford and add compost and amendments each time you add new plants. Now is the time to start composting on site to create a closed loop of organic material.

Plants

Greens and root vegetables like lettuce mix, spinach, carrots and beets grow better when planted from seed and watered overhead.

Plan on watering these vegetables by hand, especially during summer. Remember to use a water shutoff spray valve when hand-watering.

Start your large seeded crops like tomatoes, squash and basil indoors by germinating them on a piece of wet paper towel. When the seedlings have established a 1" to 1-1/2" root and have begun putting out leaves, they can be transplanted outdoors.





Materials other than wood can work as raised planters. Straw bales or wattles work, though they degrade after a few seasons and you have to keep adding new atop the old. Food grade plastic barrels and metal stock tanks also can be used to grow beautiful produce.



Irrigation

Each raised bed or plant grouping should have its own shut-off valve (*see p.8*) so water isn't wasted if the beds are not planted. Install a grid of in-line drip irrigation especially if growing predominantly from seedlings.



Try stacked concrete blocks or recycled broken concrete for your planter beds. These become permanent structures in your landscape, and are especially suitable for perennial shrubs and trees. The concrete walls double as garden seating if you make them 18" high.



Look for the
Water-Saving Tip!

Make a Raised Planter Box

1. Select the Sunniest Location that gets at least 6 hours of full sun per day.

2. Consider the Size of Your Planter. Planters wider than 4' are tough to reach to the center, and wood planters longer than 8' will require cross braces. Taller planters are better; but the taller the planter, the more soil you will need to fill it. This adds cost and labor. Aim for 12" minimum height for planters on top of soil and 18" for placement on solid surfaces. An 8' long x 4' wide x 18" tall planter is a common size.

3. Select Clean Wood or, if using salvaged or reclaimed wood that has been stained, painted, or treated in some other way (or even if you are unsure of the origin of the wood) staple a heavy duty plastic to the inside of the planter before filling it with soil. Cut wood to desired length and screw together at the ends. Stack boards for height and screw together using lengths of wood in the corners.

4. Plan for Critters. Install gopher wire or galvanized hardware cloth to the inside of the box if gophers or other burrowing creatures are present. Chicken wire will not work!

5. Secure an Irrigation Riser in place on the outside of the beds on solid surfaces and inside for above-soil locations (*see p.8*).

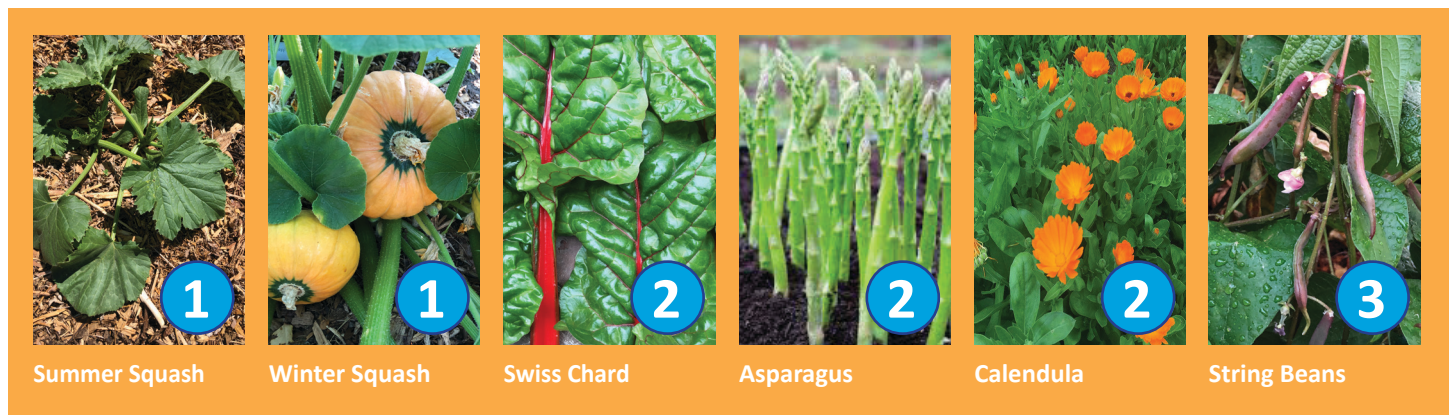
6. Prevent Weeds with a Layer of Card-board over the native soil before adding the planter fill. The cardboard prevents weeds from coming up through the bottom of the planter.

7. Use the Best Soil You Can Find to fill the planter. It does not have to be "planting mix." Native soil mixed with good quality compost can be used if it is not filled with weeds. Water thoroughly for every 6" of soil you add. Leave a 3"-4" space at the top of the planter for mulch.

8) Install Drip Irrigation lines in the bed. Raised bed soil usually drains quickly, so emitters should be spaced closer together than with in-ground plantings. Try spacing lines 6"-9" apart if using in-line emitters, and make sure the emitters themselves are spaced 6" apart (*see p.8*).

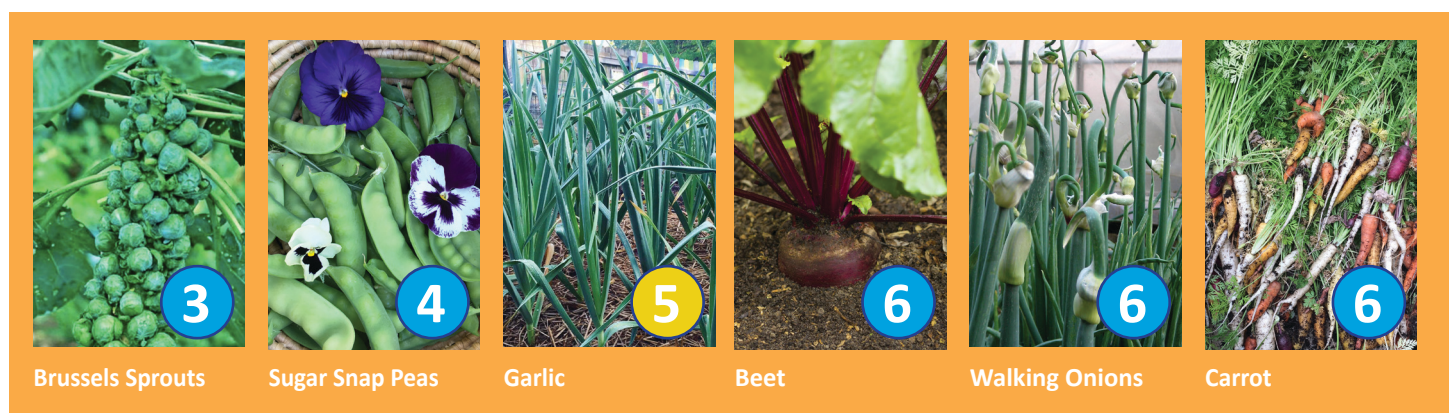
9. Plant Your Vegetables! Follow the instructions for in-ground planting (*see pp.1-2*).

Summer Annual/Biennial Vegetables



all plant images © Urbafiora 2021 except where specified

Winter Annual/Biennial Vegetables (Planted during cooler rainy season)



 **Black** for **HIGH** water use.
  **Blue** for **MODERATE** water use.
  **Yellow** for **LOW** water use.
  **Red** for **VERY LOW** water use.

Perennials and Herbs



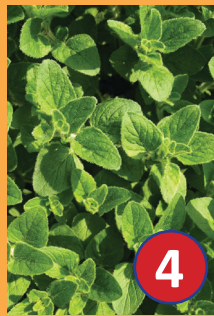
Artichoke



Sorrel



Thai Basil



Oregano



Chinese Leek
(Garlic chives)



Culinary Sage

Perennial Shrubs



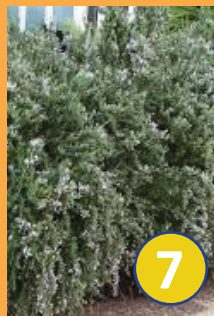
Goji Berry



Strawberry Guava



Prickly Pear



Rosemary



Lemon Verbena



Currants

Perennial Vines



Grapes



Passion Fruit



Raspberry



Dragon Fruit



Kiwi

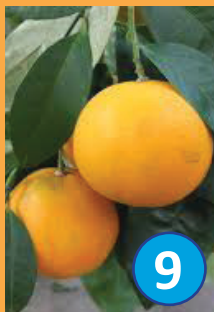


Blackberry

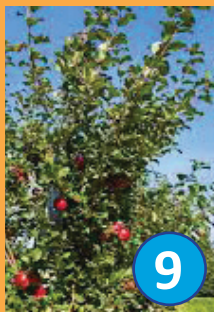
Perennial Trees



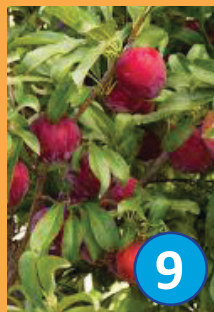
Pomegranate



Citrus 'Mandarin
Orange'



Apple 'Anna'



Plum 'Santa Rosa'

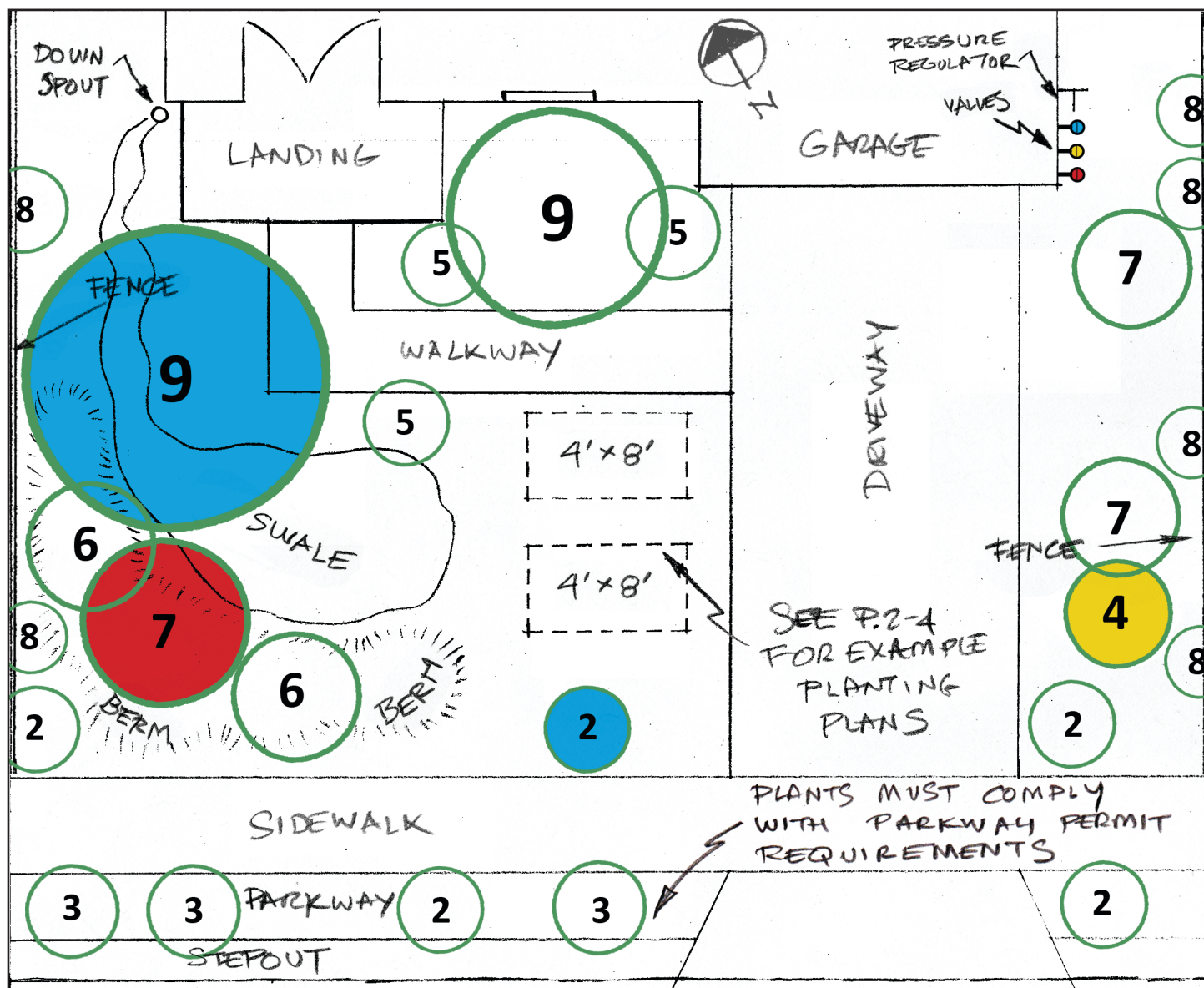


Edible Fig
(Espaliered)



Elderberry

Typical Front Yard Planting Plan



© G3, Alex Stevens, 2021

Use this Sample Plan to integrate vegetable gardening into your sustainable landscape plan. A Master Plant List has been provided that you can use to substitute for the plants suggested above and on the pages with the 4' x 8' planters (see pp. 5-6). For example, take note of the plant number on the plan (1-9) and consult the Master Plant List for alternative selections.

Black for **HIGH** water use. **Blue** for **MODERATE** water use. **Yellow** for **LOW** water use. **Red** for **VERY LOW** water use

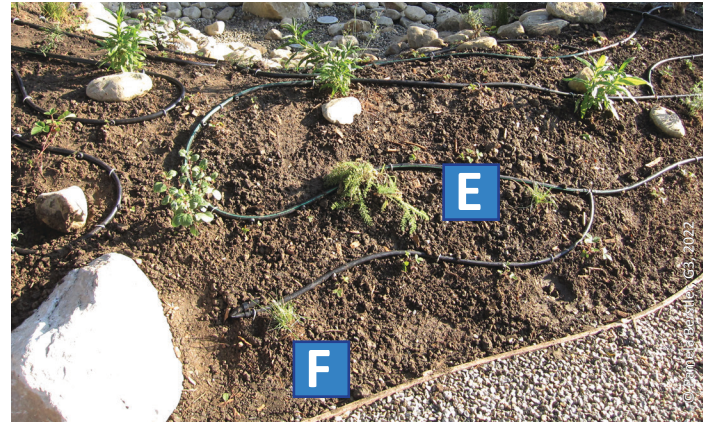
Wherever we have provided plant selections, we identify them by placing their numbers on a colored background that represents their water use requirements after establishment when planted in the ground, and compared with turf. It is easier to irrigate your plants if you use this color coding to group them by their water requirements. Grouping by water requirement, or hydrozoning, is particularly important with in-ground perennial shrubs, vines, and trees that will become part of your permanent landscape. Annual vegetables and herbs in planter areas or raised beds do not require hydrozoning because hand watering can provide supplemental water if needed.

When establishing plants from seed, their water use requirement is not relevant. All seeds need a consistently moist soil to germinate. So, for the first 3-6 weeks after sowing seed, count on irrigating or hand watering daily to keep the soil uniformly moist. If the soil is very dry, particularly in the winter, you may need to water twice daily until germination. In the summer, it is important to keep small seedling transplants uniformly moist as well (see p.3). Consider germinating seeds indoors and transplanting to save water.

After establishment, HIGH water use plants that are in-ground should be given 2-3 inches of water per week during the summer and 1 inch in the winter. If you are using a 12" in-line drip irrigation grid, you will need to irrigate for approximately 10 minutes twice a week for HIGH water use plants. MODERATE plants require 50% of the water compared to HIGH, and LOW plants require 20% of the water compared to HIGH. So, MODERATE plants will need approximately 5 minutes twice weekly during summer and once per week in winter. LOW plants will need only 2-5 minutes once a week in winter or summer. Edibles in raised planters will need about twice as much water as those planted in the ground, so irrigate them for twice the amount of time.

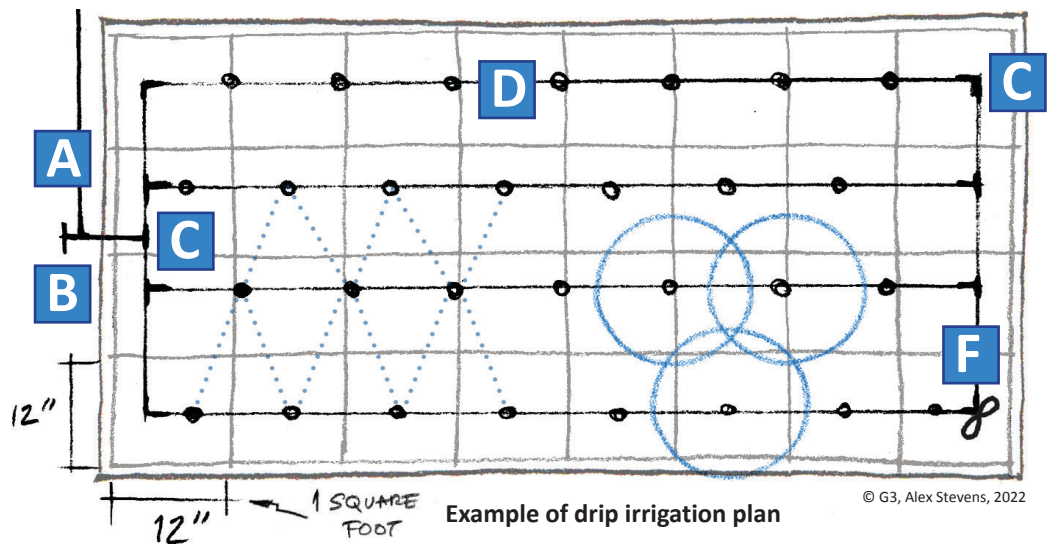
Drip Irrigation for Veggie Beds

Use a Drip Irrigation Grid for in-ground planting and raised planters, especially those with leafy greens. The Drip Irrigation Grid covering 32 sq. ft. is comprised of five components, which cost approximately \$90 for materials and will take 2 hours for a handy person to install (*see p.9*).

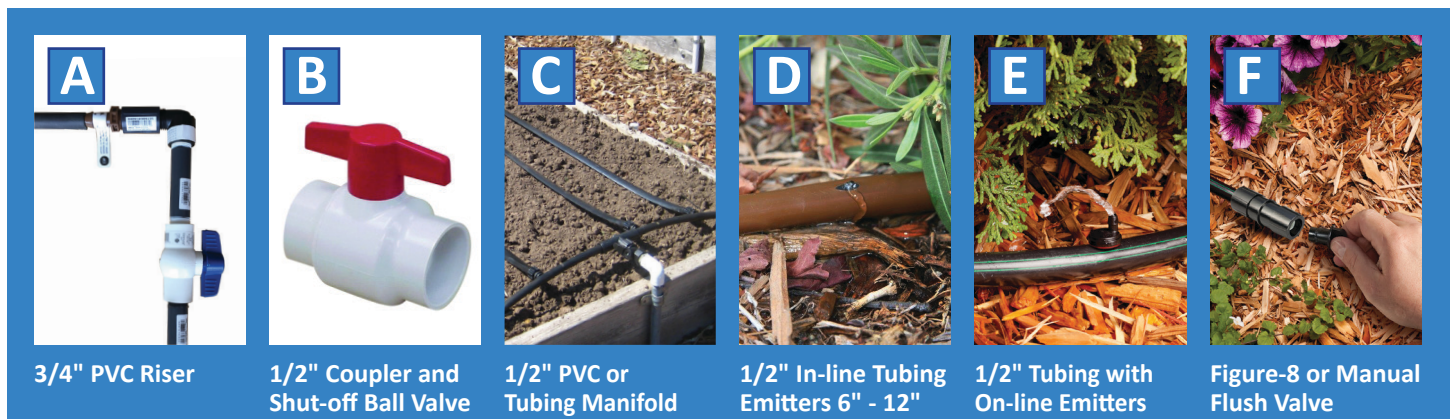


All drip irrigation systems include a Low Flow Valve designed specifically for drip irrigation and Schedule 40 PVC pipe lateral line from the irrigation valve to the Point of Connection (POC) with the drip tubing. The length of this lateral line depends upon the distance from the valves to the first place the drip tubing needs to be connected. If the plants are in the ground, the POC can transition right to the drip tubing with a Shut-off Ball Valve. If the plants are in raised beds, a PVC riser will be needed to bring the irrigation up into the planter where it can transition to the drip tubing.

When using the **Drip Grid** pattern, the grid should be set up with tubing rows and emitters spaced no more than 12" apart. The idea is to create uniform coverage within the bed, so the emitters in the rows should be offset to improve the overlap.



From the POC, there are five key components to the system. **A** - PVC riser or connector to the drip manifold that delivers the water from the Point of Connection into the raised bed, **B** - Shut-off valve that allows you to turn off the water in the bed, **C** - PVC or Drip Tubing manifold that distributes the water to the lateral lines of the grid system, **D** - In-line tubing for the manifold or **E** - Blank tubing with on-line emitters pushed into it, and **F** - Flush Valve or Figure-8 that allows the system to be flushed of debris after each growing season.



Shopping List and Resources

Irrigation (In-Line)

Irrigation Item	*Price
50' of PVC line 1/2" pipe for riser and manifold	\$14.00
Coupler and shut-off valve	\$13.00
Figure 8 End Cap	\$0.25
"T" 10 pack (need 6)	\$9.00
Elbows (4 total @ \$1.95 ea)	\$7.80
100' of 1/2" (17mm) tubing with emitters spaced every 12"	\$30.00
Wire "U" hold-downs for tubing 100 pack	\$11.75
Total	\$85.80

*prices are for example only and may vary

Irrigation supplies

Aqua-Flo Supply aqua-flo.com

Ewing Irrigation ewingirrigation.com

Drip Depot www.dripdepot.com

Amendments

Amendments (per 4' x 8' planter)	*Price
1 cu. ft. bag compost or worm castings	\$35.00
7 cu. yards organic garden soil in bags (\$9.00 each)	\$63.00
Tree trimmings mulch	FREE
Total	\$98.00

*prices are for example only and may vary

Soil and amendments

Bulk (pick up or delivery by the cubic yard)

Agromin agromin.com

Organic Soil Blends organicsoilblends.com

The Soil and Sod Depot soilandsod.com

Available in bags at local nurseries

Malibu Compost - Baby Bu's Biodynamic Blend Potting Soil and Bu's Blend Biodynamic Compost (2 cubic yard bags at Aqua-Flo Supply)

Dr. Earth Home Grown Organic Potting Soil drearth.com

Worm Gold Plus wormgold.com

Kellogg's Garden Products kelloggsgarden.com

Plants

Plants for 1 bed 4'x8'	*Price
3 x packs of seed @\$3.50 ea.	\$10.50
4 x 4" plants ea. @ \$4.00 ea.	\$16.00
5 x 6 pack 2" seedlings @\$4.00 ea. (30 plants)	\$20.00
Total	\$46.50

*prices are for example only and may vary

Nurseries

Anawalt (West LA) anawaltlumber.com

Armstrong (Sherman Oaks) armstronggarden.com

Green Thumb Nursery (Canoga Park) greenthumb.com

Fig Earth Supply (Los Angeles) figearthsupply.com

Papaya Tree Nursery (Granada Hills) papayatreenursery.com

Sunset Nursery (Silver Lake) sunsetblvdnursery.com

Sego Nursery (Valley Village)

West Valley Nursery (Tarzana) westvalleynursery.com

Online source - groworganic.com

Online Bare Root Fruit Trees and Berries

Bay Laurel baylaurelnursery.com

Trees of Antiquity treesofantiquity.com

Dave Wilson davewilson.com

(Good resource for researching fruit tree varieties and how to grow fruit trees.)

Books

California Foraging

120 wild and flavorful edibles from evergreen huckleberries to wild ginger / Judith Larner Lowry

Gaia's Garden

A Guide to Home-Scale Permaculture

Toby Hemenway— 2nd ed.

Western Garden Book of Edibles

The Complete A-Z Guide to Growing Your Own Vegetables, Herbs, and Fruits / The Editors of Sunset, 2010.



Water Saving Tips to Remember:

- Install Drip Irrigation or hand water and your vegetable garden will use less water than a typical grass lawn irrigated with spray.
- Cover the beds with a 3" - 4" layer of compost and mulch to hold in moisture.
- Plant beds densely to out-compete weeds and keep soil cool and shaded.
- Germinate seeds indoors and transplant them to beds when they are larger seedlings and can handle less frequent irrigation.

For other water saving tips and landscaping resources, here is the internet link to the **Lawn Be Gone Guidebook**.

Book prepared by Green Gardens
Group on behalf of LADWP



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