



BUILDING YOUR SOIL FOR FALL

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UCCE Master Gardeners of San Bernardino County
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What do your plants need from soil?

- Water, air, and nutrients
- Wide variety of microorganisms, key to plant health and nutrient uptake
- Plants often do best in “sandy loam” type soil
 - Some plants are adapted for poorly draining soil, etc. so proper plant selection is important!



What is soil building?

- Adding organic matter such as compost to increase underground biodiversity
- Ensuring soil has right texture and consistency for plantings
- Making sure beds are properly filled
 - Beds are full enough to maximize amount of soil in bed or container
 - Beds are not overfilled with soil causing spillover of water and soil

What does soil building mean for different planting techniques/locations?

- **New plantings**

- Creating a combination of soil materials that are best for plants you are planting
- Example: Starting a new bed/container

- **Refreshing old planter beds/in-ground plots/containers**

- Bringing “dead” soil back to life
- Refreshing bed for new plantings after old plantings die off or are pulled out
- Example: Getting ready for fall plantings after a summer crop or getting ready to plant after bed/container has sat dormant for some time

- **Refreshing soil in perennial plants**

- Adding amendments to plants that have been in the ground for many years
- Example: Perennial herbs, fruit trees, shrubs

What soil needs fall refreshing?

Beds/containers that have had a fruit or veggie crop this summer

Beds/containers that have sat empty for a season or two

Soil with plants that have been in the ground for many seasons/years

Soil that you have had trouble with in a past season



Building soil for new plantings

- Starting off with good soil will help you grow and maintain healthy plants!
- Start with a mix of:
 - Native soil (depending on the makeup of your soil)
 - Potting mix
 - Potting soil
 - Compost
- Mix well and add plants or seeds



Building soil in old unused beds or for the season

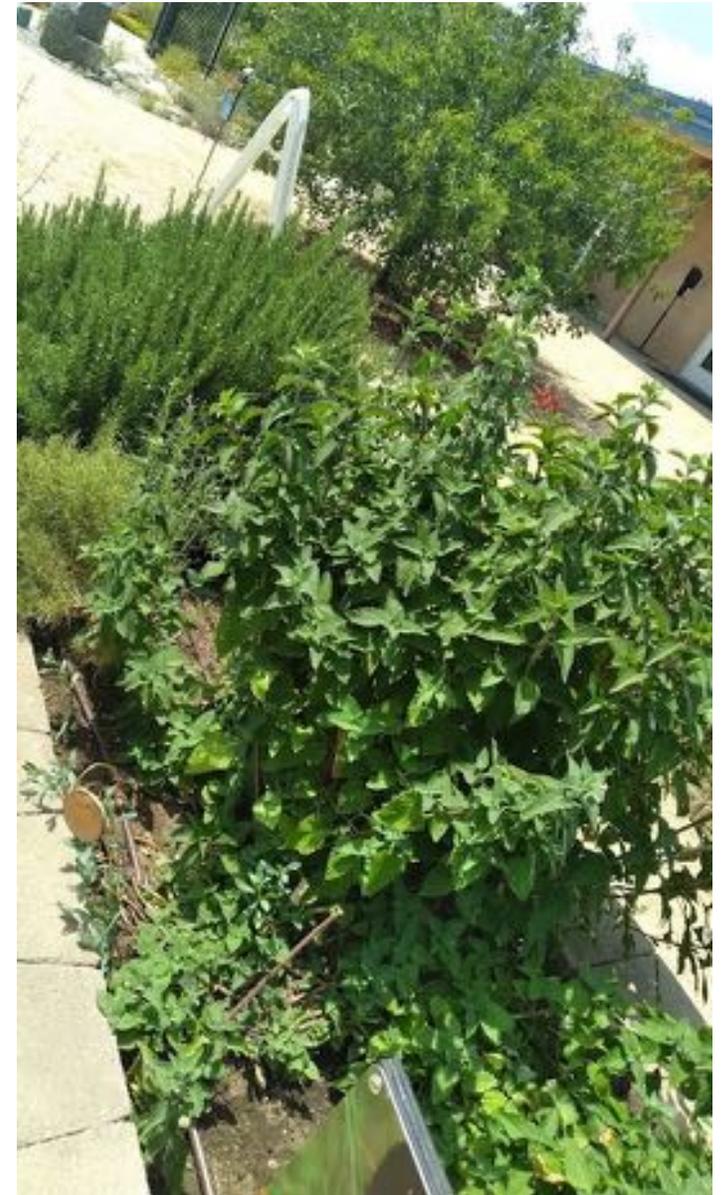
- Refill bed or container if settling/decomposition of organic matter has occurred
- If bed or container is all organic matter, may need to add some soil to give some structure and reduce settling when organic matter decomposes
- Add approximately 2" of compost to surface and mix in 4" to 6" deep
- Consider mulching if appropriate after planting, or if bed/container will sit empty for a while

Photo: Look how much this soil has settled! Time to refresh this pot with more soil and add some amendments! This was the same pot from the beginning of the presentation.

Building soil for perennial plants

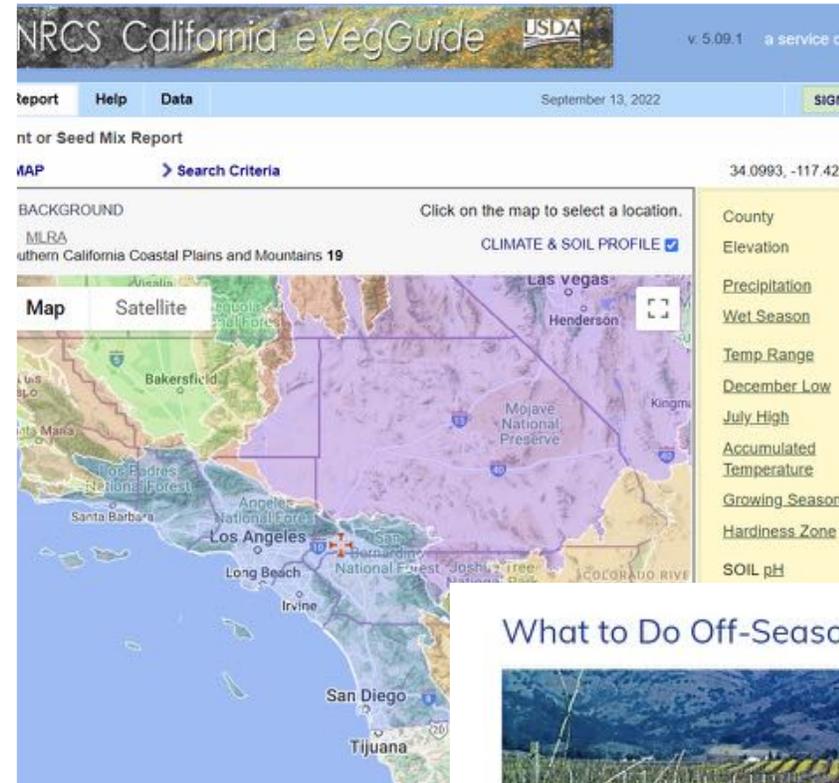
- Try to avoid disturbing roots when amending soil
- Add layer of mulch around plant drip line to keep weeds down, reduce water loss and keep soil cool
- Do not dig mulch into soil to avoid reducing nitrogen in soil around plant root areas
- Add a few inches of compost to surface as a mulch
- Avoid burying stem of plant

Photo: In bed with several perennial plants, just add a little compost and/or mulch to the surface to refresh this bed



Will your bed sit empty for the fall?

- Consider cover cropping to build and maintain your soil!
- Resources for cover cropping:
 - <https://www.calflora.org/nrcs/>
 - <https://marinmg.ucanr.edu/EDIBLES/COVERCROPSETC/>



The screenshot shows the NRCS California eVegGuide website. At the top, it says "NRCS California eVegGuide" and "USDA". Below that, there are navigation links for "Report", "Help", and "Data", and a date "September 13, 2022". The main content area is titled "Plant or Seed Mix Report" and includes a "MAP" section with a "Search Criteria" button. The map shows California with various regions highlighted. On the right side, there is a panel with search criteria including "County", "Elevation", "Precipitation", "Wet Season", "Temp Range", "December Low", "July High", "Accumulated Temperature", "Growing Season", "Hardiness Zone", and "SOIL pH".

What to Do Off-Season in the Edible Garden



Mustard is a beautiful cover crop that suppresses some harmful soil-dwelling nematodes. Photo: Courtesy of UC Regents

Putting the garden to rest

Thanks to Marin's mild winter weather, home gardeners can grow vegetables year-round. But you may choose to give the garden (and yourself) some rest and rejuvenation once you've harvested your last summer-fall crop. Here are two options for putting the edible garden to bed before you kick back in your easy chair and flip through seed catalogs.



Most native plants do not need or prefer the use of mulch or fertilizer

Soil building often consists of leaving them alone

Tips for Keeping your Soil Healthy

- **Proper watering**
 - Overwatering can cause problems with pathogens and reduces oxygen to roots and microorganisms creating an anerobic environment
 - Underwatering causes microorganism and root die back and also makes rewetting the soil more difficult, creating hydrophobic soil
- **Mulch!**
 - Keeps weeds down (reducing the need to disturb your plant roots or use herbicides)
 - Keeps moisture in (keeping your soil from overdrying)
 - Keeps soil temps more consistent (reducing heating and cooling of shallow roots and soil)
- **Avoid overfertilizing**
 - Reduces salt buildup in soil
- **Reduce the use of pesticides by using Integrated Pest Management Practices (IPM)**
 - Promotes overall environmental health
- **Use compost to improve all types of soils**
 - Adds to underground organism diversity and overall health
- **Keep your soil active; don't let it die and turn into dirt!**

Tips to improve poor soil

- Heavy soil? Add compost
- Sandy Soil? Add compost
- Hydrophobic soil? Add compost
- Compacted soil? Till to break it up, but tilling is not usually necessary on a regular basis... just the first time to add compost (unless you are turning in compost/last season's disease-free crops)
- Nutrient poor soil? Add compost, fertilizer *OR MAY NEED TO ADJUST pH*
- Soggy soil? Let dry, loosen and add amendments (figure out cause of waterlog: overwater? Soil composition)?

Want to learn more?

On topics including:

-
- Getting to know your soil

 - Mulching around your plantings

 - Using compost in the garden

 - Building compost at home





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Have questions about your soil?



Contact our Master Gardener Helpline

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