



## Soil Preparation for Your Vegetable Garden

### Why test your garden soil?

- **Nutrient levels** - Test results provide you with soil nutrient levels and fertilizer recommendations when needed.
- **Soil Acidity** - Soil pH and exchangeable acidity are measured for the determination of lime requirements.
- **Environmental Protection** - Test results identify areas with excess nutrients that can pollute local waterways.
- **Economics** - You buy soil amendments only when needed, avoiding unnecessary spending.
- **Health** - Soil testing can help protect you and your family by alerting you to elevated levels of lead or other toxic heavy metals.

Soil tests do not identify plant growth problems associated with soil drainage, insects, plant diseases (whether soil-borne or not), weeds, winter injury or the misuse of pesticides.

### Soil Sample Collecting

Avoid having the soil tested whenever the soil is wet or when it's been recently fertilized. To take a sample for testing garden soil, use a small trowel to take thin slices of soil from various areas of the garden (about a cup's worth each). Allow it to air dry at room temperature and then place it into a clean plastic container or Ziploc baggie. Label the soil area and date for testing.

### Soil Testing Resources

**Soil test labs in Northern and Central CA and with what they test for**

<http://cesonoma.ucanr.edu/files/27431.pdf>

**Soil test Interpretation guide**

[http://extension.oregonstate.edu/sorec/sites/default/files/soil\\_test\\_interpretation\\_ec1478.pdf](http://extension.oregonstate.edu/sorec/sites/default/files/soil_test_interpretation_ec1478.pdf)



## Cover Crops

Calculate a custom mix of diverse cover crop blends at <https://smartmix.greencoverseed.com/>

	Cover Crop	Type of plant	Special Features
<b>Winter</b>	Bell Beans	Legume	Nitrogen fixing
	Fava Beans	Legume	Nitrogen fixing, lots of biomass, food crop
	Vetch	Legume	Nitrogen fixing, low growing easy to dig in
	Rye grass	Cereal	roots break up clods, lots of biomass
	Kodiak Mustard	Brassica	Helps control soil borne disease and nematodes
	Winter Oats	Cereal	roots break up clods, lots of biomass, carbon source for compost, food
	Winter Wheat	Cereal	roots break up clods, lots of biomass, carbon source for compost, food
	Barley	Cereal	roots break up clods, lots of biomass, carbon source for compost, food
<b>Summer</b>	Buckwheat	Broadleaf	very FAST growing, flowers attract pollinators, easy to dig in
	Cowpeas	Legume	Nitrogen fixing
	Crimson Clover	Legume	Nitrogen fixing, very beautiful flowers
	Red Clover	Legume	Nitrogen fixing
	Alfalfa	Legume	Nitrogen fixing, perennial if left alone, animal fodder

## How to Dig in a Cover Crop

### Option 1 – Incorporation Method

1. Cut the crop down at the soil line with a shovel or weed whip
2. Chop with a shovel
3. Leave on surface 4-7 days (it will wilt and reduce in size – speed process by covering with silage tarp)
4. Dig green material into soil
5. Water and wait 3-4 weeks to plant

### Option 2 – Low Till method

1. Cut the crop down at the soil line with a shovel or weed whacker



2. Compost surface biomass
3. Apply a light dusting of finished compost over the top and water
4. Cover with silage tarp and wait 2-3 weeks to plant

#### Option 3 - No Till approach

1. Cut the crop down at the soil line with a shovel, weed eater or scissors
2. Leave plant biomass to compost in place
3. Apply a light dusting of finished compost over the top
4. Cover with silage tarp 2-3 weeks and plant into killed mulch

## Reading List & Links

Choosing & Using Cover Crops in the Home Garden & Orchard – Orin Martin

<https://casfs.ucsc.edu/documents/for-the-gardener/choosing-cover-crops.pdf>

Calculate a custom mix of diverse cover crop blends at

<https://smartmix.greencoverseed.com/>

The Market Gardener by Jean-Martin Fortier

<https://www.goodreads.com/en/book/show/18406251>

Cover Crop Solutions Chart from Peaceful Valley Farm & Garden Supply

<https://permaculturenews.org/files/CoverCropSolutionsweb2013.pdf>

No Till Gardening, an Easier Way to Grow

<https://www.motherearthnews.com/organic-gardening/gardening-techniques/no-till-gardening-easier-way-to-grow-zb0z1801zmos>

Pursuing Conservation Tillage Systems for Organic Crop Production, ATTRA's Organic Matters Series

[http://scholar.google.com/scholar?q=PURSUING+CONSERVATION+TILLAGE+SYSTEMS+FOR+ORGANIC+CROP+PRODUCTION&hl=en&as\\_sdt=0&as\\_vis=1&oi=scholar](http://scholar.google.com/scholar?q=PURSUING+CONSERVATION+TILLAGE+SYSTEMS+FOR+ORGANIC+CROP+PRODUCTION&hl=en&as_sdt=0&as_vis=1&oi=scholar)

Why Soil Matters by Renee Cho

<https://blogs.ei.columbia.edu/2012/04/12/why-soil-matters/>

2019 IPCC Report on Climate Change and Land

<https://www.ipcc.ch/report/srccl/>