

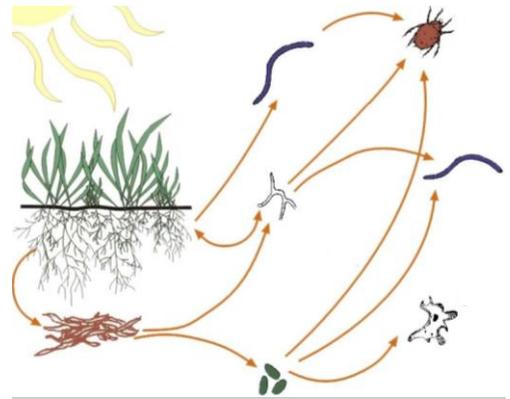
Cover Crop Basics for Vegetable Gardeners

What are “cover crops”?

Cover crops are close-growing crops planted either in rotation with food crops, or between food crops to enrich the soil. Before planting the next vegetable crop, the cover crops can be cut and left as mulch on the soil surface, or turned in to the soil.

How can cover crops contribute to a healthy garden?

- Protect soil from wind, rain, and melting snow
- Improve soil quality
 - ✓ Cover crops return plant material to the soil, which increases organic matter.
 - ✓ Cover crop roots create pores, which increase aeration and help the soil hold water.
- Feed beneficial soil critters
- Add nitrogen to the soil (through legume nitrogen fixation)
- Prevent weed growth
- Attract and shelter beneficial insects, like bees & ladybugs



Soil food web diagram by N. Marshall, from the Soil Biology Primer (<http://www.nrcs.usda.gov>).

Steps to cover cropping in your garden

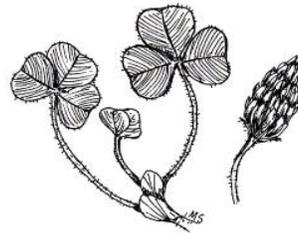
- **Choose a cover crop:** Use the chart on the opposite side of this page to choose a cover crop that fits your vegetable planting schedule, gardening goals, and garden site.
- **Plant the seed:** (Remember, you can seed beneath food crops finishing up for the season!)
 - ✓ Clean your plot. Remove weeds & crop residues, and stake and prune crops that are still producing. This creates space and light for your cover crop to grow.
 - ✓ Rake the soil to create a fine seedbed, then broadcast the seed evenly and gently rake it in.
 - ✓ COVER the newly planted seeds with row cover, to protect them from birds until the plants are established.
- **Cut down cover crops at flowering** (for over-wintering cover crops, this is in late April or early May). Hedge shears can be used for small plantings, or a mower for larger areas. Leave the shoots as mulch, or dig them into the soil. If you dig them in, wait 2-3 weeks before planting vegetables.



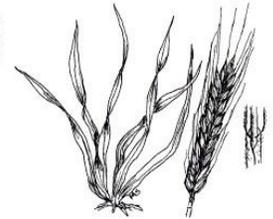
Over-wintering cover crops: These are planted in fall and survive the winter. Over-wintering cover crops provide the most benefit for your soil of all cover crops, but **you need to wait until late April or early May to cut down the cover crop before you can plant vegetables.**

Crimson clover or Crimson clover + Winter Rye

- **Plant date (Zone 7): early to mid-September**
- Crimson clover is a legume (fixes Nitrogen), & attracts beneficial insects. Somewhat shade-tolerant.
- Rye (a grass) grows quickly and produces lots of plant material for soil quality, weed suppression, & mulch.



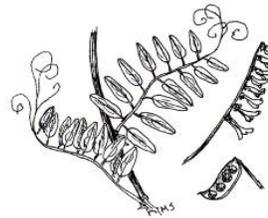
Crimson clover



Winter rye

Hairy vetch + Winter Rye

- **Plant date (Zone 7): late September – mid-October**
- Hairy vetch is a legume (fixes Nitrogen) & attracts beneficial insects.
- Rye (a grass) grows quickly and produces lots of plant material for soil quality, weed suppression, & mulch.



Hairy vetch

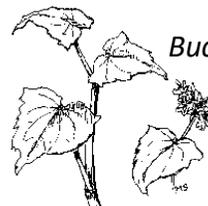


Winter rye

Summer cover crops: These are planted after early spring crops (like lettuce) and before crops for a fall harvest (like broccoli) to add organic matter and shade out weeds. Allow 35-45 days for buckwheat to flower, or 80-90 days for cowpea + millet to flower.

Buckwheat or Cowpea + Millet

- **Plant date (Zone 7): May – June**
- Buckwheat grows quickly & suppresses weeds.
- Cowpea is a legume (fixes Nitrogen) & attracts beneficial insects at flowering; Millet (a grass) grows quickly & suppresses weeds.



Buckwheat

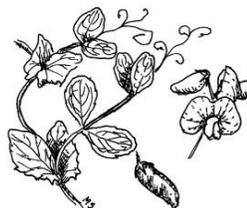


Cowpea

Winter-kill cover crops: These are planted in late summer and killed by the winter cold. You can plant early spring crops into the dead mulch next season.

Peas + Oats

- **Plant date (Zone 7): mid-August**
- Pea is a legume (fixes Nitrogen); Oats grow quickly & suppress weeds.



← *Field peas*

Oats →



To learn more about cover crops for vegetable gardeners, visit: <http://tinyurl.com/FCGHealthySoil>.

Cover Crop Drawings by Marianne Sarrantonio. Excerpted (reprinted) with permission from *Managing Cover Crops Profitably* (3rd edition), published by Sustainable Agriculture Research and Education (SARE) Outreach, USDA-National Institute of Food and Agriculture (NIFA). Available online at: <http://www.sare.org/Learning-Center/Books/Managing-Cover-Crops-Profitably-3rd-Edition>. For more information about SARE, please visit: <http://www.sare.org>.