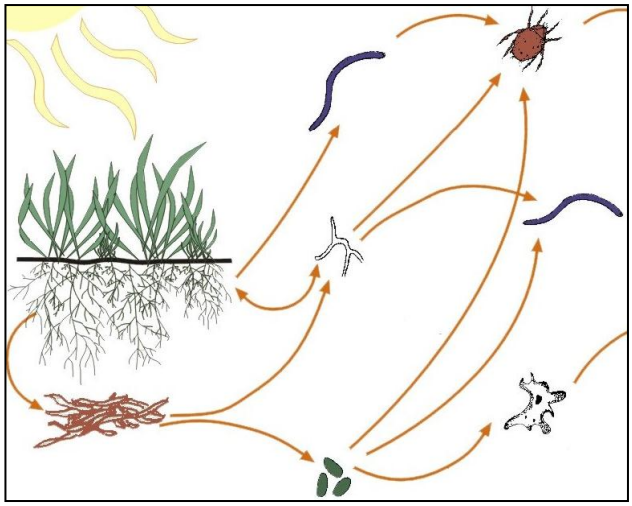
Cover Crops for Tompkins County Gardens

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 the soil from wind, rain, and melting snow
- Improve soil structure by creating pores, which increase aeration and help the soil hold more water
- Feed beneficial soil critters
- Legumes add nitrogen, a nutrient, to the soil
- Shade out weeds early in the season
- Attract beneficial insects like bees & ladybugs
- Increase crop yields



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 "under-seed" beneath & between food crops!)
  - ✓ 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.
  - ✓ Broadcast the seed evenly and gently rake in.
  - ✓ COVER the newly planted seeds with row cover, to protect them from birds until the plants are established.

- **In the spring, cut down cover crops when they start to flower but BEFORE they produce seed**, in mid- to late May. Leave the shoots as mulch, or dig them into the soil. If you dig them in, wait 2-3 weeks before planting vegetables.

To learn more about cover crops for gardeners:

Please visit our website at http://blogs.cornell.edu/gep/gardeners

Winter-kill cover crops: These are planted in late summer and killed by the winter cold. These don't grow as much as over-wintering cover crops (see below), but you can plant early spring crops into the dead mulch next season.

Peas + Oats (mixture)

- **Plant date*: early to late August**
- Oats grow quickly & suppress weeds
- Pea is a legume (fixes N)

← *Field peas*

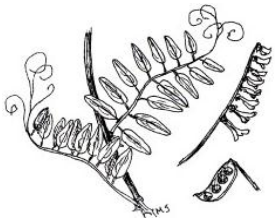
Oats →

Other winter-kill cover crops include: Mustards, Tillage Radish (both Brassicas)

Over-wintering cover crops: These are planted in fall and survive the winter. Spring growth adds more organic matter and nitrogen (for legumes), but you need to wait until mid- to late May to cut down the cover crop before you can plant vegetables.

Hairy vetch + Winter Rye (mixture)

- **Plant date*: early to mid-September**
- Hairy vetch is a legume (fixes N) & attracts beneficial insects.
- Rye grows quickly and produces lots of plant material for soil quality, weed suppression, and mulch.



Hairy vetch

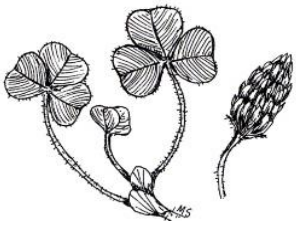
Winter rye

Other over-wintering cover crops: Crimson clover planted in September may over-winter during mild winters in downtown Ithaca (Zone 6a). However, it only over-winters reliably in Zones 7 and warmer.

Summer cover crops: These can be planted in fallow beds for the whole summer, or in the window after spring crops (like lettuce) and before fall crops (like broccoli). These cover crops can shade out weeds and add organic matter between spring and fall plantings.

Crimson clover

- **Plant date: June-July**
- Crimson clover is a legume (fixes N), & attracts beneficial insects. Somewhat shade-tolerant.



Crimson clover

Buckwheat *or* Buckwheat + Crimson Clover (mixture)

- **Plant date: late May – July; cut down ~ 40 days after planting**
- Buckwheat grows quickly, suppresses weeds, and attracts beneficial insects.
- If you plant a mixture, trim the buckwheat when it starts flowering to give the clover light to grow & fix nitrogen.

Buckwheat

Other summer cover crops: Cowpea (legume) + Millet (grass) mixture, Sorghum-sudangrass

**Use earlier planting dates for rural areas and later planting dates for downtown Ithaca, which is warmer.*

Soil food web diagram by N. Marshall. From: http://soils.usda.gov/sqi/concepts/soil_biology/soil_food_web.html. Cover crop drawings by Marianne Sarrantonio. From *Managing Cover Crops Profitably*: http://www.sare.org/Learning-Center/Books/Managing-Cover-Crops-Profitably-3rd-Edition