

# Cover Crops & Green Manures



- Add organic matter to the soil or compost pile
- Increase soil fertility (N)
- Reduce soil erosion
- Suppress weeds
- Attract beneficial insects
- Feed soil microorganisms
- Bring nutrients to surface and break up compacted soil

## Why Cover Crops?

Green manures – cover crops grown to be tilled back into soil or cut for compost

# Match Crop to Goals

- Lots of organic matter – clover, ryegrass, vetch
- Add nitrogen – legume
- Erosion control – grass
- Beneficial insects – clover
- Edible products – grains, beans
- Forage - alfalfa

**Peaceful Valley  
Cover Crop Solution  
Guide**

**Check it out at  
[www.groworganic.com](http://www.groworganic.com)**

# Cover crop strategies



- Perennial?
  - Orchards & vineyards
  - Control erosion
  - Perimeter to attract pollinators
- Several years
  - Alfalfa til soil improves, then rotate
- Annual
  - Vegetable garden
  - Short term improvement
- Concurrent
  - Underseed shade-tolerant (clover under corn, etc)

# Fall Cover Crop timing

- Most planted in late summer & fall
  - August 15 to Sept 15
- Germinate and reach an initial stage of growth before winter dormancy
- Need to be irrigated, better to have seed in ground waiting for fall rains
- Take off in spring. Cut or till in for green manures.
- Decompose for at least 3 weeks before planting.

# Spring Cover Crop Timing



- Are a few short season annuals that you can try to plant in February.
- Field peas, purple vetch, bell beans
- Increase planting rate in cool soils
- Need rapid growth, then cut or till, still wait 3 weeks before planting

# Annual Warm Season Cover Crops

- Soil has warmed to at least 60°F and danger of frost has passed
- Timing competes with summer crops
- Examples:
  - Buckwheat!
  - Cowpeas, Crotonaria (sunnhemp)
  - Sudangrass



# Cover Crops in Vegetable Garden



## Fall Cover Crops:

- ✓ Legumes
  - ✓ Clovers (berseem, rose, crimson, sweet, etc)
  - ✓ Austrian winter peas, bell beans
  - ✓ Vetch (hairy, purple)
- ✓ Cereal grasses
  - ✓ Oats & Cereal rye
  - ✓ Winter wheat & barley?
- ✓ Misc
  - ✓ Mustards

## Warm-season Cover Crops:

- ✓ Legumes
  - ✓ Alfalfa
  - ✓ Sweet clovers
  - ✓ Cowpeas
- ✓ Buckwheat





# Cover Crops to Loosen Clay Soils

- Want deep tap roots
- Organic matter also (grasses)
- Try mustard
  - Fall annual
  - Easily established
- Other options
  - Vetch
  - Beans or peas
  - Clover



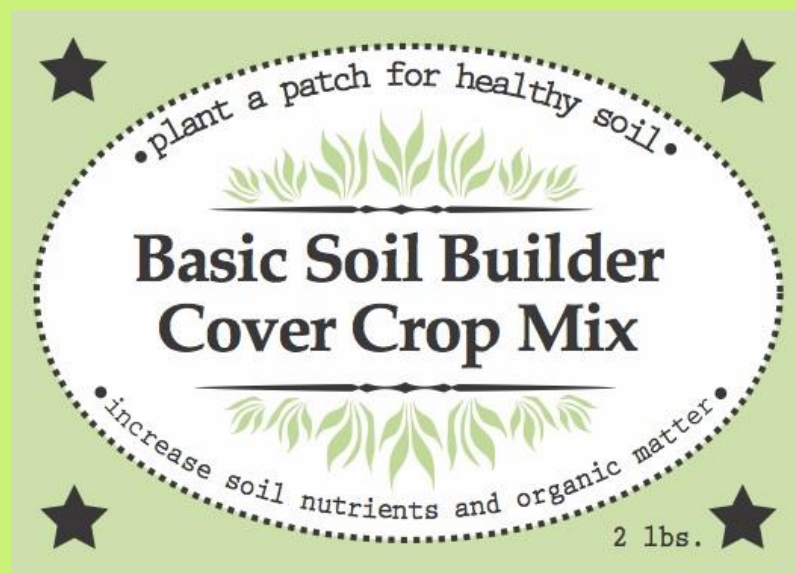
# Cover Crops under Fruit Trees



- Try perennials (clovers) or annuals that reseed (crucifers)
- Attract pollinators, also hide rodents (voles)
- Best strategy to plant crop outside drip line to reduce competition for water, then “mow & blow”
- Need to cut/mow 3-4 times per year

# Getting the most out of your cover crop (Part 1)

- You're growing a crop!
- Definitely need to inoculate legumes or buy nitrocoated (precoated) seed
- Consider blends of legumes & grasses, edible cover crops, etc



# Getting the most out of your cover crop (Part 2)



Bell beans, vetch & peas at Sacramento MG demonstration

- Annuals - Turn under/cut when 50% of flowers are in bloom
- Shred material (small pieces) for faster decomposition, turn under quickly so you don't lose N to atmosphere, but don't plant right away
- Maybe don't plant vining crops if using a tiller (vetch, peas)

# You need the right tools

- Scythe
- Rake
- Mower
- String trimmer
- Rear-tine tiller



# Joseph's Picks for Trinity

- Alfalfa (but proper type for local climate)
- Buckwheat
- Clovers
- Austrian cowpeas
- Vetch
- Grains (rye, wheat, barley, oats)
- Mustard

# In summary

[Green manure](#)

<http://www.groworganic.com/organic-gardening/videos/green-manure>