

SNOHOMISH



CONSERVATION DISTRICT

# Winterizing urban gardens

Presented By:

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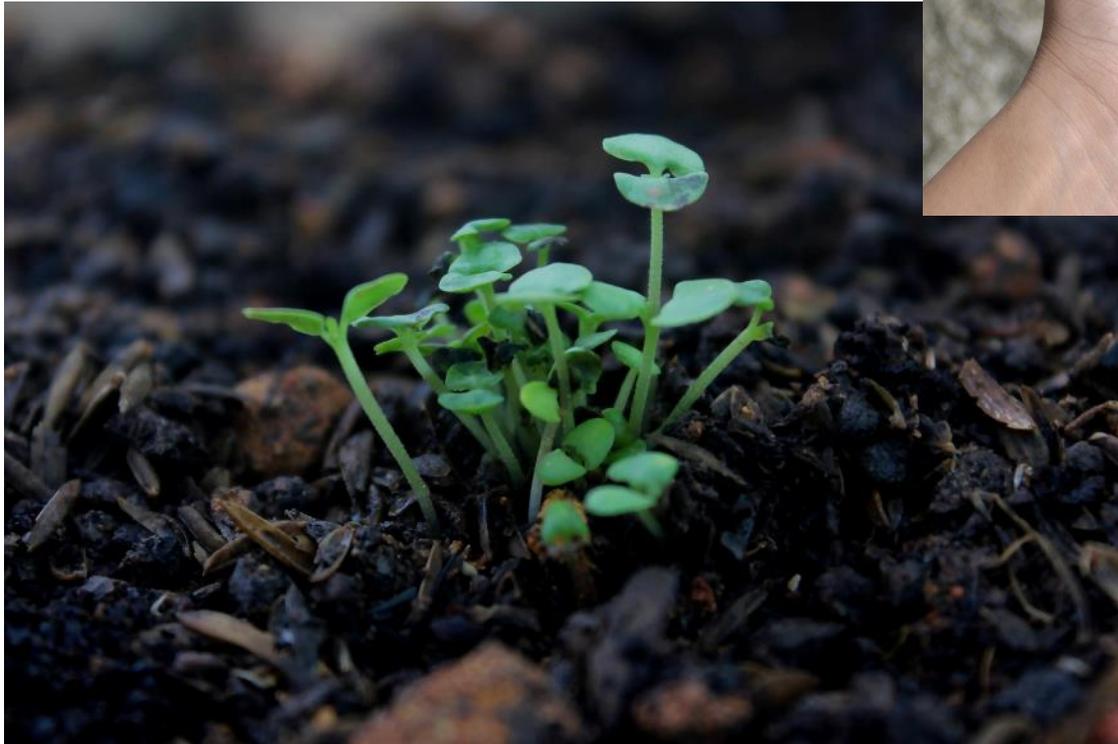
Snohomish Conservation District

# Overview

- Soil preparation
- Soil test
- Adding mulch
- Adding compost
- Adding rainbarrels
- Re-seeding the lawn
- Transplanting native perennials
- Planting zones
- Winter hardy plant list
- Cover crops
- Garden plan (crop rotation, companion planting, site specific options)
- Improve soil drainage
- Fall/winter garden checklist

# Soil preparation

First step: get to know your soil, especially planting in ground.



Building great soil is your garden superpower!

# Soil tests

Measures soil fertility- how well will your plants grow?

Soil tests measure nutrients present in your soil.



# Soil Tests

Results include factors that affect your plants:

- Organic matter
- Nutrients
- Contaminants (heavy metals, lead, arsenic)



# How to take a soil sample

- **Recommended every 1-3 years.**
- Ideally a couple months before planting the garden.
- Clean sampling tool.
- Go down **at least 12 inches**. Deeper depths are necessary for deep rooting crops.
- Collect at least 5 cores from lawns and gardens, and combine into one sample.
- Place the core samples in a clean plastic bucket and mix them thoroughly.
  - Sample must not be excessively wet before going to the lab.
- A minimum of **2 cups** of the mixed sample should be stored in a clean jar or zip-lock bag.
- Samples should be **stored in a cool place** out of the sun. Place them in your freezer or refrigerator until you are able to drop them off at a lab.
- \*Link to lab: <http://www.al-labs-west.com/>

# Proper soil drainage

## **Soil amendments for quick draining soil in order to slow drainage :**

- add manure, compost, or leaf mulch, working it in 3-4 inches down from the soil surface
- mulch around the edge of plants with straw, leaves, hay, woodchips
- add a few inches of organic matter every year
- add coconut coir/coco peat into the soil surface
- grow cover crops in the growing offseason
- If the ground continues to be too wet for adequate growing conditions over time, you can also try raised garden beds, with new soil used in them

## **Soil amendments for quick draining soil in order to quicken drainage :**

- Compost
- Pine bark
- Composted leaves
- Gypsum



Let's talk mulch





Controls weeds

Retains soil moisture



Reduces soil compaction



# How much do I need?

Simply enter the values (numbers only) and press the 'Calculate' button.

Total Area:  square feet (see below for area calculations)

Desired Thickness of Topsoil or Mulch:  inches

CALCULATE

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Total Cubic Yards Needed:

RESET

This is a great resource to calculate the volume needed:

<https://www.soildirect.com/calculator/cubic-yard-calculator/>



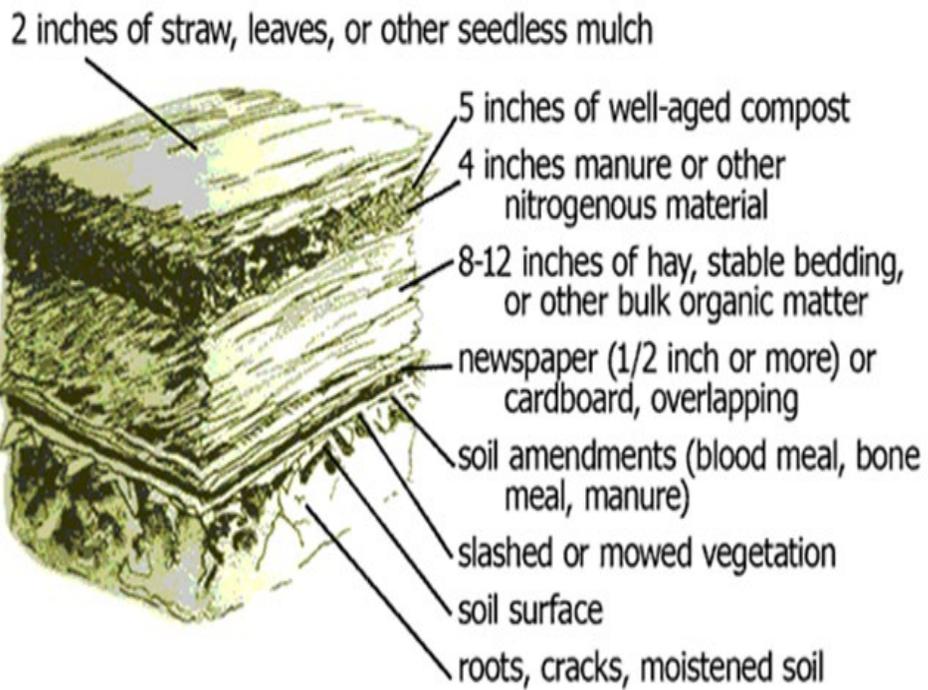
Place mulch at  
base of tree,  
stopping at root  
flare

Avoid placing mulch more than  
2-3" high up the base of the  
tree, which can rot the trunk

# Another option- sheet mulching

- Good if you have at least 3 months before planting. Do it in the fall and it will easily be ready for spring.
- Kills any plants underneath it
- Creates fertile and healthy soil
- Retains moisture
- Improves soil infiltration
- Good for the lazy gardener



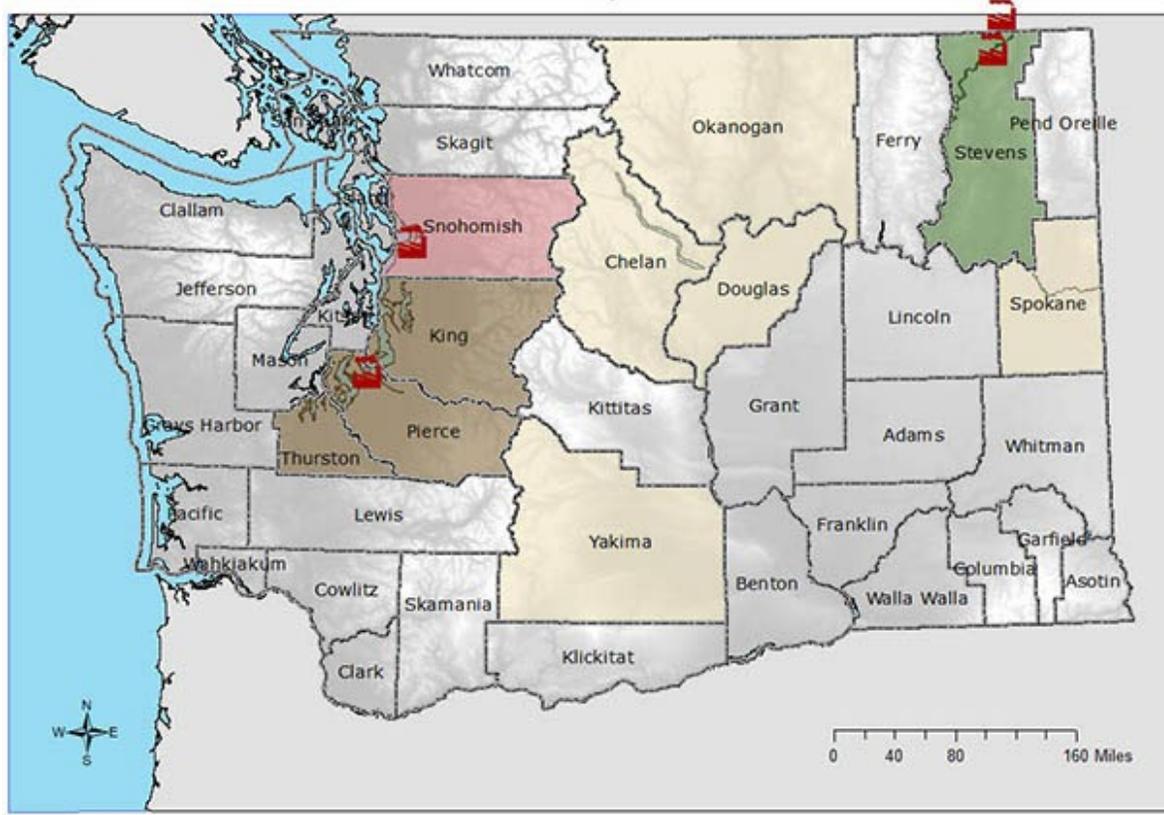


# Sheet Mulching



# Check your dirt

Where do you live?



Legend



Smelter location



Everett Smelter



Tacoma Smelter



LeRoi Smelter, Northport, WA  
Teck Smelter, Trail, BC



Orchard Lands



The Dirt Alert Program can help you identify if your soil might be contaminated, and help you protect yourself and your family.

<https://ecology.wa.gov/Spills-Cleanup/Contamination-cleanup/Dirt-Alert-program>



# Composting at home



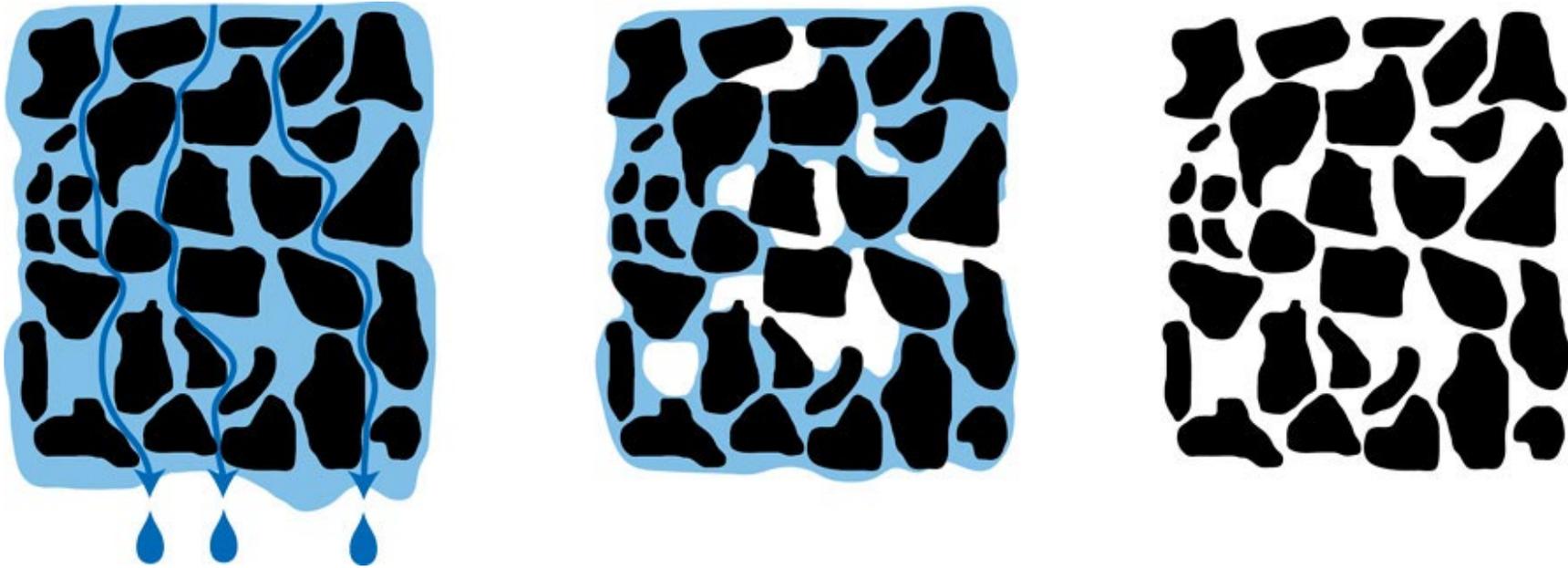
Full of nutrients

**P**

**N**

**K**

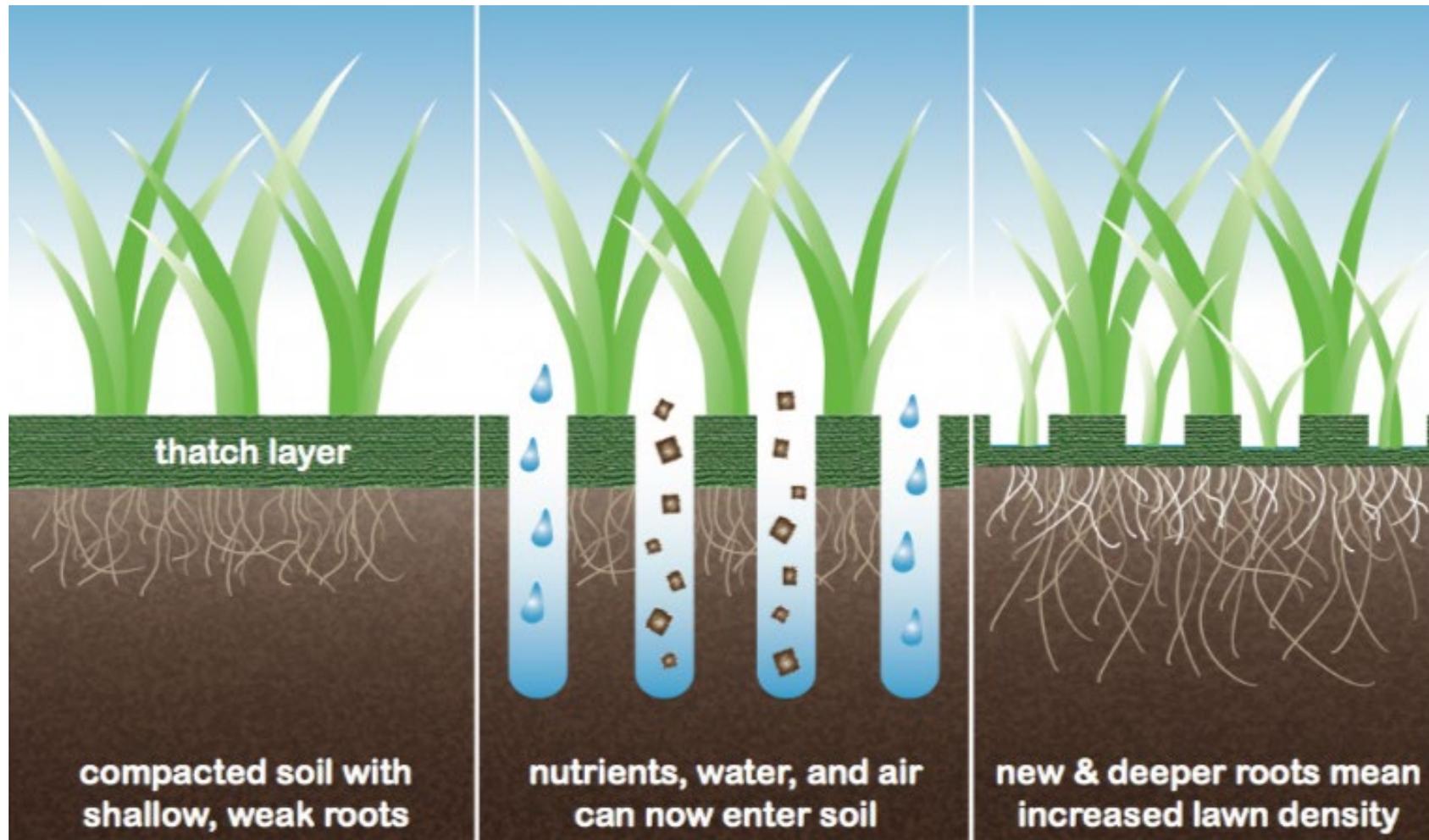
# Increases water holding capacity



Reduces rainwater runoff



# Increases drainage and aeration



# Reduces need for fertilizers



# Immobilizes and degrades pollutants



# Reduces waste





# Allow for oxygen

- Turn it every 5-10 days



# How Do You Make It?

- Include the necessary ingredients.



# Compost Recipe

1 bucket of “green” material + 2 buckets of “brown” material + air and water = one heck of a good compost pile



# What Not to Add:



Dairy



Meat and Seafood



Whole eggs



Greasy or oily foods



Pet waste



Charcoal ash (wood ash ok)

# Problem Solving

| Problem                                      | Cause   | Solution  |
|--|---|---|
| Bad Odor (rotten smell)                      | Too much moisture   | Turn the compost or add dry, porous material  |
| Bad odor (ammonia smell)                     | Too much nitrogen<br>Compacted leaves<br>Inadequate air   | Add high-carbon materials<br>Turn the compost<br>Make pile smaller  |
| Low compost temperature                      | Pile too small<br>Too little moisture<br>Too much moisture<br>Too little air<br>Lack of nitrogen<br>Cold weather<br>Particle size too large | Increase size, insulate sides<br>Add water and turn<br>Turn the compost<br>Mix in dry materials<br>Increase pile size or insulate pile with straw or plastic<br>Chip or grind materials |
| Pile is dry throughout                       | Not enough water, too much wood   | Turn pile and moisten, cover pile   |
| Compost pile is damp and warm only in middle | Pile is too small   | Mix pile with more material and moisten   |
| Pest infestation –dogs, rodents, insects     | Improper food scraps added<br>Food scraps not covered   | Don't add meat or meat by-products<br>Place kitchen waste in center of pile<br>Use rodent resistant bin   |
| Neighbor complains                           | Compost is ugly   | Get attractive bin or cover   |

# Rainwater Catchment Systems

## Seasonal inspection:

- Make sure the intakes and overflows are not clogged or blocked
- Clear away any leaves or debris from the intake screen at the top of your rainbarrel
- Visually inspect the seals of the spigot and overflow fittings. If they appear to be leaking or compromised, use a waterproof silicone sealant to re-seal the fittings.



# Keeping the Lawn but want to improve it?

Yearly maintenance:

- No mowing in winter
- Rake away old brown patches of lawn
- Re-seed patchy areas
- Adding clover will add nutrients to the soil
- Lawns require high levels of the nutrient nitrogen (N)



# Transplanting native perennials?

When transplanting:

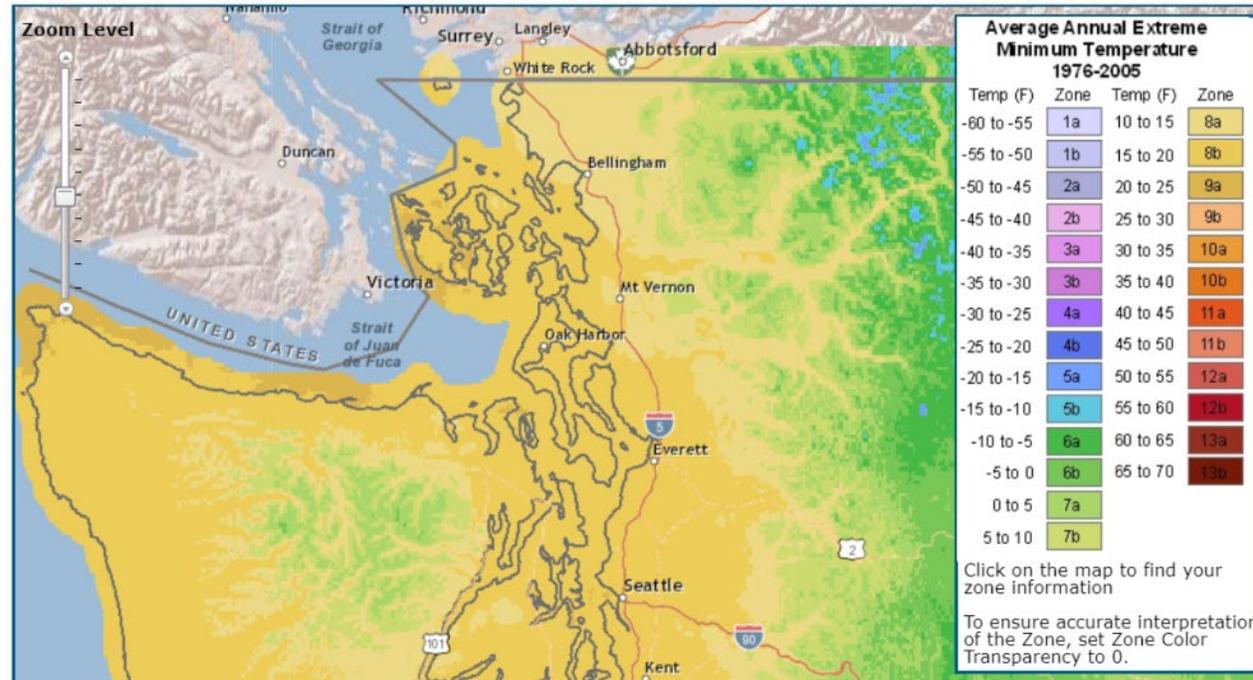
- Keep excess leaves for mulching around newly transplanted plants
- Avoid watering native plants over the winter
- Native plants dormant in winter, so trimming is ok
- Get them in the ground before pots could become frozen
- If pot is frozen, thaw plant before placing in the ground
- Remove old diseased plants, to avoid contamination of new ones!





# Planting zones

Temperature ranges in planting zones will affect what fruits and vegetables you can grow



# Adapt to extend growing season

- **Greenhouses:**
  - propagate and germinate vegetable seeds into starts during the colder months
- **Hoop houses:**
  - inexpensive
  - extends the growing season for many plants
  - grow varieties requiring hotter weather than our regional climate allows
- **Compost:**
  - retains heat in the soil for longer



# Some food crops you can grow today

## Allium family:

Multiplier onions,  
Shallots,  
Artichoke garlic,  
Silverskin garlic



## Legume family:

Snow peas,  
Fava beans

## Flowers:

Iris family,  
Onion Family,  
Trillium Family,  
Lily Family,  
Buttercup  
family,  
Asparagus  
family

*(Reach out to  
SCD for specific  
options)*

# Some Flower crops (bulbs) you can plant today

## Flowers:

Iris family, Onion Family, Trillium Family, Lily Family, Buttercup family, Asparagus family



## Includes:

- Daffodil
- Ornamental Onions
- Trillium
- Violet Star
- Grape Hyacinth
- Iris
- Crocus
- Dog's Tooth Violet
- Mission Bells

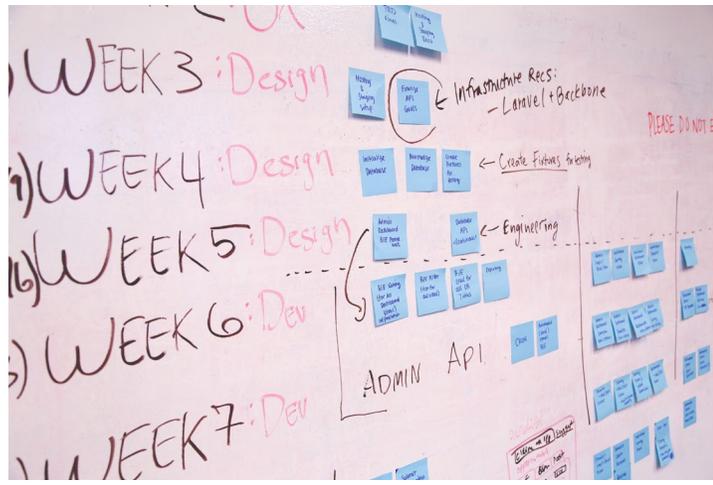
# Cover crops/garden winterization

- **Cover crops:** *reduces* soil compaction, soil-borne pests, erosion, weeds, *increases* organic matter, nutrients, beneficial insects
- **Legumes** (peas/beans): add nitrogen to the soil during the growing offseason
- **Other varieties:** canola/rapeseed, clover (red, crimson, strawberry, subterranean, white), small seed fava, flax, kale, mustards, oat, cereal rye



# Planting Plan

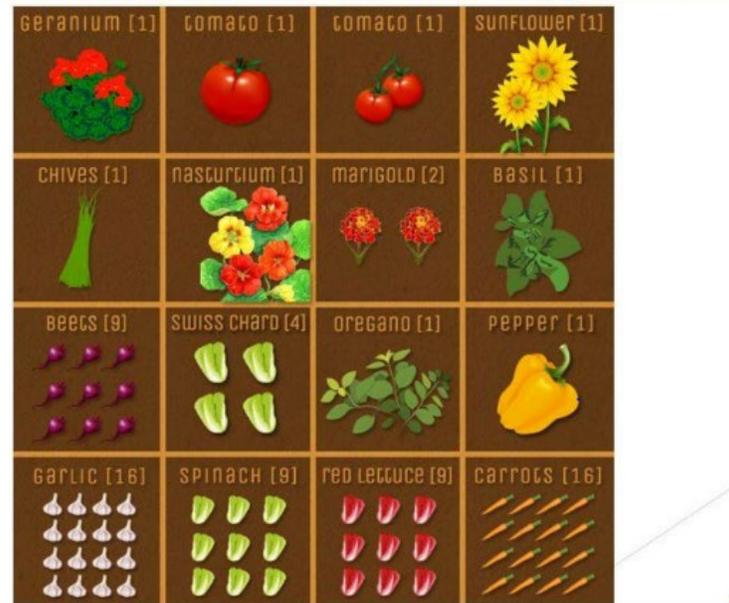
- When considering your planting plan for the upcoming growing season, keep in mind:
- Crop rotation to improve soil health, and reduce bacterial and fungal plant diseases in the soil
- Consider companion planting options for the crops you are interested in growing



# Companion planting

## COMPANION GARDENING

[www.motherearthnews.com/organic-gardening/companion-planting-guide-zmaz81r](http://www.motherearthnews.com/organic-gardening/companion-planting-guide-zmaz81r)



- Some plants add nutrients to the soil, which other plants take away, working symbiotically
- Companion planting can also result in deterring garden pests, such as the Marigolds shown in this picture

# Three sisters

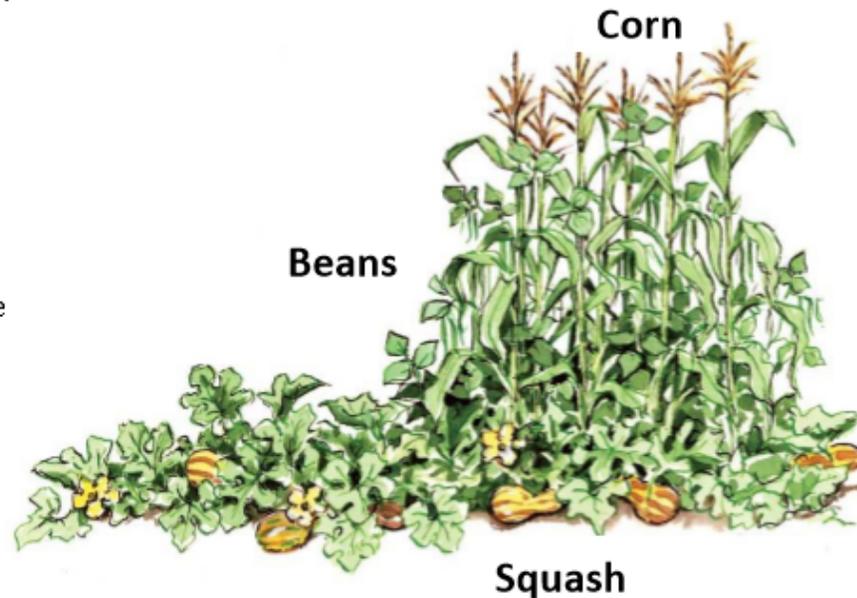
## Teamwork in the Garden: The Three Sisters



Planting **beans**, **squash**, and **corn** together is a traditional cultivation method practiced by many Indigenous nations. Another name for this famous trio is "**The Three Sisters**"!

When planted together, these crops grow even stronger! The corn supports the pole beans that need something to climb on, beans add nitrogen to the soil – an important nutrient for leafy plants like corn and squash – and squash shades out the weeds that would outgrow the beans and corn plants. Together, they make a great growing team!

Not only do they make a great team growing, they make a nutritious meal together too. Corn is a good source of carbohydrates, beans are packed with protein and fiber, and squash seeds are full of healthy fats. Together, they make a healthy summer and fall meal!



There are many plants that grow better together, while some other plants just don't seem to get along!

For more garden "friends and foes" check out: <http://www.heirloom-organics.com/guide/companionplanting.html>



# Crop rotation

- Create a planting plan which utilizes crop rotation
- Crop rotation reduces bacterial and fungal plant diseases
- Ex: Tomatoes require heavy nitrogen, phosphorus, and potassium, so they would benefit from being rotated with soil-building crops such as beans which add (N) to the soil and then with light-feeding crops such as onions.

# Garden checklist

## Planning your garden

- What are your goals? Food, lawn, habitat
- Site specific conditions- light, moisture, soil composition, size, etc.
- Crop selection-Companion planting, crop rotation, planting zones
- Plant resources-Seeds from your own previous crops, neighbor, plant sale, nursery
- Budget/timeline



# Garden checklist

## Prepare your beds for next year

- Test your soil (health, nutrients, contaminants)
- Sheet mulch
- Soil amendments

## Prepare your beds for Fall/Winter

- Remove dead and diseased plants
- Plant cover crops
- Protect your plants-cloche, greenhouse
- Leave the leaves- [Xerces.org](https://xerces.org) / <https://xerces.org/blog/leave-the-leaves>

# Garden checklist

## What to plant now

- Alliums- Onions, shallots, garlic
- Legumes- Fava beans
- Grass seed
- Bulbs for next season's flowers-Grecian Windflower, violet Star, White Splendor, Glory of the Snow, Grape Hyacinth, Crocus, Bluebird, Iris, Dog's Tooth Violet, Pagoda, Mission Bells, Crown Imperial Lily, Checker Lily, Trillium, Ornamental Onion, Daffodils (Artic Gold, Ceylon, Misty Glen)
- Trees, shrubs (native or otherwise)- Snowberry, Doug. Fir., Oregon Ash, Red Flowering Currant, Salmonberry, Oceanspray, Mock Orange, Western Hemlock, Red Alder

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Thank you!

# Resources for planning your layout

- The old farmers almanac
  - Planting calendar
  - Garden planner
  - Frost dates
- Tiltalliance.org, justgardensproject.org
  - Composting methods, bins, raised garden bed and compost bin ideas, suggestions
- Betterground.org
  - Resource list for compost, soil, and mulch
- <https://planthardiness.ars.usda.gov/>
  - USDA plant zone map
- [www.chipdrop.in](http://www.chipdrop.in)
  - Woodchip mulch
- <http://www.savingwater.org/>
  - Sprinkler calculator
- Calculatorsoup.com, soildirect.com
  - Mulch calculator
- Department of Ecology “Dirt Alert” <https://apps.ecology.wa.gov/dirtalert/>



# Additional resources

- Rodales Organic Life
- Grow smart grow safe
- Oregon Metro
- Mother earth news
- Old world garden farms
- Cropnutrition.com
- Department of Ecology “Dirt Alert”  
<https://apps.ecology.wa.gov/dirtalert/>