

Preparing Your Garden for Winter
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Soil School

OUR TERRITORY

The District covers 5 geographic zones including Sauvie Island.

North Boundary: The Columbia County Line and the Multnomah Channel

East Boundary: The Willamette River

South Boundary: The Clackamas County Line

West Boundary: The Washington County Line



OUR MISSION

To provide resources, information, and expertise to inspire people to actively improve air and water quality, fish and wildlife habitat, and soil health.



OUR TARGET AREAS

1. **Water Quality**
2. **Soil Conservation**
3. **Invasive Weeds**
4. **Forest Health**
5. **Economically Viable Agriculture**
6. **Wildlife Habitat**
7. **Education, Outreach & Communications**
8. **Administrative & Fiscal Management**

Outline

- Intro
- End of the growing season
- Cover, protect, build
- Wildlife Considerations





Intro

- What this class is:
 - soil building,
 - protecting your garden
 - wildlife considerations,
 - suggestions
- What this is not:
 - gardening tips
 - pruning,
 - planting recommendations (other than cover crops)
 - <https://extension.oregonstate.edu/mg>



A close-up photograph of a soil profile. The top layer shows green grass and a small white flower. Below the surface, the soil is dark brown and crumbly, with numerous plant roots visible extending downwards. The text 'Intro – Soil Health' is overlaid on the left side of the image.

Intro – Soil Health

- Protect
- Limit Disturbance
- Diversify
- Living Root



Intro – Soil Health in the winter

- Protect – Cover from rains, erosion.
Thermal insulation for invertebrates/microbes
- Limit Disturbance – compaction, loss of soil structure
- Diversify Living Roots (two for one) – maximize living roots with a variety of plants



End of the growing Season

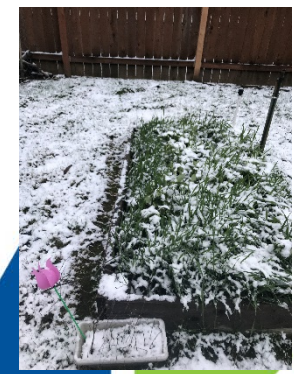


- Removing dead and dying plants
 - To tidy or not to tidy?
 - Diseases and pests vs potential for beneficial insects
- Remove weeds to get ahead
- Drain irrigation lines

Cover, Protect, Build

- Cover Crops - Why

- Protects soil while building Organic Matter (OM) and fertility
- Diverse mixes create diversity in the soil ecosystem/ pollinator habitat
- Prevents weeds
- Increase water infiltration and holding
 - More OM = less irrigation
- Easy and cheap



Cover, Protect, Build



- Cover Crops – When to plant
 - Plant in September or October.
 - Too early you may need to either irrigate or cover with compost
 - Too late you may not get much growth
 - Applying is easy
 - Broadcast directly to the surface.
 - Cover with compost
 - Use a rake
 - Some need to be deeper – fava beans



Cover, Protect, Build



- Cover Crops – types
 - Build Organic Matter
 - Typically grasses or cereals
 - Rye grass, oats, wheat, triticale
 - Add nitrogen
 - Legumes – fix nitrogen from the air into soil
 - Peas, clovers, vetches, fava beans
 - Release soil compaction.
 - Deep rooted and/or large tap roots
 - Radish, tall growing grasses/cereals



Cover, Protect, Build

- Cover Crops – Springtime

- Cut or crimp
- Leave as much
 - Can plant starts directly – though may encourage slugs
- Cover with compost
- Till in
 - Please no rototillers – ...or at least set to shallow.
 - Can rake in as well.



Cover, Protect, Build

- Mulch and compost - pros
 - Protects soil surface
 - Adds OM
 - Prevents weeds
 - Great way to get empty out compost bins ahead of winter
 - Traps, holds moisture
 - Thermal protection





Cover, Protect, Build

- Mulch and compost – cons
 - Can be costly
 - Heavy and difficult to transport
 - May need to till-in, in the spring prior to planting
 - Can itself become a weed source or substrate
 - Not actively feeding soil microbes



Cover, Protect, Build



- Burlap and other covers
 - Quick and easy to cover
 - Reusable depending on material
 - Only protection, no soil building



Cover, Protect, Build



- **Sheet Mulch**

- Great way to create new garden areas and suppress weeds
- Remove lawn and create meadowscape
- Less labor intensive than digging
- quick way to convert your lawn to a garden.
- Probably not necessary in raised beds unless weeds are a problem
- wmswcd.org/projects/the-meadowscaping-handbook/



Sheet Mulching: Lawn to Garden

How:



1. Create a border.
2. Add a weed barrier: damp cardboard, newspaper, or all natural carpet. Overlap 6" and layer 10 sheets thick.
3. Add a carbon layer: straw or shredded leaves. (4")

Sheet Mulching: Lawn to Garden Conversion

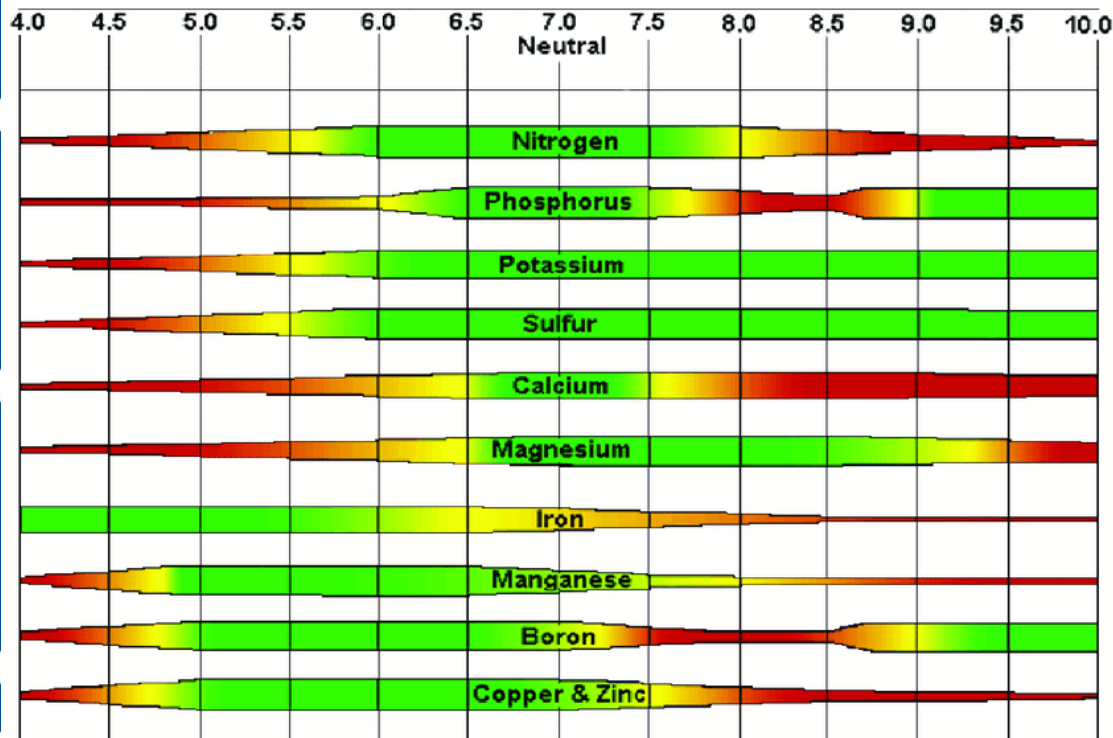
4. Add a layer of organic fertilizer: chicken manure, a mixture of seed meal, kelp meal, minerals, etc. (2")
5. Add another carbon layer: straw or shredded leaves. (4")
6. Add a layer of compost and plant seedlings or starts. (1-2")



Cover, Protect, Build

Plant nutrient uptake in relation to Soil pH

High Medium Low



- Raising pH
 - Most W OR Soils are acidic
 - Nutrients most available at neutral pH (6-7)
 - Fall is a great time raise pH
 - Garden Lime
 - -Calcium Carbonate, called calcitic limestone (CaCO_3)
 - -Calcium Magnesium Carbonate, called dolomitic limestone [$\text{CaMg}(\text{CO}_3)_2$].

Wildlife considerations



- Vast majority of invertebrates in your yard, overwinter there as well. Many of which are beneficial
 - cover and insulate them from the elements.
- The leaves don't need to be left exactly where they fall
- Can kill grass but also suppress weeds
- <https://xerces.org/leave-the-leaves>

Wildlife considerations



- Stems hollow - providing cavities in which can be a home or nest
- Brush piles - winter habitat for invertebrates and spring nesting for birds
- Bare Soil – in the spring can provide nesting for native bees.
- Clean out Bird Boxes – not necessary but may help out certain species



A stylized graphic of a leaf on the left side of the slide. The leaf is composed of several segments, with the leftmost segments in dark blue and the rightmost segments in light green. The segments are separated by white lines, and the overall shape is a curved, pointed leaf.

Plan for next year

- Test for pH – fall is the time to adjust.
- Update (or start) a garden journal.
- Decide when you want to start planting in the spring and set a date to terminate cover crops.
- If expanding your garden, plan for next season.



Questions?

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A stylized graphic of a leaf on the left side of the slide. The leaf is composed of several segments, with the left half in dark blue and the right half in light green, separated by white veins. The overall shape is a semi-circle at the bottom, tapering to a point at the top.

Weblinks

- wmswcd.org/projects/the-meadowscaping-handbook/
- xerces.org/leave-the-leaves