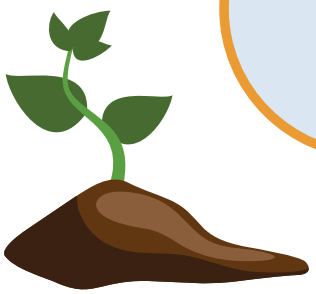
RILEY
PURGATORY
BLUFF CREEK
WATERSHED DISTRICT

SOIL 101: a basic guide

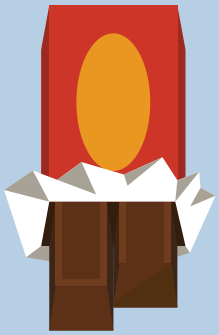
Benefits of Healthy Soil

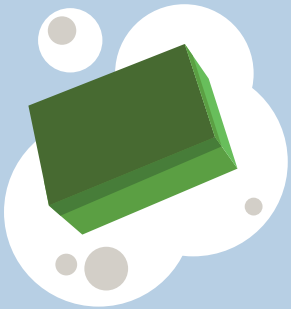
- Supports more animal and plant life
- Reduces erosion
- Less affected by drought
- Soaks up water faster and deeper
- Less pollution reaching waterbodies
- Less watering needed
- Reduces stormwater runoff



What Does Healthy Soil Look Like?

Healthy topsoil should be the dark brown color of **70% cocoa dark chocolate**.





Soil should act like a **sponge**, structured and full of air pockets so it can soak up and store lots of water.

Soil should have an **"earthy" scent**, fresh and slightly sweet. There should be no sour smell.

Wet topsoil should be the texture of **cottage cheese**, full of lumps and bumps.

5 Simple Ways To Build Soil Health

1. **Grow Native Plants**
Get as many living native roots in the soil as you can. These deep roots hold the soil in place and create a habitat for soil microbes. More plant diversity is better!

2. **Avoid Spraying**
Insecticides and herbicides don't just kill the bad guys, they kill the good guys too. Once established, beneficial plants and insects will help develop the soil and outcompete many weeds and pests.

3. **Leave It Be**
Try to avoid ripping up or disturbing your soil as much as possible. This will allow microbes, plants, and insects to establish.

4. **Feed Your Soil**
Leave dead plant material on your soil over the winter to feed the critters that live there - they need food too! Most of the plant matter should be decomposed by spring.

5. **Be Patient**
Soil can take a long time to regain health, especially if it has been badly disturbed. You'll get there eventually - it will just take some time.

Troubleshooting 3 Common Problems

My dead leaves aren't decomposing over the winter.
There probably isn't enough biological activity (arthropods, nematodes, fungi, bacteria, etc.) in your soil. To give these critters a boost, create a leaf compost pile. Adding compost or compost tea to your soil will replenish the populations of beneficial microbes.

My soil is getting swept away by stormwater.
There aren't enough plant roots to hold the soil in place. Plant vegetation with long, deep root systems that will keep the soil where it is and provide habitat for beneficial microbes. These microbes produce a glue that holds the soil together even more. Don't plant turf grass like Kentucky Blue Grass - the roots are only a few inches deep.

My soil is compacted and unstructured.
Your microbes need a head start. Try breaking up the compacted layer with a garden fork or other tool to create openings (avoid mixing or overturning), and top dress with compost.
Remember, once you've decompacted the soil and planted the vegetation, avoid disturbing the soil as much as you can!

For more information, visit
RPBCWD.org/soil