



# COMPOST

## WHAT IS IT?

A weed-free mix of soil and various decaying organic substances such as dead leaves or manure that is useful for increasing soil health and fertility.

## MOST COMMON USES?

- Compost can be applied as a garden topping or soil additive that is used to reduce irrigation demand, enhance healthy soil microbiome, augment plant health, and suppress weeds. Regular use of compost also increases soil friability that can create ideal conditions for root growth of plants.

## OPPORTUNITIES FOR INTEGRATION

- Add biochar to improve composting add value.
- Compost food waste with wood-based waste.
- Add compost and biochar to crops and landscape to increase soil organic matter which reduces water use. Each 1 percent increase in soil organic matter helps soil hold 20,000 gallons more water per acre.

## HOW IS IT MADE?

- Compost uses the natural degradation of organic material due to beneficial bacteria that naturally break down plant matter.
- Wood chips and dry leaves, or shredded plant clippings, are mixed with food waste, grass clippings, manures, or biosolids that are maintained in a moist aerobic environment.
- Materials are mixed and are tossed or turned every few weeks to remix materials and maintain air flow. Automated systems are common at organic recycling centers.
- After several months, the organic materials degrade and appear as dark, crumbly soil.
- Compost naturally generates heat. When an optimum temperature of 160 degrees Fahrenheit is maintained the compost will destroy pathogens and weed seeds that might otherwise survive the process.



- On rare occasions compost piles can ignite, so care must be taken to maintain proper aeration and moisture levels throughout the pile.

## TECHNOLOGIES

- Backyard composting can be as simple as a barrel or a pile with occasional tossing.
- Commercial composting requires special permits, control of rainwater, a tractor with bucket, industrial grade chipper, access to organic waste feedstocks including yard waste, commercial thinning, agricultural plant-based food waste, sawdust, animal manure or other organic sources.
- Larger operations also have access to topsoil, sand, and bagging machinery for retail and wholesale sales.
- Large facilities require permits for leachate and odor control.

## DESTINATION/FATE

- Compost is used on gardens, orchards, and lawns as a natural fertilizer. It can also be used for roadside weed suppression and green infrastructure like green roofs, stormwater, and erosion control
- Compost can be steeped in water and made into “compost tea” that is a microbiome rich liquid fertilizer that can be used to promote healthy plant growth and can be helpful to suppress some plant diseases.

## CONCERNS

- Compost can catch fire, create odor control problems, and cause nutrient rich runoff into stormwater systems if not properly managed.

