

SOIL AMENDMENTS

Material	Organic/ Inorganic	Description	Decomposition Rate	Permeability	Water Retention
Cocoa bean hulls	Organic	Dark color, light chocolate smell; may pose a slight hazard to dogs if ingested.	Moderate to slow	Medium	Medium
Coffee grounds	Organic	Acidic; use to lower soil pH, or combine with more alkaline materials like wood ashes or limestone.	Moderate	Medium	Medium to high
Compost	Organic	Decomposed organic matter derived from vegetative sources; nutrient value varies depending on materials that are composted. Adds macro and micronutrients and builds the soil.	Moderate (about 6 months)	Low to medium	Medium to high
Earthworm castings	Organic	No risk of burning plants; very high in organic matter; neutral pH and contains trace elements, enzymes and beneficial microorganisms.	Moderate	High	Medium to high
Grass clipping	Organic	Contains about 4 percent nitrogen, 1 percent phosphorus, 2 percent potassium, and smaller amounts of other essential plant nutrients	Rapid (days to weeks)	Medium	Medium
Humus	Organic	Stable fraction of soil organic matter formed from decomposed plant and animal tissue. It is the final product of decomposition.	Slow	High	Medium to high
Lime or Limestone	Inorganic	Generic term for a wide range of agricultural materials containing calcium and magnesium in forms that are capable of reducing soil acidity. Provides large quantities of secondary nutrients.	Very slow	High	Low
Manure (aged)	Organic	Waste material from animals including horse, cow, pig, chicken, turkey and sheep. Fresh material contains the highest amount of salts that can burn tender roots; should be composted first to reduce chance of burning. Provides macro and micronutrients and conditions the soil.	Rapid (days to weeks)	Low to medium	Medium
Peat moss (fibrous sphagnum)	Organic	Harvested and dried peat moss plants; holds up to seven times its weight in water. Supplies organic matter and acidifies soil. It can repel water if allowed to dry out.	Slow (possibly years)	Low to medium	Very high
Perlite	Inorganic	Naturally occurring volcanic glass; after treatment it is a light material with an extremely large surface area that holds moisture and nutrients and makes them available to plant roots.	Very slow	High	Low
Sawdust	Organic	High in carbon; compost first or mix with nitrogen fertilizer before using.	Slow (unless well weathered)	Medium	Medium
Vermiculite	Inorganic	Naturally mined ore that after treatment is light fluffy material. Absorbs many times its weight in water.	Very slow	High	High
Wood chips	Organic	High in carbon and can deplete nitrogen from soil; use with products that have added nitrogen or mix with nitrogen fertilizer before using.	Moderate	High	Low to medium