Use Soil Amendments Wisely

Photo by David W. Marshall, UF-IFAS Leon County Extension: Leaves, wood chips, and other organic materials can be used as mulches and soil amendments in the garden to improve growing conditions for your plants.

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I always enjoy talking to one of our Master Gardeners who raises earthworms and produces worm castings to be used as a soil amendment. He gets a lot of joy showing how this soil amendment, when applied to his vegetable garden, gives him really great results.

Soil amendments can indeed be very helpful in a vegetable garden. Soil amendments can be many things besides worm castings. They can be raked up leaves, or purchased potting soil, mushroom compost, peat moss, or pine bark. The amendments are mixed into your existing garden soil with the idea that they will improve the soil's capacity to grow plants.. This improved soil will then hopefully get a desired response from the plants you are trying to grow… like great tomatoes.

While fertilizer can improve a soil's capacity for plant growth by adding nutrients, many other soil amendments can improve soil by changing its texture or drainage or even possibly changing soil pH. Soil amendments differ from mulch in that mulch is a material placed on the soil surface to reduce weeds, protect the soil from heat, cold, and compacting impacts such as rain and foot traffic. Mulch can improve the soil over time as it breaks down. But soil amendments are mixed into the soil to enhance the soil's properties rather than applied to the surface to protect it.

So it seems to reason that we should use soil amendments every chance we get. Well, that is sometimes true and sometimes not. Just as it is possible to improve texture or

drainage of a soil, you could also make conditions worse with a soil amendment. If your soil amenendment raises the pH and you are growing acid-loving plants such as blueberries or azaleas, you might actually reduce the quality of the soil for your plant. Also the mixing of the soil amendments into the soil may damage desired plant roots such as those of a larger tree in the vicinity of where you might be tilling the amendment into the soil.

Another point I want to make is that the work of adding a soil amendment simply may not be worth the expense or the work required. Research shows that adding soil amendments to planting holes for trees seldom does any good because tree roots spread so quickly past the area of the planting hole. Loosening the soil outside the planting hole and regular watering of the root ball during establishment have been found to be much more effective than soil amendments for both survival and growth of the trees.

It is also good to remember that many soil amendments decompose after a period of time so that they are only a temporary fix. This is why you have to keep adding things to your soil in your garden.

Another thing to be careful about when amending the soil in places such as a garden is that things like oak leaves need time to decompose before they are helpful in supplying nutrients. Micro-organisms work to break down the leaves. And as the micro-organisms work they use nitrogen from the soil. So it is more difficult for your vegetable plant to get nitrogen for itself. This can actually give you a poorer crop.

All this said, soil amendments, especially ones that would otherwise be sent to a landfill, are things not to be wasted. Gathering and mixing into your soil fallen leaves, kitchen scraps, or livestock manure is a great way to capture and recycle nutrients and improve soil tilth. Just be smart about it. Mix soil amendments into vegetable gardens, flower beds, and other small areas. But for much of your landscape, where you will be growing trees or shrubs, you are better off just digging a wide planting hole in the existing soil rather than using soil amendments. Then recycle your lawn clippings by leaving them on the lawn and recycle fallen leaves as mulch around the trees and shrubs.

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