Heating Using Compost? Why Not?

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I bet you never thought about using compost to generate heat, did you? Mulch and compost are basically biomass and as it decomposes naturally, biomass creates heat as a byproduct. Why wouldn't you make use of this heat?

If you're new on Survivopedia, we already published a few articles about the numerous benefits of compost and mulch for your household. We talk about what mulch and compost is, how can you DIY, what can you use it for, what are the best kinds of materials to use and so on. Just follow the links to get the general idea.

Long story short, let's to put the compost to work for us again!

The Magic Behind the Process

The idea behind using compost or mulch for heating is to capture as much of the generated heat as possible and use it for various purposes around the house such as reducing your electricity bill, heating bill etc.

Since any pile of compost, if big enough and healthy enough, produces a reasonable amount of heat during the decomposition process, you can use the respective heat for warming water. When I say healthy, I mean that it has a good ratio (1:1) of nitrogen and carbon.

Of course, you'll save money on your energy bill by doing this and you'll also reduce the amount of garbage that you send to landfills (again, saving money in the process).

It's a win-win situation, regardless how you look at it.

Biodegradation is the process that makes the magic things happen in your compost pile and that means that the trillions of microorganisms living in your compost or mulch must be "happy" if you want to obtain the best results.

For a high rate of biodegradation (as in successful composting) you must achieve an optimum level of aeration, balance (in terms of nutrients) and moisture in your compost mound.

All these elements, working in harmony with the fungi and bacteria that "feast" on the waste matter which is part of the compost, end up turning it into humus, water and carbon dioxide. Humus is basically the "end product" of composting and heat is the highly beneficial byproduct of the process of biodegradation, i.e. the conversion of organic matter after it has been eaten by microorganisms.

It sounds a bit complicated, but actually it's very straightforward after you begin to grasp the concept.

Now, if you want to use the heat that results from composting, you must know that a faster compost rate results in more heat generated during the process.

If you want to achieve the best results, i.e. the most heat, you'll have to use big piles. The heaps must be at least 3 cubic feet or more while the perfect compost mound measures 4-5 feet in all directions.

Only mounds this size or larger are able to generate temperatures over 140 degrees Fahrenheit.

The most heat is generated in the center of the compost mound; that's the "hot spot". The hottest temperatures obtained in such piles can be as high as 160 degrees Fahrenheit in "hot" setups.

This is a respectable figure if you're taking into account that the USDE (the Department of Energy) recommends 120 degrees Fahrenheit as the ideal temperature for heating the water in your household.

Video first seen on

This article has been written by Chris Black for Survivopedia.