Hugelkultur: Layered Mound Gardens

Although the term *hugelkultur* was introduced in a 1960s-era, German-language gardening booklet by Herrman Andrä, the technique has been used throughout Europe for hundreds of years. In German word *hugel* translates to mound, and *kultur* to culture, so *hugelkultur* means "mound culture." It's commonly pronounced HUE-gul-cull-ter or HOO-gul-cull-cher.

For millennia and up to the present day, civilizations and indigenous peoples around the world have grown plants on soil mounds, so hügelkultur has deep roots in ancient growing techniques. What sets hügelkultur apart is the use of rotting wood as a base for the mounded beds.

How to Make a Hugelkultur Bed

To make one type of basic hügelkultur bed, begin by laying rotting tree trunks, branches, and other woody debris in a long row. Add layers of compost and compostable materials (leaves, grass clippings, kitchen scraps, etc.) on top, allowing the finer materials to filter down among the wood. Finally, cover the mound with a layer of topsoil. It's best to wait several months before planting to allow materials to settle and the decomposition to process to get a head start.

Benefits of Hugelkultur to the Gardener

This layering technique resembles "lasagna gardening" and has many of the same benefits:

- There's no need to till, so soil life is protected.
- The sod underneath is smothered and decomposes naturally.
- Organic matter improves soil aeration and water retention.
- Decomposed organic matter provides nutrients to plants.
- As the materials break down, the release heat, warming the soil and extending the growing season.
- Gardening is possible where digging is impossible (or illegal), or where soil is very poor.

The initial layer of woody plant matter in a hügelkultur bed offers additional benefits to the gardener:

- As it decomposes, the wood acts as a sponge, soaking up water and making it available to plants.
- The larger pieces of rotting wood take longer to decompose than most compost materials, extending the benefits.
- Mounded beds increase the planting area — you can plant on the sides of the mound as well as the top.
- Depending on how high you mound the materials, gardening tasks, such as planting and weeding, may be easier for those with mobility issues or who are otherwise challenged to tend in-ground beds.
- The decaying wood provides a home for a variety of beneficial soil dwellers.

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Benefits to Communities and the Environment

Landfills nationwide are reaching capacity, making it critical for us to reduce our reliance upon them. The Environmental Protection Agency estimated that yard trimmings accounted for 12.1 percent of municipal solid waste in 2018, equal to about 35.4 million tons. Although much of this waste was composted in commercial facilities and home bins, about 10.5 million tons of these leaves, grass clippings, brush, and tree trimmings were disposed of in landfills.*

Hugelkultur offer a way for gardeners to make use of larger materials — logs, branches, and woody brush — that are unsuitable for compost bins. It's also an alternative to burning the debris, which, although illegal in many places, is still used to avoid the cost of having the materials hauled away and disposed of.

The beds can also be constructed in ways that promote water conservation. For example, a bed placed where water naturally runs off will intercept the water and store it in the wood and organic matter. Also, the woody base of the beds makes them sturdier and less likely to erode than other types of raised beds.

Finally, by burying rotting logs, the carbon they contain is sequestered (stored) in the soil, rather than being released into the atmosphere as it does when exposed decays (or is burned).

Important Considerations

As carbon-rich materials (such as dried leaves, straw, and woody matter) decompose, the microbes that power the process consume any available nitrogen, temporarily "robbing" the soil of available nitrogen for plants. To offset this:

- Use plenty of fresh, green, nitrogen-rich materials in the layers of the bed.
- Wait several months to plant the bed.
- Mix a slow-release fertilizer in the soil on the top of the bed before planting
- Keep a close eye out for signs of nitrogen deficiency in plants, such as pale foliage and stunted growth.

Hugelkultur beds will last anywhere from a few years to a decade or more, depending upon the size of the bed, the type of materials used, climate, and other factors. Over the years, the bed will decrease in height as the woody material decomposes. In the end you'll end up with a shallow bed filled with beautiful, rich soil. The long lives of the beds make them ideal for permaculture landscapes filled with perennial edibles, such as fruiting shrubs.

Materials to Avoid

Most of these "rules" are the same you'd follow when building a traditional compost pile:

- No dog or cat waste (but horse and cow manure are fine)
- No grass clippings, leaves, or plant matter from chemically-treated landscapes
- No invasive plants
- No treated wood

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