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Who-gelculture?

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By Alex Féthière

Photo in the print edition: My latest hügel before and after, ready for planting with a winter cover crop. (Journal photos by Alex Féthière)

Hügelkultur (German for “hill-culture”) proposes to recycle the South Sound’s overwhelming surplus of wood waste. What we usually douse with diesel and burn to ash serves a nobler and longer purpose as an architectural soil amendment.

Like biochar, hügelkultur traps the carbon that would otherwise be liberated by fire, but sinks it all into the earth. The simple practice of burying rotted wood and layering compost, manure, fill dirt and topsoil over it improves every material used in making a hügel.

Usually appearing as a trench filled and mounded into a roll-cake shape, hügels also can be contoured to create mazes or concentric designs. Their length is usually dictated in part by accessibility: a series of hügels with paths among them is easier to navigate and maintain, unless you’re aiming for a barricade.

The size and shape of the hügel determines its benefits. Heat retention, microclimate (small variations in temperature) creation, water storage, windbreak and ease of harvest make this an attractive permaculture technique.

Heat retention comes from the biological activity in the soil that decomposes the wood and generates heat. It can add a couple weeks to a season. The increased surface area of the mound’s sides also acts as a thermal mass by absorbing the sun’s warmth.

As such, microclimates occur around hügels. The base may be cooler as the cold puddles around it, and depending on sun and wind orientation, a variety of plants can grow on what, horizontally, would have been a homogeneous area. The few degrees of variation in a microclimate can mean the difference between freezing and hardiness.

The wood network distributes moisture through the structure. Xanna Seto, at Harstine Island’s Serpent Song Sanctuary, has found that vertically oriented roundwood acts like a wick that transports water from the bottom of the trench to the hill’s top. Her best-performing hügel sports that unconventional build.

Constructing a hügel is easily done by hand, as was the tradition in Eastern Europe for centuries. Still simpler, and the preferred method of proponents such as Austria's Sepp Holzer, is using an excavator or tractor.

Hügels should be dug with their sides to the prevailing winds, and diagonal across a slope. This arrangement is important because rows of hügel on contour will sink on groundwater unevenly: the topmost will be too wet and the lowest may be too dry. At least two should be built together because their valley is a nice microclimate.

Ideally the sun will transect the hügel in its course during the growing season. I have oriented mine north-south to assist with air drainage as well.

Joshua at Sahale in Belfair dug 5 to 6 feet down with a tractor. Then he packed the 3-inch-wide trench with apple trimmings, maple and alder that had aged in a sunlit burn pile for a year. After stacking the bones, he added composted rabbit and chicken manure and topsoil before inverting the sod on top – killing grass roots without wasting their organic matter. Their best yields were of summer and winter squash, but he had problems with radishes because they tended to push themselves out of the thinner soil.

But over time, hügel will sink, soften and their nutrient levels fluctuate. Eventually a rich bed is left where there may only have been packed clay or hardpan before. The traditional expected life of a hügel (depending on size) is up to five years.

My latest hügel is overbuilt. Four feet tall and 3 feet deep, it has a log or two sticking out from the sides for jiggling with an excavator so it settles better. Pockets offer rodents lodging. Whimsical root bits stick out from the top for Austrian winter peas, one green manure crop overwintering on it, to climb. The wood is partially charred and over two years old, which is important because younger wood needs nutrients to feed the microbiology that starts its decay – and it will absorb those nutrients from the soil and plants. It will be ready to plant in spring after hoeing in the cover crops, and then we'll see if a new hügel grows to be better than the last one.

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