



Hügelkultur is the creation of healthy soil. Logs are buried as a long-term source of carbon and leaf litter, or brown material, on top of logs as a more accessible short-term source of carbon to start the composting process. Ample pore spaces are created within the logs to provide oxygen for micro-organisms to begin decomposing organic material. A green layer of nitrogen rich plant matter or compost material covers the brown layer. The composting process uses both the carbon and nitrogen inputs to create complex carbon-based molecules for healthy soil production. The green layer is then covered by ample planting soil, where roots will grow and expand during the first few years. Eventually, roots will reach down into the composting machine below and tap into resources. This battery of water and nutrients will provide long-term support for plant growth above.



So here is the process. Notice the gray clay soils, which will be very similar to where we will be working today. They clay soils are a result of displacement from nearby construction and development. First step: dig a trench for the wood and reserve the soil for later use.



(1) Dig a trench

**(2) Gather materials**

- Wood, varying sizes, some big rotten pieces, some smaller not-so-rotten okay.
- Greens, clippings, prunings, has to be the color green!
- Browns, cardboard, old cotton shirts, burlap, old rotten leaves, straw okay
- Compost, finished or semi-finished okay, GroCo is great ☺
- The native soil, or top soil if desired

Gather materials from nearby or order on CEDAR in advance. Compost will likely be needed for the green layer, unless you have grass clippings or green leaves from pruning available on your site. Top soil will also likely be needed to supplement the soil reserved from digging the trench.



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**(3) Stack wood**

Maximize 'pore space' by stacking wood using a criss-cross method. Microbes need access to oxygen to actively decompose organic material above.

Stack the wood to ground level or slightly above. Create a cross-hatched pattern to leave ample pore space. A few large logs that are already beginning to decompose will help jump-start the composting process.



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**(4) Brown Layer**

Add enough brown stuff to cover all the wood.

Cover with a brown layer. Try to use down leaves from on your site, especially if you have a lot of nearby big leaf maple trees. Burlap and cardboard can be brought in for this layer. Make sure you cannot see any wood before moving on to the next layer.



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- (5) Green Layer**

Add enough green stuff to cover all browns.

Build the green layer so that none of the brown layer is visible.



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  - Add enough brown stuff to cover all the wood.
- (5) Green Layer
  - Add enough green stuff to cover all browns.
- (6) Compost Layer
  - Add enough compost to cover all the Browns.
  - Pile from the top/center and let the compost roll down naturally with gravity. DO NOT compact the mound. Make a volcano!

If you don't have green material on-site, use compost ordered through CEDAR. Even though it's not green in color, compost will have ample amounts of nitrogen for the composting process.



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- (7) Smoothen out the top**

Smoothen out the top to start to form a planting area, but do not expose the green compost layer beneath.



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- (7) Smoothen out the top**
- (8) Planting layer**
  - Do the same 'rain down' technique to let the native soil or top soil settle over the compost layer – keep going until you can't see compost
  - \*\* Add your plants so the roots go just a bit into the compost layer.

Cover with ample soil to support all of the roots of the plant species you intend to plant. Mix in the soil reserved from the trench. Do not compact the mound at all during the entire process. Pile soil from the middle of the mound and allow it to fall naturally toward the ground. Once you have enough soil, smoothen out the top so the entire mound resembles a hemisphere. Most planting will be done in the fall, so unless you are building your mounds during planting season, expect to cover with a layer of burlap or mulch to minimize soil erosion until planting.



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- (9) Mulch Layer**

Cover the entire mound with mulch, leaving space around the plantings. Apply this as you would your normal planting areas.



One last suggestion I would like to add is to consider using a mycorrhizal fungi additive during planting. Mycorrhizae refers to the symbiotic relationship created between the non-reproductive, resource distribution networks of fungi and the roots of plants. Fungal networks connect to roots giving them expanded access to water, and in return, plants provide fungi with nutrients. Plant growth and robustness can be substantially improved when mycorrhizae networks are formed. Mycorrhizal fungal spores can be ordered in the form of pellets or powder. Simply apply a small amount in the root zone within the planting holes you create, and you will get your plants connected to the battery of resources within the mound much quicker.