

Diagrams from Sepp Holzer's *Permaculture*



## HUGELKULTUR: THE ULTIMATE RAISED GARDEN BEDS

BY PAUL WHEATON, FROM PERMIES.COM

*Hugelkultur*, a German word, is nothing more than making raised garden beds filled with rotten wood. This makes for raised garden beds loaded with organic material, nutrients, air pockets for the roots of what you plant, etc. As the years pass, the deep soil of your raised garden bed becomes incredibly rich and loaded with soil life. As the wood shrinks, it makes more tiny air pockets, so your hugelkultur becomes sort of self tilling.





May 2014: Constructing the "hugel" bed



July 2014: The vegetables grew amazingly well in the rain-fed hugel bed without any watering from people.

The first few years, the composting process will slightly warm your soil giving you a slightly longer growing season. The woody matter helps to keep nutrient excess from passing into the ground water – and then refeeding that to your garden plants later. Plus, by holding SO much water, hugelkultur could be part of a system for growing garden crops in the desert with no irrigation.

---

## HUGELKULTUR: IN A NUTSHELL

- grow a typical garden without irrigation or fertilization
- has been demonstrated to work in deserts as well as backyards
- use up rotting wood, twigs, branches and even whole trees that would otherwise go to the dump or be burned
- it is pretty much nothing more than buried wood
- can be flush with the ground, although raised garden beds are typically better
- can start small, and be added to later
- can always be small - although bigger is better
- You can save the world from global warming by doing carbon sequestration in your own back yard!
- perfect for places that have had trees blown over by storms
- can help end world hunger





# SEEDBALLS



## SEEDBALLS: PASSIVE GROWING

ARTICLE FROM PERMIES.COM

Homemade seed balls are a clever way to sow seeds (single species or a mix) without digging. It's inexpensive, easy and you can cover a lot of ground. They are just scattered onto the soil surface, not buried. Then they just sit there, ensconced in their mud-and-compost ball until it rains, safe from birds, rodents, drying out, and they won't blow away. They are especially useful in areas with unpredictable rainfall. If there's no rain, the seeds just sit there and wait. When enough rain falls to soften the balls (usually 3-5"), the seeds sprout. The clay and compost work together, as the clay is good at retaining soil nutrients and moisture, and the compost provides the nutrients.

Using seed balls, you can "sow" seeds to grow plants for beneficial insects in your backyard while you're away, plant that property you own that's a few hours from home, or help to re-vegetate damaged areas with grasses.



**BOSTON FOOD FOREST COALITION**

[www.bostonfoodforest.org](http://www.bostonfoodforest.org) Contact: [orion@bostonfoodforest.org](mailto:orion@bostonfoodforest.org)

## HOW TO MAKE SEEDBALLS:

For about 50 penny-sized seed balls, mix thoroughly together:

1½ cups of sifted clay (optional)

1 cup of sifted finished homemade compost

¼ to ½ cup of assorted seeds

**1.** Spray or drip small amounts (from a spoon) of water into the dry mix, mixing thoroughly after each addition. Gradually add just enough water so the mix sticks together. Form into ¾” diameter balls (the size of a penny). Set them in the sun or in a warm (not hot) dry place for a couple of days.

**2.** When sowing, aim to scatter about ten seedballs per square yard. You can sow them right away if it’s the right time of year. Seeds that prefer or require the cold temperatures of winter to give them the signal to sprout can be sown after the winter solstice. Or for Spring sowing, keep them in a cardboard box or paper bag until you want to sow them. *Note: don’t store them in plastic – if the balls aren’t dried inside, the seeds may sprout and then die.*

**3.** Note that at least 3 to 5 inches of rain are needed to start the seeds in the seed balls germinating, and follow up rains must be sufficient to let the plants develop.

## IDEAS FOR SEEDBALLS:

- Herbs – try a seedball of culinary or herbal healing favorites
- Umbelliferae Collection – the tiny clusters of flowers of this group will attract beneficial insects. These could include anise, angelica, caraway, carrot, celery, chervil, cilantro, coriander, cumin, dill, fennel, lovage, parsley, parsnip, sea holly, sweet cecily, etc. These also make excellent companion plants.
- Cover crops – annuals or perennials, single types or mixes, suitable for your conditions. You’ll want to include any necessary inoculants in the balls.
- Wildflowers suitable for your area (something for that vacant lot next door)
- Grasses suitable to your area (could be especially valuable to replant burned areas or to help stabilize slopes or eroded areas)



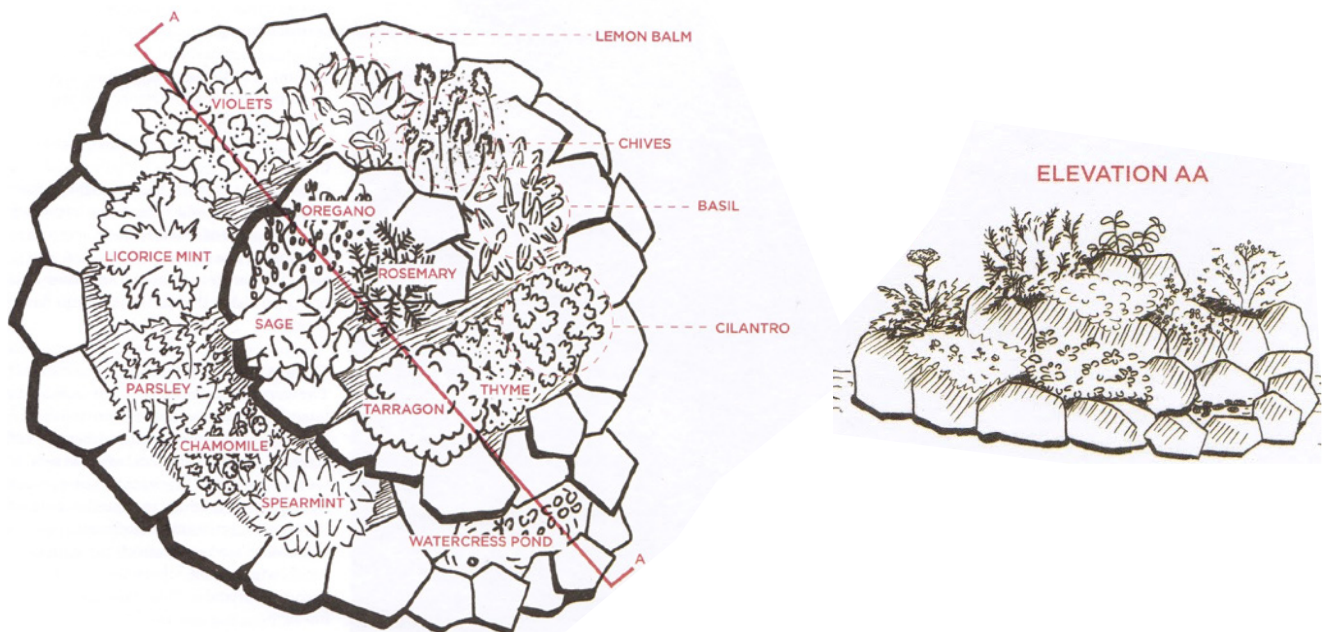


# HERB SPIRAL



## HERB SPIRAL: THE ULTIMATE RAISED GARDEN BEDS

One of the most convenient and attractive ways to design a culinary herb bed is in the form of a spiral. The spiral stacking aspect of the design allows for shade- and moisture-loving herbs such as mint to be placed at the bottom and north side of the spiral. Progressing up the midsection of the spiral are herbs with a preference for gradually hotter and drier conditions like basil, cilantro, and parsley. Topping off the spiral on the south side are heat-loving herbs like oregano, marjoram, tarragon, and thyme.





## HOW TO MAKE AN HERB SPIRAL

1. Decide how large a circumference you'd like the spiral to have. Consider other activities in the yard, plus the ease with which you want to be able to pick your herbs.
2. Peg the center of the spiral, based on the circumference. Begin setting the bricks, stones, or logs in place. You can use a level to ensure the ground underneath is even.
3. Once many rows are stacked, begin to fill in with coarse material to provide for drainage within the spiral. Then build up additional rows of brick (or stones, logs, etc.) and begin filling in with soil and compost.
4. Once the spiral is filled in, water it well. Now, you're ready to plant. Place the dry/heat-loving herbs toward the top and the cool/moisture-loving ones toward the bottom.

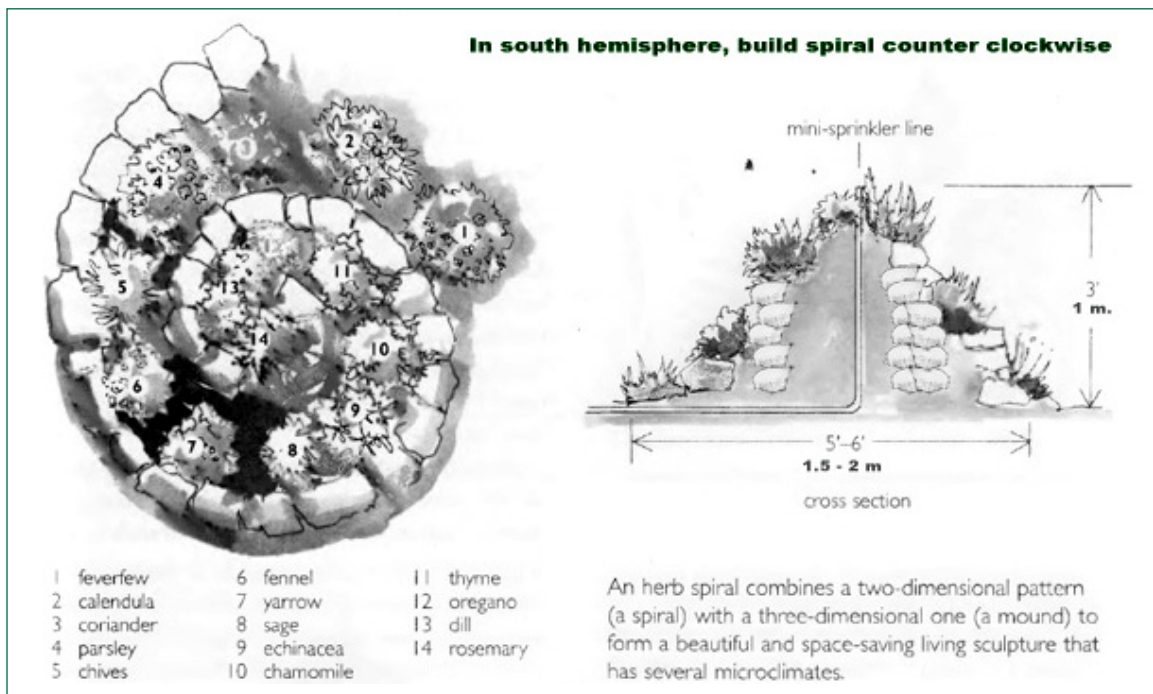


Diagram from  
Toby Hemenway's  
*Gaia's Garden*







BORAGE



CALENDULA



PURPLE CONEFLOWER

### **BORAGE** *Borago officinalis*

#### **BORAGE FAMILY (BORAGINACEAE)**

Though borage is most commonly to dress up salads and spreads with its star-shaped flowers, it can also be made into a medicine used to ease anxiety and stress. A dynamic accumulator and bee-magnet, borage is an excellent companion plant in orchards. It is a fast grower, not picky about its soil, and, thanks to its Mediterranean disposition, only needs a moderate amount of water.

### **RESINA CALENDULA (POT MARIGOLD)** *Calendula resina*

#### **ASTER FAMILY (ASTERACEAE)**

Calendula, a clump-forming, self-sowing annual, grows sunny flowers that light up the garden from summer to fall. It can be used as a trap crop for aphids, whiteflies, and thrips, and is also adored by many pollinators. Its antiseptic oils are excellent for healing bruised and burned skin. The flowers can also be easily transformed into a natural food dye!

### **PURPLE CONEFLOWER** *Echinacea purpurea*

#### **ASTER FAMILY (ASTERACEAE)**

The genus name *Echinacea* is from the Greek *echino*, or hedgehog, in allusion to the spiny disk that sits within the blossoms' rays. Beloved by hummingbirds and bees alike, *E. purpurea* can be made into an immune-boosting tincture that is also helpful in treating infections.

*Users of botanical medicine are advised to consult with a practitioner. The Boston area is home to many herbalists who can help you use herbs safely.*





HEARTEASE



PLEURISY ROOT



BAIKAL SKULLCAP



MAD-DOG SKULLCAP

**HEARTEASE (JOHNNY-JUMP-UP) *Viola tricolor***

**VIOLET FAMILY (VIOLACEAE)**

In spring and fall this perennial, self-sowing violet cheers the garden with its eager shades of purple, indigo, and yellow. As suggested by its name, Heartsease can be used to support cardiac health. It is also helpful in treating respiratory ailments and inflammation.

**PLEURISY ROOT (BUTTERFLY WEED) *Asclepias tuberosa***

**MILKWEED FAMILY (ASCLEPIADACEAE)**

This aptly named herbaceous perennial mesmerizes butterflies with its brilliant blossoms. Monarch caterpillars love the plant too and use it as their nursery! It is helpful for patients with respiratory complaints.

**BAIKAL SKULLCAP (*HUANG-QIN*) *Scutellaria baicalensis***

**MINT FAMILY (LAMIACEAE)**

Renowned herbalist Richo Cech writes that this skullcap’s purple flowers resemble “schools of dolphins breaking through green waves in a summer sea.” He also finds it to be herbalism’s most powerful anti-infection agent. Its medicinal properties are held within the plant’s yellow roots.

**MAD-DOG SKULLCAP (VIRGINIA SKULLCAP) *Scutellaria lateriflora***

**MINT FAMILY (LAMIACEAE)**

Mad-dog skullcap gets its curious name from the plant’s tiny skull-shaped flowers and its use in 19th century America in treating rabies. While its efficacy as a rabies treatment has long been disproved this prolific native is widely used to ease anxiety and nerve pain.





# FOOD FORESTS

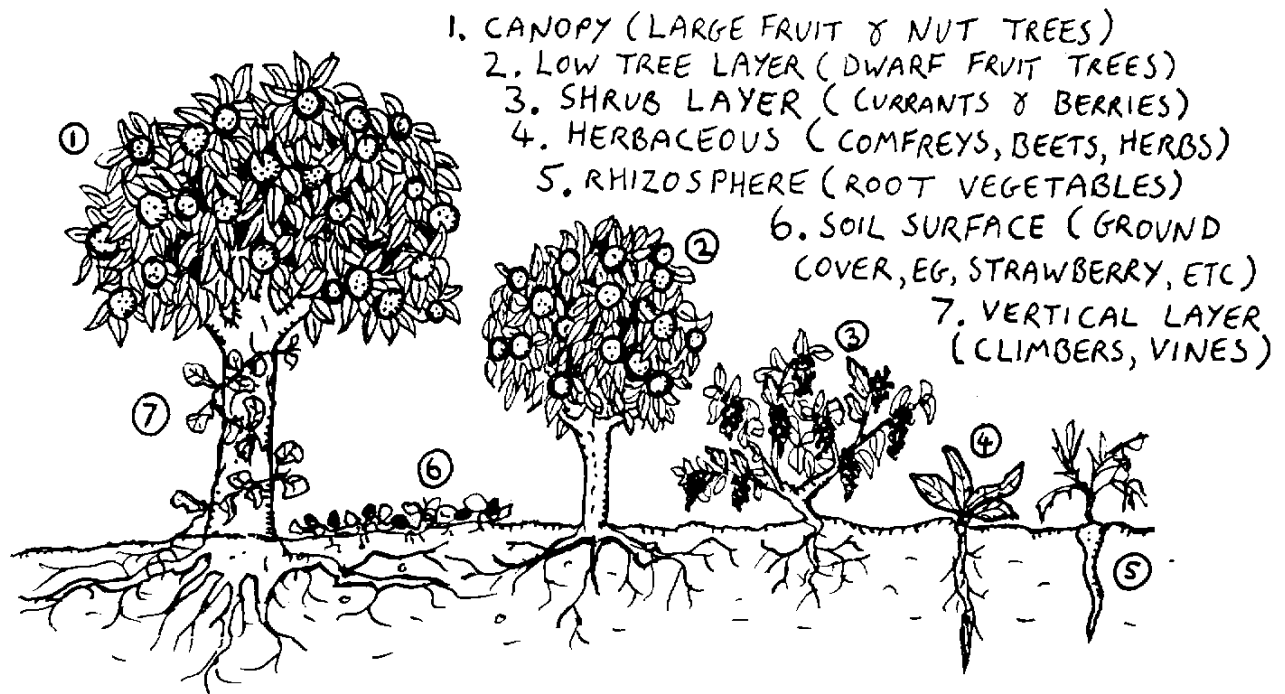


## WHAT IS A FOOD FOREST?

A food forest is a sustainable land management system that mimics a woodland ecosystem, focusing on food-producing trees and shrubs. In a food forest system, edible plants occupy a succession of layers—including upper level fruit and nut trees, middle level berry shrubs and vines, and lower level herbs, edible perennials, and annuals—to create an interconnected and productive whole. Intermixed with these edibles are beneficial plants that attract helpful, pest-controlling insects and that build healthy soil by providing nitrogen and mulch. Working together, this diverse collection of plants form functional relationships that maximize food yields while reducing the need for maintenance. This regenerative forest garden ecosystem offers a beautiful, ecologically healthy, and useful way to meet our most urgent human needs for food, shelter, water harvesting, and medicine.







## THE FOREST GARDEN: A SEVEN LEVEL BENEFICIAL GUILD

