



Hügelkultur beds

hard to pronounce, easy to make

by Tony Martin

You may have heard the word, along with the name Sepp Holzer – a pioneering Austrian permaculturist who manages to

grow amazing crops (at around 1300 metres up) on his 45 hectare alpine farm. He and others have popularised this growing method, but it has been in use for at least several hundred years, and roughly translated from the German it means ‘mound or hill culture’.

Why build one?

Well, for a start you can brag to your friends about it. They will be impressed both by the lush growth of your plants and by your ability to pronounce this word (first practise a bit, in front of a mirror for best effect, *hoo gool cull toor*).

But mainly it's about long term gains over short term gains. Yes, it will take some time to build one – the physical effort of collecting the materials, and digging and building the structure – and then there is the time taken to mature, which will depend upon your source materials.

Once built you will have a type of raised bed that has many advantages over the traditional type. Certainly a standard raised bed will help save your back, but unlike a hügelkultur bed it won't help feed, water and warm your plants.

Watering: Imagine you are walking in an ancient woodland. It begins to rain but there is no instant runoff into streams. Under your feet the spongelike texture of the soil absorbs the water, holding and then slowly releasing it to the plants, air and streams. Now imagine a similar structure of soil, built into a raised bed but without the branches and leaves of the living trees preventing light getting to your crops – that is the essence of a hügelkultur bed.

Feeding: So water is retained in the mound, and in that water nutrients will be slowly released from the rotting materials. While there is debate about how much nitrogen rotting wood removes, you will be adding lots of nitrogenous materials that will more than offset that.

Ooooh me poor old back: As with a raised bed, the more you can raise it, within reason, the less bending you will have to do. If you are under 40 years of age you probably won't really see the point in this; that *will* change in time.

Building your hügelkultur bed

Orientation

“I am not sure
(guitar, strum, strum)
But I'm open to persuasion
East or west
Where's the best
For my planting?”



Yes, plagiarised from Joan Armatrading's classic song ‘Love and Affection’. So now you know a little about my musical tastes, but what you really want to know is which way to lay your beds.

Well, as always there is no hard and fast rule and you will notice I say this sort of thing a lot, and that is because there is rarely one simple answer to a problem. Some of the factors to consider might include what crops you want to grow, how hungry/thirsty they are, what light levels are needed, rainfall, sunshine hours, temperatures, prevailing winds, etc.

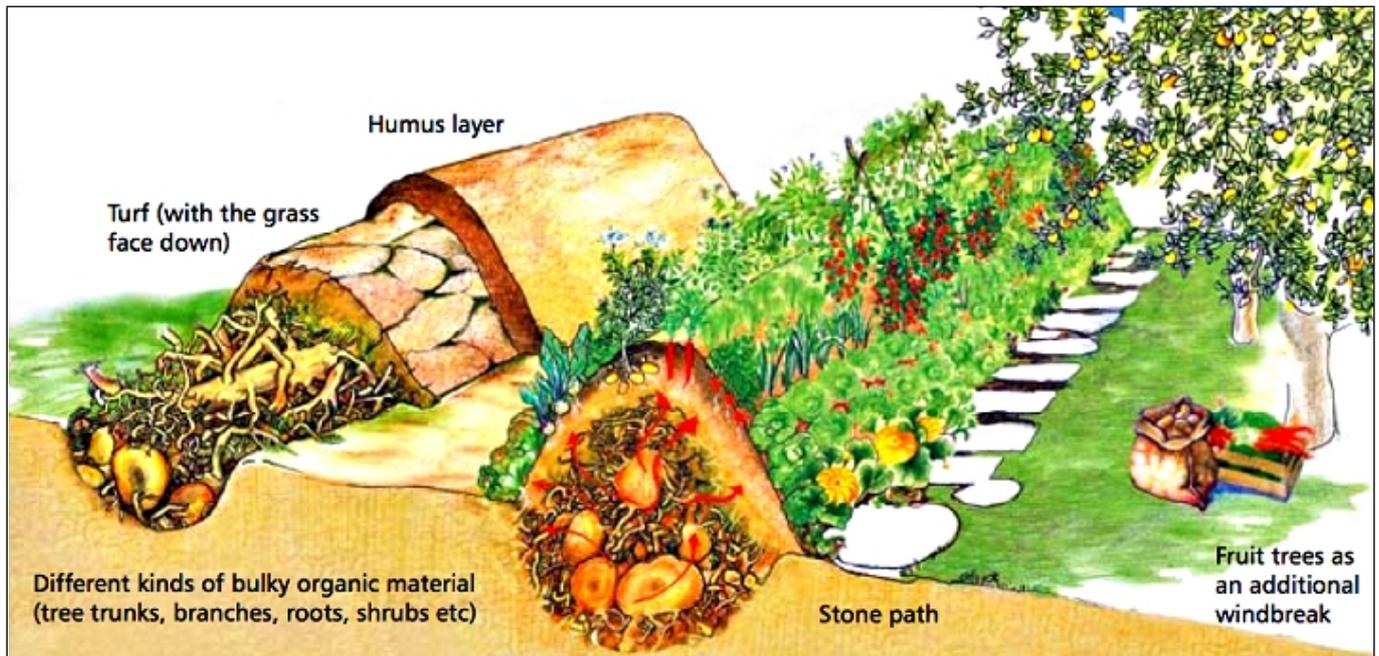
For example, say I want to grow salad crops and pumpkins. The pumpkins want full sunlight and the salads can grow with less light, so in the UK this might suggest to us an east-west row – the pumpkins on the sunny south side and the salads on the shaded north side. But what if I were in an area of little rainfall, and growing on a slope? Perhaps I might run the beds along the contours of the hill instead, so as to act additionally as swales (water harvesting ditches) to capture the infrequent rains. Find your limiting factors such as rainfall and sunlight hours, and work from there.

Ingredients: Wood of almost any kind – old wood, new wood, squishy almost falling to bits wood, chippings, sawdust, logs, branches, roots – can be used. Anything woody as long as it doesn't have any chemicals in it or allelopathic trees (such as eucalyptus or laurel that produce chemicals which inhibit the growth of other plants). They can be used, but they need to have been weathered for a number of years (sometimes many).

Also make sure that willow, for instance, has fully died before using it – or you will have a lovely crop of willow trees next year instead of runner beans. However, you could of course let the willow whips form, train your runner beans up them and then chop the whips for use at the end of the year. Oak, chestnut, walnut, etc can have high tannin levels and take ages to rot down. Unless already well rotted they may affect the other plants, or be of little use in the bed for a number of years until they have decomposed enough to have more than just a bulking effect.

Also use any organic matter, leaves, grass cuttings, old plants and kitchen waste – but not things that would attract rats, mice, etc. Go knocking on your neighbours' doors, they will probably have something lurking in their garden or kitchen they want to get rid of, such as soil, compost, coffee grounds, etc. If you are using freshly cut logs there may be the opportunity to inoculate them with oyster (or other) mushroom spawn to increase the yield from your beds.

Building it: Now here's the tricky bit (I lie, it's less tricky than getting into a blister wrapped pack of rechargeable batteries ... okay, bad example). If you have large logs, place those in first, in a vertical position (the way a tree trunk grows), to allow better transport of water from the soil than if layered parallel to the ground. The more material you put in, then the longer your bed will last before it needs



From 'Sepp Holzer's Permaculture' (www.permanentpublications.co.uk)

replacing. Obviously newer material will make the bed last longer than partially rotted old material. Personally, however, I like to mix in some old materials that absorb water and break down quickly – releasing nutrients during the current season – along with some newer stuff that will give benefits over the following years.

Do you live in a dry area? If so, dig down 20-100cms and you can line the hole with some layers of old natural fibre carpet (to stop creatures digging in), and then some plastic to within 10cms of ground level to store extra water. Also you may wish to make your beds wider than you would in a wet area, so that evaporation losses are reduced.

Or do you live in a wet area? If so, you may wish to dig down to 20-50cms. Some people say there is no need to dig down in wet areas, but these are generalisations and you need to consider your local conditions. On a boulder clay site, which has little topsoil that can absorb water, the land can go from flood to drought conditions in a short period, so a reservoir of sodden logs can be of real benefit.

Building up the bed: Add lots of wood until it is a bit higher than the depth of your hole, while packing in any soil, leaves or other stuff you have to hand. This will in time rot down and bring the wood down to around the level of the soil. Use your own judgement (throughout your build) as to what is appropriate, as this is not an exact science.

If you removed any turfs to dig the hole, put these on next, and the covering of other materials will make the grass rot rather than regrow.

Now repeat as before, but placing the wood mainly horizontally and keep building up until it is about a metre wide, and with sides that are not so steep that they will quickly disintegrate. You can make it as long as you want. Cover with good soil or compost mix and try to get some crops in ASAP to help stabilise the surface. If there are likely to be heavy rains you may wish to cover the soil with clear plastic until your crops come through, to prevent it

being washed away.

Additionally you might want to consider adding some sides to stabilise the soil and prevent it from spilling onto your paths (the paths can be made of old bricks, which should keep you from getting too muddy). If you want to give your beds an extended growing season you can of course build a framework around them and cover with old window frames, perspex, or plastic sheeting.

Using your hugelkultur bed

So what are you waiting for? Get planting! You will find, especially for the first year or so, that it will settle and some cavities will appear. Rather than just filling these cavities, you might see them as an opportunity to plant something using nice fresh compost.

As the materials rot there will be some heat produced – not much but it will help germinate things a bit earlier and may slightly extend your growing season. When you water, make sure that it has a chance to infiltrate rather than running off, and that you plant a winter cover crop to prevent erosion. As with herb spirals, plant things at the top that need the least water, with those that need the most at the bottom – and enjoy your new low-maintenance bed. ■

*Tony Martin runs a 5.5 acre vegan organic permaculture site, 230 metres up on a Welsh hillside near the Brecon Beacons, and this year is again hosting a **Permaculture Design Course** run by Aranya and himself – when the sort of techniques above (and many others) will be covered.*

*The 90 hour course will be held over two weeks from **2-16 July 2016** and will earn you a Permaculture Design Certificate. Please see www.tinyurl.com/tonyspdc for more details and booking form, or contact Tony directly on 01639 845144 (mobile 07500 956022) or email tony@veronicathecow.co.uk*

See GGI 35 (pages 26-27) for Tony's article about the PDC course held on his land in 2015.