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Raised bed gardens

Gardening, for "senior" gardeners, is often a mix of joy and pain, as in the back. M. Kathleen Casey, a Canadian politician, said, "Pain is inevitable. Suffering is optional."

Bending, stooping, and on hands and knees test the fortitude of gardeners. Knees throb and backs creak as one tries to regain a vertical position. Both pain and suffering may be somewhat alleviated by the use of raised bed gardens.

Are raised beds the same as container gardens, the subject of the June 26 Garden Column? No. Container gardens are any container, not in contact with the ground, that will hold soil and with holes in it's bottom to allow for water drainage. Container gardens can be planted in anything from a rusty milk pail, a hanging basket, to an elaborate box. By contrast, a raised bed is an accumulation of soil raised above the surrounding soil that is in contact with the soil and normally contained within a structure. A raised bed may be any height from 6 inches to waist high.

The simplest raised bed may be just a pile of soil in which vegetables or flowers have been planted. The main advantages are it's simplicity and cost. No expense is involved in constructing a framework to contain the soil. However, these beds flatten during the growing season because of erosion and need to be reconstructed the next year.

Permanent raised beds are more expensive than temporary beds due to the cost of buildng a structure to contain the soil. However, they should last for several years.

Benefits are as follows: The soil normally warms faster in the spring thus allowing gardeners to get an early planting start. A caveat, soil in raised beds warms faster and dries out quicker than normal garden soil. In the spring and autumn these traits are desirable but a gardener needs to water more frequently during the summer.

More plants can be grown in a smaller area than with conventional row-cropping techniques and no space is wasted between rows. Normally there is a better root system because root growth is not restrained by the

bottom ofß a container, leading to higher yields for food crops and lusher growth of flowers.
Raised beds are easier to maintain as the dense foliage from thickly sown plants shades out weed growth. Slugs have difficulty climbing up the retaining walls but some rabbits may still hop up into the garden and deer have no problem bending over the bed.
They provide good drainage, a logical choice for areas with poorly drained soils. Raised beds permit plant roots to develop in soil above water-logged and compacted areas. In wet seasons the soil dries relatively fast so planting can proceed between wet spells. Erosion is thwarted during heavy rains and compost or manure is easily incorporated into the bed, further improving soil drainage and structure. Plants can be grown in difficult sites such as on top of solid rock. And if there are hills on your property, terraced raised beds turn these hillsides into productive growing areas while reducing soil erosion. However the bed must follow the general shape of the hill.
And maybe the best of all, by raising the soil level, raised garden beds reduce back strain. Less stooping is required for weeding watering, fertilizing, and harvesting. Needless to say this is especially helpful to gardeners with back issues. If the beds are well built and relatively high, the gardener can sit on the edge of the bed while weeding or harvesting.
The design of a raised bed is a matter of personal preference. A convenient width is about 3 to 4 feet and the length should not be longer than 20 feet. Height will vary, depending on the material used and ambition of the builder. Most plants need at least a 6 to 12 inch rooting zone, preferably deeper. If more than one bed is planned there should be at least a 3 foot space between beds to accommodate wheelbarrows.
Raised beds can be made from a variety of materials depending on how the final product is to look in the landscape. Railroad ties are commonly used but creosote from “newer” ties may “bleed” into the soil thus creating a toxic zone for plants. The effect diminishes after a few years so old ties are the best option. Some references state that all railroad ties should only be used to grow non edible plants and flowers.
Treated landscape timbers are a good choice; however, pressure treated lumber using chromated copper aresenate (CCA) should not be

used in beds for growing food crops due to it's toxicity. Alkaline copper quatemary (ACQ) and copper azole (AZ) are alternative choices for pressure treated lumber. However copper from the timbers may leach into the soil at first and injure plants but it is safe for humans. Natural rot resistant lumber such as redwood or cedar or synthetic lumber made from plastic is a good choice. Other choices include concrete blocks, and more aesthetically, bricks and stones.

Good quality top soil may be used inside the structure; however, the addition of organic matter improves the physical and chemical properties of the soil. Peat moss, compost, or decomposed manure are good organic matter sources. But it's a good idea to rototill or hand dig the present soil before bringing in additional soil or amendments. This prevents an impermeable soil layer from occurring.

A labor intensive method (maybe not for bad backs) is to first remove the subsoil (about a shovel depth) and set it aside. Then add and mix the amendments and return the mixture back into the bed. This method provides an excellent root zone for plants. It's important to avoid hauling in new layers of soil without mixing them into existing soil as they will form " soil layers", something to avoid.

At the end of the growing season, further organic matter can be added and tilled into the soil. Or additional compost may be added at any time before the next planting.

Fertilization of plants in raised beds is similar to that of plants grown conventionally. For most plants a fertilizer such as a 10-10-10 is applied at a rate of 1 to 2 pounds per 100 square feet. Organic fertilizers and manures may also be used but need to break down before their nutrients are released into the soil.

Remember, it's bad news when you're at an age when your back goes out more than you do.

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