RAISED BED GARDENING

Growing The Easy Way!

James Paris

Raised Bed Gardening Planting Guide.

An Introduction To Growing Vegetables The Easy Way

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Introduction to Raised Bed Gardening

“The love of gardening is a seed once sown that never dies." -- Gertrude Jekyll

You may well be wondering why on earth a raised bed garden is any easier than planting vegetables straight into the soil. Or why indeed I have titled this as I have done, by insinuating that raised bed gardening is easy.

Well the fact is that in my opinion, growing vegetables in a raised bed is by far the easiest way of growing great vegetables without the huge labour involved when growing the traditional way.
However I must clarify that by saying raised bed gardening has been around since the beginning of time, and although it has received more prominence as of late, it is by no

means a new concept – think of the hanging gardens of Babylon !

Nothing however is without its cost, in both labour and financial expenditure, and it is true that to grow vegetables in a raised bed requires an element of both, especially at the early stages. This however need not put anyone off the idea, as the effort is minimal and short lived compared to the benefits derived from a raised bed garden that 'produces the goods'.

In this publication I intend to spell out, in layman's terms, just what it means to grow vegetables (or fruit, flowers etc) in a raised bed. How to construct a raised bed, simply and easily, including the different materials that can be used at minimal cost wherever possible. Even how to convert your raised bed into a temporary greenhouse, at minimum cost in easy to follow steps.

The raised bed gardener is able to spend longer tending to his plants than the average vegetable gardener, simply because he (or she) is not spending their valuable time digging over soil and clearing out weeds. For this reason alone the raised bed is preferable for those who are working all day and have limited time to spend in the evening tending their vegetable plot.

Advantages of a raised bed garden

There are several advantages that a raised bed has over planting straight into the ground, some of these are as follows:

With a raised bed, it really does not matter what quality your garden soil is, or indeed what the drainage is like. As this is all added when forming your raised bed garden.

Easy to service/maintain. With a raised bed you have the advantage of height, which means that you do not have to bend over as far to take care of your vegetables. This is particularly advantageous if you are prone to suffer from back-ache.

Weed free. A raised bed is not troubled to nearly the same extent by the incursion of weeds, as all the soil/compost mix is freshly added. For any weeds that do appear, they are easier to remove as the compost mix does not compact like garden soil.

It is far easier to control destructive pests within a raised bed garden. This is simply because you are off the ground, and so keeping a natural barrier up in front of creeping pests like garden slugs.

With a slightly higher raised bed of around two feet, then you are not troubled quite as much with carrot fly for instance, who tend to be low fliers.

So out with back-breaking weeding tasks, along with digging over water logged soil and filtering out rocks and

stones. In with easy gardening methods for the busy householder, and fresh vegetables for the whole family with the minimal of hassle.

Building A Raised Bed Garden

"When the world wearies and society fails to satisfy, there is always the garden."-- Minnie Aumonier

A raised bed can be built with any one of a number of materials, the most popular being timber (untreated). Other materials include, concrete, brick, corrugated sheet metal or concrete block work. In fact anything that you have to hand that can produce a decent barrier about 1 foot to 18 inches high, can be used for a raised bed.

Raised Bed Dimensions:

As to dimensions, this is really determined by many things including the space you have available, and indeed just exactly what your requirements are. Do you have a large family to feed, or do you intend to sell or barter (bartering is a great way to enjoy a diversity of produce from other gardeners) some of your produce ?

With all that considered, a typical raised bed vegetable plot is about 6 foot by 3 foot. This is an ideal size because it allows access from both sides, without you having to step onto the raised bed itself. This enables you to tend to your plants without treading on them in the process – always a good thing !

As to depth, overall you should aim for 1 foot minimum depth, up to two feet for deep rooted plants such as carrots for instance.

The depth of the raised bed does not have to be the height of the sides, to explain a bit further. Say you would like a

bed depth of 18 inches (450mm), but you only have timber for 12 inch sides. Simply build your bed in the manner described later, and dig out the interior an extra six inches. This will enable you to fill in the bed with the compost of choice up to the required depth.

It should perhaps be pointed out here though, that this negates the concept of building a raised bed for the advantages to be gained with the height of the bed itself above ground, as will be explained later in the article. This system is mainly used where the existing soil is of poor quality and has to be replaced/substituted in order to grow the vegetables of your choice.

If you are building multiple raised beds, then they should be placed about two feet (600mm) apart if possible, to allow for easy access between them.

Building a timber raised bed

The construction of a timber raised bed is fairly simple and straight forward. First of all, level and mark out the area where you would like your raised bed to be. Bear in mind that it should not be under overhanging trees, and in an area where you can have easy access for tending your plants. It should get a minimum of 5-6 hours sunshine per day to produce best results for most vegetables.

For a 6 x 3 x 1.5 foot bed built using traditional decking timber, you will need:

6 lengths decking @ 6' x 6" x 1"
6 lengths decking @ 2'10" x 6" x 1"
10 – 3" x 2" pointed posts @ 30"
Weed control fabric
Galvanized screws or nails
Wire mesh (optional)

Begin by marking out with string and pegs, the area of your raised bed, putting down a peg on each corner. This is where you should consider whether or not you are going to dig out any of the existing ground.

Questions to ask yourself are, what depth of compost do I need, versus what height do I want the finished bed to be. If you are growing root vegetables that need depth, but you do not want the finished height to be over 1 foot for instance, then digging out the area to the depth required is your only option.

Once this decision is made, then we can proceed with building the raised bed. Once you have the pegs in the area that marks out the four corners of your raised bed, you simply take out one peg at a time and replace by hammering down your pointed posts, leaving them a minimum of 18 inches above the ground.
Alternatively, if you make these posts longer then you can use them as handy aids for lifting yourself up when tending your vegetables – just a matter of choice really.

The best way to do this is to put down one post at the end, then temporarily fix the first short end against the post. With this done, then hammer in the second post flush with the end of the 6” x 2” decking plank. Proceed with the two longer sides, then complete the other end. If you just put one screw partially home, then you can easily adjust to suit.

Be sure that you have leveled the timber and that you have left a minimum 12” in height above the first planks, so you are able to complete the job.
I find that it is better to construct with a cordless screwdriver as this does not impact the framework in the same way that hammer and nails does. Also should you make a slight error, then it is no trouble to take apart for adjustment.

Once this is done then simply mark out along the inside length two feet from each end, then making sure the construction is straight, hammer in two of the posts to the same height as the others. On the end of the construction, do the same with one post in the centre of the framework.

This will give you a strong sturdy construction, which you will need if you do not want the sides of your raised deck to bow under the pressure of the soil.

Point of note:

If you are building with heavier timbers, say 6” x 2” for instance then it may be possible to just put one post in the center of the long side and none at all on the end. I however tend to lean on the cautious side, and would rather aim for stronger option overall. Another tip is to put a cross brace in, if you are concerned about the sides bowing outward.
It is not an exact science, but there are minimum guidelines that must be kept to ensure a construction fit for purpose.

After you have built the sides then just screw down the remaining planking face down along the edge (as in the photograph), to make a comfortable sitting or leaning area for tending to your raised bed.

One thing to consider during this time, is whether or not you are bothered by Gophers or Moles. If you are, then at this point you would place in 1” galvanized wire mesh, covering the bottom of your raised bed. This will be extremely effective in stopping the varmints from destroying your crop and giving you endless grief and heartache!

The weed control fabric should be fixed down the inside of the bed, to keep the wet soil away from the timber. This will help the timber to breathe and make it just that bit longer lasting.
Point of note: Do not use timber that has been treated with creosote, as this may weep through and kill the plants.

Building a raised bed from brick

If you are fully convinced that the position of your raised bed is permanent or that you will never need to move it to somewhere else; then the option of building a solid brick construction is open to you.
The advantages of a brick-built raised bed are simply that it will not rot, and is a sound structure not easily damaged. Disadvantages are that of course, you cannot move it to another position without destroying it, and also it can look quite unsightly depending on the surroundings. If for instance you have a brick-walled garden, then it may blend in very nicely.

Materials that you will need for your brick-built raised bed are as follows, based on a 6 x 3 construction:

Approximately 400 common brick
Sand and cement
Crushed gravel
Concrete ballast

With any brick construction then you have to build a foundation, otherwise the construction will crack as it subsides into the ground. This is quite a simple construction overall, but you may feel more comfortable getting a builder to do it if you have no experience at this sort of thing. However if you are at all interested, I would suggest that it is a good time to try out your building skills!

Begin by marking out and leveling the ground, as in the preceding chapter. When this is done, then dig out a trench for your foundation, bearing in mind that the brickwork has to be roughly centre of the foundation. The trench should

be about 12 inches deep (for frost cover) and 12-18 inches wide, if you are building with 4" brick. This allows for a good concrete raft to build upon. If you are building in an area not bothered by penetrating frost then this trench can be shallower – or deeper if you have the opposite problem.

Mix up a concrete mix with your concrete ballast using a 5 – 1 mixture. That is 5 parts ballast to 1 part concrete. Add water and mix thoroughly. Fill the bottom of the trench a minimum of 3 inches deep with this concrete mix. This will ensure a good solid foundation for your construction.
In just a couple of days this will be dry enough to proceed with the building process.

Top Tip:
If you want to shortcut this process a little, then for this construction it is possible to simply lay 4" concrete block on a bed of cement mix, to form a ready-made foundation for your walls.

Once the foundation has been laid then it is time to put your building skills to the test. Main thing here if you have no experience with building is to string a line along the edge of your construction, and follow it. **Keep the spirit level at work** and be sure not to deviate from the line.

Mix up your sand and cement to a 3 to 1 mix. Three parts sand to one part cement. Add a plasticizer to the water before using as this will make things a lot easier when it comes to spreading the compo. Cement mix should be about ½ inch deep and the same at the ends. Each brick must be laid level, with a slight tap to bed-in. Be sure to overlap each brick as you are building, and tie in at the corners.

On the first layer to rise above the ground level, you should include a few ‘weep holes’. This is simply done by keeping a couple of bricks without compo at the joints and leaving a gap instead.

Once you have reached the full height, you can either just finish off with a bed of cement over the top bricks, smoothing to form a half curve. Or you can finish with a concrete coping from the builders suppliers.

Dry stone raised bed

Actually made from concrete block, laid flat; this is a simple construction that can be taken down when and if, it's not needed any longer.

If you use 18" x 9" x 4" dense block, then layout a flat area for the base, pounding in some crushed rock for a foundation. After making sure your foundation track is perfectly level, using a straight edge; Start to lay your block on the flat side down on a bed of rough sand.

This row must be perfectly level otherwise you will face problems as the structure rises. Make sure that you overlap the blocks so that there is no break going up through the wall.

The down side with this raised bed is that you will use twice the concrete block as building normally, however you will save on sand and cement as well as time.

Drywall Example Above

Finished result should be a solid construction that has a good broad top to sit on while working your raised bed. True, it takes up a bit more space, but overall it is perhaps the simplest and quickest way to build. Just be sure of the first layer, and everything else will follow on.
Be sure that you tie in the corners using the same building method.

Top Tip: If you would like a more secure finish, then simply lay the top row of block on a bed of cement mortar. This will secure the whole structure quite nicely

Other raised bed examples

There is actually no limit to the amount of ways to construct a raised bed garden area, or indeed the different materials that can be used for it. Or perhaps I should say that the only real limit is your imagination!

Corrugated iron sheeting, properly supported is often used to create a raised bed. It has to be said though that if you are building for appearance, then this is probably not the one for you !
Timber logs cut straight from the tree. These can look especially effective and can be built similar to a log cabin construction, giving an extremely strong and versatile structure that will last for many years.
Old Railway sleepers. I would not particularly recommend using old railway sleepers, as there is a danger of creosote leaking into your plant bed, causing a health hazard – as well as killing the plants. If old sleepers are used then be sure to line the inside with polythene barrier to prevent this happening.

In general however the **modern railway sleepers** for sale in your local garden centre will not have been treated with creosote, but with a plant-friendly injection treatment. This makes them ideal for raised bed construction. Rot – resistant cedar or redwood are the best railway ties for building your raised bed. Consult the sales person before purchasing.

Build using the same principles above for the timber raised bed, but because of the heavy timber (about 19” x 5”) you

need only use support at the corners, except for the really long lengths at over 3 meters.

Filling and Modifications

Let my words, like vegetables, be tender and sweet, for tomorrow I may have to eat them. - ***Author Unknown***

Filling the raised bed:
Next we come to filling your raised bed. This starts with the drainage at the base. This can be broken pots or rough broken brickwork, built to about three inches deep.
However before this you may want to consider whether or not you are bothered by moles, gophers, voles etc.
These creatures are likely to follow the worms or fresh shoots up into your raised bed if you allow it to happen.

If you are in any doubt then lay out your 1" galvanized wire mesh at the base of the bed, before putting in your drainage level – better safe than sorry ! Also a layer of tough weed suppressant material at this stage, laid over the mesh will help keep out the burrowers

Once you have laid out your mesh, then put in the layer of drainage as described above. If you have a well-drained soil around you, or under the bed then this can naturally be adapted to suit.

The drainage should then be layered over with 3-4 inches of soil mixed with compost.
The compost itself, will largely depend on what you are about to grow. For instance, if you are growing carrots or parsnips, then a light loamy compost with a good mix of sand may be required. Potatoes or leeks may require a good bed of well-rotted manure layered over the soil at the base.

It should be pointed out that the internal filling of any raised bed should not be soil alone, as this has a tendency to go rather solid after a short time. Instead mix some quality topsoil together with a good loamy compost, with plenty of organic material to keep it well drained. Again depending on your choice of vegetable a slow release fertilizer or well-rotted manure should be mixed through.

Hard work?
Ok, to be fair you may well be thinking that this sounds like a lot of hard graft – for something that is supposed to be an easy gardening method ? Well yes you could be right…However, once this part is done then you can relax and actually enjoy the next part, which is planting your vegetables. From now on it's easy street !

At this stage, and throughout the growing season you will discover just why raised bed gardening is so much easier than the traditional vegetable garden. Look over at your neighbour breaking his back hoeing between the vegetables, or digging his way through stony ground. Whilst all the time you are sitting on the side of your raised bed easily pulling out a few weeds, and plucking your ripe tomatoes.

Modification1 – Cold frame

One of the simplest and yet most rewarding conversions you can make to your raised bed garden, is to turn it into a cold-frame. This will enable you to get an early start in the growing season with all your early plants such as tomatoes.

If you stay in colder northern climes, then this can become an almost permanent answer to a greenhouse, enabling you

to grow things like cucumbers, marrows, chillies and tomato plants – to name just a few.

To do this is quite simple and will any take a short time. Start before you infill the raised bed with any compost material as it will be much simpler. Material needed for the job:

1 ½ " plastic pipe
Galvanized pipe straps
½" flexible pvc tubing or similar
Polythene sheeting

Cut out eight lengths of 1 ½" plastic pipe, the kind used for domestic plumbing is just fine, measure so that they do not protrude above the wall of the bed when placed vertically inside.
Next space evenly along the inside wall of the bed, pointing upward, and secure in place using galvanized pipe straps, top and bottom.
When this is done then cut the ½ " tubing to about twice the width of the raised bed. Bend the pipe and slip into place.

To stop the bent tubing slipping all the way down the pipe, simply fill with some fine gravel or even a sand and cement mix up to about 4" (100mm) from the top of the pipe. Once this is done you will have an effect similar to the covered wagons you see in the old western movies !

Next you simply fit the polythene over the framework. This is easiest done by securing the polythene sheet along one side of the frame by a length of 2 x 1 for instance. Then you simply pull over the frame when you want it covered.

The ends are a bit more awkward, but if you leave plenty material to work with, then you can simply weigh down by placing a plank on top of the polythene, and weigh down with bricks or equivalent.

The following picture below shows a smaller version of that described, but using just a part of the raised bed area.

One thing you may note is that this model can be improved by the addition of slits or vent holes in the polythene. Better still fit it with polythene that has holes in it especially for the purpose, as in the example above where only part of the raised bed is used for bringing on the seedlings.

This style of perforated polythene will prevent your ‘polytunnel’ from overheating.
Failing that then you must remember to remove or fold back the sheeting when appropriate. This is especially true if your intention is just to use it for the hardening of young plants.

Modification 2 – Insect/Bird netting

Another good thing about the raised bed is just how easy it can be covered up to stop the predations of birds or insects. The simplest way to do this is to follow the previous example for creating the frame effect, but replacing the polythene with a fine bird mesh.

This can be easily clipped into place in a few minutes, keeping your plants free from not only birds such as wood pigeons, blackbirds etc; but also stopping the cabbage butterfly for instance, from laying it’s eggs on your plant leaves.

Another way however to do this is to follow the example in the picture.

This is an old kids swing frame, that handily fits right over the raised bed.

This in turn gives you a structure that you are able to walk around in, whilst tending your vegetables.

It would only take a simple modification to convert this into a temporary greenhouse, if you used polythene instead of nylon mesh.

Yet another way to cover up, is to raise up a post on each corner of the raised bed, link together with a 2 x 2 along the top, between the four corners.
This will give you an effect like a four poster bed, which you can then cover with your material of choice.

As you can see, there are several ways to cover your raised bed, either to use as a cold-frame or to simply protect against birds and insects. All these ways will only take a very short time, and will reap great rewards.

Modification 3 – Automatic Irrigation

Another addition to your raised bed can be an irrigation system. This can be an automatic irrigation system, or it can simply be a system that is put in place, and watered when you choose to do so. There are many watering systems on the market, but here is a simple model to follow that will do the job fine.

Place ½" polythene pipe under the soil just an inch or so, shaped like a tuning fork, with the single end at the top attached to a fitting such as a 'hoselock' click fit type. This can simply and easily be put together with 2 push fit elbows and 1 tee piece. 2 end caps close of the end of the pipes
The pipe should be perforated along it's length with small drip emitters fitted every 12 inches.

After fitting a stop valve at the raised bed end, the whole system should them be fitted to a water tank - the bottom of the tank raised above the top level of the bed.

This tank can be attached to the mains water supply if needed, or it can be filled manually. with a float valve to close it of when the supply is not needed.

By turning the water valves on, the drip emitters will release a small amount of water over any given period. After some 'fine tuning' this is a system that will take away a lot of the labour attached to watering a vegetable garden.

Working Tips For A Raised Bed

When is a cucumber like a strawberry?
When one is in a pickle and the other is in a jam.

When it comes to tending a raised bed garden, there are a few differences, or subtleties compared to tending a traditional vegetable patch.

Here are a few tips for making life even easier !

Cut a strong 'spanner board' ie, a board that is slightly longer than the width of your bed. Place across the bed, resting on each side edge. This can be used for placing your small garden tools on when working the bed, without leaving them in the wet soil. A good place also to put a glass of something cool !

Avoid standing in the raised bed. This is to prevent the soil becoming compacted, and also to prevent any chance that you will push out the sides of the raised bed, by compressing the soil over time.

If you have multiple raised beds, then put down a weed restricting fabric between them and cover with 2-3 inches of mulching material such as chipped bark. This saves a lot of laborious weeding between the beds, and leaves more time for what really matters in life.

Plants can be grown a little closer together in a raised bed, because of the concentrated nature of the feeding system.

Another good tip and one that will keep the slugs and snails at bay, is to place a copper slug tape or strip

around the timber structure. Slugs hate copper because of the way it reacts to the slug mucus, so they will not cross it. If you have no copper tape and have an immediate slug problem, try spraying a concentrated salt solution around the outside base of the bed. This can be quite effective, but do not let any into your plant bed as it will most likely kill your vegetables !

Working a raised bed garden as can be seen here is slightly different for the 'normal' way of gardening – but not so different that you need a new set of rule books so to speak. When speaking to raised bed gardeners, you will probably find that the biggest difference is the fact that they are not suffering from constant backache!

The raised bed is much easier when it comes to weed control – mainly because you have started by using virgin soil that is weed free to begin with. However even after it has been up a while, it is still much easier to weed owing to the softer loamier make-up of the soil or compost.

Even the feeding of the plants is more successful, as all the nutrients are going to the plants and not seeping away into the soil, as is normally the case.

Building multiple raised beds, if you have the space, is ideal. This allows for a good rotation of the different crops and guarantees a great harvest year after year.

Vegetables For A Raised Bed

This cabbage, these carrots, these potatoes, these onions ... will soon become me. Such a tasty fact!
*- **Mike Garofalo***

What vegetables would I recommend to grow in a raised bed ? Just about anything !

Seriously, there is nothing I can think of that will not grow as well if not better in a raised bed, than it would in a traditional vegetable plot. The mere fact that the vegetables are raised up away from the creeping things of the soil, means that they have better protection against insects, and are not so prone to fungal disease as they have better air circulation in general.

For instance, cucumbers will grow better as they can be trailed over the edge of the bed, keeping them of the ground. Carrots are a crop where it is better to keep them raised anyway, in order to help protect from the carrot fly. Potatoes can be easier to dig up from a raised bed, as can parsnips and any deep rooted vegetables, simply because the soil is looser.

It is much easier on the back when tending strawberries or any low growing fruit or vegetable. However, tomatoes grow exceedingly well in raised bed situations, as they can greatly benefit from a concentrated feeding regime of the type a raised vegetable garden offers.

It is a simple matter to build any kind of trellis work on a raised bed – particularly the timber models, as it is easier to secure any fixings into. Growing beans or peas in a raised

bed complete with trellis or framework is a simple matter when working a raised bed vegetable garden.

Summary

As you may have guessed by now, I am quite a fan of raised bed gardening. Yes it is true that more preparation is

involved at the beginning of the project, if you are going to build a raised bed.
However the rewards in my view, are well worth the effort, as the raised beds that you build should give you many years' worth of service.

Another advantage of the raised bed that I have not covered here, is simply the fact that you do not need the same range of expensive garden machinery. Rotavators for instance, usually needed to dig over the soil, are not needed for a raised bed. Most of the digging work is done with the help of a small garden fork, as the soil is generally light and loamy.

In fact almost all the tools you need are simple hand tools, for light digging and pruning of your plants.

I have been asked in the past, just what is the difference between a raised bed and a planter – the answer is simple. A raised bed does not have a timber base, and therefore cannot be moved around. Planters do have a slatted base and are generally smaller, to enable positioning. Planters are generally chosen for ornamental purposes.

There are areas however where there is just a fine line between one and the other – and that is fine.

Final note of caution: Do not build a raised bed on a decking area – it's far too heavy, and will rot your deck. Choose a smaller planter instead.

Resources

Resources for this work are mainly my own experiences mixed with of course internet research.

My gardening blog site www.planterspost.com has been the inspiration for much of the advice here, with many articles gleamed from gardening magazines and news from national and international sources.

In my other Kindle work Vegetable Container Gardening, I explore further what it means to grow vegetables in a limited space. With tips and ideas, for growing vegetables in containers.