

# To DIG or not to DIG?

Conventional wisdom has us digging over our plots every autumn but what are the benefits and could a no-dig approach be wiser? **Val Bourne** explores the pros and cons with help from no-dig enthusiast **Charles Dowding**

I think I was born to dig because my maiden name was Teall and when I looked it up in a dictionary of surnames it was a corruption of 'tiller'. Digging must be in my genes, so it's not surprising that I take to it with such gusto. I turn over any barren ground in autumn so that the weather breaks down the clods before I work it up to a fine tilth ready for spring planting. The better half goes even further: he double digs and trenches as well. It came as something of a surprise, then, when regular *Grow it!* contributor Charles Dowding told me that he favours a no-dig approach. It's made me think about what I do and why I do it.

## Val's digging

I favour digging because I believe it lets air into the soil and improves the structure thus helping plants to develop better roots. It exposes the pests and many a time have I happily dug while a friendly robin or blackbird pecked away at my feet. When you turn over the soil quickly in autumn you leave large clods. This generates a greater surface area and allows more water to penetrate efficiently. The frost breaks down the wet clods and as the soil freezes and thaws it does the work for you. Of course, a neatly dug plot also looks handsome and is a pleasure to plant.

There is a downside to digging. Every time you dig you bring seeds to the surface and the light encourages them to

## What is double digging?

Double digging involves removing one spit (that's one spade's depth) of soil. The bottom of the trench is then roughly dug over with a fork to break it up to improve drainage. At this stage manure or garden compost can be incorporated into the trench before covering back over with the remaining soil to make a raised, fertile mound. This is perfect for legumes such as peas and beans and you can even fill one of these trenches with vegetable waste and leave it over winter.



Double digging the ground – but is it worth the effort?



Potatoes grow equally as well in dug and un-dug beds, where the lifting of the potatoes helps break up the soil



Beds dug over in the autumn will allow the freeze-thaw action of frost to break up stubborn clods

germinate. Most of them are weeds, so in one way you make yourself work every time you dig. In wet winters the soil can become very waterlogged and nutrients can be washed away. I have also experienced problems in cold, windy springs when you could even see the fine soil being blown away. If the surface had been more solid leaching and erosion may not have happened. Perhaps unsurprisingly the no-dig school of gardening evolved in America and Australia, where soil erosion and drought are serious problems.

## The no-dig method

The two pioneers of no-dig gardening were both women. The most famous was an American called Ruth Stout (1884-1980) who gardened in Kansas. She advocated using a thick, 20cm (8in) mulch of hay to suppress weeds and keep the soil moist. Stout used cheap 'spoiled' hay that wasn't suitable for animal use. She also added grass clippings, straw, leaves, pine needles, sawdust, weeds and kitchen scraps (eggshells, vegetable peelings etc) directly onto her garden and didn't have a separate compost heap. When weeds grew she added more mulch. When she planted potatoes she chitted them then threw them on to the surface and she planted seeds in the same easy way. Ruth Stout became famous for not watering her garden for 35 years!

Ruth Stout published *How To Have A Green Thumb Without An Aching Back – A New Method Of Mulch Gardening*, *The Ruth Stout No-Work Garden Book* and *Gardening Without Work: For the Ageing, the Busy and the Indolent*. She was an acknowledged eccentric and often gardened naked.

Her system wasn't a labour-free one and her partner Richard recorded that you needed 25 hay bales for a garden plot 15x15m (50x50ft). He estimated this to be about a half-tonne of loose hay and someone had to spread it over the garden. Ruth gardened at a time when hay was abundant in her area. Kansas also has a continental climate of cold winters and very hot summers, so she would not have had much trouble with slugs during her growing season!

The other famous no-dig gardener was an Australian called Esther Dean. She wrote *No-Dig Gardening and Leaves of Life*

in the 1970s. Perhaps the most famous British exponent of no-dig gardening is Bob Flowerdew, who only digs to lift crops like potatoes and parsnips.

## Charles' system

Charles Dowding was inspired by reading one of Ruth Stout's no-dig books and has been growing vegetables successfully for 28 years using his own method on heavy, wet soil. He starts by removing some perennial weeds, such as docks, with a trowel. Other pernicious weeds such as couch grass, dandelions and buttercups



No-dig gardening sees compost spread over the soil surface and left for the worms to draw it in

## Know-how

are then killed by covering them with cardboard. Annual weeds are hoed, mainly in spring, when they germinate. Most of Charles' weeding on his two acres is by hand, little and often.

Some crops (like potatoes and parsnips) are dug out of the ground. Most vegetable plants are raised in modules in the greenhouse and then planted out into the garden at the optimum moment so that they get the best start.

A 5cm (2in) layer of compost, animal manure or green-waste compost is applied to the surface once a year as soon as the crops are harvested in autumn. Sometimes Charles applies a summer mulch around brassicas, cucurbits and leeks. The compost heap is turned once to produce flat and crumbly organic matter. The material for the compost heaps is vetted – weed seeds and flower seed heads are removed before composting. Big lumps of manure and large lumps of compost are used round larger plants like courgettes. The finest consistency of compost is saved for crops such as carrots that are sown in situ and it is always added before Christmas so that there is time for it to be broken down.

## Pros and cons

Soil structure improves all the time with Charles' method. He gardens on heavy soil and has found that heavy rain from the torrential storms of the past three summers soaks in really well. You don't get a mass of germinating seeds every spring this way and you're always on top of the weeds. This is important as Charles is cropping his two acres mostly



Onions in the dug bed (front) and no-dig onions behind



Charles' dug (closest) and no-dig beds in May. Potatoes are on the left, then chard, lettuce, spinach, parsnip and radish

by himself. The garden settles into a nice rhythm and second cropping and intercropping are easy to achieve. The mulch over the surface keeps the soil warm and the worms are more active, drawing the compost into the ground.

Carrots grow well in the no-dig system but they can sometimes be difficult to germinate. However, parsnips thrive when the seeds are sown in Cheltenham Gold Cup Week in the middle of March. Garden Organic (then HDRA) looked at the system in depth. They concluded in 1967 that soil fertility was higher, giving better crops at first, but after seven years there was a crash and fertility plummeted. Charles and Bob Flowerdew have not found this; they have found improvements every year.

## Comparing methods

Charles Dowding has four trial beds. Two are non-dig and two are dug regularly. The same amount of organic material goes onto both and the same crops are grown in both. Spinach, lettuce and endives all do rather better in the un-dug bed – their leaves have more lustre than those in the dug bed. Carrot seedlings in the no-dig bed are often nibbled by woodlice, which live in the surface of the compost. No-dig crops do better in spring, possibly because the soil holds warmth and moisture better. Water soaks more quickly into the un-dug soil when both beds are watered at the same time.

The dug bed sees slower growth in spring, which is compensated for by faster growth in the autumn. Brassicas do better in the dug beds. Carrots germinate more easily in these beds, while eventual growth is similar to the un-dug bed. Potatoes, beetroot and parsnip are quite similar in growth. Worm populations haven't been measured in either of the beds.

Clearly a lot of compost would be needed if the average allotment was tended using Charles' no-dig method. A standard 10-pole allotment would require nearly 13m<sup>3</sup> (17 cubic yards) of compost. A standard allotment compost bin made from pallets would probably hold, when full, just over 1m<sup>3</sup> (1.5 cubic yards) of compost.

## The way forward

I am unlikely to be able to produce enough garden compost to create a completely no-dig system but I am going to try it in selected areas of the garden. However, Charles has pointed out that compost is more available than it used to be – especially green-waste compost from the local council. Charles will continue his system across most of his garden because it results in abundant crops. If you're a no-dig gardener or have any thoughts please let the editor know.



Brassicas, such as broccoli, appear to prefer soil that's been dug over and left to settle



'Berlicum' carrots sown in early June in Charles' no-dig bed. Carrot germination tends to be better in the dug beds