

# Vegetable succession with minimum soil preparation

I find that July is the busiest month of all and its lucky the days are long. After early summer harvests of lettuce, spinach, broad beans, beetroot, peas, carrots, cabbage and potatoes, there are many new plantings to make. A successional crop is good for the ground, to reduce weed growth and to keep soil organisms busy with developing roots.

To succeed with succession requires more precision about sowing dates than in spring, in order to make best use of diminishing daylight and warmth. For example its good to raise plants undercover, which compared to sowing direct adds three or four weeks to the growing season, through the overlap of seedlings starting while the preceding crop is offering its last harvests.

## Rotation?

How does second cropping fit in with a four year rotation? I think there are two possibilities:

- either crop another vegetable of the same family, say early cabbage followed by kale, spinach by beetroot, coriander by carrots, and peas by dwarf beans,
- or follow with a vegetable of another family, so the four year rotation is collapsed into two years of four halves - such as lettuce followed by carrots, then potatoes followed by kale.

## Advantage of no-till

Summer is when no dig/no till plays some big aces. Little time is required to clear the remains of one crop and prepare soil, before popping in plants of the next. You can reap significant rewards by maintaining soil in a weed free state (not difficult once you are committed to hoe/remove weeds when small) which saves time when clearing.

The soil surface may be hard from drying out, so watering new plants is essential, preferably by hand and directly to the roots of each plant, so that you need just a small amount of water. I still find it amazing how plants somehow find water in dry soil, and its partly because no till conserves the mycorrhizal fungi, which can then help roots to forage for moisture as well as nutrients.

I was discussing no dig with a grower James Dexter at Wild Geese Acres, Greenham Reach in Devon, who wrote "One thing I would add about the benefits of no dig on my soil is 'less watering'. I didn't water at all last summer (2015) and grew 15 foot high cardoons! A real bonus in an off grid setting."

## Soil preparation in summer

It works well to twist most crop remains out of the soil, such as lettuce and cabbage, while leaving all small roots in the soil as food for bacteria etc. Legumes can be cut at soil level so that nitrogen nodules remain but I think they are less numerous and significant than sometimes suggested, because most have been used in the plants' growth to maturity. 'Free nitrogen' is more from say, young bean plants grown as green manure.

After pulling out roots such as cabbage and lettuce, or harvesting garlic, soil is best trodden back down to leave it firm - its fine to walk on undug soil, whose structure should easily take your weight, unless its raining hard! I find that vegetables grow well after the soil is trodden down, which helps to break surface lumps and conserve moisture.

I use a long-handled dibber, made from a spade handle, to give enough leverage to make reasonably deep holes in dry soil, with a slight hollow around each plant, making it possible to apply small amounts of water where most needed, just around new plants and not over the whole area.



Photo: Charles Dowding

Beetroot in September, planted after broad beans, module sown

Sow, plant	First vegetable	Sow, plant	Second vegetable
Aug-Sep	Cabbage for spring	May-Jun	Beans French and runner, many other veg
Mar-Apr	Spinach, radish	Jun	Almost any vegetable such as swede, carrot, beans, celery
Oct-Nov	Garlic, broad bean	May-Jul	Kale, cabbage, calabrese
Mar-Apr	Early potato	Jun-Jul	Beans French, leek (sown April), brassicas
Mar-Apr	Lettuce, carrot, beetroot	Jun-Jul	Dwarf bean, leek, Oriental leaves, spinach, chervil, coriander, parsley
Mar-Apr	Cauliflower, calabrese, pea	Jul-Aug	Lettuce, endive, chicory, herbs
Feb-Apr	Onions	Jul-Aug	Oriental leaves, spinach, chervil, coriander, parsley, spring cabbage, endive, chicory, turnip

## Feed soil for replanting?

On heavy soils this is unlikely to be needed when a winter food of compost has been applied, which acts as a slow release feed for soil and plants throughout the year. At Homeacres I mulch only once a year in late autumn and winter, mostly. On sandy soils a thin dressing of best quality compost is good on the surface, before replanting.

## Sowing in dry soil

Sowing in summer may be in dry soil, and this can actually result in better germination than when soil is consistently wet, as long as you can get some water into the drill itself.

Seeds then lie in the damp drill and send their roots down, while above them is dry soil which you pull back over after sowing. 'Sow in dust, grow they must' - it looks dry, but there is moisture where it is really needed.

This may sound like more work than turning on a sprinkler, but it's economical with water and brings other benefits.. Above all you will be troubled by fewer germinating weeds, and less slug damage to seedlings, because of the dry soil surface.

## Succeeding through the year

The table above is of vegetables to precede, and then ideas of vegetables to follow them.

The dates are for sowing and planting, either direct or in pots or modules.

It's good to have plants ready for setting out as soon as possible after clearing the first vegetable, even on the same day. This can save up to four weeks of growing time and extends the growing season by that amount.

You can also make the season longer and increase harvests by covering March and April sowings and plantings with fleece or a cloche, just for a month or so, to propel them into abundant growth by May.

Many more combinations are possible, according to your climate, skills, facilities and desires for harvests. Interplanting is another possibility when you have control of weed growth: last year I planted modules of 3-4 beetroot in the rows between ripening onions, in mid July, and they made a good harvest by November, with the onions pulled in early August.

## Vegetable seasonality

Many vegetables simply offer harvest after a half season in the garden, either as first or second crops. They include beetroot, calabrese, carrot, kohlrabi, lettuce, onion for salad, pea for shoots and radish. However most of these have a season of healthiest growth, before their time of seeding, behaving differently according to when they are sown.

For example, true spinach (as opposed to leaf beet) sown in modules undercover from February to mid March, or late March outside, is a catch crop. It rises to flower in June after two months of harvests, and then it can be followed by summer and autumn vegetables.

On the other hand, spinach can live for nine months when sown in early August, giving leaves in autumn, surviving the winter and then providing leaves again in spring, until late May. So spinach can be used to precede or to follow. Similar examples of variable behaviour according to sowing date, are offered by most plants which can survive a winter outdoors, such as overwintering varieties of cabbage, cauliflower, lettuce and onion.

Broad beans, peas and early potatoes are half season vegetables but grow relatively poorly in the second half, from a summer sowing. I fail to see the point of sowing broad beans in June or potatoes in August, because of the poor return they give, compared to sowings in early spring, or November in the case of broad beans.

Peas do best from sowing undercover in late winter so that plants are already of a fair size before their strongest period of leaf growth in May. Then by early June they are switching to flowering stage so it pays you to have a strong plant by that time, in order to have more pods. Likewise it pays not to sow peas in May or June because they make little growth before flowering, and also succumb more readily to mildew and pea moths, through being out of season.

A further group of vegetables needs only a half season to mature, but gives reliable harvests in only the second half, because spring is their flowering season. They include bulb fennel, chervil, chicory, endive, land cress, leek, and oriental vegetables in general, including chinese cabbage, mizuna, mustards, pak choi and tatsoi. All of these are good to sow in summer and I have a sowing timeline on my website with precise dates for this.

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