Q1 Is No-dig farming methods using cardboard and compost becoming popular in Europe countries?

It is not widely used, but it is becoming more popular with small-scale growers, as the yield is much higher in a small, intensive growing area.

Q2 Please tell me in as much detail as possible how to implement the farming method.

The key to no-dig is to control weeds. Perennial weeds really need to be eliminated, so we cover an area with a silage sheet (black tarpaulin) over one summer season to get rid of the perennial weeds. The draw back of covering is that you can get a lot of compaction and lose soil health, so we are experimenting with using multiple cycles of green manure & cultivations to eliminate perennial weeds but maintain soil health.

Our paths are 40cm wide and our beds are 70cm wide so that we can easily straddle a path when planting, weeding or harvesting. Our beds are 50 meters long, so that we can use standard lengths of water pipe, fleece and other crop covers. After you have eliminated perennial weeds, we put cardboard down where the beds will be, then add approximately 2cm of good fertile compost, followed by approximately 6cm inches of sterile compost that acts as a mulch to prevent annual weeds germinating from the soil below. This is only down in the first year. We then try very hard not to expose the underlying soil so that the annual weed seeds that are always in the soil cannot germinate. We then put at least 8cm of wood chip to mulch the paths (a local tree surgeon gives us his wood chip in exchange for a weekly veg box).

If there are no crops growing in the winter then we plant an over-winter annual green manure to aid with fertility and soil health such as phacelia, crimson clover or Persian clover.

Q3 How to plant vegetables? Should I make holes on cardboard to plant them?

The cardboard rots down very quickly, it is just an initial barrier for any weeds trying to grow. We raise plants as seedlings in module trays and plant out using a dibber through the mulch compost layer so the plants can root in the soil underneath.

Q4 Please tell us about your current management (crop type and acreage).

We have about .75 of an acre in no-dig in 5 areas for a 5 year rotation. Each of our rotations are 20 beds. The rotation we follow is approximately

1. Chard/Spinach 2. Lettuce/Celery/Fennel 3. Beans 4. Courgettes 5. Garlic

We have an opportunity to under-sow green manure in the bean & courgettes rotations. Over time, weed seeds will blow in and start growing in the no-dig area - it is important

to keep on top of them all year (little and often) - and definitely do not let them set seed.

No dig does not mean no weed - but the weeding tends to be much more spread out over the year for us, rather than concentrated in the April/May time when our bare soil has its major weed flush.

Q5 What were the results of that farming method?

We have very sandy soil, which is hard to keep moist in the summer. With no-dig we are able to use much less water. With more consistent moisture and lack of weed burden, we also found that our plants grow far quicker, especially for "cut and come again" crops like chard and spinach so we can harvest these every three weeks in the summer. For these crops, our yields have more than doubled. Garlic, Celery, Celeriac also do especially well in no-dig.

Q6 Finally, I would appreciate it if you could give a message to Japanese farmers.

No-dig has its place on our farm, particularly for high-value annual crops that need a lot of care and irrigation. We can make a small area very productive but it does require a lot of manual effort and bringing in a lot of compost. Either that you have made on your land, or that you buy in. We use around 30 tonnes of compost to set up one of our rotations. It is important to note that in the UK there is concern about 'soil obesity' from too much nitrogen and carbon. You still need to one careful about over use of compost. For us it is very much worth it for the crops we grow but for other "field-scale" crops, such as potatoes, onions, leeks, sweetcorn, cabbages, pumpkins we stick to standard cultivation, as the space required and the efficiencies gained by using machinery is more appropriate. -------- This is fascinating subject and we wish all Japanese growers good luck!

Best Regards, George Bennett, Grower Sandy Lane Farm