



Tools

All CSAs need to invest in equipment when setting up or expanding and this is likely to be one of your biggest expenses. So it is important to try to get the right tools for the job. Accept that you will probably develop new growing techniques as you learn and may need to buy further tools as the years go by.

Both for environmental and practical reasons some CSAs decide to focus solely on hand tools or horse-drawn cultivation, whereas others use tractors with a number of implements for different jobs. Generally, CSAs rely far less on machinery than most large-scale commercial farms.

CSAs have limited budgets so often use second-hand equipment or make tools themselves. You can buy machinery and equipment through farm sales, dealers, adverts in the farming press, local smallholding societies or via eBay.

You don't need to own machinery. Some smaller CSAs just hire in local contractors when they need work like ploughing done. However it is extremely useful to have access to the right machinery at all times! If your CSA is renting land off a larger farm with machinery they may lend you equipment or do some of the work for you, a huge time-saver if they have large-scale tractors.

There is no substitute for visiting other similar-sized farms and/or market gardens to learn about tools and techniques. They don't have to be CSAs, though it can be helpful if they are, as CSAs operate a little differently to other farms. Every farm you visit will teach you something new and save you time and trouble. Please contact the CSA Network UK as we can help arrange and possibly fund any visits.

Hand tools

If you will be working with volunteers then large numbers of tools like hand weeders, long-handled hoes and buckets or trugs for weed collection are invaluable. People like to feel useful so it can be very frustrating for them if all tools are already in use!

Cultivation: a tractor or not?

The tools you buy for cultivation will depend on your choice of growing technique, and there are as many ways of growing vegetables commercially as there are growers! These are some of the tools required for the main techniques used by CSAs.

No dig growing

If you have access to a good-quality, plentiful, cheap supply of well-rotted manure and/or compost (and we are talking about truckloads, not wheelbarrow loads) then you might choose no dig techniques.

Charles Dowding is the leading expert on no dig growing in the UK and has run a successful market garden himself using these techniques. You'll save yourself a lot of time and effort by investing in his books and/or courses and if you're a member of the CSA Network UK members you'll get a discount. He runs a course specifically for market gardeners.

While Charles' books are geared to the home gardener they have a great deal to offer to the small-scale commercial grower too. Only a limited number of tools are needed when using no dig techniques on a very small scale. For CSAs, Charles also recommends the book *The Lean Farm* by Ben Hartman, who uses a variant of no dig growing

on his one-acre market garden in the US, using a compact tractor to shape beds and for other jobs around the farm.

Horse drawn cultivation

Getting a working horse is not a step to be taken lightly, but is a fantastic marketing tool. French not-for-profit organisation Prommata promotes the use of draft animal market gardening and manufactures the Kassine tool holder which can take a wide range implements for cultivation, hoeing and so on. For more information in English go to assprommata.org/?lang=en

Two-wheeled tractor- based market gardening

This was a standard set-up in market gardens a few decades ago. Indeed much of the equipment for this method used to be manufactured here in the UK but the rise of vegetable imports, large-scale veg growing and the loss of small-scale market gardens round UK towns has seen suitable tools all but disappear except on the antiques market! CSA offers an opportunity to make this system viable again, but you will need to buy imported tools (unless you manage to find, and restore, some antiques).

The master work on a profitable market garden based around a (relatively) low-cost two-wheeled tractor is Elliot Coleman's book *The New Organic Gardener*. An interesting variation on Coleman's technique is documented in *The Market Gardener* by Jean-Martin Fortier - both Fortier and Coleman are market gardeners themselves.

If you choose this route make sure someone on the farm knows how to maintain and fix the tractor, they require regular maintenance for which you'll need a grease gun and appropriate oil(s). Read the manual with care, draw up a regular maintenance schedule and then stick to it, even when you are flat out with other work. You will be very dependent on the tractor at key moments in the growing season so will need a mechanic to hand if it breaks down.

Along with the tractor itself you'll need a number of basic tractor implements for cultivation: a rotovator, and/or a plough and harrow, and possibly a subsoiler to loosen any compacted "pan" layer or soil under the surface which would restrict root growth. There are many other implements available that will make life easier, notably a potato ridger and harvester and a grass cutting implement. The whole set-up, including the tractor itself, is likely to cost a few thousand pounds.

Your life will be far easier if you complement the tractor and its implements with a line seeder such as the Earthway Precision Seeder, or a Wolf Seeder for smaller seeds, and a wheel hoe like the beautiful Swiss Glaser Wheel hoe. Each can be bought for a few hundred pounds. Practical folk have built their own wheel hoe, doing an internet search will help you to find instructions on how to do this.

Above around three acres you are likely to need larger-scale equipment than a two-wheeled tractor. Even at under three acres a four-wheeled tractor reduces the workload considerably. Bear in mind that handling a two-wheeled tractor can be hard work physically. The more land you have the harder it becomes, while a four-wheeled tractor is driven from a seat which is far less effort.

Four-wheeled tractor-based market gardening

A small four wheeled tractor is a considerable investment; both the tractor itself and implements for it are dearer than those of a two-wheeled tractor and cost many thousands of pounds. But it will cover far more ground, saving you time and effort.

If you don't know much about machinery, and in particular tractors, find someone locally to help you to find the right set-up for your site and soil - pay them if necessary for the advice as it will save you time and trouble later on. Options for implements are wide: you can buy classic rotovators and/or plough and harrow implements to prepare cultivated beds, or explore low-till implements with fixed "wheelings" between permanent beds, which

eliminates compaction and helps to preserve soil fertility.

Health and safety

If you do buy a tractor, or other power tools, then you will need to check with your insurer whether or not volunteers can use them and what training they would need. Take enormous care before buying sharp-edged tools such as scythes for volunteer use. However many times you explain how to sharpen and use them safely, it is very possible that someone will cut themselves, possibly badly (see also Health and safety section).

Farm Hack

FarmHack is a community of farmers and growers developing appropriate tools for small scale ecological farming. It was founded by The Greenhorns in the US and has since held regular events to bring the community together on farms and in workshops across the USA and in the UK. FarmHack is founded on the principles of open source technology meaning that tools and techniques are also shared and developed on the online forum farmhack.org/tools



OTHER USEFUL LINKS AND RESOURCES

- ▶ This guide from Moss Book Growers also has a very useful section about machinery sustainweb.org/publications/the_story_of_moss_brook_growers/
- ▶ This guide has a useful list of equipment and machinery you may need for an organic vegetable farm organiccentrewales.org.uk/uploads/hortguide_eng.pdf
- ▶ The Fairshare CSA Coalition has instructions and fact sheets about some of the tools used and built by CSAs in the US [csacoalition.org/resources-for-farmers/equipment-tools/](https://www.csacoalition.org/resources-for-farmers/equipment-tools/)
<https://www.csacoalition.org/resources-for-farmers/infosheets/#tools>