

A Brief History of UK Cultivation prior to the Allotment Movement

While researching and writing [a brief history of allotments in England and Wales](#) I began to wonder what the influences might have been on those early plot holders in the late 18th and early 19th centuries. Based on I know not what, I initially considered that the techniques employed by market gardeners must have played some part. A subsequent holiday in the Yorkshire Dales which included visits to the abbeys of Fountains and Rievaulx then alerted me to the potential impact of the Cistercian and Benedictine monastic orders on agriculture from the 12th century right up to the moment when Henry VIII disbanded them in the 1530s and 1540s. And surely I thought, at some later idle moment, surely the Romans must have done something for us?! Before I knew it, as with all good displacement activities, I was perched in the British Library delving into Neolithic man's attempts to grow food around 4000BCE.

Cultivation is not an easy topic for the professional historian - it is even more difficult for this amateur - for the simple reason that as you go back in time there is less and less documented evidence to work with, leading to an ever-increasing reliance on archaeological finds and judgement calls – or do I mean speculation? Much conjecture surrounds prehistory, the period before the Romans; the Romans themselves did not leave a great deal of written evidence of their growing experiences in Britain apart from the odd snippet from the pen of [Pliny the Elder](#); from the Dark Ages to the Normans there is only the odd fragment of useful information; and even the monks in the mediaeval period have tended to leave us more information on their land management skills than on their expertise in the art of cultivation. It is only as the 15th and 16th centuries are reached that the volume of written evidence starts to gather pace.

If there is a scarcity of information on the subject of cultivation in general there is, unsurprisingly, even less data on the history of the kitchen garden apart from the occasional piece relating to the experiences of the “great and the good”: the sort of item which informs us that the Roman [Emperor Tiberius](#) grew cucumbers, well no doubt his gardeners did really, after they were prescribed for him by his doctors.

Anyway, let us make a start with Neolithic man in Britain around 4000BCE. Note that I have used the [CE / BCE date notation](#) in this article. This simply means that BCE is employed instead of BC and CE in place of AD.

Contents:

- [Prehistory \(4000BCE to 43CE\)](#)
- [The Romans \(43CE to 410CE\)](#)
- [Anglo-Saxons \(410CE to 1066CE\)](#)
- [Normans to Plantagenets \(1066CE to 1485CE\)](#)
- [Influence of Monasticism \(12th to 16th century\)](#)
- [Tudors and Stuarts \(1485 to 1701\)](#)
- [Market Gardening \(1550 onwards\)](#)
- [Nurserymen & Seedsmen](#)
- [Fruit development](#)
- [Beginnings of Agricultural Science](#)

[The Appearance of Gardening Books](#)

[... And so to our early Allotment Holders](#)

[Appendix - Origins of Selected Vegetables](#)

[Bibliography & Further Reading](#)

Prehistory (4000BCE to 43CE)

Just as the west coast of the US is currently regarded as the fulcrum of software development in the computer industry, so advantageous climatic conditions dictated that the area of the Middle East known as [The Fertile Crescent](#) was the main centre for early advances in cultivation around 10000BCE. Britain, with its colder climate, had to wait some time for the eventual arrival of farmers whose ancestors had originally hailed from the Fertile Crescent and surrounding areas.

There are initial signs of forest clearance in Britain dating back as far as 4000-4500BCE. Axes with stone blades could be used to fell a tree although the size of tree that could be tackled was no doubt limited. An alternative approach was tree killing which consisted of removing the bark and sapwood up to a man's height. However, it could take many years to kill a tree in this way.

Fire played a part in clearance and our ancestors discovered that burning land resulted in good crops the following year. Seed was broadcast in warm ashes and covered with soil by dragging branches, a crude sort of rake, over the soil. However, they also learned that this was a short term win; the yield in the following year decreased significantly, and it got even worse the year after that. Hence the tendency was to move on after a couple of seasons, clearing and burning another patch of ground. It could be 20-40 years before the original piece of ground was used again.

[Digging sticks](#) (pieces of wood with sharpened ends) and a form of hoe, fashioned out of stone, were the first tools, while the earliest plough, more correctly referred to as the [ard](#), may have appeared around 3600BCE.

In terms of crops, there is evidence of cultivated forms of cereal grasses in the 4th millennium BCE, principally wheat with some barley and modest amounts of oats, rye and flax. The diet also included: wild fruits such as crab apples, sloe, cherry, blackberry and raspberry; broad bean (of Western Europe origin) in limited parts of the West Country, wild water cress, chives, thyme, mint and edible fungi.

Coming forward to the 2nd millennium BCE, during the early [Bronze Age](#) when patchy settlements began to appear (the population was estimated to be circa. 10,000 around this time), there are the first signs of a regular field system – called [Celtic fields](#) in Britain. They were typically 0.2-0.6 hectares in size and generally oblong in shape. This was around the time of the arrival of the [Beaker peoples](#), so named because of their pottery. It is thought that manuring and [marling](#) date from around this period. Direct manuring was also introduced, e.g. putting sheep onto a harvested field for a short spell.

By the 1st millennium BCE there were more solid settlements, especially in areas bordering the Thames, and the population estimate was now up to 100,000. With the arrival of the [La Tene culture](#) which appeared in Eastern France & Southern Germany during the late Iron Age (from 450BCE up to the time of the Romans) came the first signs of the cultivation of vegetables such as peas and beans and wild plants such as leek, chives, cabbage, asparagus and seakale.

[The Belgae](#), peoples from Northern Gaul - some say that they stretched from the Loire to the Rhine - appeared in the SE of Britain around the 2nd century BCE. They introduced a heavier ard which allowed medium loams to be tackled; up to this point only chalk and limestone soils would have been worked by the earlier ard. However, even this heavier ard was unlikely to be of much use on virgin land where hoes, mattocks and spades were probably required in the first instance.

Evidence of cultivation techniques around this time is sketchy: there is considerable speculation with respect to ploughing and harrowing; sickles for harvesting were originally made of flint, then bronze and subsequently iron; while pits were used to store crops with a seal at ground level to retain the carbon dioxide which was produced by the crops, thus helping to stop decomposition and germination – pits originally date back to the Neolithic period but they proliferate during the [Iron Age](#).

Cereals crops were used to make coarse unleavened bread and “beer”. The hand-mill appeared in the 1st millennium BCE (hand rubbing was employed prior to that). Bread was made out of a stiff porridge, shaped and baked or possibly simply dried.

The Romans (43CE to 410CE)

[The Roman occupation](#) coincided with the sub-Atlantic climate phase, a time of increased cool and wet weather which lasted right up to 500CE. The Romans supplemented their own cultivation expertise by assimilating knowledge from peoples in various parts of their empire, principally in the east Mediterranean and near Middle East. Horticulture had originally developed in Egypt around 2000BCE. By 1500BCE, at the time of Solomon, there is evidence of roses, lily of the valley, saffron, apples, dates, pomegranates, cucumbers, melons, gourds, onion, garlic plus various herbs and spices. Pears and nuts subsequently appeared in Persia around 500BCE while cabbage, asparagus, seakale, iris and narcissus are thought to be attributable to the [Ancient Greeks](#) around the same period.

The Romans built on this expertise as their empire grew. For example, at the height of their power there were said to be 22 varieties of apple, 36 of pear, 8 of cherry, 4 of peach, 3 of quince, many plums, medlars, grapes, olives and strawberries. They also grew carrot, parsnip, beet, chicory, mustard and collected mushrooms from the woods.

They were aware of forcing techniques. As previously mentioned, the Emperor Tiberius was advised by his doctors to eat cucumbers every day. They were produced out of season by growing them in pits of fermenting dung, covered with sheets of talc.

In Britain the Romans introduced the [Roman-British coulter](#), a plough which weighed up to 16lbs, was 35 inches in length and cut 6 - 12 inches deep, allowing a range of soils to be ploughed and cultivated – sandy to heavy loams, gravels, alluvium and clay with flint although heavy clay was less likely to be tackled.

Tools that were in use around this period included: scythes (up to 20 inches long), sickles, billhooks (slasher), pruning hooks, turf cutters, axes, ascia-rastrum (a combined hoe and 2 pronged drag hoe), rakes, mattocks, spades (mostly wood although there were a few iron versions), forks (again mainly wood, e.g. the hay fork), pruning knives and dibbles. Specific Roman introductions included: the balanced sickle, two handed scythe, mower’s anvil, turf cutter, mattock, iron

spade, iron fork, rake and ascia-rastrum. All the basic hand tools had been invented by this time with the exception of the trowel.

Information on crops that were grown stem from archaeological finds rather than written evidence, except for the occasional observation from writers such as the historian, [Pliny the Elder](#). With respect to cereals, rye and club wheat appear with the greatest frequency alongside spelt, emmer, barley (naked and hulled) and oats (which were regarded as something of a weed). Non-cereals in cultivation included: peas, broad beans, vetch, turnip, flax, corn-spurry, winter beans and tares (used as a green manure). In the kitchen garden at this time were wild radish, parsnip, peas, cabbage, mustard, and herbs such as coriander, horse parsley, dill and fennel. As for fruit: the cultivated cherry was introduced in 47CE according to Pliny; sloe, bullace and plum were already around before the Romans; the medlar was introduced by the Romans; wild apples and pears both predate the Romans; the mulberry is probably Roman; wild raspberry and blackberry predate the Romans although they brought in a cultivated raspberry; and grape vines are probably attributable to the Belgae while figs and walnuts were Roman introductions.

What is not clear is precisely how much of their expertise the Romans passed on to the Brits. Some knowledge must have seeped out; for example the Romans are thought to have introduced the concepts of both the orchard and the herb garden into Britain. The evidence generally seems to point to some continuity of the native system in parts; that is we are talking about a gradual evolution rather than a revolution. For example, farms predate the Romans, possibly being attributable to the Belgae.

In summary, without doubt the Romans improved what was already here although the Belgae were responsible for many introductions prior to their arrival. The Romans also learnt some things from the Brits, particularly about cultivating in a cool climate.

One point of interest is that the Romans, despite their knowledge, had no real understanding of soil or the role of minerals in growing.

Anglo-Saxons (410CE to 1066CE)

The decline of the Roman Empire led to the end of Roman influence in Britain; they officially gave up the reins in 410CE. The initial [Anglo-Saxon](#) settlements occurred around the time that the Romans "left", coinciding with the peak wet period of the sub-Atlantic climate phase. The early [Dark Ages](#) appeared to see a stagnation in the art of cultivation with no significant improvements or changes in cultivation being noticeable until the later Saxon period (8th century onwards). [Charlemagne](#), the first Holy Roman Emperor (crowned in 800CE), was celebrated for fostering the revival of learning which had lapsed considerably since the Romans. [Walafrid Strabo](#), a Saxon missionary, contributed to this revival, producing theological, historical and poetic works. He wrote a poem entitled *Hortulus*, an account of a little garden that he used to tend with his own hands, which is largely made up of descriptions of the various herbs he grew there, along with details of their medicinal and other uses.

There were some improvements in plough technology around this time with the introduction of: the aratrum (Kentish), a light implement for ploughing well-drained soils; and a heavy-wheeled plough for heavy soils which appeared late in the Saxon period. In addition, the water mill, long established in the Mediterranean world, appeared in Kent in the late 8th century and soon spread to

the rest of the country. Before then it had been a manual task to grind corn, a task that was often performed by slaves.

Early crop rotation techniques are mentioned in Roman literature but the 8th century saw a refinement with the introduction of the two field system which is thought to have originated in the area between the Loire and the Rhine, being subsequently adopted by the Saxons in the 8th or 9th century. The basic concept was to grow wheat, barley, *et cetera* in one field while the other remained fallow. This approach was eventually replaced by the more sophisticated three field system – grain in one field, legumes in the second (to put nitrogen back into the soil) with the third fallow. A variation in the South West of England was the idea of infield and outfield. Infield was the area nearest to the homestead which was cultivated every year. Outfield was an area taken from common pasture, cropped for a year or two and then allowed to revert to pasture whence another strip was cultivated.

Staple crops during the Saxon period included: wheat and rye (autumn-sown), barley and oats (spring-sown), beans, flax, hemp and woad. (Note - bene-stede meant a place where beans were grown and occurs in place names such as Banstead and Binstead). Leeks were very popular: the kitchen garden was in fact known for a time as the leek garden and a gardener as a leekward.

Normans to Plantagenets (1066CE to 1485CE)

By 1100CE, just over 30 years after the arrival of the Normans, [the Open Field System](#) which was first developed by the Anglo Saxons was in widespread use. Briefly, a village was surrounded by several large fields that were split into sections of one furlong (circa. 200 metres). The attraction of large fields was that it made ploughing easier; heavy ploughs and largely clay-based soil made ploughing a difficult task. A furlong stretch was split into strips, typically of half an acre or less. Each villager had a number of strips that were allocated at a public meeting at the start of the year. They were widely scattered to prevent one person getting all the good (or all the poor) land. Crop rotation was practiced by field. In addition to the “three” fields, there was common land for livestock to graze (fallow land and stubble were also used for this purpose) and common woodland for hunting and fuel collection. This system was evolved by communities who relied totally on the land, having few opportunities to barter and exchange.

[The Domesday Book \(1086\)](#) frequently mentions small gardens, called *hort* or *hortuli*. It also mentions 8 *cottarii* growing vegetables in the manor of Fulham, possibly an early form of market gardening.

By the 1200s food imports had become noticeable, particularly garlic, onions and luxury fruit. On the subject of fruit, the first fruiterer in Britain may have been Gerin Le Fruter who was in business in London in 1292. The Fruiterers' Society subsequently came into existence in the early 1400s and the Worshipful Company of Fruiterers received its royal charter in 1605. Vineyards were already common at the time of the Domesday Book; there are 38 references including 15 acres at Bisham in Berkshire. Oranges are mentioned in the 1100s although they were almost certainly imported; they were originally grown in Arabia and subsequently in Spain after the Moors invaded that country in the 8th century. Eating and cooking apples also appeared in this country around the 1200s, having previously been used for making cider. The wild pear was indigenous to central Europe but was present here from Roman times, possibly earlier; the cultivated pear was

probably brought in by the Normans. The gooseberry also appeared in the 1200s although its origins are vague.

Improvements were seen in drainage techniques during this period. Dykes were used to change the course of water; they were typically made from earth and clay with the sides strengthened by tussocks of coarse grass. Willows were also planted to strengthen them while cattle bars were used to prevent animals causing damage.

The Influence of Monasticism (12th to 16th Century)

Many of us probably have the idyllic view of monks spending their days alternating between prayer, meditation and working the land. While this *modus operandi* was certainly adopted by the Celtic monks (prior to the 10th century) it had largely fallen out of favour by the time of the Cistercians and Benedictines except for a small number of monks who may have been responsible for looking after the herb, physic and fruit gardens which were sited within the grounds of the abbey. The Cistercians and Benedictines allowed illiterate or barely literate individuals to join their orders, not as religious monks but as lay brothers, called *conversi*. After taking vows of chastity, poverty and obedience it was these lay brothers who performed manual tasks such as working in the fields, occasionally supplemented by hired labour at peak times such as harvesting.

The Cistercians were particularly strong on self-sufficiency. The order was founded in 1098 at Cîteaux, near Dijon in France. Clairvaux, the first daughter house, was formed in 1112, and it was from Clairvaux that the Cistercians spread quickly during the first half of the 12th century. Abbeys which were established in the UK included Rievaulx (1131) and Fountains (1132), both in Yorkshire, with Melrose (1146) and Coupar (1164) in Scotland. One of the main ideals of the order was individual poverty and with it the need to be self-sufficient. Of course they needed land to be self-sufficient and relied on bequests, which became a popular activity among the landed elite as a perceived means of insuring that they did not go to hell when they died. Some people suffered as the abbeys acquired land. Peasants were sometimes moved off the land while others lost the use of what had previously been common land. On the positive side monks needed labour and would frequently employ these local peasants.

Although they may have some land in the vicinity of the abbey the majority of a monastery's holdings were likely to be disparate farms, called granges, which were meant to be within one day's journey from the abbey. Granges were typically mixed arable and pasture farms although some were devoted to other purposes such as iron production. The granges were supervised by the *cellarer*, a fully-fledged religious monk, who can be thought of as the abbey's accountant / treasurer.

A cornerstone of Cistercian economic policy was the exemption, granted by Pope Innocent II in 1132, from the payment of tithes on land which monks cultivated. Other land owners naturally objected to this privilege and it was eventually restricted in 1215 to lands newly brought into cultivation. An 1840 survey by the Tithe Commissioners showed that the township of Saighton in Cheshire, home of a Benedictine establishment (St Werburgh), had 1717 acres of which 840 were exempt.

Coupar in Perthshire, Scotland provides a good example of the growth of an abbey. It was granted various pieces of land plus the use of forest and stream (for fishing) by the Scottish king, Malcolm IV (1161); later, 60 acres for the

abbey plus various lands and wastes from William the Lion (1172-78); subsequently exempted from all tolls, market and ferry charges; additional forest lands from Alexander II (1233); and other bequests from landed families during the 13th century. By 1225 Coupar had 9 granges. It then subsequently rented 400 acres from the Bishop of Moray for sheep farming ... and so it went on. By 1304 Coupar had approximately 8 thousand acres.

In what ways were the monks influential? First and foremost they excelled at land management. They were very good at bringing unpromising land under cultivation: Saltaugh (nr. Humber) is an example of a grange that was drained and subsequently cultivated. They maximised the use of manures on the land, using products such as stable dung, brew-house grains, ashes of peats, and ashes from the bake-house. They were quick to implement new ideas and techniques, some of which would spread from their other houses across Europe. They were masters of herb growing and of using them for medicinal purposes, as well as being experts in viticulture and wine making, beer making and wool production.

The height of monastic power ran through to the end of the 13th century. The decline started in the 14th century which saw economic depression, political instability, weather problems (a mini ice age) and disease such as [The Black Death](#). All this led to difficulties in recruiting good quality lay brothers. One solution was to lease possessions, even entire granges, to lay tenants. These tenants were occasionally the more impressive lay brothers: Brother Robert of Morton was granted a lease for Cowton (a grange belonging to Fountains Abbey) in 1310. There was also some offloading of granges that were considered surplus to requirements. The end came with [The Dissolution of the Monasteries](#) by Henry VIII in the 1530s and 1540s. While their disbandment saw the local gentry and the king's lackeys fighting over the lands and granges of the abbeys, tenancies and leases were generally honoured.

Tudors & Stuarts (1485 to 1701)

It is around the time of the Tudors and Stuarts that commercial horticulture really starts to take off with the growth of market gardening. Before we discuss this development let us briefly look at the state of horticulture in the 16th and 17th centuries.

Special attention was now being paid to the quality of seed. The basic ideas were: to bring seed in from as far away as possible, produced on a soil that was not prone to the same diseases that might be prevalent locally; and ideally to obtain seed from a poorer soil so that they would be more likely to prosper locally.

A wide variety of products were now being used to enrich the soil, including: all kinds of manure, malt dust, soap ashes, brine, animal hair, decaying fish, offal, beasts' entrails, blood, *et cetera*.

The concept of putting land down to grass to let it recover was now well established. On some very poor soils in the north 7 out of 10 years might be put down to grass.

The commonest traditional field crops included: wheat (rivet or cone (suitable for biscuits) and bread wheat); rye (popular on gravelly soils and used in brown bread), barley (used in bread, malt and stock feed) which did not require as much soil enrichment as wheat or rye; oats which would grow on poor wet soils; peas (white, green, grey and black varieties); beans - the great field bean was seldom

grown but the small horse bean was popular, particularly on clay soils (note that peas and beans were largely fed to stock); vetch in the South; and buckwheat, grown on barren sandy soil – such as Bagshot Heath – and used to fatten pigs and poultry.

Crops that were being introduced or were now being grown more widely included: woad (late 16th century) which needed a deep, well-drained soil, saffron (used as a dye, condiment, medicine and perfume), caraway, mustard seed, onions, liquorice, carrots, tobacco (early 17th century), hops, hemp and flax.

What about the kitchen garden? Manuscripts from the 14th to 16th centuries speak of peas, beans, chervil, cucumber, onion, leek, garlic, radish, spinach, cabbage, lettuce, parsnip, carrot, beetroot, turnip, borage, chives and fennel being grown.

Market Gardening (1550 onwards)

In the Middle Ages and the Early Modern period the rich tended to look down on vegetables, regarding them as little more than cattle food apart from the few that were being influenced by the French aristocrats who had a craving for more exotic vegetables. The poor meanwhile ate vegetables out of necessity.

Early markets were in part used to sell the surplus produce from the rich and from monastic houses with some embryonic signs of people who grew fruit and vegetables for sale - subsequently to be known as market gardeners. Increased demand for vegetables by the 16th century led to the spread of markets and the beginnings of the market gardening business. London, unsurprisingly, was the initial centre of the trade, encouraged by immigrants from the Low Countries, particularly Holland, where market gardening was already well established – for example, the Dutch already had a thriving commercial root crop trade. [The Gardeners' Company](#), a guild for those market gardeners who were operating within 6 miles of the City of London, received its royal charter in 1605. By 1649 a total of 1500 labourers and 400 apprentices were employed within the guild, the average member of the company employing around 6 labourers plus 1 or 2 apprentices. The maximum permitted size of a member's holding was 10 acres although some naturally circumvented this rule by acquiring additional holdings outside the area.

The City of London was surrounded by market gardens in the 17th century: in the west the alluvial soil around Chelsea, Fulham and Kensington was excellent for growing crops; while in the east Hackney, Houndsditch and Mile End were established growing areas. Neat House in Pimlico was arguably the most famous establishment, eventually growing to 200 acres with a gross income of £200k per annum by the end of the 18th century. As development pressures increased market gardeners were forced to move out to places such as Twickenham and Isleworth in the west and Plaistow and Barking in the east.

Market gardens began to appear elsewhere across the country, in places such as Oxford, York, Bristol, Nottingham and Ipswich. The soil in the Evesham area (famous for asparagus) was exploited in the second half of the 17th century, followed by the Vale of Taunton Dean in Somerset, Exeter and Plymouth. Other market gardening areas included: places along the east coast where immigrants from the Low Countries settled, e.g. Sandwich, Norwich, Maidstone, Canterbury, Colchester; Sandy (Bedfordshire) which concentrated on producing long lasting produce for the London market which was 50 miles away; and Melbourne in Derbyshire. In Scotland the Lothians was an important area with market gardens along the coast and by the side of rivers. The perennially popular leek variety,

Musselburgh, was reputedly the result of crossing a cultivated leek from France or Holland with *allium ampelprasum* which grew wild on the seashore near Musselburgh, just outside Edinburgh. Market gardeners were called mail gardeners in the Lothians because the produce went to Edinburgh and Glasgow by mail coach. By 1750 most large towns and quite a few smaller centres of population were being supplied. By 1812 there were 76 market gardeners in the Lothians, cultivating some 400 acres.

Some areas specialised in a particular crop: weld (yellow dye) in Kent, woad (Somerset, Hants, Beds, Bucks, Essex), saffron (Norfolk), caraway (Oxfordshire), mustard (Norfolk and Tewksbury), liquorice (Pontefract, Worksop and Godalming), asparagus (Battersea) and herbs (Mitcham and Hertfordshire).

The first potato, brought in by John Hawkins in 1564, was probably the sweet potato. The plain potato (*solanum tuberosum*) was probably brought in either by Walter Raleigh who grew it on his estates in Ireland or by Francis Drake. It became popular in London in 1726 after a crop failure among most vegetables. The main growing areas for potato around the capital were Wanstead, Barking, Ilford and Plaistow.

A market garden was typically laid out in beds with paths between them. Walls were useful to retain heat, lessen wind damage and create a micro-climate. Reed fence, plank fence or stout hedge were used as alternatives.

Market gardeners needed lots of manure and fertiliser. They would take animal and human waste from nearby towns – London being most obvious example where it was often transported by barge. The manure was stored in heaps until fully rotted although it was also used when hot to produce early crops of salads and carrots by having a 3 foot high heap with a few inches of fine soil on top.

Great store was set by digging, 2 spades deep in winter. Further work was done in the spring to remove weeds and “open up the soil”. The soil was dug and prepared using spade, fork, hoe, rake, mattock and a stone roller. Tools were generally cheap at this time. Specialist tools included forks for harvesting asparagus and carrot, and for moving dung. Watering pots originally consisted of earthenware vessels with a narrow neck and a broad base, punctured with holes. They were replaced from the late 17th century by the watering can. Dung barrows and wheelbarrows were also in use at this time.

Glass, in the form of bell glass and flat glass which was used in cloches and frames, was expensive. The eventual invention of the sheet glass technique (1833) was a boon to the trade but glass remained expensive although the repeal of the glass tax in 1851 did help to make it more affordable.

The most common crops that were cultivated in market gardens included: parsnips, carrots, turnips, cabbage, cauliflower, peas & beans, cucumbers, radish and lettuce, plus some herbs and soft fruit. Some growers started to specialise in more profitable crops by the early 18th century: asparagus, celery, melons and mushrooms being typical examples.

It was self-evidently essential to make the best use of the available ground by maximising the number of crops that could be produced in a year. Here is one example (quoted in *The Agrarian History of England & Wales – volume V.II*): cauliflower under glass in November, intersown with spinach and lettuce; the latter are harvested and the cauliflowers thinned; cucumbers replace the spinach – the glass being moved to the cucumbers; the cauliflowers harvested in

July/August and replaced by endive; the cucumbers harvested and replaced by cauliflowers under glass for September / October harvesting. Obviously, not all cropping was this intensive, market gardeners who could not afford the glass would not have been able to match this level of intensity.

Here is an example of the costs of a London market gardener from 1773, also taken from *The Agrarian History of England and Wales volume V.II*: £30 per acre to crop, labour £7 13s, seeds plus labour to propagate £7 4s, manure and costs of replacing glass £10 3s, rent £5. In lieu of detailed information on the financial accounts, it is speculated that there may have been £90 gross profit per acre, £70 after marketing costs.

In addition to market gardens there existed a hybrid called a farm-garden, part garden and part field. They were not cropped as intensively, did not employ the bed system and used little manure. They were usually sited further away from the market and had to concentrate on crops that would travel well, e.g. root crops, onions and cabbage.

Nurserymen and Seedsmen

From around the middle of the 17th century some market gardeners began to establish themselves as general nurserymen. There were 30 in the provinces by 1730 and 100 across England by 1760. Brompton Park in London was the largest and most famous nursery. Originally established in 1611, it was 100 acres in size by 1705, housing some 10 million plants. It eventually disappeared to make way for the [Great Exhibition of 1851](#). Also famous was the Vineyard Nursery in Brook Green (Hammersmith) which was founded by James Lee in 1745. It specialised in exotic plants, being responsible for introducing both the fuchsia and the pelargonium to Britain. Kensington Olympia was eventually built on the site, opening in 1886. Another celebrated establishment was Rench's nursery in Parson's Green, Fulham which was established around 1670 and lasted for 200 years. It was reputedly responsible for introducing the pineapple strawberry, the auricula and the moss rose to this country.

Britain had been heavily reliant on Europe for seed. What UK seed there was tended to be of poor quality. However, the situation began to change in the late 17th century with certain places around London establishing a reputation for particular seeds: Barnes for peas, Battersea for cabbage and Deptford for onion. Gradually, places that were further afield, Evesham, Sandwich and Colchester, began to produce significant quantities of seed. A wholesale seed market was eventually set up in Mark Lane (London) as the trade of seedsman became as profitable an occupation as nurseryman. The seed trade for the domestic market was established in the early 19th century, [Suttons Seeds](#) being one of the original companies in this sector, selling vegetable and flower seeds from 1837.

Fruit Development

Growing fruit, which was encouraged by royalty, became established as a profitable enterprise in the 16th century. By the time of Charles I (early to mid. 1600s) there were copious apple varieties (too many to compile), 65 pears, 35 cherries, 61 plums and 6 apricots. More exotic fruit was also being grown, albeit mostly by the rich who could afford the necessary glass and heating.

Where land was at more of a premium, the early market gardeners concentrated on soft fruit which could be cropped intensively and provide an earlier payback than top fruit which was more of a long term project.

Here is some background on soft fruit with information on developments in the 17th and 18th centuries:

- **Strawberries** grew wild in Italy according to Cato (234BCE). There were the wild and hautbois types from France in 17th century Britain, followed in the 18th century by the Chilean (a large round fruit) and the Scarlet Virginian (from North America). The subsequent hybridisation of these two varieties resulted in the large-fruited Pineapple Strawberry. The alpine strawberry was also introduced, a popular development because it produced an autumn crop as well as a summer one
- **Gooseberries** possibly date back to Roman times or even earlier. They appear to be first noted in Britain around the 13th century, but it was the 18th century before cultivated varieties appeared, coming under vague names such as Red, Prickly and Thornless. The emphasis was on earliness and cropping ability rather than the size of the berry.
- Cultivated **blackcurrants** date from around the 16th century. Popular varieties included Black Naples, Small Black and Common Black
- The **raspberry** was indigenous to Asia Minor and North America. Records of cultivation are found in the writings of Palladius, a Roman agriculturalist of the 4th century CE, while seeds have been discovered in Roman forts in Britain. Varieties in the 17th century included Common Red, Common White, Brentford Cane, Red cane and Rough Cane. They were followed by the specially bred Jilliard's Seedling, Wilmot's Early Red and Woodward's Red Globe
- **Rhubarb was in use in China** around 2700BCE when the roots were used as a laxative. It was introduced into England around 1620, primarily being used for medicinal purposes until the late 18th century when people began to use the stalks in pies. Wilmot of Isleworth was the first grower to cultivate rhubarb on a wide scale in the early 19th century. Significant use was made of cropping under trees which provided protection without shading them (in late winter when the trees were bare), giving early crops in open ground. Another method of producing early rhubarb was to force it via the use of hot beds. The famous **Rhubarb Triangle** in West Yorkshire came into existence in the second half of the 19th century.

Returning to top fruit, this was mostly of a poor standard in England prior to the 16th century. Two individuals who helped to improve matters were: Leonard Mascall who in 1525 planted an orchard of the best French varieties – he is best known for his translation of *A Booke of the Arte and Maner Howe to Plant and Graffe all Sortes of Trees* which was written by a monk from the abbey of St. Vincent in France; and, more importantly from a commercial growing perspective, Richard Harris, fruiterer to Henry VIII, who planted a large acreage around Teynham in Kent with new French varieties of apples, pears and cherries - Kent subsequently became the chief commercial fruit growing county.

- There were reputedly 5,000 varieties of **pear**, some growers having up to 200 in their orchards. The best known included Katherine, Bergamot, Windsor, Brown Beurre and Deux Tetes. In the 18th century Vicar of Winkfield became popular while William's Bon Chretiens became world famous, eventually becoming known as the Bartlett pear in the US. 19th century introductions included Doyenne de Comice (1849) and Conference (1885)

- 18th century varieties of **apple** included Lemon Pippin, Royal Russet and Golden Knob. In the 19th century new varieties included Bleinheim Orange, Cox's Orange Pippin (1850), Worcester Pearmain, James Grieve and Bramley's Seedling (1876)
- The Black Hamburg **grape** was imported from Hamburg in the early 18th century by John Warner, a London merchant
- **Cherries** were planted extensively in the 18th century. Bigarreau, a large white-hearted variety, reputedly came from Turkey via France. There were varieties for cooking, bottling and brandy making. 19th century introductions include Knight's Early Black, Elton and Waterloo
- The **plum** goes back at least 2,500 years. It is thought that the Assyrians cultivated them and the Romans subsequently adopted and hybridised them. 19th century varieties included Victoria and Belle de Louvain.

Peaches, nectarines, apricots and other tender fruits were grown against south-facing walls. The market for these luxury fruits centred on [Covent Garden](#).

The Beginnings of Agricultural Science

It was close to the beginning of the allotment movement before the effects of certain minerals on plant growth were eventually being understood by chemists.

[Johann Glauber](#), a German chemist during the 17th century, led the way when he noticed the beneficial effects of saltpetre (potassium nitrate) on plant growth. He also developed the first complete mineral fertilizer, a mixture of saltpetre, lime, phosphoric acid, nitrogen and potash.

He was followed by [Justus von Liebig](#), another German chemist, who was the first to identify in the early 1800s that nitrogen and phosphorus were required in mineral form for plant growth.

Meanwhile in Britain towards the middle of the 19th century [John Lawes](#) was beginning to lay claim to the title of father of the chemical fertiliser industry. Lawes was an Oxford undergraduate at Brasenose College but left without taking a degree. He was subsequently managing the family estate when he was asked by a neighbour, Lord Dacre of Kimpton Hoo, why bones acted as an effective manure on light soil but not on heavy soils. By 1841 Lawes had established that treatment with acid would overcome the inertness of bones on heavy soils, and in 1842 he obtained a patent for the treatment of bones and other phosphatic materials with sulphuric acid to produce a product called Superphosphate. He opened a factory at Deptford Creek in London to produce it and in addition he received royalties from other manufacturers. This money funded [agricultural research at Rothamsted](#). He and his collaborator, the chemist [Joseph Gilbert](#), ultimately produced 174 papers and 300 other publications. Probably the most famous experiment was wheat grown on 19 discrete ½ acre plots: plot 3 got nothing; plot 2 received 14 tons of manure per acre; plot 19 was dressed with rape cake; while the others got varying combinations of chemicals. This experiment was run year after year. Eventually with 30-40 years worth of data they were able to give precise recommendations on fertiliser application.

Finally in this brief overview of the important early chemists mention should be made of [Julius von Sachs](#) who identified the minerals that were necessary for growth and gave the first demonstration of [hydroponics](#) in 1860, although [Francis Bacon](#) in the early 1600s and [John Woodward](#) at the end of the same century had previously discussed the theory of growing without soil.

The Appearance of Gardening Books

Just as written evidence of changes in cultivation increased significantly from the 1500s so we begin to come across the first gardening books, initially aimed principally at the more affluent reader.

[Thomas Tusser](#), a poet and farmer, wrote *A Hundreth Good Pointes of Husbandrie*, a poem in rhyming couplets which covered the growing year. It was first published in 1557 and was reprinted many times. The publisher, Richard Tottel, subsequently produced a larger version in 1573, *Five Hundreth Good Pointes of Husbandrie*.

Around the same time Thomas Hill wrote *A most briefe and pleasaunte treatise, teaching how to dresse, sowe, and set a garden* (1563). It was aimed at the owners of small manor houses and was subsequently reprinted in seven editions under the title, *The profitable arte of gardening*. Hill followed this up with the equally successful *The Gardener's Labyrinth* (1577).

The first book to concentrate solely on vegetable growing was Richard Gardiner's *Profetable instructions for the manuring, sowing, and planting of kitchin gardens* in 1599. It included advice on the cultivation of cabbages, carrots, parsnips, turnips, lettuce, beans, onions, cucumbers, artichokes and leeks

The active participation of women in gardening was eventually recognised by William Lawson's *The Countrie Housewifes Garden* in 1617, which included the growing of herbs and bee-keeping, and by Charles Evelyn's book on flowers and greenhouse cultivation, *The Lady's Recreation* in 1717.

Finally, mention must be made of [John Loudon](#), a Scottish botanist, who was a prolific writer in the early 19th century. He was responsible for the successful *Encyclopedia of Gardening* (1822), following it up with the *Encyclopedia of Agriculture* (1825). He was also responsible for producing the first gardening periodical, *The Gardener's Magazine* in 1826.

... And so to our early Allotment Holders

The majority of the early allotments in the late 18th century were to be found in rural areas where poverty was greater. They could well be up to several acres in size - subsequently they were called field allotments - and many were run as mixed arable and pasture mini-farms, wheat being the most popular crop. These plot holders were unsurprisingly primarily influenced by the farms that many of them laboured on.

Urban allotments which did not grow in popularity until the second half of the 19th century were inevitably smaller due to the relative shortage of available land. Some plots were 20 or even 40 poles in size, but 10 poles (300 square yards or 250 square metres) gradually became the standard size. Urban plot holders faced the same space issues as market gardeners and therefore it is unsurprising that they would attempt to adopt the same approach of intensive cropping to make best use of their limited space.

As we have seen the standard tools that our early plot holders required had been around for a very long time, most of them dating back to Roman times. Similarly, the advantages of using manures of various sorts were well known although chemical fertilisers were not available to them, it being the second half of the 19th

century and into the 20th century before they became generally accessible to the ordinary allotment holder.

Our early rural plot holders were very conservative in their choice of crops, even potatoes being slightly slow to catch on in the early 19th century whereas the later urban allotmenters were marginally more adventurous ...

But I shall stop as I am now running into [a brief history of the allotment movement in England and Wales](#). Better that you read that history yourself.

Appendix – Origins of Selected Vegetables

The following table gives approximate places of origin and dates.

Vegetable	Notes re origins
Asparagus	Central & Southern Europe plus N. Africa. Ancient Greeks credited with the introduction of the cultivated form around 500BCE.
Aubergine	Dates back to India in prehistory; first recorded cultivation in China in 6 th century CE.
Beetroot	Middle East 2500BCE – first written mention occurs around 8 th century BCE.
Broad bean	Mediterranean and Middle East 3000BCE, the common bean goes back earlier, possibly 6500BCE.
Brussels Sprouts	The forerunner of today's sprout may be Roman in origin; the modern day sprout dates from c. 1200CE in Belgium
Cabbage	China and Mediterranean area, known to the Ancient Greeks (500-1000BCE).
Capsicum Pepper	Americas - at least 2000 years old, brought to Europe by the Spaniards at the end of the 15 th century.
Carrot	Afghanistan c. 3000BCE. It was black and bitter. The modern day "sweet" red carrot was bred by the Dutch in the 16 th century.
Cauliflower	Modern day version dates from the Mediterranean area around 1400CE
Celeriac	Middle East 1500-1000BCE
Celery	Asia Minor / Middle East c. 1500BCE; main written evidence points to the Ancient Greeks introducing the cultivated version
Chilli Pepper	Americas 5200-3400BCE, brought to Europe by the Spaniards in the 16 th century.
Cucumber	Native to India – has been cultivated for at least 3000 years
French Bean	Americas - at least 2000 years old - brought to Europe by the Spaniards in the 16 th century
Gherkin	Probably similar history to the cucumber viz. native to India – has been cultivated for at least 3000 years
Globe Artichoke	Middle East 2000BCE
Jerusalem Artichoke	Grown by native Americans, brought to Europe in the 16 th century
Kohl Rabi	Known to the Romans; the modern type dates back to the late 18 th century
Leek	Middle East 2000BCE
Lettuce	Egypt 2000BCE

Mangle	Developed in the German Rhineland in the early 1700s. Introduced into England in 1786
Onion	Middle East 5000BCE
Parsnip	Cultivated by the Romans, possibly around 500BCE
Pea	Middle East / Asia 7500BCE
Potato	Peru / Columbia 5000BCE, brought to Europe by the Spaniards in the 16 th century
Radish	China or Asia Minor. Ancient Greeks cultivated them (1000-500BCE)
Runner Bean	Americas - at least 2000 years old, probably older - brought to England in the 17 th century
Squash	Americas (8000-6000BCE), brought to Europe by the Spaniards in the 16 th century
Swede	N. Europe in the 17 th century
Tomato	Peru or Mexico probably around 1000BCE, brought to Europe by the Spaniards in the 16 th century
Turnip	Mediterranean area and Asia Minor; probably predates the Romans although they come to our notice at that time.

Bibliography & Further Reading

General

The Agrarian History of England and Wales(8 volumes), Cambridge University Press, 1967-2000

Laws, B., *Spade, Skirret and Parsnip*, Sutton Publishing, Stroud, 2004

Fagan, B., *The Long Summer: How Climate Changed Civilisation*, Granta, London, 2005

Monasticism

Bishop T.A.M., *Monastic Granges in Yorkshire*, EHR, 1936

Clay, C.T., Bradley: *A Grange in Fountains*, YAJ, 1929

Donkin, R.A., *The Cistercian Grange in England in the 12th and 13th Centuries*, *Studia Monastica*, 1964

Platt, C., *The Monastic Grange in Mediaeval England: A Reassessment*, Macmillan, London, 1969

Knowles, D., *The Monastic Order in England (940-1216) 2nd ed.*, Cambridge University Press, 1963

Market Gardening

The Agrarian History of England and Wales(volume V.II), Cambridge University Press, 1967-2000

Webber, R., *The History of Commercial Flower, Fruit and Vegetable Growing*, David & Charles, Newton Abbot, 1972

Web Material

In addition to those links that are contained within the text:

[Neolithic Agriculture: The Slow Birth of Agriculture](#) by Heather Pringle.

[Agriculture in Roman Britain](#) by Shimon Applebaum.

[The Cistercians in Yorkshire](#) – an excellent Sheffield University-run web site.

[History of Covent Garden](#)

[Gardenhistoryinfo.com](#) – various articles on different aspects of garden history.

[History of Horticulture \(Ohio State University\)](#) - various snippets of writing from the 12th century BCE to the 20th century CE

[Museum of Garden History](#) – Lambeth Palace Road, London.

[GardenVisit.com](#) – history section.

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