Production Case Studies: UK

The "A Matter of Scale" study collected and analysed yield and financial data for 69 UK holdings of 20ha and less. Many of these were horticulture focussed, and the four case studies below demonstrate what can be achieved in a UK context.

Homeacres, Somerset

On 0.09 hectares (0.23 acres) Charles Dowding has developed a highly acclaimed intensive "No dig" garden from which he generates an annual gross income of about £20,000. His flagship product is mixed salad leaves (representing 80% of sales), which he sells to restaurants and cafes within a five-mile radius of his home.

The no-dig system involves creating permanent raised beds by mulching grass with cardboard and laying compost 10-15cm deep, into which seedling modules are planted directly. Labour is reduced over the long term by keeping rigorous control on weeds, while not cultivating the soil reduces seed germination of weeds, since they are not exposed to light. The garden provides employment for two full time equivalents, although this also includes the running of courses on no-dig gardening.

Vegetable	Yield (kg/sq. m)	Gross income (£/sq. m)	Mean Non-org. yield (kg/sq. m)
Salad leaf mix	10	123	0.6
Beetroot	15	32	3.71
Celeriac	9	21.32	-
Kale	4	-	0.85
Broad bean followed by lettuce	3 + 6 = 9	4.5 + 78 = 82.5	0.4
Spinach	5	30	0.8

Fresh and Green, Devon

This highly productive holding was created from scratch on 4.98ha of south facing grade 1 agricultural land, in 2003. The grower and her family have had to get planning permission for an agricultural workers' dwelling and build all the infrastructure, but starting on a bare land holding this was the only affordable option due to the high cost of equivalent sized farms. Vegetables are grown outdoors and in three large polytunnels on 2ha, and sold via a box scheme feeding 80 households.

A small orchard and 100 square metres of soft fruit bushes, two flocks of laying hens (70 birds total) and 9 pigs provide additional income streams for the holding, which generates a modest livelihood for the grower and her family. Outdoor crops are cultivated with a tractor, but the high yields are made possible by a high proportion of hand labour such as picking peas, beans and leafy crops over a longer period than would be possible with mechanised harvest. The holding employs 1.4 full time equivalents

Vegetable	Yield (kg/sq. m)	Mean Organic Yield (kg/sq. m)	Mean Non Org. (kg/sq. m)
Tomato	12.75 (unheated)	n/a	40 (probably heated)
Carrot	6.4	2.5	6.11
Broad bean	6.1	n/a	0.4
French bean	3.4	n/a	0.86
Beetroot	10.9	2.5	3.71
Calabrese	3.4	0.5	0.86
Onion	4.25	2.5	4.22
Cabbage	6.8	n/a	3.02

North Aston Organics, Oxfordshire

Since 1998, Mark Stay and his team have been growing vegetables on 5 hectares rented from the North Aston Estate, to supply customers via a vegetable box scheme. The holding is composed of the more intensive walled garden (0.9ha) and about 4ha of field crops, which are subcontracted to another grower and cultivated with a tractor. Produce from the holding constitutes one half to two thirds of the contents of the 260 weekly boxes (with the rest coming from another local farm or local organic wholesaler) and includes 40 different types of vegetable.

The farm employs 3.4FTE, including proprietor and 4 employees, as well as the field scale contractor. Much of labour focussed on harvesting, packing, delivery and admin for box scheme. Although the yields of individual crops were not outstandingly high, the business is feeding a significant number of households, as well as providing a livelihood and meaningful, varied work for several people.

Vegetable	Yield (kg/sq. m)	Mean yield in survey (kg/sq. m)	Mean org. yield	Mean Non-org. yield
Potato	2.5	2.48	2.3	4.5
Tomato	7.56	4.76	n/a	40kg
Carrot	3.3	3.85	2.5	6.11
French bean	4.75	2.33	n/a	0.86kg
Parsnip	2	2.83	1.8	2.57

	2012	2013	2014	Mean
Income (including sales of bought in veg)	159,440	163,500	186,000	169,640
Costs	149,190	156,630	158,000	154,610
Net income	10,250	6,860	28,000	15,040

The Apricot Centre

The Apricot Centre is an organic fruit farm and educational centre, which has recently relocated to a 13ha site in Devon. On its previous 1.55ha (3.9ha) site in Essex, 1.37ha was planted to a fruit orchard and forest garden. The site was designed in 2000 using permaculture principles, to provide fruit and flower crops over the longest possible season. These include a wide range of apple (desert and cider), pear and plum varieties which crop from July through to October, as well as rhubarb, gooseberry, blackcurrant, raspberry, strawberry, peach, apricot, greengage, quince, medlar and cut flowers. The best fruit was sold in London at the Growing Communities' box scheme and weekly farmers' market, while blemished and surplus produce was made into jams, chutneys and cordials worth £3,000-4,000 per year. Before relocating, the fruit farm generated a gross income of about £20,000 per year and provided part time livelihoods for two people.

The Apricot Centre hosts about 25 educational visits for school children each year, enabling them to harvest fruit and learn about processing (juice pressing and jam making) and bringing in an additional income of £3,000 each year. During the winter, permaculture design and craft courses and a forest school brought in an additional £17,000 each year. The organic management of the orchard and forest garden mean they contain an abundance of wildlife, while providing a valuable educational experience to school children and fruit, preserved products and flowers for people in London.

Laughton, R. (2017) A Matter of Scale: A study of the productivity, financial viability and multifunctional benefits of small farms (20ha and less). Landworkers' Alliance and Centre for Agroecology, Water and Resilience, Coventry University. https://drive.google.com/file/d/0B5dw4mKBC3yEdzRIOHhNbkFwUFg1MWNycHNpZW5JaDBnWVNr/view