

SUPPLEMENTARY DATA FOR

CARRYING CAPACITY OF TRADITIONAL FARMING IN SE ENGLAND: A CASE STUDY

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[SECTION 1. DESCRIPTION OF THE HOLDING](#)

[Geology, Geography, Soils and Climate](#)

The holding was situated in southeast England in the southern part of the Weald, which means forest or unfarmed land in Old English. The Weald is a large (c. 1300 square km) eroded anticline with outcropping Cretaceous and Jurassic sedimentary rocks. The holding was on the south side of an east-west trending ridge capped by shallow marine sandstones and siltstones of the Late Cretaceous Tunbridge Wells Sandstone unit, overlying shallow marine clays of the Late Cretaceous Wadhurst Clay Formation. The boundary between these units passed through the holding [1].

Elevations were between 69-79 m above sea level, on gentle south-facing slopes.

On the top of the ridge the predominant soil type was a calcareous sandy loam of pH 6.5, of moderate permeability, cultivability and fertility. Towards the base of the slope the soil changed to a clay loam of pH 6.7, of low permeability and cultivability but higher fertility.

The area was classed as ‘good to moderate’ (grade 3 out of 5) agricultural land by the UK Government [2]

The climate was temperate maritime. There was an average yearly rainfall of approximately 800 mm with a winter maximum. Mean daily temperatures varied between 18 C in summer and 5 C in winter. The growing season was from April to November. Daylight varied between 16 hours duration in summer and 8 hours in winter.

Ecology and Human Activity

The surrounding area was a typical modern manifestation of the English countryside, occupied and managed by humans for agriculture, forestry and small-scale industry for several millenia. There were a mixture of fields of between 1 and 10 hectares separated by hedgerows. Neighbouring fields were currently used either for agriculture or recreational (mainly equestrian) purposes. The dominant form of agriculture was “conventional” (intensive, chemical and mechanised). Mixed broadleaved deciduous woodland, much of it classified as ancient, occupied some 17% of the wider area [3]. Adjacent to the holding on the south side there was a large (~120 ha) area of ancient and semi-natural deciduous woodland which supplied “coppice¹” wood as well as having recreational functions.

The nearest town was some 5 km distant, but there was a reasonably high density of houses and farms along the neighbouring lanes and roads. The average population density for the local district in 2010 was 173 per square km, which compares with the average for England of 401 [4].

Wildlife in the area reflected the diverse nature of the land. There was a large variety of bird, mammal, insect and plant life although national trends [5] and personal experience indicated that wildlife population and diversity was decreasing. The largest predators were fox, badger and raptors. The fox population was controlled locally so predation on poultry and lambs was a rare event. However, badgers were protected by law and as the population increased,

¹ Coppice is the term for traditional deciduous woodland management whereby timber is harvested on a regular cycle of up to 15 years’ duration and where re-growth occurs from the same stump.

predation on chickens and lambs became more frequent than fox predation. There was no recorded predation by raptors on livestock. Stray dogs were an occasional killer of chickens.

[History of the holding from 2002 to 2010](#)

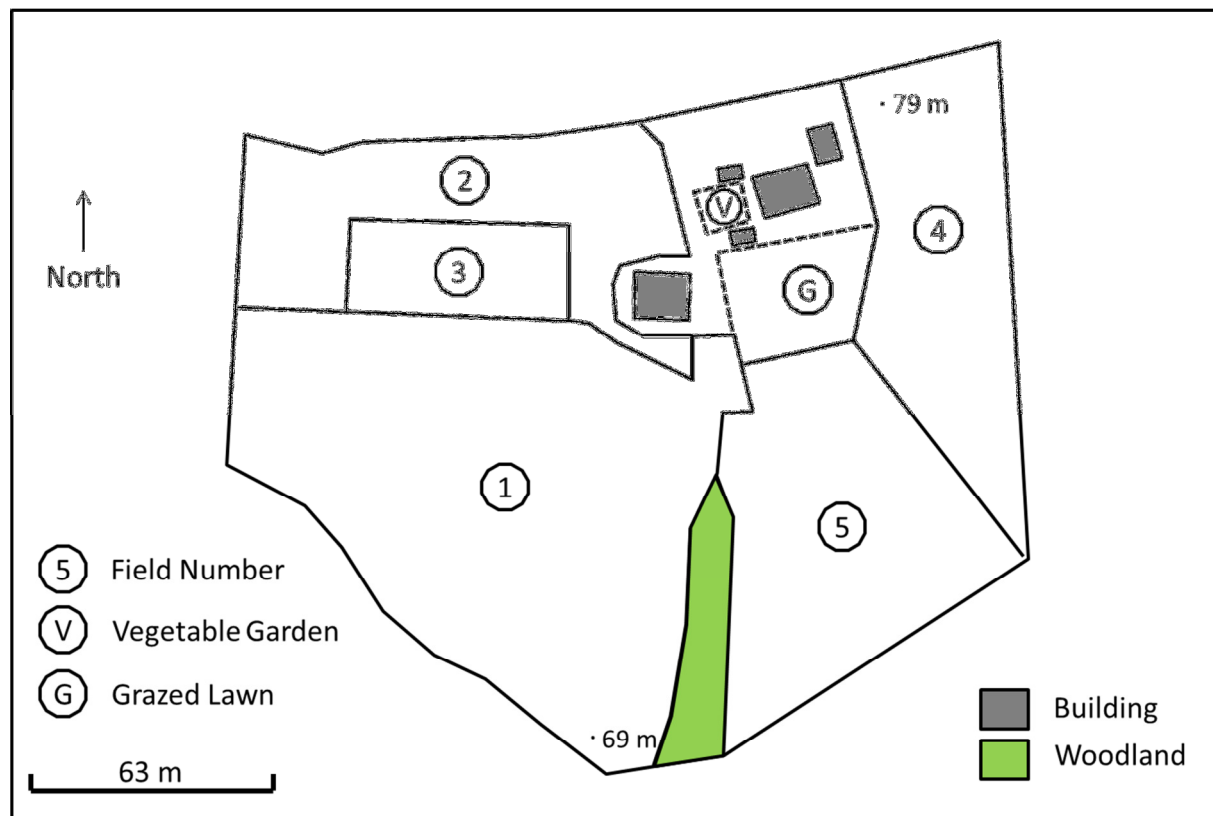
The holding was purchased by the family in 2002 with house and barn. The boundaries were un-fenced and the land had previously been part of a neighbouring farm, which had been under 'conventional' chemical-arable management - growing maize silage and wheat - for a number of years. Between 2002 and 2010 much of the work and expenditure involved setting up the smallholding. The main projects were perimeter fencing and hedge-planting, the building of workshop and storage space, purchase of machinery and tools, re-seeding of 0.8 ha of permanent pasture and the creation of a vegetable garden. Chickens were purchased in 2003, cattle in 2006 and sheep and pigs in 2010.

[Description of the holding during the study period \(2010-2017\)](#)

Layout

A map of the holding is shown in Figure 1

Figure 1: Map of the holding



The total area of the holding was 2.75 hectares which comprised the following land use:

- (a) Agricultural fields (map areas 1,2,3,4 and 5): 2.42 hectares
- (b) Garden curtilage (map areas G, V and other curtilage): 0.17 hectares
- (c) Ancient semi-natural woodland (shaded green on the map): 0.09 hectares
- (d) Buildings and driveways: 0.07 hectares

The 5 fields were managed as described in Table 1

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Table 1: Field use and areas

Field	Use	Area (hectares)
1	Permanent pasture (grazing)	1.06
2	Permanent pasture (grazing)	0.35
3	Arable, horticultural and pigs	0.16
4	Permanent pasture (grazing and hay)	0.40
5	Permanent pasture (grazing)	0.43
G	Lawn used for seasonal grazing	0.10
V	Vegetable garden	0.01
Total	Agricultural Land	2.51

The perimeter of the agricultural land was approximately 700 m. Some 200m of this was existing roadside hedgerow and 170m was bounded by woodland. Between 2003 and 2005 the remaining field boundary of some 300m was planted as a hedgerow with a native mix of tree seedlings. In 2004 the entire boundary was stock-proof-fenced with galvanised wire and chestnut stakes by a contractor. The hedge and woodland tree species formed an important part of the diet of the grazing livestock as well as providing wood fuel and included the following common tree species: Hawthorn, blackthorn, hazel, field maple, ash, oak, dogwood, willow, spindle, beech and holly.

About 100m of existing roadside hedge was laid in South of England style in winter 2004/5 and the 300m of planted hedges were laid over four winters from 2014/5 to 2017/18. Hedging stakes and binders were obtained off-farm from friends and neighbours. The laid

hedges formed a stock-proof barrier so the existing wire fencing was removed during laying. Hedges were trimmed every 1 or 2 years in winter.

Within the perimeter fence, a combination of galvanised wire stock-proof fencing and 12V electric fencing was used to contain livestock. One strand of electric wire was normally sufficient to contain sheep and cattle. Pigs were contained by an inner single strand of electric fencing tape at a height of approximately 30 cm and an outer fence of galvanised netting.

Agricultural buildings comprised a 3-bay barn, measuring 11m x 14m and 6m high, a garage/workshop measuring 9m x 5m and two small storage sheds. The house itself had two storeys, a footprint of 133 sq m and four bedrooms. An outdoor dry compost toilet was installed in 2015.

Water was obtained from a combination of mains supply and self-supply. There was a hand-dug, brick-lined well approximately 6m deep and 1m diameter which held an average of 1.5 cubic meters of water and flowed at approximately 100 litres per hour. There was also a pond for grazing livestock and rainwater storage in plastic containers fed by roof guttering.

Livestock

Livestock and poultry comprised the following:

1. Cattle: One or two Dexter cows plus followers. Calving was usually in May following artificial insemination in the previous July. Calves were sent to slaughter at around 18 months old.
2. Sheep: Up to 5 Lleyn ewes plus followers. Topping was by a hired-in ram in December and lambing in May. Lambs were sent to slaughter at 5-7 months.
3. Pigs: Two or three “weaners” bought in at around 8 weeks old and slaughtered at 7 months. Cross-bred from a variety of traditional and modern breeds
4. Poultry: Four or five egg-laying hens and one cockerel. Any offspring were either slaughtered for meat or kept as replacement layers.

Machinery and Tools

Machinery and hand tools were of equal importance. The use of hand tools increased as time progressed as it was realised that they produced good results and that the labour was more enjoyable. For example, hay-making from 2014 onwards was increasingly carried out by hand. In 2017 the whole harvest, over half a tonne of baled hay, was made entirely by hand. Machinery centred around a pedestrian two-wheel tractor and implements, which were purchased new, and a four-wheel drive road vehicle and livestock trailer which were purchased used. Some tasks such as hay baling, ploughing of new pasture and drainage required contractor machinery to be hired-in but as time went on this became less common.

The main items of machinery were:

1. Two-wheeled tractor (10.5 HP) with the following implements:
 - a. PTO-driven implements: rotary tiller, scythe cutter bar, rotavator, rotary mower, hay rake, grain thresher.
 - b. Towed attachments: Reversible plough, ridging plough, tipper-trailer, chain harrow, roller.
2. Four-wheel drive road vehicle with twin-axle 2-tonne trailer and twin-axle livestock trailer.
3. Electric appliances (domestic 240V AC supply): grain mill, large and small deep freezers, fridge, pressure vessel pump for well water.
4. Power tools: chain saws, hand drill, angle grinder, bench grinder, portable petrol generator.

Hand tools were as follows:

1. Cultivation tools: spades, forks, pick, mattock, bar, trowels, sieves, various types of hoes (Including a wheeled stirrup hoe for inter-row weeding).
2. Blade tools: Short and long-handled axes, billhooks, slasher, Austrian and British scythes, sickle, garden shears, blade sheep-shears, sheep hoof clippers, parrot beaks, secateurs. Plus sharpeners and whetstones.
3. Field and yard tools: box-baler for hay, hay rakes, pitch-forks, dung forks, yard scraper, shovels.
4. Mechanic's tools: spanners, screwdrivers, pliers etc.

5. Saws: Carpenter's saws, bow saws, pruning saws, hacksaws.
6. Construction tools: sledge hammer, lump hammer, claw hammers, shovels, trowels, etc.
7. Transport: 2 wheelbarrows, trolley.

The Farming Year

Table 2 summarises the monthly activities and outputs of the farming year.

Table 2: Monthly summary of the farming year

Month	Livestock tasks	Crop tasks	Outputs
January	<ul style="list-style-type: none"> Feeding hay to cattle and sheep Housing cattle in wet weather Hedge laying 	<ul style="list-style-type: none"> Tree felling and logging Muck spreading Mulching veg garden 	<ul style="list-style-type: none"> Firewood
February	<ul style="list-style-type: none"> Feeding hay to cattle and sheep Housing cattle in wet weather Hedge laying 	<ul style="list-style-type: none"> Tree felling and logging Ploughing arable 	<ul style="list-style-type: none"> Firewood
March	<ul style="list-style-type: none"> Feeding hay to cattle and sheep Housing cattle in wet weather 	<ul style="list-style-type: none"> Cultivating and drilling cereals Digging vegetable garden 	<ul style="list-style-type: none"> Winter brassicas
April		<ul style="list-style-type: none"> Cultivating and drilling cereals Sowing veg and root crops Weeding hayfield Weeding arable and veg 	<ul style="list-style-type: none"> Winter brassicas
May	<ul style="list-style-type: none"> Lambing Calving 	<ul style="list-style-type: none"> Weeding arable and veg Sowing root crops 	<ul style="list-style-type: none"> Early Vegetables
June	<ul style="list-style-type: none"> Mucking out Sheep shearing 	<ul style="list-style-type: none"> Haymaking Topping weeds in pasture 	<ul style="list-style-type: none"> Early potatoes Broad beans Early Vegetables

Month	Livestock tasks	Crop tasks	Outputs
July	<ul style="list-style-type: none"> • Buy in weaner pigs • Cow to A.I. or bull 	<ul style="list-style-type: none"> • Topping weeds in pasture 	<ul style="list-style-type: none"> • Early potatoes • Vegetables
August	<ul style="list-style-type: none"> • Strip-grazing fodder crops with pigs 	<ul style="list-style-type: none"> • Harvesting cereals 	<ul style="list-style-type: none"> • Vegetables • Main crop potatoes
September		<ul style="list-style-type: none"> • Threshing, drying and storing cereals 	<ul style="list-style-type: none"> • Wheat • Main crop potatoes • Vegetables
October	<ul style="list-style-type: none"> • Killing and butchering lambs • Grazing root crop with pigs • Foraging wild food for pigs 		<ul style="list-style-type: none"> • Lamb • Top fruit • Vegetables
November	<ul style="list-style-type: none"> • Killing and butchering cattle • Killing and butchering pigs • Feeding hay to cattle 		<ul style="list-style-type: none"> • Beef
December	<ul style="list-style-type: none"> • Curing pork • Topping (hired Ram) • Housing cattle in wet weather • Feeding hay to cattle 	<ul style="list-style-type: none"> • Tree felling and logging 	<ul style="list-style-type: none"> • Firewood • Pork

Storage

Produce and feed was stored in a variety of ways. Meat and processed fruit and vegetables were deep-frozen and fresh vegetables were kept below ground in a small cellar. Grain was stored in the well-ventilated loft of the garage/workshop which was mostly inaccessible to rodents and birds. Animal feed was stored in metal containers in the barn. Firewood was stored under cover as logs or cord wood.

SECTION 2: METHODS OF FOOD PRODUCTION

The food produced is divided into ten separate types: beef, lamb, pork, vegetables, wheat flour, potatoes, chicken and eggs, fruit, wild game and cow's milk. The following sections contain a description of how each type was produced.

Wheat Flour

Wheat was grown in a 55 x 23m (1,265 sq m) plot which was fenced off against livestock, rabbits and badgers. The plot was divided into 55m length strips of varying width in which wheat was grown and rotated with other cereals (barley, oats), root crops (Jerusalem artichokes, potatoes and turnips) or left fallow. The area of wheat cultivation varied from 180 to 320 sq m. Spring milling wheat of different varieties was grown throughout the study period. The plot was also occupied by the pigs, which were contained by additional fencing which was moved as the summer progressed (see section 6 below). The barley and root crop (except potatoes) were used as in-situ feed for the pigs, who also contributed to ploughing by digging the ground and to fertility by dunging.

From 2010 to 2015 cultivation was by ploughing, using the two-wheeled tractor, at a depth of 10-15cm in late winter-early spring. At sowing time in early-mid spring the ground was mechanically cultivated and then approximately 5cm-deep furrows at 30 cm spacing were made using a 12 cm width fin-less ridging plough attachment. Spring wheat was then hand-sown in the furrows at a rate of one handful per 6 meters. Sowing rate averaged 240 kg per hectare. Well-rotted farm-yard manure was then spread in the furrows by hand on top of the seeds. The furrows were mostly filled in by the action of the wheels during the making of the neighbouring furrow, followed by a small amount of hand-raking. When weed seedlings first emerged, two passes with a hand-driven, 18cm wheeled stirrup hoe were used for inter-row weeding.

In 2016 and 2017 a "minimum till" method was used for cultivation, to take advantage of the higher fertility and moisture retention of un-ploughed soil. In dry weather in April the cover crop (either self-sown fallow or a surface-sown green manure) and the top ~5 cm of soil was tilled into a mulch with three passes of a L-shape tine rotavator. A mix of essential micro-organisms to promote beneficial rotting was sprayed by hand onto the cover crop during

cultivation. Furrows in the mulch at 30 cm spacing were made by hand and the seed was sown by hand, at the same density as above, on top of the undisturbed soil and then covered over with mulch. The high moisture content of the undisturbed soil promoted quick germination. The remains of the mulched cover crop provided extra fertility and also acted as a weed suppressant. No weeding was subsequently carried out.

Wheat was harvested in late summer by hand-picking of the ears, a documented practice of Iron Age farmers in Britain: “The method they employ of harvesting their grain crops is to cut off no more than the heads....” [6]. This method was found to be efficient with little waste. One 55m row took between 1-2 hours to harvest. Ears were stored in paper sacks and the straw either cut for bedding or left as in-situ green manure. Threshing was initially done by foot or hand on a tarpaulin and the grain then cleaned by wind-winnowing. Later the harvest was taken to be threshed by a stationery steam-driven threshing machine at a local fair. Finally in 2013 a 5HP stationary threshing machine, made in India and PTO-driven off the tractor, was bought. If necessary, the grain was sun-dried on the flat roof of the house. It was stored in paper sacks in a rodent-proof loft in the garage/workshop.

Potatoes

Between 100 and 200 seed potatoes were bought-in and planted in late spring at a spacing of 25cm and depth of 15cm in 60cm rows in the arable plot. Farmyard manure was used as fertiliser. Both early and main crop varieties were grown. Rows were ridged-up by hand hoe. Blight was dealt with by removal of infected plant-parts and early harvesting. In dry summers irrigation was carried out with a hosepipe. Harvesting was in August or September by hand helped by one pass of the ridging plough. Damaged potatoes were fed to the cattle. Potatoes were stored in a cellar in string sacks which preserved them until April or May the following year.

Beef

From 2006 to 2015 one or two Dexter cows were kept, managed under a “beef suckler” system with annual calving by artificial insemination.

In winter the cattle were housed in the barn during wet weather to prevent poaching of pasture but were allowed out to graze during dry weather. Housing involved daily mucking-out, feeding, watering and supply of fresh bedding material (hay and straw). In early summer the winter's bedding was transferred to the manure heap and was a valuable and plentiful source of fertiliser, easily covering the requirements of vegetable and potato growing.

Winter feed was almost exclusively forage, predominantly hay. The approximate consumption of hay was 1200kg per adult animal per year. Most years, self-sufficiency in hay was not achieved so extra hay was bought in from neighbouring farms using the farm vehicle and trailer. Small quantities (40-60 kg per year) of organic cereal-based concentrate feed were bought in, mainly used as a "treat" which made management easier.

The cows were halter-trained and their offspring were used to close presence of humans, which greatly eased management.

There was one death in 2012 of an 8 year old cow who died from a lung infection. Following this a pour-on lung worm medication was used. Apart from this, no routine medicines, internal or external, were used.

Each year one 18 month-old steer or heifer was slaughtered at a local abattoir except for 2010 when two such animals were slaughtered. A local butcher was employed to cut up the carcass. Some meat was kept for the family and the rest was sold privately. Meat was stored in the deep freezer.

The cattle were sold in late 2015 due to a combination of welfare concerns associated with low numbers and lack of time due to other commitments. No cattle were kept from then onwards.

Dairy

In 2010 the Dexter cow was hand-milked to supply the family's needs for 2 months. The cow and her calf were kept together during the day but separated at night while indoors to allow the milk to build up. The routine could not be maintained due to other commitments and

practical difficulties. One fifth of the imported feed for that year has been attributed to milk production.

Lamb and Mutton

A breeding flock of 2 Lleyn ewes was established in 2010 and through the study period the number gradually increased to 5 in 2017. A ram was hired in for tupping from around 1st December for 6 weeks and lambing was in late April-mid May.

Table 3 is a summary of statistics for sheep breeding from 2011 to 2017. The average fertility rate over this period was 1.66.

Table 3: Sheep breeding summary

Year	Tupped Ewes	Lambs for meat	Lambs kept for breeding	Total Lambs	Fertility rate
2010	0	0	0	0	NA
2011	2	1	2	3	1.5
2012	3	5	0	5	1.7
2013	4	3	2	5	1.3
2014	4	3	1	4	1.0
2015	3	6	2	8	2.7
2016	4	7	0	7	1.8
2017	5	8	0	8	1.6

Sheep grazed on pasture all year round and were supplemented with hay from late December to March. All hay consumed by the sheep was home-grown. A small quantity of imported organic cereal-based concentrate was used occasionally as a “treat” in order to make management easier.

Ewes and shearlings were dagged in the late winter and hand-shorn with blade shears in May to June.

Occasional cases of blow-fly strike were treated with a synthetic pyrethroid pour-on medicine. From 2015 onwards, ewes and shearlings were preventatively treated against blow-fly strike up to four times in summer with a pour-on plant-derived repellent approved for use in organic systems by the Soil Association, which was largely successful. Cases of intestinal worm infection were treated individually when infections arose with an appropriate synthetic oral drench medicine. Lambs required very little or no medicines or treatment. All treatment conformed with Soil Association organic certification standards.

During the study period there were 5 deaths of adult sheep due to disease and 4 deaths of young lambs due to disease, birth defects or predation.

Lambs were slaughtered at a local abattoir from 5 months onwards, with some kept until a year old and slaughtered as hoggets. A local butcher cut up the carcasses. Meat from between one and two lambs was kept for the family and the rest was sold privately, at a discount to organic supermarket prices. Meat was stored in the deep freezer.

Pork

Newly-weaned pigs, cross-bred from traditional or modern varieties, were bought in from neighbouring farms in June or July. From 2010 to 2015 there were 3 pigs and in 2017 two pigs. Due to other commitments, pigs were not kept in 2016. The ownership and care of the pigs as well as the work involved in pork production was shared with another party, either family, friends or neighbours, reducing the amount of labour for the host family and increasing the ease of pig-keeping.

Pigs were kept outdoors so that they were able to express a good deal of their natural behaviour, especially digging, and could supplement their diet with foraged food. They were located in the arable area to give direct access to fodder crops (barley and roots). They were contained by galvanised wire netting fencing, with an inner single-strand of electric wire at 30cm height. Access to fodder crops in this area was controlled by moveable electric fencing which allowed strip-grazing. The pigs were housed in a mobile corrugated steel and plywood sty, insulated against the heat of the sun by straw bales and plywood.

Pigs were fed mainly on self-produced food (such as arable crops, damaged fruit and potatoes and vegetable waste) or locally-foraged food (such as fruit, sweet chestnuts and acorns), supplemented by bought-in organic concentrate. The aim was to achieve at least 70 kg live weight by the time of slaughter at age 7 months.

There was one death in the winter of 2010 which was due to disease.

Pigs were taken to slaughter at a local abattoir in November or December. A local butcher was employed to cut up the carcasses. Bacon, ham and sausages were self-made. Meat was preserved in the deep freezer. Nearly all of the meat was self-consumed.

Eggs and chicken meat

Three or four hens and a cockerel were kept, of no particular breed. They were housed in a coop at night and allowed to free-range during the day. The main product was eggs. There was a small production of meat from male offspring in 2010 and 2011. The main part of the diet was imported organic feed which was a mix of layers pellets and mixed corn. This was supplemented to quite a significant extent by a free-range diet (grass, herbs, insects, worms etc), kitchen scraps and any surplus home-grown wheat and barley.

Over the study period there were 4 deaths from badger attack, 3 deaths from dog attack and 3 deaths from disease or old age. Replacement birds were bought-in. No medicines or chemicals, external or internal, were ever used.

Wild Game

Wild game (rabbits, wood pigeon, duck and pheasant) were occasionally hunted with an air rifle. More could have been made of this food resource.

Fruit

Cultivated top fruit consisted of a mature apple and damson tree, three young apple trees and a young pear tree. Apples were stored in outhouses which preserved them for 2-3 months. The growing maturity of the young fruit trees resulted in an increase in harvest over time. There was also a contribution from wild fruit in the hedgerows (predominantly blackberries).

These were preserved in the deep freezer. A small amount of soft fruit (gooseberries and strawberries) were also grown.

Vegetables

The kitchen garden measured 10m x 10m and was fenced with galvanised netting to keep out rabbits, chickens, badgers and dogs. Protective netting against birds and insect pests was used periodically. Other pests were controlled by hand removal (slugs and caterpillars), by encouraging insect and bird predators, by allowing chickens to forage in the winter and by avoiding the use of materials which provide shelter (eg wooden boards for slugs and snails). Mineral slug and snail pesticides were used on some types of crop (lettuce, seedlings) in the first 3 years of the study period but there was no other use of pesticides. The crops were rotated each year to prevent disease. Hand watering was carried out when necessary during the growing season using the supply from the well. Well-rotted farm yard manure was applied at the rate of approximately 1.2 tonnes per year.

From 2010 to 2015 the garden was ploughed or dug, manured and cultivated annually in spring. From 2016 onwards the system changed to a “no-dig” method, in which there was no ploughing or digging and manure was spread on top of the beds as a mulch in spring. This method takes advantage of the inherent fertility of undisturbed soil and requires less weeding and watering [7].

In 2017 a 4 x 2.5m polytunnel was installed which increased both the yield and variety of vegetables grown.

Root vegetables (carrots, parsnips and beetroot) were harvested in autumn and stored in the cellar which preserved them for up to 6 months. Legumes (beans and peas) were stored in the deep freezer. Squash (marrows) was stored in an outhouse. Most other vegetables were eaten fresh with production timed to occur throughout the summer and early autumn.

Wood fuel

A significant amount of domestic heating and cooking energy was obtained from wood fuel harvested as logs from woodland, hedges and garden.

SECTION 3: PHOTOGRAPHS

Photographs showing the holding and some of the activities described.

Photo 1: View of the holding, Sep 2014



Photo 4: Logging, Nov 2013



Photo 2: Feeding hay, April 2008



Photo 5: Hedge-laying, Feb 2016



Photo 3: Logging, Dec 2014



Photo 6: Ploughing, March 2011





Photo 8: Two-wheeled tractor and ridging plough, May 2011



Photo 9: Sowing barley, March 2014



Photo 10: Weeding cereals with wheeled



Photo 11: Daily mucking out in the cowshed, October 2010



Photo 12: Annual mucking out in the cowshed, April 2014



Photo 13: Turning over the dung-heap, Feb



Photo 16: Dexter cow and calf, May 2012



Photo 14: Calving, April 2008



Photo 17: Hen and chicks, Aug 2008



Photo 15: Lambing, May 2014



Photo 18: Blade shearing, April 2009





Photo 20: Turning hay, July 2012



Photo 21: A neighbour baling hay, June 2014



Photo 22: Stacking hay bales, June 2014



Photo 23: Barley and wheat, July 2014



Photo 24: Weaner pigs, June 2013



Photo 25: Old spot pigs eating foraged



Photo 26: Saddleback pig grazing barley, Aug 2014



Photo 30: Sheep grazing during thistle



Photo 27: "April" heritage variety wheat trial, Aug 2016



Photo 32: Harvesting potatoes, Aug 2011



Photo 33: Picking wheat, Aug 2015



Photo 35: Drying wheat, Sep 2014



Photo 36: Home-grown bread, Nov 2014





Photo 38: Cox apple tree harvest, Nov 2016

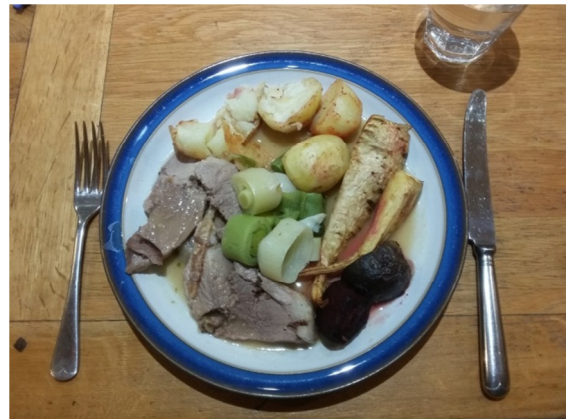


Photo 39: Selling butchered beef, Oct 2008



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