

4.0 Agricultural History and Farm Buildings

The existing stock of traditional farm buildings results from centuries of change and development. As a general rule, farmhouses (see 5.1) pre-date farm buildings, even in areas of 18th- and 19th-century enclosure. Larger-scale and higher-status buildings, which were consistently used for the same purpose or capable of being adapted to later uses, generally have the greatest chance of survival. It follows that barns are the overwhelming type of building to have survived from before 1750, and that steadings adapted or built anew in the later 18th and 19th centuries have retained evidence for a greater diversity of functions. Rates of survival differ both regionally and locally, but placing a building within its broad national and historical context will enable decisions on their wider value to be made.

4.1 AN INTRODUCTION TO ENGLISH AGRICULTURAL HISTORY AND FARM BUILDINGS: THEIR DEVELOPMENT, SURVIVAL AND SIGNIFICANCE

4.1.1 UPTO 1550 (Figures 10 & 11)

The 12th and 13th centuries were characterised by rising population, the colonisation of new land (through the drainage of fens, clearance of woods and expansion of farming on to upland moors) and the direct commercial management by estates of their land, whether this was dispersed among other holdings or ring-fenced in its own boundaries. The Church was a particularly active landlord, and monastic orders such as the Cistercians ran their estates from both home (or demesne) farms and outlying granges, which could be very large in scale (commonly 3 to 1000 acres in size). Climatic changes in the second decade of the 14th century, with increased rainfall and lower temperatures, led to famine. These troubles, compounded by pestilence (the Black Death of 1349 and subsequent epidemics), resulted in a sharp fall in population and the contraction or desertion of settlements on marginal soils. Direct cultivation by landlords continued on some home farms, but in most areas farms on estates became leased out – in whole or in part – to tenants, a process often accompanied by the breakdown of traditional customary tenancies. Other developments which accelerated from the 14th century included the amalgamation of farms into larger holdings, the enclosure of former communally farmed strips, and a steady growth in productivity sustained by greater emphasis on pastoral farming, new techniques and rotations of crops.

4.1.1.1 Survival and Value

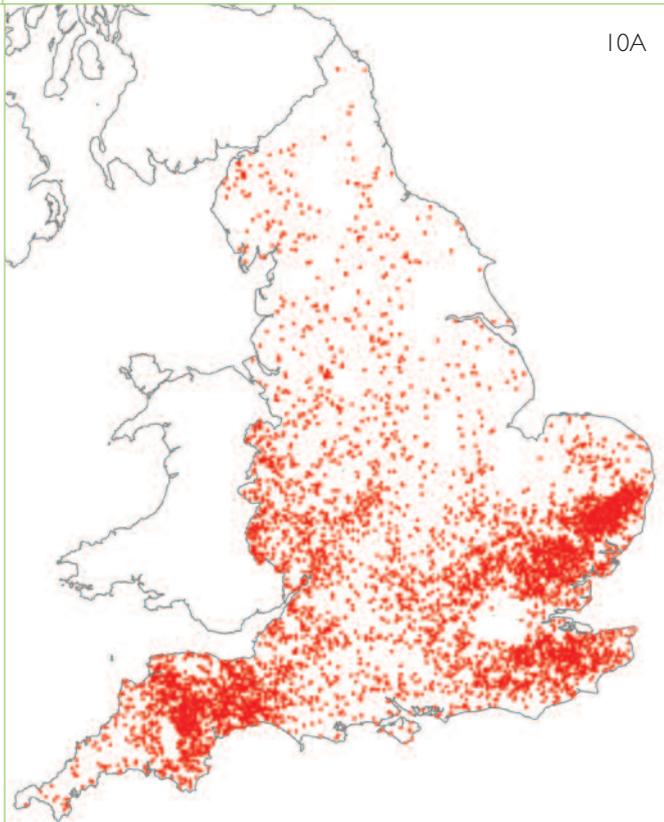
All survivals of this period are of great rarity and significance. The best-known survivals are the great barns of secular and especially ecclesiastical estates. These

comprised the foci of farmyards with ancillary buildings that have been almost completely swept away, for which documentary but very little archaeological evidence exists. The great cattle ranches (vaccaries) of the northern uplands have left no traces in terms of built fabric, although their impact on the landscape is still legible. Archaeological and documentary records – the latter particularly after 1350 – are similarly the main source of evidence for the farmsteads of peasant farmers, and for the emergence of a wealthier class of tenants and freehold farmers from the 13th century. In recent years evidence has brought to light farmhouses and occasionally barns of a wealthier class of farmers (both customary tenants and freeholders), providing the first evidence for wealth generated solely from local agriculture and of a class of farmers counted as among the wealthiest in Europe. These structures are concentrated in mid-Devon, the southern half of the West Midlands and in particular the South East and southern East Anglia.

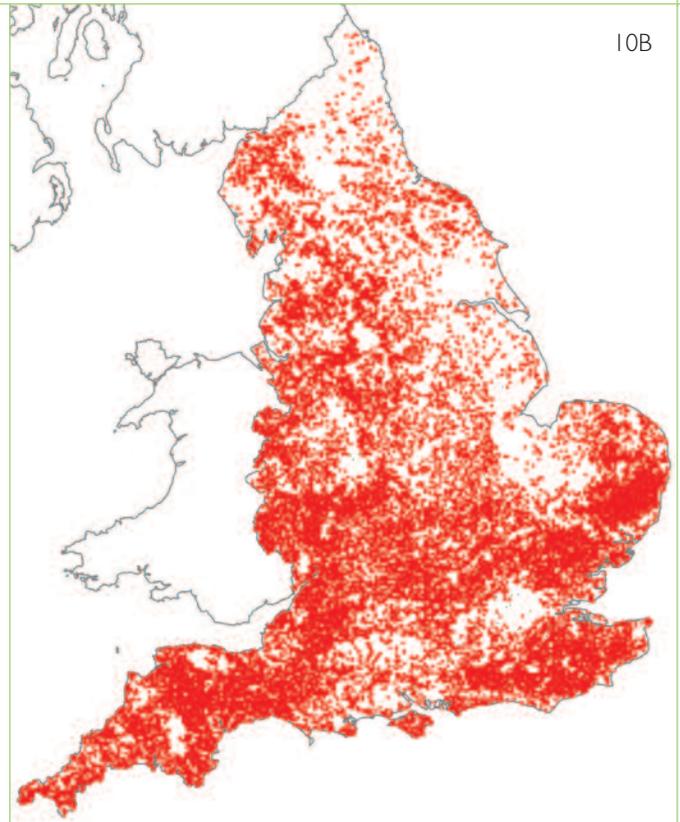
4.1.2 1550 TO 1750 (Figures 10 & 11)

Larger farmers and landowners initially benefited from the great land sales that followed the Dissolution of the Monasteries in the 1530s, while most farmers gained from rising prices and favourable leases. Agricultural productivity – particularly of grain – was spurred by a doubling of population from between 2.5 and 3 million to over 5 million by 1660, and an associated rise (by six times) in grain prices. After 1650, a fall in grain prices, a rise in cattle prices and demand from London and other growing urban markets, led to a rise in cattle rearing in the north of England, and of the dairy industry and specialised produce (such as hops and cider) in other areas. Improvements in transport, including the coastal and river trade, provided access to new markets. New rotations and crops, particularly clover, grasses and turnips, had become established by the end of this

10 Distribution of listed farmhouses in England, pre-1550 (left) and 1550–1750 (right). There is an obvious danger in making sweeping generalisations from such maps, but they do present valid questions for future analysis and research. Wealth derived from arable farming, including the proximity to the London market, dairying and fattening, wool and cloth production are obvious from the pre-1550 map. Here the distribution is thinnest for large parts of northern England, where rebuilding in stone – particularly from the late 17th century – had made its mark by 1750. Notable by their continuing thin distributions are the Lincolnshire and Yorkshire Wolds and Northumberland, where agricultural improvements and the re-planning of landscapes resulted in extensive rebuilding and re-siting of farmsteads after 1750. © Crown copyright. All rights reserved. English Heritage 100019088. 2005



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period on the light soils of East Anglia and adopted with varying success in other parts of the country. This period is strongly marked by the continuing process of enclosure and the related process of exchange and consolidation of farm holdings, the growth of farm size (especially in corn-producing areas), large estates and the widespread development of a landlord–tenant system. Landowners, notably the county gentry, emerged as ‘influential pioneers of new crops and new systems of farming’ (Thirsk 1984, p.xxiii). The consolidation of estates and holdings are reflected in the continuing – and in more anciently enclosed areas often the final – phase of enclosure. The national market became more integrated from the later 17th century, in tandem with the emergence of specialised regional economies. This, and the development and strengthening of local building traditions, are also reflected in the layout and design of both farmhouses and more substantial farm buildings.

4.1.2.1 Survival and Value

Substantially complete farm buildings of this period are rare. They will often provide the first surviving evidence for the development and strengthening of regional traditions and building types: for example, the timber-framed West Midlands barns that replaced earlier small cruck barns; the linear farmsteads of the North Pennines; the development of bank barns in Cumbria; the growth of the southern English downland farmsteads with their

associated large barns. The smaller farms of anciently enclosed pastoral areas are the most likely to retain fabric dating from this period, although it is very rare for farmsteads to have more than a barn and house.

4.1.3 1750 TO 1880

Agricultural productivity sustained a massive increase in population, which had risen from around 6 million in 1750 to over 16.7 million by 1851 and 26 million in 1881. This was the most important period of farm building development, commonly divided by agricultural historians into two periods: before and after 1840. Probably under 25% of the land area of England remained unenclosed by 1750, and the majority of this was enclosed by 1815. This was a process at first concentrated on the Midland clays (for the management of land as pasture for fattening) and then – from the start of the Napoleonic Wars in the 1790s – on the expansion of the cultivated area onto poorer and lighter soils such as the northern moorlands and the southern downlands, and poorly-drained land such as the Fens and the Lancashire mosses.

In the ‘High Farming’ years of the 1840s to 1870s, high-input/high-output systems – based on the availability of imported artificial fertilisers and manures (superphosphates, nitrates, guano and bones) and feeds such as oilcake brought on to the farm – replaced the

'closed circuit' methods that relied on farm-produced feeds and manure. A major development – as observed by the agricultural journalist James Caird writing in the 1850s – was an increased distinction between the intensively cropped landscapes of the eastern half of the country, and the wetter and more pastoral-based economies of the western half.

There were several key drivers behind this development:

- Higher grain prices from 1750, peaking during the Napoleonic Wars (1794–1815), were joined from around 1840 by a steady increase in meat and dairy prices, both the result of population growth and the demands of an increasingly affluent urban population.
- The strengthening of a national market, facilitated by the ever-expanding transport infrastructure (of canals, improved river and road communications and the railways) and the growing importance of middlemen, both of which facilitated the marketing of food.
- Marked increases in land prices from the 1760s. This increased the incentive especially of estates to invest, outgoings on repairs and improvements occupying an increasing share of gross rentals from this period to as much as 25% by the 1850s (Mingay 1989, pp.602–3).
- Increasing interest and involvement by government: for example through the Board of Agriculture set up in 1793 (and which immediately set about the commissioning of its famous county studies in order to gather information on best practice); and from the late 1840s the establishment of loan companies for buildings and drainage, which added to the development of a national banking system.
- Textbook and journal literature such as *The Book of Farm Buildings* by Stephens & Scott Burn (1861), and the examples of best practice in J Bailey Denton's *Farm Homesteads of England* (1863). Agricultural societies, from farmers' clubs to the Royal Agricultural Society of England (RASE) founded in 1837, played an important role through their shows and publications. The Royal Agricultural College was established at Cirencester in 1845, and – as seen in the founding of the Rothamstead experimental station in 1832 – the following two decades witnessed the development of agricultural chemistry and veterinary science.
- The accelerating trend towards larger farming units, both through purchase of smaller farms by more substantial tenants and freeholders, and through estate policy. This was especially pronounced on the poorer soils, which often required the highest levels of capital investment.
- The role of estates, through the development of the land agent profession, investment in infrastructure (especially buildings and drainage) and the encouragement through leases of improved husbandry techniques by their tenants. Estate policies were also a major factor in the rationalisation of holdings and the emergence of larger farms.

- Enclosure. This was often a major factor in increasing output, through facilitating new rotations of crops and the improvement of grassland and stock management. Expenses associated with enclosure – of fencing, hedging and ditching (as much as 50% of the cost), and occasionally the construction of new steadings and buildings (which could be 17%) – increased the incentive of small owners and occupiers with little capital to sell to larger landowners (Wade Martins 1995, p.83). An additional incentive to enclosure was the doubling of rents that could result.
- Improvements in livestock, for example the emergence by 1850 of the Shorthorn as the leading cattle breed and the replacement of the horned wool-producing varieties of sheep by sheep bred for their meat and manuring value.
- The widespread adoption of improved grasses such as sainfoin and winter feed-crops such as turnips, accompanied by the production of better seeds and farm machinery and the efficient distribution of good manure by livestock increasingly wintered in yards or buildings.
- Drainage through traditional techniques, such as bush drains and U-shaped tiles and from the 1840s tile pipes, the use of these being concentrated on the heavy soils of the Midland clays.
- The improvement of soils through liming and marling.

Farmstead design was being affected by the widespread introduction of new types of building and layout, and from the 1840s by the widespread extension of mechanisation (for preparing feed and threshing), the increasing availability of mass-produced fittings and materials, and the adoption of industrial and scientific principles to the accommodation and feeding of ever-increasing numbers of livestock. The building of planned steadings for some estates and wealthy farmers, in the period up to 1840 concentrated in the eastern lowlands, was accompanied by the rebuilding or adaptation of thousands of existing steadings with cattle yards and buildings, and the replacement of the traditional threshing barn by the multi-functional and much smaller mixing barn (see Figure 25, bottom). In some areas, regional differences were beginning to disappear: for example, the removal of floors and walls for livestock and lofts in the combination barns in the wood pasture areas of Suffolk and the eastern Weald attest to the fact that they were becoming part of eastern England's arable region, as recognised by James Caird who conducted a survey of British agriculture for *The Times* in 1850–51 (Caird 1852).

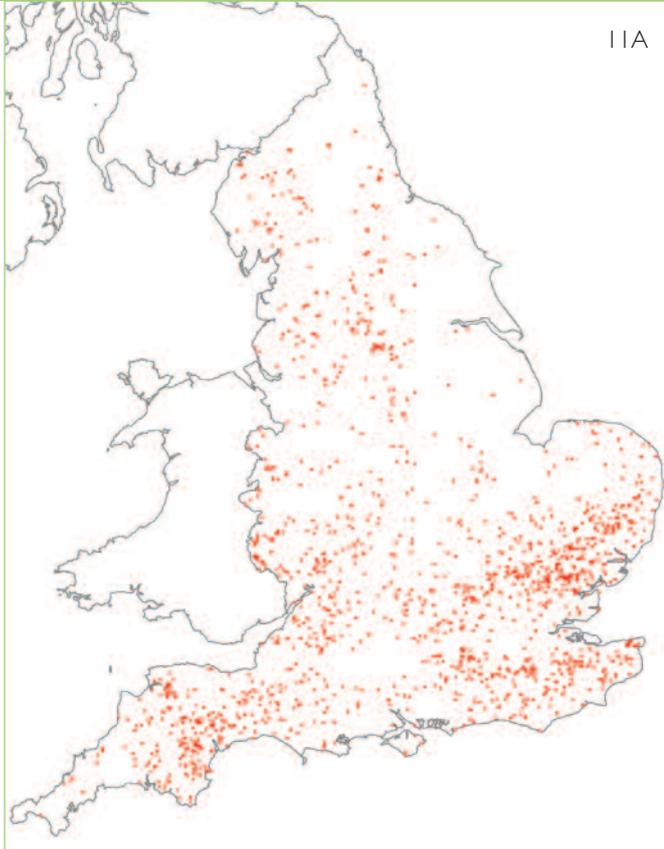
4.1.3.1 Survival and Value

Substantially complete examples of farm buildings of the 1750 – 1840 period are far less common than those of the post-1840 period, when many farmsteads matured into their present form and huge numbers of buildings were erected. Some, particularly the planned farmsteads

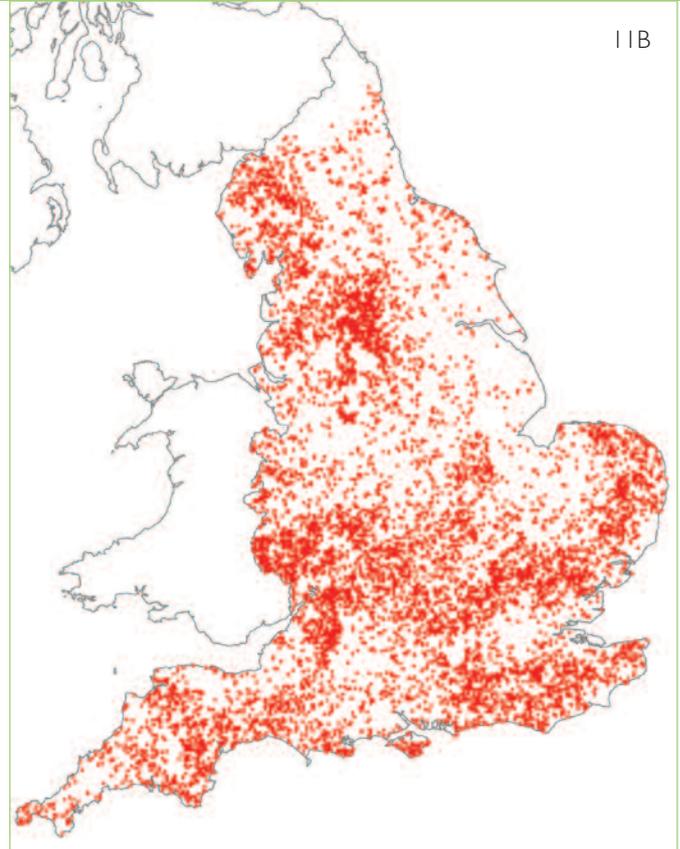
11 Distribution maps of listed barns in England, pre-1550 (left) and 1550–1750 (right)

The great majority of substantially complete pre-1750 barns have been listed. These maps pose important questions for future research. In the pre-1550 map, the concentrations in a belt around London, the southern Pennines and from the Feldon of Warwickshire into mid Devon conceal a wide range of sizes and types of barn, stretching from large aisled barns to relatively modest barns, which have not been replaced in later centuries due to farm size and other factors. Many of the outliers, such as in Cornwall and Durham, represent the building of substantial barns on ecclesiastical estates in the medieval period. In the 1550–1750 period, regional patterns of building and survival emerge more strongly, such as the concentration stretching from the Lancashire Plain to the southern Pennines, and the relative absence of pre-1750 barns in the planned landscapes of eastern and central England most profoundly affected by the agricultural improvements of the post-1750 period. The distribution for threshing barns of the 1750–1880 period reinforces rather than adjusts this distribution. Such maps present an obvious invitation to future analysis and research.

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of the period, represent new developments in farmstead planning or the architectural aspirations of landowners. Others continue to be strongly representative of both the variety and development of local and regional agricultural systems and local vernacular traditions, such as granite in west Cornwall or cob in mid-Devon, and even new materials such as clay lump (as developed in large parts of Suffolk and southern Norfolk).

4.1.4 1880 TO 1940

For over 100 years, agriculture had been increasingly subject to national and international fluctuations in commodity prices, to its considerable benefit in the Napoleonic Wars and the High Farming years. However, after a run of poor weather in the late 1870s, the income from arable crops that farmers had enjoyed in the 1860s collapsed (for example, by 40% in wheat between 1880 and 1900) and farming entered a severe depression. Britain, its urban economy prospering through free trade, became by the 1930s the world's greatest importer of agricultural produce, including animal fodder; from both neighbouring parts of Europe and the New World. This was the beginning of large-scale importation of grain from the American prairies,

meat in refrigerated ships from New Zealand and Argentina, and cheese and bacon from Europe. More than in any preceding period, British domestic policy (the supply of cheap food) and the world market now directly affected regional variations and the supply of capital to British farmers. The result was the concentration of grain production on the drier soils of the eastern and southern counties, and in the areas that experienced the greatest contraction from the High Farming peak of grain production a focus on meat and dairy produce in order to meet urban demand. The growing demand for liquid milk and the importation of dairy produce also led to a decline in the farmhouse manufacture of butter and cheese.

The Government endeavoured to boost production through price support. Against the backdrop of the U-boat menace during the First World War it sought to reduce the country's dependency on imported grain and attempted to extend and co-ordinate both advice and legislation (over hygiene, for example) through the establishment in 1919–20 of the Ministry of Agriculture and Fisheries and county council committees and councils, in conjunction with organisations such as the National

Farmers' Union (founded 1908). However, despite an increase in net output, the rising costs of labour, feeds and other inputs, combined with the decline in prices and rising levels of imports, ensured that little was invested in fixed capital. Arrears in rent characterised the period, even in years of relative recovery (such as after 1936 in arable areas). The holdings farmed by the new class of owner-occupiers – numbering 147,000 in 1927, as against 56,000 in 1909, the biggest change in land ownership since the Dissolution of the Monasteries (Whetham 1978, pp. 160–61) – were burdened with debt.

As a consequence there was little fresh investment in farm buildings other than repair and modification, and any buildings constructed tended to be of the cheapest materials. Many, such as Dutch barns, were prefabricated, and concrete and corrugated iron or asbestos sheet were being increasingly used for the refitting of cow and dairy units and the repair of traditional roofs. National and local surveys, such as the 1910 Land Valuation Survey, attest to the growing levels of disrepair, especially of pre-improvement farm buildings using traditional materials such as thatch and timber. Reduced rents and growing building costs meant that only the wealthiest farmers and landowners continued to invest in model or experimental farms, and many of these concentrated on the production of meat and dairy produce; most built very little, perhaps investing in dairy buildings or cattle sheds in an attempt to attract tenants or meet increased demand in some areas for meat and dairy produce.

The continued promotion of scientifically based agriculture was matched by the application of new ideas on ventilation and farm hygiene to farm buildings, such as the regulations for dairying introduced in 1885. This was brought into effect mostly through the conversion of existing buildings (especially stabling into dairies) and to a small degree through new-build, notably on the smallholdings owned by county councils. Milking machines, where introduced, brought considerable changes to building layout, but the spread of mechanisation was very varied. By the mid-1930s, the mobile horsepower of the growing tractor fleet exceeded that of the stationary engine; the latter form of power having itself witnessed the transition to oil engines (from the 1890s) and electric power (not widespread until the 1950s). However, horses 'remained the dominant source of power' in the western half of England, and tractors were mostly confined to holdings of 300 acres or upwards, and the arable eastern areas (Whetham 1978, p.210). In the inter-war period, cereal, poultry and dairy farmers, and pig producers using imported North American feed, were in the vanguard of cost-cutting innovation that had a strong impact on post-war developments. There were some examples of planned steadings that in their adaptation of modern industrial theory bucked the trend (Brigden 1992).

4.1.4.1 Survival and Value

Planned steadings and buildings in some areas reflected the increased importance of dairying, particularly of liquid milk – the steadings of the Tollemache and Westminster estates in south Cheshire being one such example. The inter-war period witnessed the development of more intense forms of housing for pigs and poultry, and the replacement, as a result of hygiene regulations, of earlier forms of housing for dairy cattle with concrete floors and stalls, and metal roofs and fittings. County councils entered the scene as a builder of new farmsteads, built in mass-produced materials but in traditional form, in response to the Government's encouragement of smallholdings of up to 50 acres (20 hectares). Alongside the construction of new farm buildings, traditional farm buildings were adapted to new needs, and the use of corrugated iron (mostly for repair) has guaranteed the survival and reuse of earlier buildings, particularly the increasingly redundant threshing barn.

4.1.5 1940 TO THE PRESENT

The 1937 Agriculture Act anticipated the need to increase self-sufficiency, and the Second World War witnessed a 60% rise in productivity; this was the result of the growth in livestock numbers, increasing scientific and government control and guidance, more specialised systems of management and the conversion to arable of permanent pasture. The invention of artificial fertilizer (patented by Haber and Bosch in 1910) enabled otherwise uneconomic land to be brought into production, and finally made redundant earlier forms of fertilizer. The National Farm Survey of 1941–3 (Barnwell 1993) attested to the long years of neglect of the depression, less than half of the building stock being classed as in fair condition. The Agriculture Act of 1947 heralded the intensification and increased specialisation of farming in the post-war period, accompanied by the development of government and industry research and guidance. From the mid-1950s, strongly influenced by American models, there emerged a growing body of trade and advisory literature. The first of these, produced in 1956, highlighted the dilemma of 'old buildings too good to pull down but not suitable for their new purposes' (Benoy 1956). The Government provided grants to cover the capital cost of new building under the Farm Improvement Scheme (introduced 1957). The introduction of wide-span multi-purpose sheds in concrete, steel and asbestos met increasing requirements for machinery and for the environmental control of livestock and on-farm production, particularly of milk. The national stock of farm buildings grew by a quarter between 1945 and 1960 alone. The Agricultural Research Council's *Farm Buildings Survey of England* (published 1967) estimated that the average farmstead contained 6 pre-1914 buildings, 2.4 from 1918–45 and 2.5 built since 1945.

4.2 FARMING IN THE EAST MIDLANDS

The East Midland counties present contrasting landscapes of lowland vale, moorland, former forest, marsh and fen which have specialised in sharply contrasting types of agriculture.

The clay vales of Derbyshire, Leicestershire, Nottinghamshire and Northamptonshire made up the majority of the farmland on which the classic Midland open-field systems, worked from nucleated settlements, predominated. The township fields that dominated the landscapes of the Central Province (see 2.3.2) have left their mark in the curving boundaries of piecemeal enclosure or in fossilised ridge-and-furrow earthworks under permanent pasture. Within these broadly similar areas enclosure of the common fields was underway in some parts by the 15th century – often in association with the leasing out of estates, the development of gentry farms and estates and the expansion of grazing land – and various types of agriculture were practised. In some parts of the Region enclosure was accompanied by depopulation, the result in landscapes such as High Leicestershire and the Lincolnshire Wolds being high numbers of deserted medieval settlements.

The continuation of open-field farming in much of the clay vales can partly be explained by the large number of freeholders and interweaving of landownership and tenantry, making it difficult to arrive at an agreement for enclosure. In Laxton (Trent and Belvoir Vales), where some strip farming still continues, there were 57 freeholders in 1732 owning more than half of the parish (Mingay 1984, p.116). Here the major period for enclosure of the open fields was after 1750; for example, a third of Nottinghamshire was enclosed between 1759 and 1860. Much of the enclosure – particularly in the pre-1790 phase – was for pastoral farming, both for dairying and for the fattening of cattle on summer pastures (Williamson 2002, pp.29–52). Pitt reported that before enclosure, Leicestershire was mainly a corn county, but as enclosure created fields for stock the county could ‘no longer keep itself in bread’. In the south-east and middle of the county there were many farms with no arable (Pitt 1813, pp.80, 87). Dairies, feeding and breeding were all important activities, with the Bakewell brothers’ farm at Dishley, home of their improved Leicester sheep, being the most famous. The graziers were recognised as the wealthiest farmers in the region, many of whom were owner-occupiers. Pitt noted the contrast between the brick houses and premises of the well-off owner-occupier breeders and graziers and the older timber-framed houses of the poorer farmers in the villages where most of the small farmsteads remained after enclosure (Pitt 1813, p.22). The result can be strong differences in farmstead plan (see 5.3).

Although the Region is most closely associated with open-field farming up to the 16th century there were extensive areas of forest, most of which had been royal forests subject to Forest Law. The forests of Rockingham (JCA 92), Salcey and Whittingham, Northamptonshire, lay on cold, waterlogged clays, whilst the forests of Charnwood (JCA 73) in west Leicestershire and Sherwood in Nottinghamshire (JCA 49) lay on infertile sandy soils. Strong population growth in the 16th and 17th centuries was linked to both the development of industries – many of the Northamptonshire stocking knitters were based in the forest areas – woodland clearance and enclosure (Thirsk 1967, pp. 96 and 98). The forest areas also experienced great changes – further clearance and enclosure, linked in Sherwood and Rockingham – after 1750. Within the Peaks and the Peak Fringe area farmers were increasingly turning to the rearing of cattle in the 17th and 18th centuries (Hey 1984, pp.136–7). A vital feature of the upland farming economy was the huge proportion of inter-commoned grazing on the moorlands, and farms were being created out of the moorland sides between the 15th and 19th centuries – typically set within their distinctive ‘intakes’ of enclosed land. Many smaller farmers were also able to obtain a second income through local industries such as lead mining, coal mining and quarrying. In the northern part of the area men turned to metalworking: in 1672 over 100 smithies were recorded in the parishes south of Sheffield (Mingay 1984, p.134).

The London market was influencing farming in much of the Region by the 18th century. Sheep, cattle and cheese were sent to London and there were major horse markets at Mansfield, Nottingham, Newark, Leicester and Northampton (Mingay 1984, p.98). Derby developed as a major malting centre (Mingay 1984, p.141). Farming in the clay vales was essentially mixed, with stock fattening forming a significant part of farming income. Dairying was also important, particularly near the towns, with cheese being produced in the Vale of Trent, and Stilton in the Vale of Belvoir; and Melton Mowbray being an important cheese market. Red Leicester cheese was sold in London and other manufacturing towns of the Midlands and the north (Mingay 1984, pp.99–101). Only in the remoter parts of Derbyshire and Lincolnshire was trade with London less influential. The arrival of the railways had a profound impact on farming, stimulating the production and export of wheat from parishes on the fen edge, for example (Barnwell & Giles 1997, p.44).

As grain prices fell, the period from 1870 to 1939 saw a further gradual decline in tillage and increase in pasture; for example, the cultivated area in Leicestershire fell by half between 1872 and 1914. Only in Lincolnshire was there no sizeable reduction (Walton 2000, p.393). An increase in dairying could be made possible by the expansion of the railway network. Cheese factories

opened in Derbyshire in 1870–75 and soon became depots for liquid milk, only producing cheese when there was a summer surplus, stimulated by a policy of low carriage charges by the Midlands Railway. By 1920 Leicestershire and Derbyshire were sending milk to London. In contrast, Nottinghamshire never became a dairying county (Drury 1963, p.150) although previously dairying for the town of Nottingham had dominated the agriculture of the area around it (Caird 1852, pp.198, 210–11). And although there was some dairying capacity in the Lincolnshire Marshes, the pricing policy of the Great Northern Railway limited the market and thus the development of liquid milk production (Walton 2000, p.399). In other areas, such as north Leicestershire, the limited grain produced was fed to yard-based cattle (Sturgess 1966, p.111). Many of these areas were well placed to weather the storm of the post-1870s depression.

AREA SUMMARIES

These summaries have been compiled as preliminary statements on the agricultural development of the distinctive parts of the Region. Inevitably, these do not relate as strongly to county boundaries as distinct landscape zones. These are outlined below, either by including the Joint Character Area (JCA) title – see 2. – after the area heading or, if they approximate or relate to groups of JCAs, in the first line of the text. The sources for them are diverse, and include Historic Landscape Characterisation where completed, work in progress on developing historic profiles for the Joint Character Areas (see www.cqc.org.uk) and sources listed in the bibliography. They are generalised statements, within which there may again be important differences in farming practice, settlement and estate patterns and landscape character.

For Bedfordshire and Cambridgeshire Claylands (JCA 88) and Yardley/Whittlewood Ridge (JCA 91) see East of England.

For Yorkshire Southern Pennine Fringe (JCA 37) and Southern Magnesian Limestone (JCA 37) see Yorkshire and the Humber.

For Humberhead Levels (JCA 39) see Yorkshire and the Humber.

4.2.1 Nottinghamshire, Derbyshire and Yorkshire Coalfield (JCA 38)

The area has a long history (from the medieval period) of rough grazing and pastoral farming in the west (sheep, beef and some dairying) giving way in places to arable cultivation in the east. Market gardening developed around the urban centres which expanded rapidly from the late 18th century. Many of the area's small and irregular fields, many probably assarted from woodland

or were developed in the 17th and 18th centuries as miners' / weavers' subsistence plots surrounding villages. Medieval settlements were also characterised by open-field farming, much of which was enclosed by the 18th century.

4.2.2 Lincolnshire Coast and Marshes (JCA 42)

The dispersed settlement of the Outmarsh zone, which is characterised by irregular patterns of roads and fields, includes numerous holdings that originated as the grange farms of the area's abbeys and priories. The area had generally limited arable (although there are traces of medieval ridge and furrow) but benefited from the long-standing practice of fattening cattle from Wolds farms, with extensive grazing for sheep (Thirsk 1967, pp. 35–6; Bennett & Bennett 1993, p. 92). Enclosure was well advanced by the 17th century, and linked to the steady expansion of pasture (Johnson 1963, p. 99).

The inland area (the Middle Marsh, which rises towards the Wolds) was dominated from the medieval period to the 18th century by open fields, interspersed with some isolated farmsteads of medieval or earlier origin. However, the fieldscapes of the Middle Marsh mainly reflect the reorganisation of these fields into large-scale regular enclosure patterns related to isolated farmsteads in the 18th and 19th centuries.

4.2.3 Lincolnshire Wolds (JCA 43)

The Lincolnshire Wolds lie between the Lincolnshire Coast and Marshes and the Central Lincolnshire Vale. Enclosure for sheep pastures began in the 14th century resulting in the depopulation of some villages. The Wolds have the highest concentration of Lincolnshire's deserted medieval village sites, many in highly visible locations, many outlived by a single farm or manor house carrying the village name. Depopulation continued in the 17th century when the population fell by around 25%, although enclosure in this period was often associated with improving arable rather than conversion to pasture: mixing fodder crops for the sheep with barley fields fertilised by their manure. (Holmes 1980, p.17). Even so, the pre-1750 landscape was broadly still one of open fields, common waste and nucleated villages, although there were some isolated farmsteads of medieval origin (Roberts & Wrathmell 2000, pp.48–9).

From the later 18th and 19th centuries, enclosure transformed the landscape and engrossing of small farms disrupted the social structure of villages, creating fewer, but more substantial tenant farmers based on a sheep/corn system of agriculture. Estate farmsteads, such as those of the Brockles Estate and Lord Yarborough's 30,000-acre estate, served some of the largest holdings in England.

The farmers of the Lincolnshire Wolds probably felt the agricultural depression of the late 19th century more severely than other farmers in the Midlands, although the effects of low corn and wool prices did not have as great an impact on this capital-intensive farming area as was expected. This was mainly due to the substitution of mutton and barley for wool and wheat (Walton 2000, p.394).

4.2.4 Central Lincolnshire Vale (JCA 44)

In Lincolnshire, the limestone ridge of the Lincoln Cliff and heath is divided from the chalk Wolds to the east by the central clay vale. To its north the river Ancholme drains into the Humber and to its south the Witham drains through the fens into the Wash. The mixed arable and grazing landscapes of the earlier medieval period gave way to extensive enclosed pasture and sheep/corn farmland from the 14th century onwards. The dominance of estates in the central clay vale between Lincoln and Market Rasen resulted in the early spread of regular medium-scale enclosure. Large-scale 18th- and 19th-century enclosure characterises the area bordering the fens to the south and the drained carrs (seasonally waterlogged land) between Market Rasen and Brigg.

4.2.5 Northern Lincolnshire Edge with Coversands (JCA 45) and Southern Lincolnshire Edge (JCA 47) (Figure 12)

This limestone ridge, which runs from the Humber Estuary to Grantham, is divided in two by the river Witham which flows through Lincoln. The expansive top of the Lincolnshire Edge was largely unsettled heath until the late 18th century, providing common pasture for flocks otherwise folded on the fallow lands below. Linear parishes across the heath reflect this – aligned east to west either side of Ermine Street to take advantage of both the open grassland and the settled farmland across the eastern dip slope and below the western cliff. The high heath itself and the Coversands to the north of Lincoln was transformed by later 18th and early 19th century enclosure for improved pasture and sheep-corn farming, although earlier enclosure persists around the smaller settlements. Here profitable arable farms were created, provided with 'new farm houses, barns and offices' (Young 1813, p.99). Again there are a large number of deserted village sites and while open fields dominate the area, there are some earlier enclosures and ancient isolated farmsteads. The field systems to either side of the Edge, along the western scarp (the so-called Lincoln 'Cliff') and dip slope, were commonly subjected to enclosure and rationalisation by the larger landowners from the 14th century onward. Village agriculture continued across the dip slope into the post-medieval period, fragmenting to varied extents depending on the level of piecemeal or general enclosure instigated by the major landowners.

4.2.6 The Fens (JCA 46) (Figure 13)

Unlike the Cambridgeshire fens, which were mostly the property of large owners, ownership of the Lincolnshire fens was fragmented and most of the farmers were small scale, with vegetables and market gardening being important. In the 16th century the marsh farmers were generally better off than those in other parts of Lincolnshire but by the 18th century they were generally the poorest (Holmes 1980, p.26). This was largely due to the fact that the rich grazing areas available on the salt marshes along the coast – now marked by small, mainly pastoral fields – were often rented out to wealthier farmers on the Wolds, pushing up rents and forcing out the small farmers (Mingay 1984, p.111).

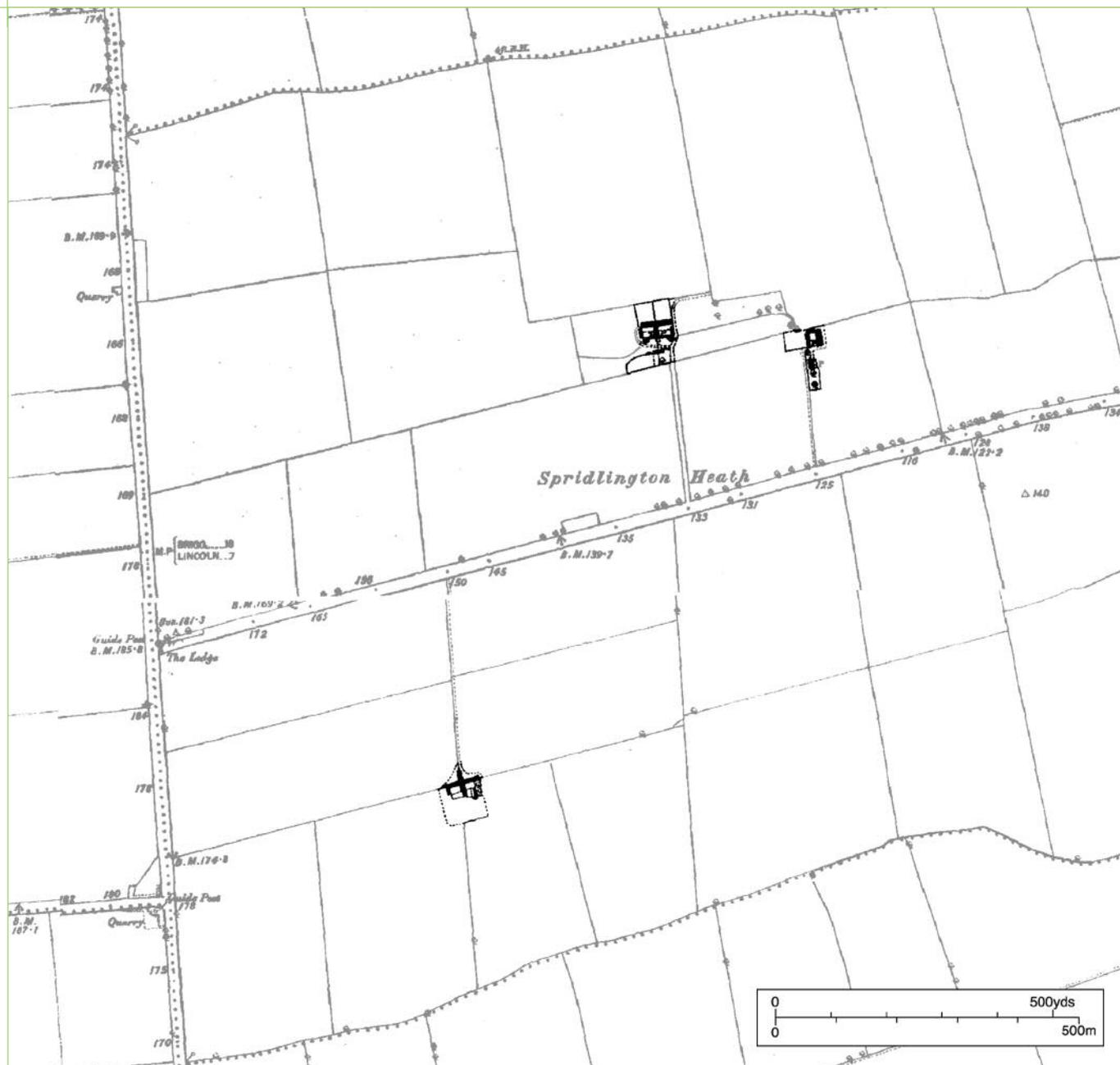
As occurred in the forest areas of the Region, depopulation caused by enclosure on areas such as the Lincolnshire Wolds resulted in an increase in population in the fens where manorial controls were weak, there were generous common rights and opportunities to earn additional income through activities such as reed cutting or fishing were possible (Holmes 1980, p.17). Intercommoning also prevented the initial plans for drainage. The first attempt at drainage on the Isle of Axholme encountered both technical difficulties and local opposition. However, during the 17th century several drainage schemes of large areas of fen were carried out by owners such as the Duke of Bedford and the Earl of Lindsey, who drained 30,000 acres of common land in Kesteven between 1631 and 1634. By the mid-19th century about 250 wind pumps and 50 steam engines had enabled the drainage of much of the area into some of the most fertile land in the British Isles. Few farm buildings survive, but the scale of the farmhouses indicates that the farms were not as large and prosperous as in the Cambridgeshire fens.

4.2.7 Trent and Belvoir Vales (JCA 48) (Figure 14)

The effects of feeding a growing industrial population in the 18th and 19th centuries are evident in the countryside, in the development of dairying and the expansion of the market towns served by the railways. The piecemeal semi-regular enclosures of the 16th, 17th and early 18th centuries are widespread and highly varied in composition, with the greatest survivals in the area of south Nottinghamshire along the northern edge of the Vale of Belvoir; and the northern part of the Vale of Belvoir (Honeybone 1987, p.55). Pasture and dairying was particularly dominant in the Vale of Belvoir; mixed husbandry extending across the remainder of the area. Large-scale and regular enclosure, dating from the late 18th and early 19th centuries, is found mainly on the heaths and sands between Newark and Lincoln and the mid Nottinghamshire area; for example, George Neville of Subton, near Newark, enclosed 700 acres of creating five farms, each with brick buildings (Lowe 1798, p.28).

12 Farmsteads in the landscape: Spridlington, Lincolnshire (North Lincolnshire Edge with Coversands)

Spridlington is a parish on the Lincolnshire Wolds where nucleated settlement is characteristic. The village of Spridlington lies to the east end of a long, narrow parish that typically extends up and over the Lincolnshire Edge. Almost all the parishes in the locality used Ermine Street, the Roman road that runs from north to south, as the parish boundary, indicating that the organisation of the landscape into estates post-dates the road. The boundaries of these estates are largely reflected in the parish boundaries. Arable land was sited close to the village. Heathland at the western end of the parish provided common grazing until its enclosure from the 18th century. The distance of these new enclosures from the village, where the farmsteads were clustered, resulted in the development of new farmsteads set within their blocks of fields. These farmsteads were typically developed into regular courtyards although these courtyard plans are not always of a single build. Based on OS 1st Edition map 1843–1890. © and database right Crown Copyright and Landmark Information Group Ltd (All rights reserved 2005) Licence numbers 000394 and TP0024



4.2.8 Sherwood (JCA 49)

Cheese was the most important forest product in the early 18th century and there were some wealthy farmers even here. The forest was largely heath and sheepwalks, with small areas of arable, often temporary cultivations within the common that were left to grass after being cropped for five or six years. Settlement expansion and the predominant pattern of large-scale and regular enclosure here is primarily a feature of the mid-18th century onwards, reflecting the clearance of woodland and enclosure of sheep and cereal farms, followed by the development of coalmining in the 19th

century. Large estate farms of 300 to 500 acres based on sheep and cereals were created with their accompanying brick buildings (Corringham 1845, p.3).

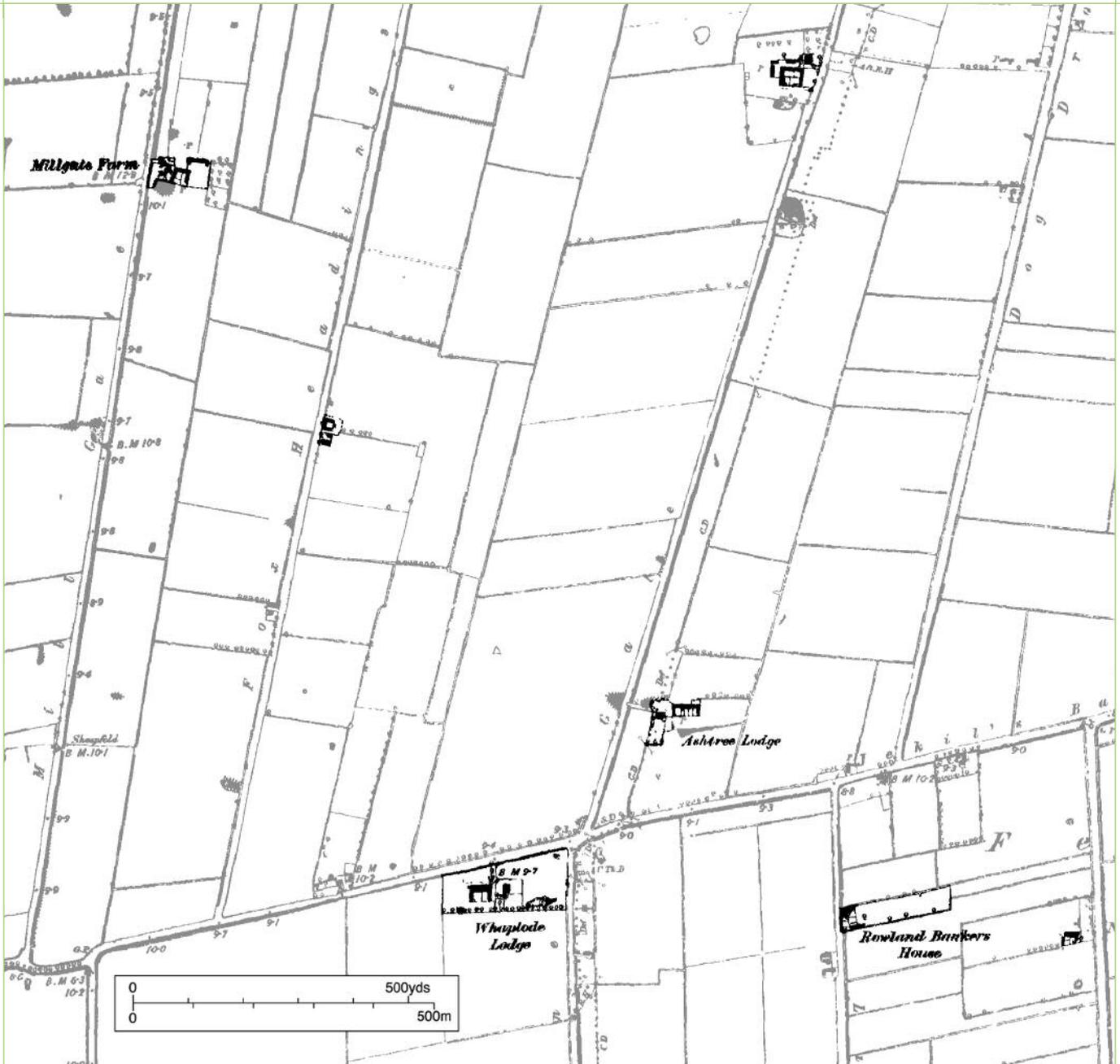
4.2.9 Derbyshire Peak Fringe and Lower Derwent (JCA 50)

The valleys, including the open fields around nucleated villages, and valley sides had been largely enclosed by 1750. Enclosure of the open moor on the fringes of the Peak and of common land, also well advanced by this date, was largely completed in the late 18th and early 19th centuries and resulted in many more new

13 Farmsteads in the landscape: Holbeach St John's, Lincolnshire (The Fens)

Large-scale reclamation of the fens, driven by large landowners such as the Duke of Bedford, began in the mid-17th century. The South Holland area of fen remained largely as marshland until the passing of the South Holland Drainage Act in 1793, which allowed the cutting of the South Holland Main Drain and the creation of numerous feeder drains. Despite these efforts the fenland only developed into summer grazing land. Improvements to the sluice of the drain at its junction with the River Nene were made during the 19th century, but it was not until 1937 that sufficient improvement was made to allow this land to become suitable for large-scale arable use. In the late 19th century the farmsteads ranged from small to medium and generally had regular courtyard layouts facing south. Very few pre-1920 buildings survive except for some small brick and pantile houses. Many boundaries in this area have been removed post-1950 to create large arable 'prairie' fields. Based on OS 1st Edition map 1843–1890.

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farmsteads being built within the new intakes, as well as isolated field barns. Arable was concentrated in the valleys, and by the 19th century cattle rearing to supply meat to the growing urban centres nearby had grown in importance.

4.2.10 Dark Peak (JCA 51)

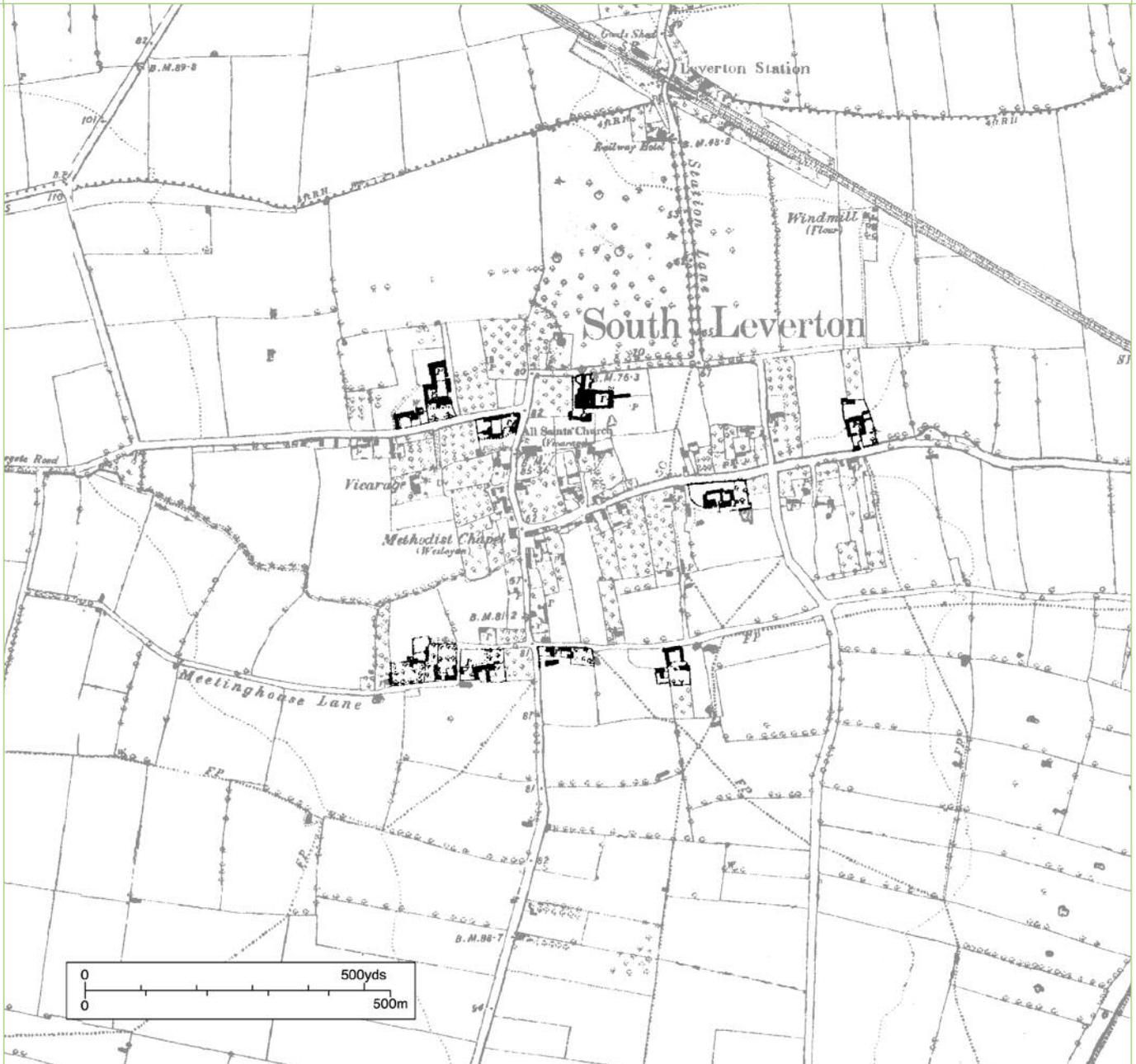
This area has small hamlets and many individual farmsteads of medieval origin surrounded by ancient and post-medieval patterns of enclosure (Barnatt & Smith 2004, p. 78). Mixed agriculture traditionally occupied the

valley sides and floors, and cattle rearing was dominant by the 19th century. Inter-commoned summer grazing took place on the moorland tops, accessed by trackways from valley bottoms. Earlier open-field farming is reflected in the enclosure of long, slightly sinuous fields around valley settlements (for example, at Castleton in the Hope valley and in Edale), some (as at Chatsworth Park) including fossilised ridge and furrow (Barnatt & Smith 2004, p. 81). The late 18th- and 19th-century enclosure of the open moor and common was undertaken by large landowners, such as the Dukes of

14 Farmsteads in the landscape: South Leverton, Nottinghamshire (Trent and Belvoir Vales)

South Leverton lies in the Trent and Belvoir Vales on the Lincolnshire border. The fields surrounding the village present a mixture of forms. Those immediately west and east of the village mainly have slightly curving boundaries reflecting the former strips of the open fields, whilst the fields south of the village predominantly have straight boundaries, almost certainly the result of enclosure of the open fields in 1797. After enclosure most farmsteads remained in the village, lining the streets of the irregular row plan. At least some of the farmsteads saw substantial investment in the construction of large brick barns in the late 18th century. Ranges for cattle were added to some farmsteads in the mid-19th century creating courtyards.

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Devonshire. In addition to the grazing of sheep, the heather moorlands were conserved for grouse shooting from the early 19th century.

4.2.11 White Peak (JCA 52) (Figure 15)

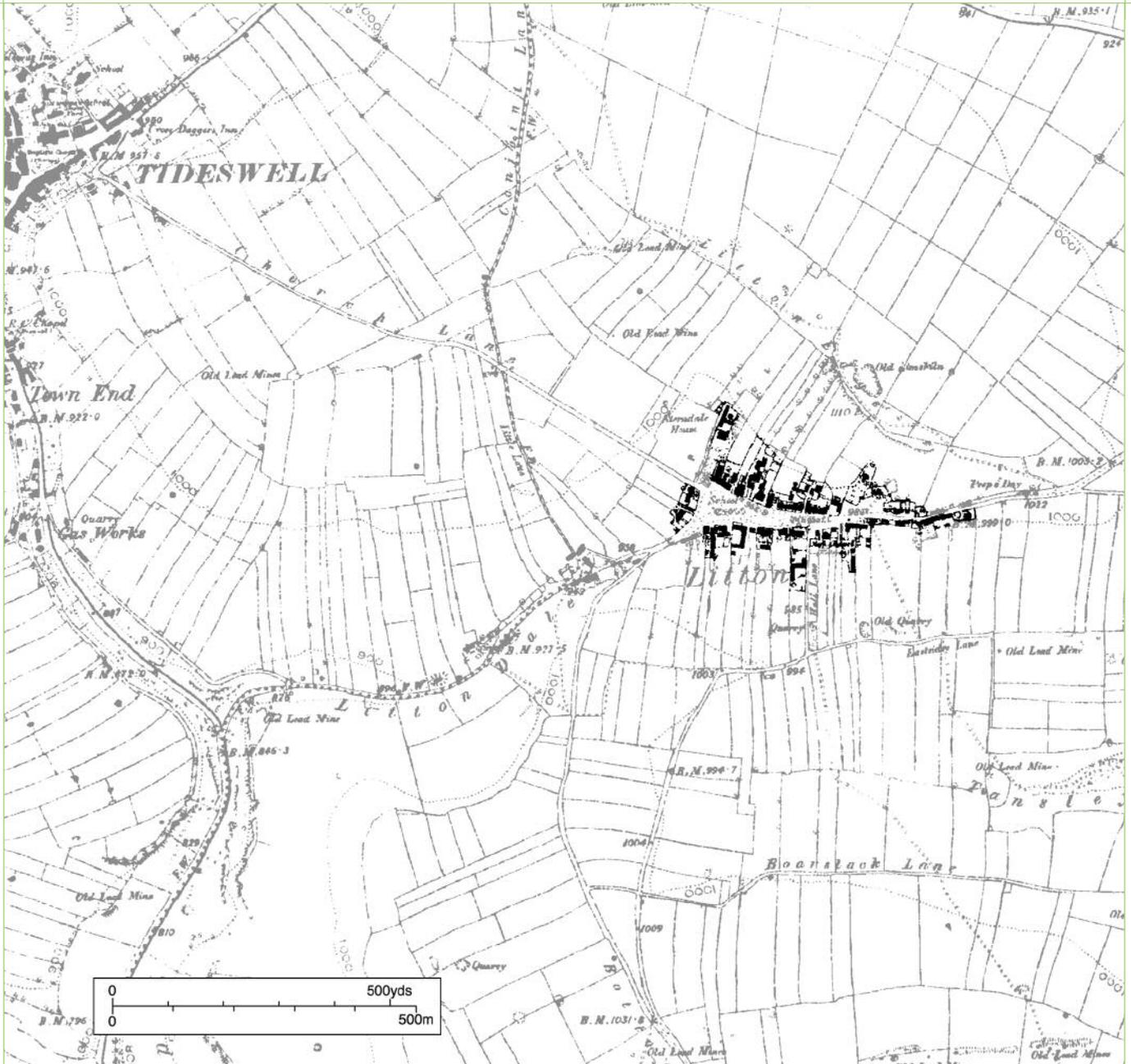
On the limestone plateau of the White Peak, which in contrast to the Dark Peak has more fertile and loamy soils, there were mostly small, nucleated villages surrounded by their open common fields, interspersed with the anciently enclosed and regular fields of medieval grange farms. Although these strips indicate arable farming, it is probable that livestock was always more important. Enclosure of the narrow strips with stone

boundaries has resulted in distinctive landscapes. The enclosure of the open fields was underway by the 17th century, whilst enclosure of the open moor and common had begun by the 16th century, sometimes resulting in large regular fields that resemble parliamentary enclosure. The enclosure of moor and common also resulted in many new farmsteads being built within the new in-takes. (Barnatt & Smith 2004, pp.68–85).

Sheep farming, in combination with arable cropping, was dominant from the medieval period. By the 19th century cattle rearing, to supply meat to the growing cities nearby, had grown in importance although intensive dairy

15 Farmsteads in the landscape: Litton, Derbyshire (White Peak)

The village of Litton is surrounded by a landscape of fossilised open field strips that have largely survived to the present day because the boundaries created at enclosure are dry stone walls. The enclosure of the open fields in the Peak District was underway by the 15th century and the new fields were largely turned over to pasture. To the north-east of the village is a large area of regular, rectangular fields on land that gently falls away from the village. This field pattern extends beyond the parish boundaries to both east and west and must represent the late enclosure of common land. Within the village itself were many small farms, often consisting of small linear ranges, including laithe-type steadings with a house and combination barn under one roof, some of which may have been occupied by part-time farmers who combined agriculture with employment in the local lead-mining or quarrying industries or were involved in stocking making which flourished in the 18th century. Based on OS 1st Edition map 1843–1890. © and database right Crown Copyright and Landmark Information Group Ltd (All rights reserved 2005) Licence numbers 000394 and TP0024



farming on improved grassland is now the dominant land cover. Farms were considerably larger in the non-mining west in contrast to areas where mining provided by-employment.

4.2.12 Needwood and South Derbyshire Claylands (JCA 68)

In south Derbyshire dairying and rearing was of greatest importance, with 90% of the whole county under pasture in the 1850s (Rowley 1853, p.65). The western side of the JCA retains much of the irregular piecemeal enclosure patterns associated with clearance

and colonisation from the 12th century onwards, frequently associated with and best preserved within the patterns of river valleys. North of the River Dove the landscape is dominated by large-scale irregular enclosure, much of which predates the 18th century – the open fields of the medieval period giving way early to pastoral enclosure, which has often been amalgamated and enlarged since.

To the east, and especially within the area of the former Needwood Forest, large-scale and regular enclosure replaced woodland and heath in the early 19th century.

4.2.13 Trent Valley Washlands (JCA 69)

This area extends along the Trent from north-east of Birmingham to just south of Nottingham. Its extensive pastures were nourished by the seasonal flooding of the river margins. Stock fattening and dairying formed a significant part of farming income, and grew further in relation to the demands of the developing urban centres in the 19th century. Cheese was a particularly important product. This mixed economy maintained numerous small village farms, and a pattern of piecemeal regular and irregular enclosure, which left little room for the wholesale general enclosure seen elsewhere in the East Midlands. Later enclosure did however prompt the amalgamation of farms and the development of some new red brick farmsteads set out in the fields for the wealthier graziers and larger arable concerns.

4.2.14 Melbourne Parklands (JCA 70)

This area, located between the Trent Valley to the north and the Charnwood Valley to the south, is dominated by the influence of its large estates and by large-scale and regular enclosure of the 18th and 19th centuries, although there are extensive areas of earlier enclosure. Mixed farming was predominant.

4.2.15 Leicestershire and South Derbyshire Coalfield (JCA 71)

The area was predominantly common grazing land in the medieval period with limited arrangements of arable open fields surrounding the scattered medieval villages. The open fields were mainly enclosed before the end of the 16th century, fostering the rearrangement of farmsteads within the villages. The enclosure of the wider heath lands and commons, underway from the 17th century, reached completion in the late 18th and 19th centuries under Parliamentary Acts and led to the establishment of some isolated farms. The pre-18th-century rural economy included some small-scale mining, stone cutting, lime burning and other minor industries alongside farming. However, industry and agriculture became increasingly specialised and separate as the scale of the coal and related industries grew and their workforces provided a ready market for agricultural produce.

4.2.16 Mease/Sence Lowlands (JCA 72)

A history of mixed farming, biased toward livestock, led to some early enclosure, especially within the developing estates of the 16th and 17th centuries, but much of the area remained either under communal open fields or as common pasture well into the 18th century.

Widespread enclosure swept the area in the late 18th and early 19th centuries, taking in heath and commons as well as the old township fields, and replacing many of the village farm buildings with new red brick farmsteads.

4.2.17 Charnwood (JCA 73)

The agricultural history of Charnwood is principally pastoral and, until the mid-18th century, based around the movement of stock between narrow village pastures and extensive areas of unenclosed upland grazing and wood pasture. The nucleated villages operated variations on open-field arable, although the growing market value of dairying and cheese manufacture saw many areas of ridge and furrow cultivation laid to grass and enclosed from the 15th century onwards (Thirsk 1967, pp.94–5). The upland heaths and the high ground of the sandy forests were largely enclosed for the first time in the later 18th and early 19th centuries to support the expansion of livestock and dairy farming, a practice reflected in the regular rectilinear fieldscapes and the presence of isolated farmsteads.

4.2.18 Leicestershire and Nottinghamshire Wolds (JCA 74)

In the south of the Region the chalk has been washed away to bring clay and sandstone to the surface to form the clay Wolds. These lands extend across south Nottinghamshire, east Leicestershire and north-west Northamptonshire, and here grazing was more important than arable before 1750. On the hilltops woodland survived and sheep were kept, often in flocks of up to 100. At night the sheep would be driven down onto the arable fallows where barley was the most important crop (Mingay 1984, p.103). Enclosure resulted in the open-field arable being converted almost entirely to pasture.

Sheep grazing overtook large parts of the Wolds and the Wreake Valley from the 15th century onwards, but in many areas, especially along the Wreake Valley and fringes of the upper Wolds, open-field agriculture continued well into the 18th century.

The upper wolds are dominated by regular patterns of medium- to large-scale general enclosure developed in the late 18th and 19th centuries. This pattern also characterises much of the Wreake Valley. Older patterns of enclosure remain unaltered along the steeper slopes and narrow river valleys.

4.2.19 Kesteven Uplands (JCA 75)

Enclosure came early to many parts of the area as a consequence of the burgeoning late medieval wool and sheep/corn economy. This is also reflected in the number of 16th- and 17th-century manor houses and country estates, and deserted medieval settlements. Large-scale and regular enclosure, especially across the uplands to the south and west and within the wider vales, took place in the late 18th and early 19th centuries.

4.2.20 Northamptonshire Vales (JCA 89)

A history of mixed farming, rather biased toward

livestock, led to some early enclosure, especially in combination with the wool industry (Thirsk 1967, p.92) and within the developing estates of the 16th and 17th centuries, but much of the area remained either under communal open fields or as common pasture well into the 18th century. The greater part of the area is dominated by the patterns of general enclosures brought about in the late 18th and early 19th centuries.

4.2.21 Rockingham Forest (JCA 92)

The landscape of mixed assarted woodland, open-field cultivation, waste and commons persisted up to the late 18th century despite sporadic early enclosures of the open fields and forest clearances – much linked to the conversion of arable into pasture. Large areas of the Forest were felled or enclosed from open fields after 1750, linked to the enlargement of farming estates. Larger arable farms developed on the limestone plateau

and the more permeable soils of the valleys (Foard, Hall & Partida 2005).

4.2.22 Northamptonshire Uplands (JCA 95)

Parts of the Northamptonshire Uplands present a similar picture to the other Wolds landscapes of this Region, with nucleated villages being subject to depopulation and the open-field agriculture subject to enclosure and replacement by grazing lands for sheep from the 15th century. The hard-worn and fragile fertility of these upland soils required much effort to keep in good heart and, following the demographic shifts of the late 14th century, arable farming was gradually yet widely replaced by sheep farming. Tenant and freehold graziers of this period tended to maintain or improve village farmsteads. The 18th and 19th centuries saw the remainder of the land enclosed and the creation of large arable farms such as those of the Duke of Grafton.

5.0 Farmstead Types

5.1 NATIONAL OVERVIEW

Farmsteads perform several basic functions: providing shelter for farmers and their families; the housing and processing of crops; the storage of vehicles, implements and fodder; the management and accommodation of livestock. Building functions can be usefully distinguished between crop processing and storage (barns, hay barns, cider houses, oast houses and farm maltings, granaries) and the accommodation of animals (cow houses and shelter sheds, ox houses, stables, pigsties) and birds (dovecots and poultry houses). These functions can either be accommodated within individual specialist structures or combined with others into multi-functional ranges.

The great diversity of farmstead plans (Figure 16) provides a very direct reflection of the degree to which these farm-based functions are located in specialist or combination structures and ranges. The resulting diversity of form and scale is the direct outcome of the significant variation in farming practice and size that occurs both over time and from place to place. Individual farm buildings, for example, could be:

- Small-scale and highly dispersed, as in the wood–pasture landscapes of the Kentish Weald and the Suffolk clays;
- Set out in strong linear groupings, especially in northern pastoral areas with little corn and longer winters and where there was an obvious advantage in having cattle and their fodder (primarily hay) under one roof;
- Arranged around yards, examples being the large aisled barn groupings of the southern English downlands and the large planned layouts built in accordance with ideas being spread through national literature and contacts.

A critical factor in farmstead planning is also the relationship of the farm buildings to the working areas within and around the farmstead and the farmhouse. The major working areas were trackways to surrounding fields and local markets, ponds and cart washes, the areas for the movement of vehicles and animals, the accommodation of animals and the platforms where hay and corn would be stacked, the latter prior to threshing in the barn. The size of the areas for stacking corn (known as rickyards in most of the country) varied according to local custom and the extent of arable crops kept on the farm.

Local tradition and status were the principal reasons for whether the house was accessed through the yard and buildings were attached, or whether the house

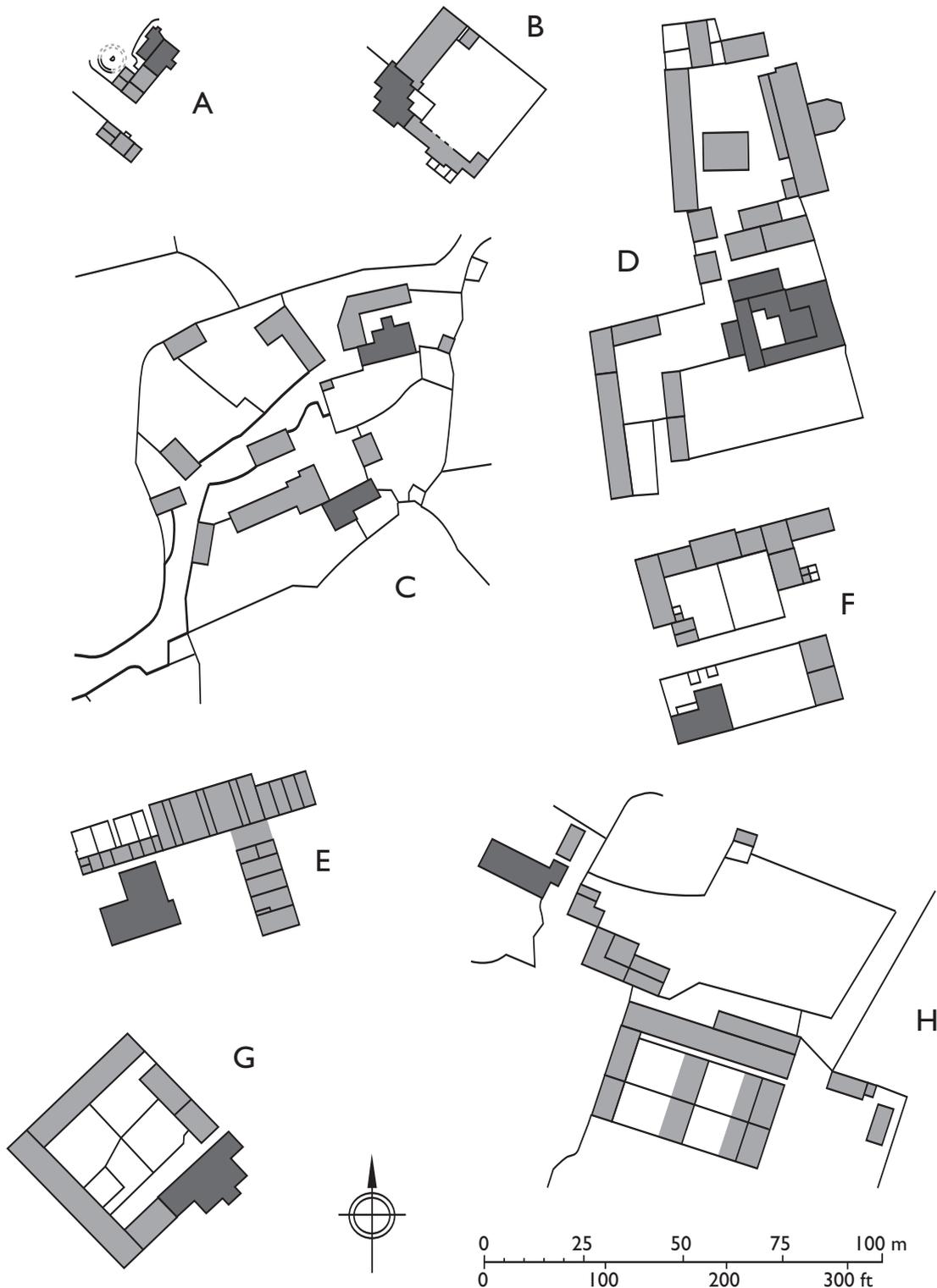
looked toward or away from the yard. Internal access between dwelling house and farm buildings was a feature of farmyard architecture in much of Europe. However, in England from the 13th century it became much more common to have separate entrances, even where buildings and houses were joined. The role of women in the farmyard was commonly restricted to 'milking cows, feeding pigs and calves, making butter and cheese, tending poultry, and occasionally tending with the hay and corn harvests' (Whetham 1978, p.81). This led to the integration into the house of processes such as brewing and dairying, and a formal separation of the house and gardens from the farmyard, especially in the case of post-1750 remodellings and larger farms typically over 150 acres. In such instances, the house could face toward its own home close or garden.

The development of the farmhouse has been the subject of regional and national studies (Barley 1961, for example). Farmhouses can tell us much about the former prosperity and development of steadings, such as the major phases of rebuilding that affected parts of southern England in the 15th to early 17th centuries and the wealth introduced through cattle rearing in parts of northern England in the century or so after 1660. In summary, the most common farmhouse plan of the medieval period, traceable to the 12th century, has the main entrance in one side wall to an entrance passage (usually with a door opposite) that separated an open hall (to allow smoke from the fire to escape through the roof) from a lower end, which could house a kitchen, services and in some areas livestock. The hall served as the main living and eating room, status and space determining whether there would be an inner chamber (for sleeping or a private area) beyond. By the end of the 16th century, farmhouses in most areas of England (except in the extreme south-west and the north) had been built or adapted into storeyed houses with chimneystacks. There was a strong degree of regional variation, for example in the positioning of the chimneystacks and their relationship to the main entrance. From the later 17th century, services in some areas were being accommodated in lean-tos (outshots) or rear wings. From the mid-18th century houses that were more symmetrically designed (with central entrances, chimneystacks on the end walls and services placed to the rear of the front reception rooms) became standard across the country. As a general rule, farms over 70 acres needed to look beyond the family for additional labour, and so rooms for live-in farm labourers – usually in the attic or back wing of the house – became a feature of many farmhouses.

16 Farmstead plan types (Farmhouses are shaded darker)

- A Linear plan. House and farm building attached and in line. This is the plan form of the medieval longhouse but in upland areas of the country in particular it was used on small farmsteads up to the 19th century.
- B L-plan including the farmhouse. Such plans are usually either a development from a linear plan or resemble a small regular courtyard plan (see E–G, below).
- C Dispersed plan. Within this small hamlet the farm buildings of the two farmsteads are intermixed, with no evidence of planning in their layout or relationship to the farmhouses. Dispersed plans are also found on single farmsteads where the farm buildings are haphazardly arranged around the farmhouse.
- D Loose courtyard. Detached buildings arranged around a yard. In this example the yard is enclosed by agricultural buildings on all four sides with the farmhouse set to one side. On smaller farms the farmhouse

- may form one side of the yard, which may have agricultural buildings to only one or two of the remaining sides.
 - E Regular courtyard L-plan. Two attached ranges form a regular L-shape. The farmhouse is detached from the agricultural buildings.
 - F Regular courtyard U-plan. The yard, in this example divided into two parts, is framed by three connected ranges. Again, the farmhouse is detached.
 - G Full regular courtyard. The yard is enclosed on all sides by buildings including, in this example, the farmhouse. Other examples are formed by agricultural buildings on all sides with the farmhouse built to one side.
 - H Regular courtyard E-plan. This plan form (and variations of it with additional ranges) may be found on some of the larger planned farmsteads where livestock were a major part of the agricultural system. Cattle were housed in the arms of E, the 'back' of which provided space for fodder storage and processing.
- Drawn by Stephen Dent © English Heritage*



The predominant farmstead plan types, which are closely related to farm size, terrain and land use, are listed below. There are many variations on these themes, particularly in the manner in which fully evolved plan groups can, as a result of successive rebuilding, contain elements of more than one plan type.

5.1.1 LINEAR PLANS

This group comprises farmsteads with farm buildings attached to, and in line with, the house. It includes some of the earliest intact farmsteads in the country.

The earliest examples of linear plans are *longhouses*, which served as dwellings for farmers' families and housing for cattle. Each longhouse had a common entrance for the farmer's family (accommodated at the up-slope end of the building) and livestock, the cow house being marked usually by a central drain and a manure outlet at the lower gable end. Longhouses were often found grouped together and associated with strip farming of the surrounding fields. Documents and archaeological excavation indicate that they had a widespread distribution in the north and west of the British Isles in the medieval period, but that in much of lowland England they were either absent or being replaced by yard layouts with detached houses, barns and cow houses from the 14th century (see, for example, Gardiner 2000 and Figure 17). Such re-buildings are commonly believed to be associated with the decline of smaller peasant farmers and the emergence of a wealthier peasant class. Longhouses, and their variant types with separate entrances for livestock and farmers, continued in use in parts of the South West, the Welsh borders and the northern uplands and vales into the 18th and 19th centuries. Those built in or before the 17th century were originally entered from a passage, which also served as the entrance to the house. However, during the 18th century social pressures led to the provision of a separate dividing wall and byre door, and to the demolition of some byres and the conversion or rebuilding of others to domestic or new agricultural use (barns, for example). The piecemeal rebuilding and conversion of both lower end and house-part that this permitted tended to discourage total reconstruction, inevitably limiting the ability to respond effectively to changing requirements. These later changes are clearly visible in the buildings, as is evidence about the size and layout of the original byres, and of the arrangement of the passage (against which the stack heating the main part of the house was positioned) that once formed the common entrance to these longhouses as a whole. The initial dominance of the longhouse in some areas is significant, since, as a house type capable of almost infinite adaptation, it exerted considerable influence on the subsequent evolution of farmsteads.

Linear layouts (including the *laithe house* of the Pennines) are now most strongly associated with the hill farms of northern England (North East, North West and Yorkshire and the Humber). A major reason for the persistence of the layout in northern England was that it was suited to smaller farms (of 50 acres or less) needing fewer buildings – other than for the storage of subsistence levels of corn for the household and livestock, and the housing of some milk cattle, poultry and pigs. The close proximity of farmer and livestock during the winter months was another factor, cattle being stalled indoors from October to May. It was also a layout ideally suited to building along the contours of a hillside and so this farmstead plan remained in use in upland areas of England into the 19th century.

Linear plans have often evolved as a result of gradual development, for example in the rebuilding of a lower end for the cattle as service area for the house, and the addition of new cow houses, stabling and barns in line. Linear layouts will often be associated with loose scatters or even yard arrangements of other farm buildings.

5.1.2 PARALLEL PLANS AND L-SHAPED PLANS

These invariably enclose two sides of a yard, and often represent developments from earlier linear plans, if they have not been constructed in a single phase. L-shapes often evolve from the addition of a barn or byre to an original linear farm, or can represent the partial re-organisation of a dispersed plan. They are typically found on farms in the 50- to 150-acre bracket, and can be formal or highly irregular in appearance, with or without scatters of other farm buildings.

5.1.3 DISPERSED PLANS

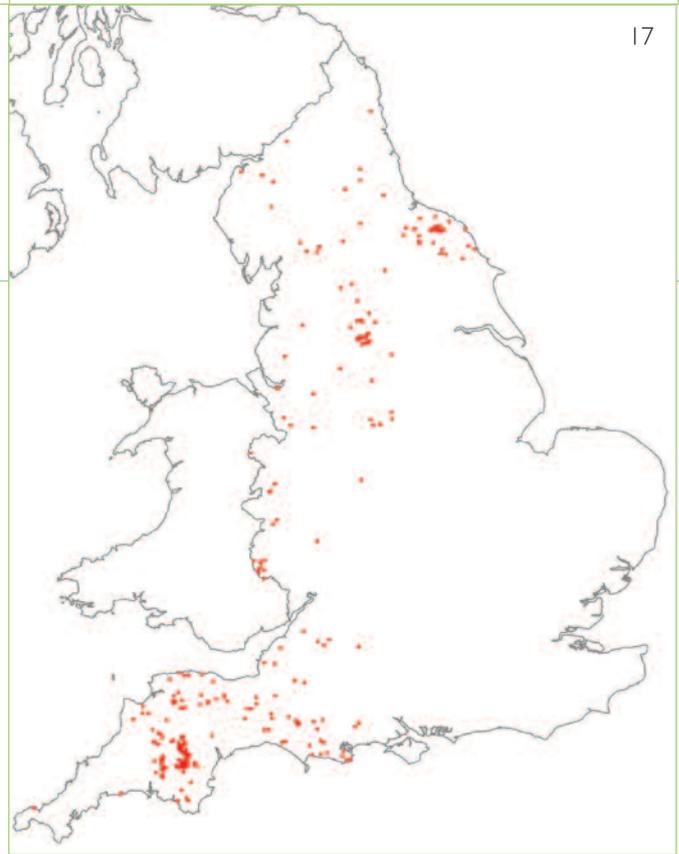
The buildings of this group appear to be arranged haphazardly around the farmstead. Dispersed plans are typically found on smaller farms in stock-rearing or dairying areas, where a large straw yard for cattle was not required. They can range in size from the very small – for example a farmhouse and combination barn – to large groups of two or more blocks or individual structures, some or all of which may combine a variety of functions.

5.1.4 LOOSE COURTYARD PLANS

This group is characterised by single or double yards flanked by buildings on three or four sides, with or without scatters of other farm buildings close by. There are excavated and documented examples of this layout dating from the 13th century (in Hallam 1988, pp.860, 889) associated with: the base courts of large baronial and episcopal establishments; with moated manorial sites (where the farm buildings were arranged either within or outside the moat); and with the farms of an emerging wealthier class of peasant, the latter often replacing two or more previous steadings with

17 Distribution of listed longhouses in England. Surviving longhouses – some of which have been recognised as such in listing descriptions – represent only a small proportion of a building type that was once prevalent across large parts of western and northern England. The concentration of a fine group of surviving longhouses on the eastern fringes of Dartmoor is particularly prominent. Recent research has shown that in some areas such as north Yorkshire many village-based farmhouses have longhouse origins that have previously not been recognised.

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longhouses (Le Patourel in Miller 1991, pp.843–65). This plan became most strongly associated with large arable farms: for example, many farmsteads on the downlands of southern England have one or more barns providing shelter to a south-facing yard (as recommended but not always followed), typically bordered by a stable, granary and later shelter sheds.

5.1.5 REGULAR COURTYARD PLANS

Formal courtyard layouts, where the barns, stables, feed stores and cattle shelters were ranged around a yard and carefully placed in relation to one another in order to minimise the waste of labour, and where the manure could be conserved, were recommended from the mid-18th century and many are documented from this period, although no surviving groups can be dated before the 1790s. The earlier examples are courtyard or U-plan with the barn forming the central block, and shelter sheds, stables and enclosed cow houses the two side wings. The fourth side was no more than a wall with a gateway, or contained further sheds or smaller buildings such as pigsties, or was distinguished by a house (usually looking away from the yard). From the 1820s and 1830s, extra yards made E or even double-E plans.

The ultimate examples of courtyard farmsteads are the planned and model farms of the late 18th- and 19th-century estates (Figure 18), the ideas for which were widely disseminated in textbooks and journals (Wade Martins 2002). They are generally associated with holdings over 150 acres, and are far less likely than the other plan types to be associated with other loose scatters of buildings.

5.2 FACTORS INFLUENCING FARMSTEAD CHARACTER

The occasional merging of plan types can make the variations on these principal themes seem almost infinite. The identification and analysis of the broad patterns of plan types can reveal much about the impact of the factors that influence farmstead character.

5.2.1 FARM SIZE

Generally, larger holdings were more likely to be provided with larger and/or more buildings. In the 18th and 19th centuries, the 'contemporary rule of thumb was that a man was needed for every 25 or 30 acres of arable and every 50 or 60 of pasture' (Mingay 1989,

p.953). Statistics on the numbers of farms by size can be misleading: although 71% of holdings were under 50 acres as late as 1880 (Howkins 1994, p.53), the proportion of land area taken up by small farms was much smaller and regionally very varied. By the 1850s, medium-size farms – typically mixed arable holdings – were between 100 and 299 acres, and occupied nearly half of England's acreage; as much as one third was taken up by large farms of over 300 acres, these being best placed to invest in 'High Farming' (Mingay 1989, p.950). Farms of 500 acres and above were found on the chalk downlands of southern England, and in the Lincolnshire and Yorkshire Wolds: 1000 acres was not uncommon in these areas (Prince in Mingay 1989, p.82). These farms had greater access to capital and were usually associated with corn production, which typically demanded more labour for carting, harvesting and threshing and increasingly for yard and stock management: strawing-down yards, lifting the heavy manure-laden straw into middens and carts and spreading it on the fields. Smaller farms, typically found in dairying and stock-rearing and fattening areas, required fewer large buildings and were less likely to have the capital to expend on rebuilding farmsteads to fit with developing agricultural practice. The very smallest (of under 50 acres) thrived in fruit-growing and market-gardening areas (often clustered around urban sites), and in locations such as west Cornwall and the Pennines where there was gainful by-employment in industry – for example the weaver-farmers of the West Riding linear-plan farms, noted by Caird (1852), who kept dairy cattle on holdings of around 20 acres, supplying nearby towns with milk (Mingay 1989, p.940).

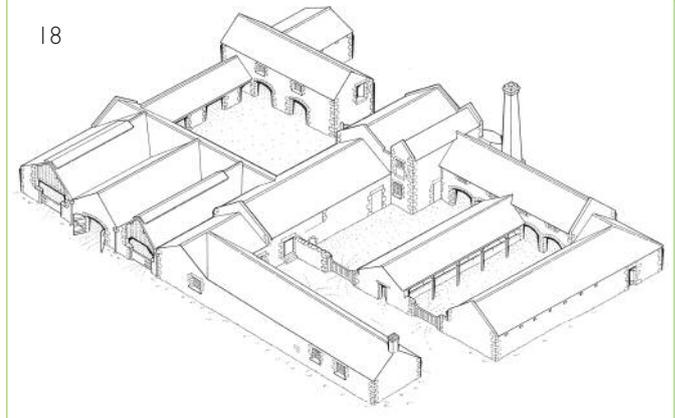
5.2.2 ESTATE POLICY

Estates, and landlords and their agents, have been very important in English rural history, with tenants occupying some 85% of the farm area until the land transfers of the early 20th century mentioned in 4.1.4 above (Mingay 1989, pp.943–4). The character of an area thus can be strongly influenced by the estate of which it was part. Family insignia, estate-made bricks and the styling of cast-iron windows or ventilation grills can all give a unity to buildings over several parishes and this is as true of farm buildings as of cottages and village schools. Typically, and observable from 1350 onwards (Le Patourel in Miller 1991, p.846), improvements by landlords were aimed at attracting good tenants in either times of plenty (when capital expenditure could secure an increase in rent) or depression (when it could forestall a decrease). By the mid-17th century, home farms were being developed as examples of best practice for tenants. Between 1650 and 1750 landlords assumed increasing responsibility – in comprehensive lease agreements – for fixed capital works (particularly barns and houses) and after 1750 the influence of estates can be seen in the planning and design of buildings and entire complexes for home farms and tenant farms (Thirsk 1985, pp.72, 235; Thirsk 1967, pp.680–81; Wade Martins 2001). Estates often erected new buildings in order to attract tenants with the working capital to invest in their land and thus, through increased productivity, maintain rents at a high level. The policies of larger estates often discriminated against smaller holdings and the maintenance of their buildings. County studies (for example, Wade Martins 1991) have demonstrated how varied estate policy in similar areas could be, despite the rise of the land agent as a professional class, increasing access to farming literature and the ironing out of many inconsistencies in estate practice by around 1850. The small estate is less well understood (e.g., Collins et al 1989).

5.2.3 LOCAL VARIATION OF FARMING SYSTEMS

The type and form of built fabric display regional variations that are more firmly linked to the broad pattern of land use and its landscape context (whether wood pasture, enclosed or open landscapes). In East Anglia the older timber-framed, evolved farmstead groups with ample barn provision and multi-functional buildings are associated with the small, well-hedged fields typical of the wood-pasture regions, while the large planned farms of brick or brick and flint are found on the later enclosed areas of heath (Wade Martins 1991; Wade Martins & Williamson 1999). The differences within Wiltshire are also clearly demonstrated by the farm buildings: the chalkland typically has loose courtyard plan steadings with their large-scale barns serving specialist corn and sheep husbandry; the smaller farms associated with dairying and cheese production in the northern wood-pasture area are of a more dispersed plan (Slocombe 1989). The yard management of stock

18 A large regular courtyard plan (North Northumberland Coastal Plain Character Area), dating from the early to mid-19th century and placed within a landscape affected by large-scale reorganisation and enclosure from the 18th century. This large farmstead was devoted to fatstock housing and incorporated three open yards lined with hemmels and a covered yard with a root store (left, with open doors). The farmstead also incorporated a stationary steam engine, which would have powered threshing machines, as well as fodder-preparation machines such as chaff cutters and cake breakers. © English Heritage



also displayed a strong variation dependent on regional or estate practice. Thus the long-established practice of buying store cattle in spring and selling them on in the autumn survived longest in areas with rich grasslands, such as the Somerset Levels and the east Midlands, in contrast to Norfolk and the eastern lowlands where yards were filled over winter, even during the lean years for the beef industry in the 1930s (Whetham 1978, pp.290–91).

5.2.4 INTERNAL WORKINGS OF THE FARMYARD

The layout of the farmyard should firstly be seen in relationship to its immediate setting: of crop storage and processing buildings to the fields; of yards, platforms for corn, haystacks and cart sheds to trackways. Secondly, an important characteristic is the degree to which the layout of the farmstead was related to function. The planning of farmsteads to maximise efficiency engaged an increasing number of writers from the 1740s, who generally rated traditional layouts poorly against the perceived benefits of ordered and ideally planned layouts that minimised, for example, the time it took to process a stack of corn, transport the straw to the cattle yard and grain to the granary or mixing room. Many such writers, however, did not display sufficient understanding of the other factors – land use, terrain, weather, farm size, location in village or open countryside – that dictated layout. The most comprehensive analyses of local farming systems in relationship to farmstead layout are contained in Barnwell & Giles (1997).

5.2.5 DEVELOPMENT OF FARMING SYSTEMS

Archaeological evidence from deserted medieval settlements has shown how linear plans, including longhouses, were replaced by loose courtyard arrangements as owners prospered and their holdings grew larger (Lake 1989, pp.81–2; Gardiner 2000).

Evidence from the tithe maps and first-edition 25-inch maps for sample Norfolk parishes showed that nearly half the farms were of an irregular layout in 1840 with very few regular E- or U-shaped courtyard plans. By 1880 dispersed layouts had reduced to an eighth, with E- and U-plans accounting for about a quarter of farms (Wade Martins 1991, p.199).

5.3 FARMSTEAD PLANS IN THE EAST MIDLANDS

A distinctive and important regional feature is the number of farms that after enclosure remained based in the centre of villages rather than being moved out into newly enclosed fields. At Aynho, a village on the southern edge of the Northamptonshire Uplands, the farmsteads had by the 17th century been pushed to the edge of the village (Cooper 1984, pp.133–5). The failure to move the farms out to the enclosed land was criticised by the early 19th-century commentators: 'As the old buildings wear out, it will be found convenient and proper to remove them to the centre of occupations' (Pitt 1813, p.6). In Northamptonshire it was reported that 'In some villages you will not see a good farm homestead; the houses are low with small barns and stabling, ill-contrived yards, with miserable accommodation for cattle and pigs; all the buildings covered with thatch, and often very dilapidated' (Bearn 1852, p.86).

5.3.1 LINEAR PLANS

Some buildings in Derbyshire have been tentatively identified as longhouses (Hutton 1991, pp.8–9).

Linear plans with house and farm buildings attached, but no cross passage or inter-connection between the domestic and agricultural parts, are found throughout the Region (see Figures 20A and 20D). They are particularly associated with the Peak District, the Peak Fringe and Derwent Valley, and the lowland landscapes in the north west of the Region. They continued to be built into the 19th century in other parts of the Region too, in the Northamptonshire Uplands for example.

Typical of the central Pennines and also extending into the north-west part of the Region, laithe houses were built from the mid-17th century (with a concentration in the 1780 – 1840 period) and were designed to serve farms of about 30 acres, being frequently associated with holdings whose occupiers gained income from alternate and frequently industrial means of employment – primarily textiles, but also lead working (Brunskill 1987, pp.106–10). The house and farm buildings are usually of one build, the latter typically comprising a barn (hay and corn) with stabling and a cow house (often for as little as six cattle) at the lower end. Houses with attached barns under the same roof are also recorded in north Northamptonshire, as well as in-line plans with the buildings not under the same roof.

These farmsteads are thought to represent the farms of smallholders (RCHME 1984, p.lxix).

Although most commonly found in the Lancashire and Yorkshire Pennines, there are several farmsteads in Northamptonshire that have the same arrangement, for example a house and barn at Easton-on-the Hill arranged under the same roof that is shown in a survey of 1742 (RCHME 1984, p.lxix).

5.3.2 L-PLANS, PARALLEL AND DISPERSED PLANS

These plans are found throughout the Region. In the Northamptonshire Uplands and Vales, for example, barns were detached or lay at right angles to the house, forming an L-plan (RCHME 1984, p.lxix). Surveys of north Northamptonshire in the 16th and 17th centuries show that most farms and cottages had barns and by the 17th century probate inventories distinguish between barns and more impermanent and so-called 'hovels' for cattle (RCHME 1984, p. lxxvii). The smaller dairy farms on the midland clays typically included a scattered group of buildings around a yard where cows were kept overnight. In a survey of part of South Lincolnshire the earliest buildings located were 18th century and comprised mainly barns and stables, often representing the first phase of post-enclosure investment. Tithe map evidence suggests that these buildings could stand detached or form parallel linear ranges and that there was little evidence of planning in their arrangement or in the creation of a yard. (Barnwell & Giles 1997, pp.45–7).

5.3.3 COURTYARD PLANS

Larger courtyard plans are found throughout the Region, including the larger village-based farms in landscapes such as the Northamptonshire Uplands. They are most strongly associated with areas subject to large-scale post-1750 enclosure. About twenty farmsteads in and around the Southern Lincolnshire Edge were rebuilt between 1847 and 1870 for Sir Christopher Turnor of Stoke Rochford Hall. Their unusual layout comprised an external 'U' enclosing yards on an E-plan and linked to the outer range through a central straw barn (Wade Martins 2002, p.143). Other courtyard plans evolved over time into their present form, such as the carefully-planned steadings built by the Strutt family of industrialists to supply Belper with meat, malted barley and dairy produce (Wade Martins 2002, pp.94–9).

In response to the agricultural depression of the late 19th century some of the large estates tried to spend their way out of depression, either by using their own money or borrowing from the land-improvement companies to build cattle yards and sheds to house the livestock, which was the only form of farming that remained profitable. The more expensive schemes included covered yards as on the Dysart estates in Lincolnshire (Barnwell & Giles 1997, pp.57–8).

6.0 Key Building Types: Crop Storage and Processing

The analysis of key building types presented here could be presented by function rather than building type, as many functions relate to parts of buildings or parts of entire ranges or farmstead types. As the relationship between farmstead form and function has been outlined in Section 5, Section 6 will comprise a conventional overview of the key functional types. It will be noted in some regions that so many of these functions are combined in one combination barn or farmstead type that they cannot be easily teased out as a separate theme. Nevertheless, the national framework sections do present an overview of on-farm functions, and where relevant their rarity and survival, that are applicable nationally.

6.1 BARNES

6.1.1 NATIONAL OVERVIEW

In the British Isles and other parts of northern Europe, the harvested corn was often stored and processed inside a barn. After threshing – typically a process that occurred gradually over the winter months – the straw usually remained in the barn awaiting its use as bedding for livestock, while the grain destined for market or next year's seed would be stored either in the farmhouse or in a purpose-built granary.

Barns are often the oldest and most impressive buildings on the farm and are characterised by:

- Internal space for the storage of the unthreshed crop and an area (the threshing floor) for beating by flail the grain from the crop and for winnowing the grain from the chaff in a cross draught. This was also an area for the storage of straw after threshing.
- Externally, typically large opposing doors on the side walls to the threshing floor; although the size of openings is subject to much regional variation. Barns on large arable farms commonly had large threshing doors, sometimes with porches, into which a laden wagon would draw up and unload the crop. In some parts of the country the crop would be forked into the barn through pitching holes, and the threshing doors would be much smaller. Small winnowing doors sufficed in many pastoral-farming areas.
- Blank external walls, in mass-walled buildings often strengthened by buttresses or pilasters. Mass-walled barns usually had ventilation slits or patterned ventilation openings, and the wattle or lath infill to timber-framed barns was often left exposed. In some

areas, the crop would be unloaded from a cart or wagon into the barn through pitching holes.

The distinctive form and plan of barns remained comparatively little altered between the 13th and 19th centuries. Surviving pre-1750 barns represent only a small proportion of the original population, their date, scale and landscape context being major factors in determining their survival. There is only one complete survivor of the 2–2,900 tithe barns that existed on Cistercian estates in the pre-1550 period (Brunskill 1982, p.35). Local studies have indicated that small and pre-18th-century barns are most likely to survive on farm holdings of less than 150 acres that have not experienced major growth in subsequent centuries (Wade Martins 1991, p.160). These are concentrated in landscapes of ancient enclosure, improving estates and the process of enclosure in the post-1750 being linked to often wholesale rebuilding.

Major variations were in the five following areas.

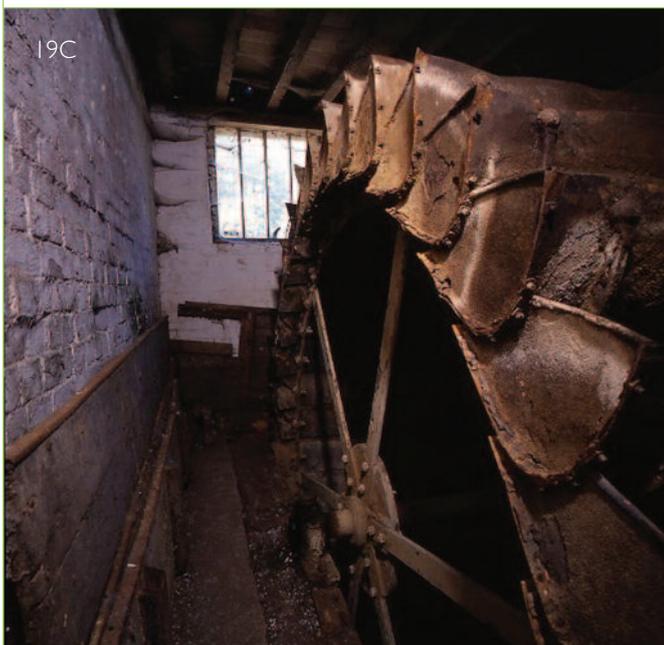
6.1.1.1 Plan form

In the most common form of plan the threshing floor was in the centre, although it could be sited off-centre or at one end. A greater span was enabled by aisled barn construction, either in single or double aisles. This was common in East Anglia and the South East (Rigold 1971 and 1973), and for high-status buildings outside that area, including a group mostly dating from between 1570 and 1650 in the Pennines (Clarke 1972 and 1974).

Outshots or projecting lean-tos were commonly added to barns, for housing carts, livestock and other functions. The number of additional external openings indicates accommodation for other functions, ranging from minor doors enabling the barn to house functions such as clipping sheep when empty, to lofts and stabling,

19 Power in barns: national examples

- A & B A projecting horse engine house that contains a rare example of an in situ horse gin. (North West Norfolk)
 - C A water wheel, providing power to the feed-processing machinery in a home dairy farm, remodelled in the 1890s. (Breckland)
 - D A farmstead that incorporated a fixed steam engine to drive threshing and other crop- and fodder-processing equipment. (Bedfordshire and Cambridgeshire Claylands)
 - E A large combination barn range built in 1866 incorporating a granary, cart shed and threshing barn. The latter has an iron wheel to take belting from a portable steam engine placed outside the barn for powering the threshing machine inside. (Lincolnshire Wolds)
- All © English Heritage / Michael Williams



6.1.1.2 Size

Barn size can be strongly indicative of the former extent of arable and holding size, ranging from very small in dairying or stock-rearing areas, to very large on the much larger holdings of arable areas. The practice of mowing rather than cutting by sickle the corn crop, widespread by the 19th century, also had an impact on barn size, as large quantities of straw – ready for feeding cattle in the yard – would need to be accommodated.

In the medieval period it was common practice to house all the crop in the barn, but in later centuries the unthreshed crop could be raised off the ground by a platform or by staddle stones (see 6.2 and Figure 22), and stored in an open yard (rickyard) or a staddle barn. Examples of the latter, typically of late 18th- to early 19th-century date, survive on the downland farms of Hampshire, south Wiltshire and east Dorset. Ricking was not common in southern England until the 19th century, but was noted by observers as being common

in northern England and Staffordshire in the 17th century (Colvin & Newman 1981, p.97; Peters 1969, p.65).

6.1.1.3 Combination Barns

There is increasing evidence in many parts of the country for threshing barns to have originated from at least the 17th century as combination barns, which incorporated other functions in the main body of the barn such as the housing of livestock. These ranged from the end bays of the barn to the aisles of Pennine barns or the ground floors of split-level buildings (Figure 20). Multi-functional two-level barns, including bank barns and their variants, were increasingly adopted from the late 18th century (and noted by the writers of the county reports for the Board of Agriculture) – often along with the introduction of mechanisation – in many areas of England (Barnwell & Giles 1997, p.156).

6.1.1.4 Evidence for mechanisation

The introduction of machine threshing after its invention in 1786 led to the erection in existing barns of additions to house machinery, for chopping and crushing fodder as well as threshing grain. Early machines were powered by horse engines in special-purpose semi-circular buildings, which projected from the barn and were commonly known as 'gin gangs' in the north of England. Steam, water and wind power were also used (Figure 19). The uptake of machinery varied across the country. In areas where labour was expensive mechanisation found favour; horse engine houses and evidence for water power being most common in the lowlands of Yorkshire and the Humber and the North East, in parts of the West Midlands and in the South West peninsula (especially Cornwall). In the southern counties, where labour was cheap and abundant until the 1850s or later, few barns bear evidence for the introduction of machinery (Hutton 1976).

From the early 19th century the traditional barn began to be replaced by large multi-functional buildings with threshing and fodder-processing areas linked to granaries, straw storage and cattle housing. These could project from the north of courtyard plans (as was common in Northumberland) or be integrated into other types of plan. In some areas, such as the eastern lowlands from Nottinghamshire northwards, the barn was from the 1850s reduced to a small feed-processing room (Figure 22, bottom).

The introduction of the portable steam engine and threshing machine meant that tackle could be taken to the stack. This was widespread by the 1850s, and heralded the end of the traditional barn as a processing building. Features relating to the use of power are highly vulnerable and rare, particularly horse wheels.

6.1.1.5 Evidence for reuse and adaptation

Careful inspection of barn interiors may reveal evidence for reused timbers (a common practice), in addition to former floors, partitions, doors and windows. This may well indicate that a present open space was divided off at one end or even provided with an additional floor. The high point of barn building occurred during the 18th and early 19th centuries, as grain yields rose and new land came into cultivation. Additions were commonly made to existing barns or additional barns built. It is also likely that where a barn was originally multi-purpose, the animal housing was removed and a separate barn or cow house built.

Mechanical threshing had removed the need for a threshing floor and the uses to which the barn was put changed. As cattle gained in importance at the end of the 19th century barns were converted into mixing houses for fodder. The introduction of steam-powered machinery (whether fixed or mobile) usually involved the cutting of a hatch in the barn wall in order to allow belting to enter. Alterations might well involve the dividing of the building with partition walls and floors.

6.1.2 BARNs IN THE EAST MIDLANDS (Figure 20)

6.1.2.1 Threshing Barns

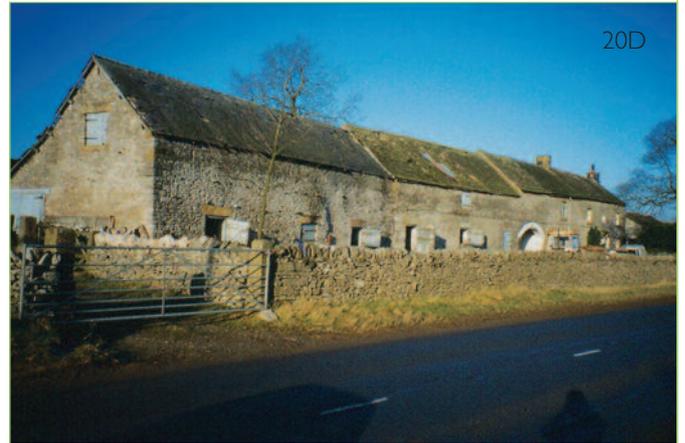
Other than a small number of barns associated with medieval monastic institutions, some of the earliest barns in the Region are to be found in the north-west of the Region. Here three- or four-bay cruck-framed barns of 15th- to 17th-century date survive, part of a group extending into the Lancashire and Yorkshire Pennines. Another major concentration of pre-1750 barns – predominantly in stone and to a lesser extent in timber frame – can be found extending from the Kesteven Uplands across High Leicestershire and the surrounding clay vales into the Northamptonshire Uplands. The great majority are unaisled and of five bays, although some larger barns of between eight and eleven bays of a similar date range are found, particularly in Leicestershire. These distributions closely relate to the distributions of surviving larger farmhouses in this area (Barley 1961, pp.103, 151–3).

The early barns associated with smaller open-field arable farming have rarely survived. The majority of existing barns in the Region date from the later 18th and 19th centuries and are typically built of either the local stone or red brick. They are generally smaller in scale than those of the neighbouring East of England and South East Regions. This may be due to the relatively late survival of open-field farming across much of the Region where many land-holdings were small and there were many freeholders and tenants. Enclosure was often accompanied by improved standards of building, with brick, tile and slate replacing mud, stud and thatch in

20 Barns in the East Midlands Region

- A An early 17th-century timber-framed barn with upper crucks in Leicestershire. The herringbone brick panels are original. (Leicestershire and Nottinghamshire Wolds)
- B A combination barn with animal accommodation either side of the threshing bay – the larger opening to the right is a modern intervention. (Dark Peak)
- C A mud- and stone-built late 18th- or early 19th-century threshing barn. (Northamptonshire Uplands)

- D A linear farmhouse, barn and cow shed range. Linear ranges, including those of laithe house form with house and barn under one roof, are found across much of the Region. (White Peak)
 - E Brick-built threshing barn with a pantile roof, characteristic of much of the north-eastern part of the Region. (Trent and Belvoir Vales)
 - F A village-based house and barn of the 17th century. (Northamptonshire Vales)
- A, B and E © Susanna Wade Martins; C © Alison Smith; D Bob Hawkins; F © Jeremy Lake



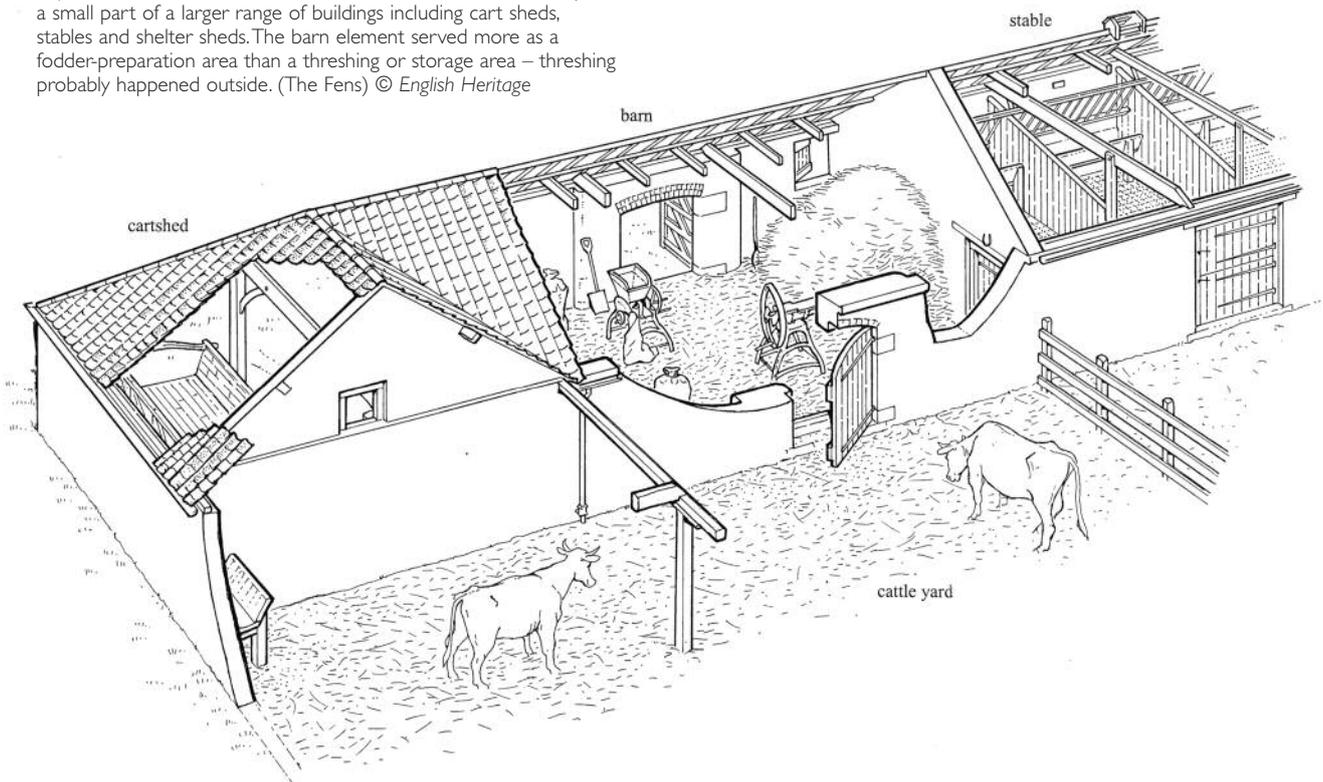
the areas where there was no good building stone (Mingay 1984, p.123). In open-field areas there is documentary and archaeological evidence for 'rick places' – raised platforms sited in the fields for storing the unthreshed crop (Hall 1995, p.28). By the 18th century, it was standard practice in much of the Region to house the entire crop before threshing (Pitt 1813, pp.26–27) The general move to pastoral farming after enclosure required only small, often brick-built barns that rarely had more than one threshing floor. It is also

probable that the new generations of combination barns and then mixing barns that appeared in the early to mid-19th century in much of the Region swept earlier structures away.

6.1.2.2 Combination barns

Across the north of the Region, in common with the Pennine areas of the North West and Yorkshire and Humber Regions, combination barns dating from the 17th century are found, often with barn, stabling and

21 In the age of mechanical threshing the barn was reduced in importance. This Lincolnshire barn, on a fenland outfarm, forms just a small part of a larger range of buildings including cart sheds, stables and shelter sheds. The barn element served more as a fodder-preparation area than a threshing or storage area – threshing probably happened outside. (The Fens) © English Heritage



cow housing in one range. From the late 18th century, many barns were built as part of a range with the threshing area flanked by animal housing.

A very small number of bank barns, more typical of the North West Region, are found in the Derbyshire Peak District. Variant bank barns, built along rather than across the slope, date from the 18th and possibly 17th centuries. See North West Region for more on bank barns.

6.1.2.3 Mechanisation

The Lincolnshire Wolds was one of the most highly industrialised farming areas in the country, sharing characteristics with the Yorkshire Wolds and the Northumbrian Coast. Major reorganisations of the landscape involving enclosure, engrossing of holdings and the creation of new farmsteads, often by large landowners, meant that many farmsteads were built to employ mechanisation.

The introduction of mechanisation – and particularly the portable threshing machines that enabled outdoor threshing from the 1840s – led to the appearance of new generations of mixing barns, which stored the threshed grain and processed fodder (Barnwell & Giles 1997, pp.42, 49–51 and Figure 21).

Elsewhere in the Region mechanisation in farmsteads is not a common feature. Only in isolated cases was power incorporated in farmsteads, such as on large estates or in farmsteads that were built using contemporary factory

design to increase efficiency. A group of farmsteads owned by the industrialist Strutt family near Belper in Derbyshire variously incorporated both steam and horse engines (Wade Martins 2002, pp.94–100).

6.2 GRANARIES

6.2.1 NATIONAL OVERVIEW (Figures 22 & 23)

Once threshed, grain needed to be stored away from damp and vermin. It would be sold off the farm or retained for animal feed. A small number of specialist granaries built by large landowners, in particular the monastic institutions, survive from the 14th century. Most granaries are of late 18th- and 19th-century date, the need for more storage for grain often coinciding with the necessity for more cart and implement space at a time when commercial farming and markets were expanding and more implements introduced on farms. The construction of detached granaries raised off the ground, along with the heightening of plinth walls to timber-framed barns, was also a reaction to the threat posed by the rapid spread of the brown rat from the early 18th century (McCann 1996).

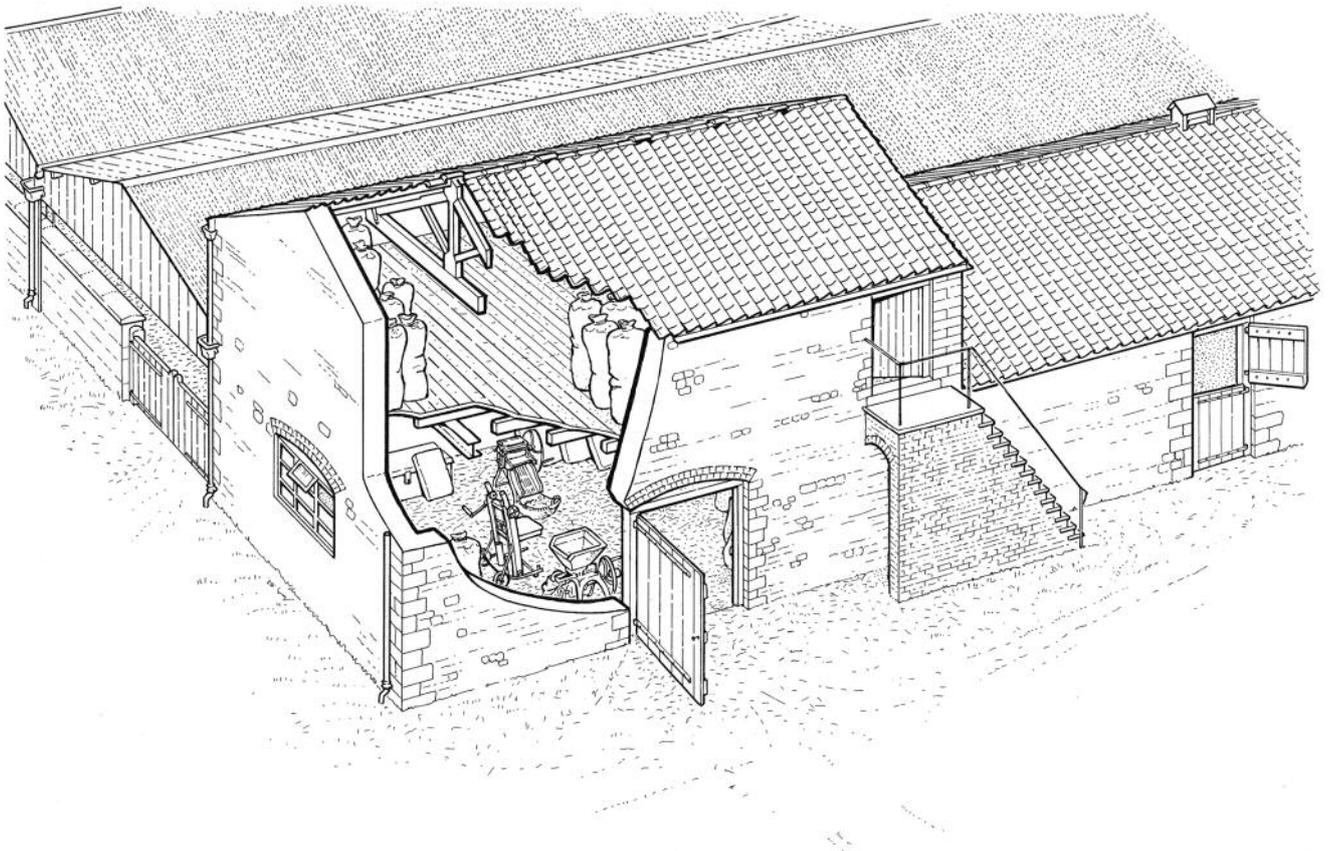
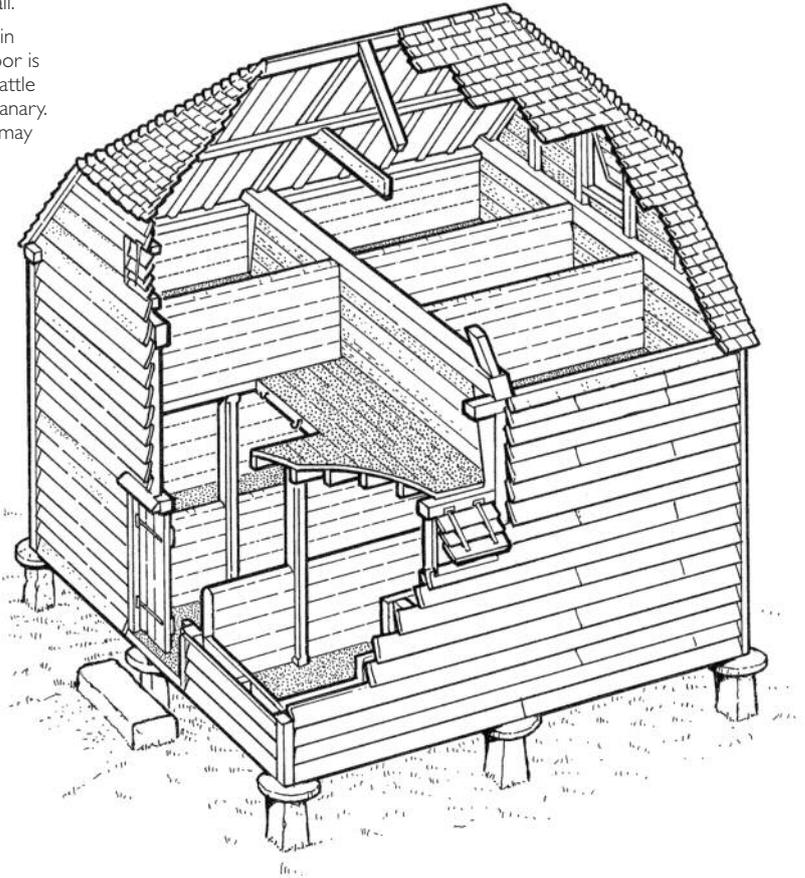
Internally granary walls were usually close-boarded or plastered and limewashed, and the floor made of tight-fitting lapped boards to prevent loss of grain. Grain bins, or the slots in vertical timbers for horizontal planking used to make them, are another characteristic feature: close-boarded partitions allowed different crops to be kept separate (Figure 22). Window openings were typically small, and, with ventilation being the main

22 Granaries

Top: A free-standing timber-framed granary on staddle stones. This example has two floors and is fitted with grain bins on both levels. Staddle-stone granaries are concentrated in a band from Wiltshire to Essex and in South East England with occasional examples being found as far west as Cornwall.

Bottom: Granary occupying the first floor of a mixing barn in Lincolnshire. In this 19th-century building the ground floor is devoted to the preparation and storage of fodder for cattle whilst the first floor, reached by external steps, was a granary. In similar buildings in this area only part of the building may have a loft for grain storage.

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23A The interior of a granary over a cart shed showing the grain bins which allowed different grains, and even the crop from different years, to be kept separate. (North West Norfolk)
 B Ventilation was important to keep the stored grain dry. Air circulation could be achieved through small windows with shutters, hit-and-miss ventilation grilles, windows with fixed louvers or, in this example, adjustable louvers. (Hampshire Downs)
 A © English Heritage / Michael Williams; B © Bob Edwards



objective, the openings were generally either louvers, sliding vents or grilles.

Grain was typically accommodated in:

- The lofts of farmhouses, a practice common before 1750.
- Small, square or rectangular structures raised above ground level on mushroom-shaped staddle stones or brick arches and accessed by moveable wooden steps. Internally, they may have been fitted with wooden partitions to create grain bins. They were clearly related to the helm, which, according to documents from the 15th to 17th centuries, comprised timber platforms on staddle stones and were concentrated in the Midland counties (Dyer 1984; Needham 1984; Airs 1987; Barley 1990, pp.165–7): none have survived or been excavated. Most are of late 18th- or 19th-century date. Examples abound in Cambridgeshire, Berkshire, Sussex, Hampshire and Wiltshire, but extend into Dorset, Devon and Cornwall. Free-standing granaries are commonly timber-framed, clad in weatherboard or infilled with brick, but brick or stone examples have been found, particularly at the western edge of their distribution. The larger free-standing granaries were of two or even three floors (Figure 23).
- The upper floors of farm buildings, most commonly barns – observable from the 14th century (Le Patourel in Miller 1991, p.872) – and from the 17th century in the South East and East Anglia, much later further north and west, above cart sheds (see 6.3.1). Exteriors are usually marked by shuttered windows for ventilation. The side walls are sometimes weatherboarded, even in regions where weatherboarding is unusual, again to help ventilation. Examples date from the 17th century in arable areas. A separate external stair often gave access to the granary door (Figure 23). There was often a trap door into the cart shed below with a hoist beside it to allow for the loading of sacks. The granary floor had to withstand heavy weights so was stoutly built. In a few instances the granary was situated over cowsheds or stables, but generally this was frowned upon because the damp and smells from the animals below could taint the grain. Because of the value of the crop, granaries were often the only farm building to be locked, sometimes with a dog kennel or goose house under the steps to deter thieves.

granaries have survived, and timber-framed granaries – detached or located over cart sheds or stables – are clearly far less likely to have survived to the present day than examples in stone or brick. Interior fittings such as grain bins and features such as louvered windows are particularly vulnerable when a change of use is contemplated.

6.2.2 GRANARIES IN THE EAST MIDLANDS

(Figure 24)

In the East Midlands Region, granaries were often located over cart sheds, although in some areas such as parts of Lincolnshire, they were often found over stables, particularly the late 18th- and early 19th-century examples (Barnwell & Giles 1997, p.52). In north Northamptonshire 17th- and 18th-century surveys record the presence of granaries, also usually sited over stables, although inventories show that they could be used to store other goods such as wool (RCHME 1984, p.lxviii). In Nottinghamshire there are several examples of granaries associated with pigeon lofts or dovecotes. These combination ranges are frequently found attached to either the farmhouse or the barn and, although a few early examples are found

A very small number of pre-18th-century detached

24 Granaries and cart sheds in the East Midlands Region
Free-standing granaries are unusual in the East Midlands; most are located over cart sheds (A Lincolnshire Coast and Marshes), within combination ranges (B Derbyshire Peak Fringe and Lower Derwent) or, less commonly, over stables (C White Peak).

Single-storey cart sheds are found across the Region (D Needwood and South Derbyshire Claylands) but they also often form part of larger courtyard ranges (E Lincolnshire Wolds) or combined with other functions such as the mixing barn in photograph F (Kesteven Uplands). A & C © Susanna Wade Martins; B & E © English Heritage / Michael Williams; D © Bob Edwards; F © Mr Terence Onyon (194333)

24A



24B



24C



24D



24E



24F



across the Region, the majority of granaries are of early to mid-19th-century date. In the later 19th century, particularly on smaller farms, and in those areas where pastoral farming was more important, part of the barn could be lofted to serve as a granary (Barnwell & Giles 1997, p.52).

Free-standing granaries set on staddle stones are relatively rare in the East Midlands, with most examples being found in south Northamptonshire.

6.3 CART SHEDS AND IMPLEMENT SHEDS

6.3.1 NATIONAL OVERVIEW

The cart shed housed not only carts for transporting muck to fields, the harvest to the steading and grain to market, but also the implements needed (primarily for arable cultivation) on the farm. It could also accommodate the coach or pony trap. Left outside, wooden implements could shrink and crack in the sun, while rain and snow caused iron to rust, jamming any moving parts. Cart sheds often faced away from the

farmyard and were often close to the stables and roadways, giving direct access to the fields. They have been found as additions to barns, but are more commonly found as detached single- or double-storey buildings, in the case of the latter invariably with a first-floor granary (see 6.2.1). The size of cart-shed ranges serves as a rough indication of the former arable acreage of the farm. In some parts of the country, often in pastoral areas, the difficult terrain meant that wheeled vehicles were not widely used and so cart sheds tended to be few and smaller; perhaps of only one or two bays. One bay was sometimes enclosed with a wide door for the storage of small implements, or perhaps a pony trap. Cart sheds and implement sheds with lockable doors did not appear in any great numbers until the mid-19th century, when horse-drawn hoes, and later reapers and mowing machines, became more prevalent (Walton 1973; Mingay 1989, pp.532–44).

Examples of pre-19th-century date, concentrated on estate farms and in the arable lowlands, are extremely rare.

6.3.2 CART SHEDS IN THE EAST MIDLANDS

(Figure 24)

There are very few cart sheds that date from before the middle of the 19th century. Those that do are usually small structures built to house a single vehicle. Detached, single-storey cart sheds are often found on farmsteads that evolved gradually during the 19th century but those of the later 19th century are likely to form part of a planned farmstead. Such cart sheds may be single storey or form part of a combination building, often being associated with a granary at first-floor level, and sometimes attached to the barn. Again, cart-shed ranges could be very large in Wolds and other arable areas.

In Nottinghamshire an unusual building, which comprised a cart shed below with an open-sided upper floor where unthreshed corn was stored, was recorded in the late 18th century (Lowe 1798, pp.9–10).

6.4 HAY BARNs AND OTHER CROP-RELATED BUILDINGS

6.4.1 NATIONAL OVERVIEW (Figure 25)

Hay would be kept in lofts over the cow house and stable, stored in stacks or in purpose-built barns. The latter differed from corn barns in that they were open-sided to allow a good flow of air through the hay. They comprised little more than a roof supported on brick, stone or iron piers with solid gable walls. They mostly date from the second half of the 19th century, and are more typical of the wetter pastoral west than the arable east. A very small number of timber hay barns with adjustable roofs – as commonly survive in the

Netherlands – survive intact, mostly in Yorkshire. The agricultural depression from the 1870s meant that dairy farming was one of the few branches of farming to remain profitable, leading to an increase in the production of hay. This period saw the introduction of some of the first mass-produced iron farm buildings, such as Dutch barns for hay storage, and also of airtight clamps for the preservation of silage. Silage towers were built in small numbers in the inter-war period, but were not generally adopted until the 1960s (Shaw 1990).

As the use of fodder crops, such as turnips, and over-wintering of cattle became countrywide, there developed a need to store the fodder in earth clamps or small rooms. In some of the better-planned farmsteads the root and fodder stores would be incorporated into the cattle housing, usually located close to where the cattle were stalled with access between the two. On smaller farmsteads the root store was either a separate building or formed part of a combination building, perhaps being associated with a granary or workshop. At present, it is not possible to identify any particular features of these buildings, other than the building materials, that are regionally characteristic.

Some areas of the country developed a specialisation in the production of particular crops such as hops or fruit. In some cases these crops required the construction of particular buildings that are regionally characteristic: for example, the oast house/hop kiln of the South East and West Midlands and the cider house of Herefordshire and the South West.

Small kilns for drying corn and particularly malt for brewing have been recovered through excavation (Le Patourel in Miller 1991, p.875) and a small number of much larger and more solidly constructed examples survive from the 17th century, especially in the North West and South West. Surviving examples of corn-drying kilns, concentrated in upland farming areas, are very rare. The processing of corn to flour was undertaken in mills normally powered by water or wind. Mill buildings are often found isolated from farmsteads but occasionally they can form part of the farmstead.

6.4.2 HAY BARNs AND OTHER CROP-RELATED BUILDINGS IN THE EAST MIDLANDS

Hay barns are relatively uncommon features in the East Midlands landscape, as many combination barns incorporated lofts where hay could be stored and fed to cattle and horses housed below. The majority of examples are found in the north-western part of the Region and they mostly date from the second half of the 19th century. The local stone was usually used for their construction, although some fine examples supported on stout cast-iron columns survive on the Strutt farms around Belper, Derbyshire. A similar open-sided barn

25 Hay barns: national examples

Buildings including storage space for hay are found in the East Midlands – usually in lofts above stables or cow sheds. Purpose-built hay barns can also be found, although they are not a common feature of the Region. Hay barns are usually quite simple buildings using local materials

or brick. (A Cumbria High Fells; B North Yorkshire Moors; C Solway Basin) By the late 19th century the iron-framed Dutch barns were widely used (D Leicestershire and South Derbyshire Coalfield) A, B & C © Jen Deadman; D © Peter Gaskell

25A



25B

25C



25D



with stone gables and wooden supporting pillars stands at Home Farm, Laxton, Northamptonshire, probably dating from the mid-19th century.

In areas where cattle fattening or dairying were important the production of oats primarily for feed

necessitated the building of chaff houses, where the oats could be stored and prepared for feed. In Lincolnshire the chaff house was often attached to the barn or to the cattle shelters (Barnwell & Giles 1997, p.46). These buildings are typically of 19th-century date and of brick construction.