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 UP TO 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.

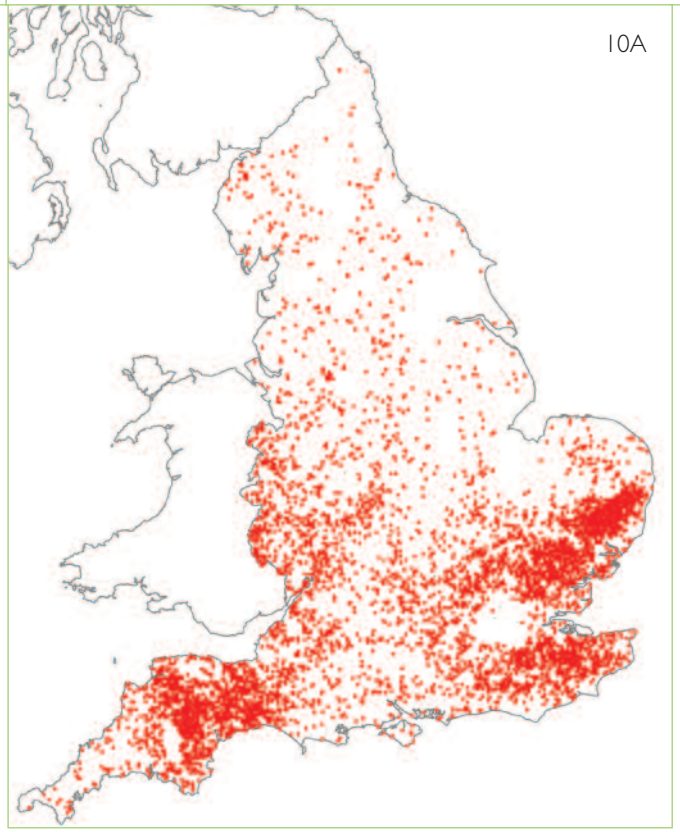
4.1.1.1 Survival and Value

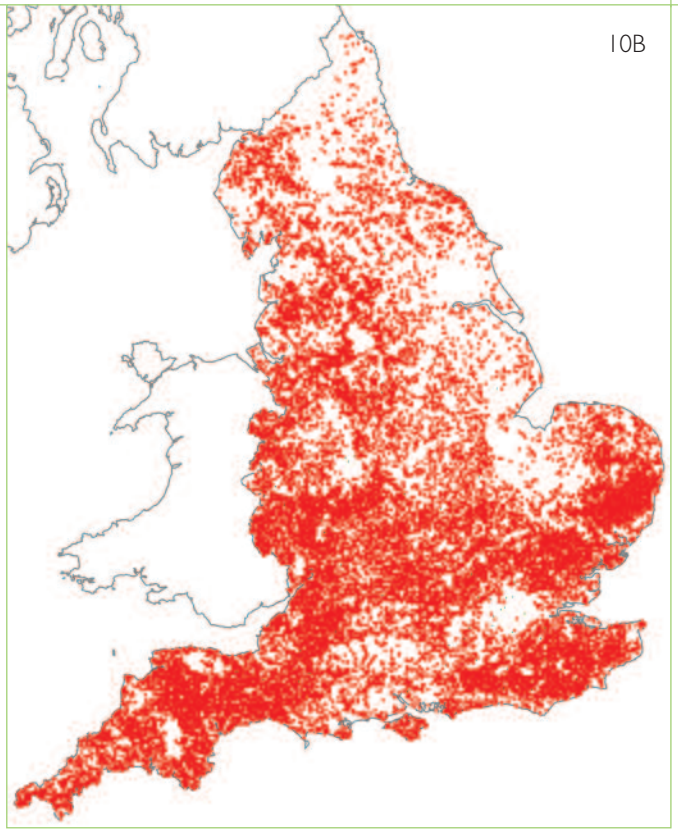
All survivals of this period are of great rarity and significance. The best-known survivals are the great barns of secular and especially ecclesiastical estates. These comprised the foci of farmyards with ancillary buildings that have been almost completely swept away, for which documentary but very 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 and 1550–1750. 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.





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:

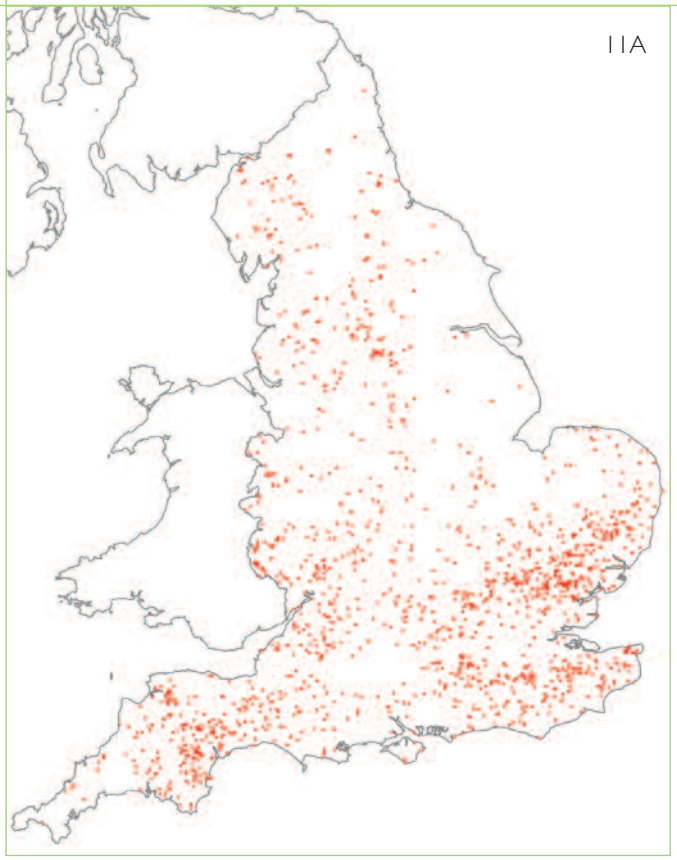
- Higher grain prices from 1750, peaking during the Napoleonic Wars (1794–1815), were joined from around 1840 by a steady increase in meat and dairy prices, both the result of population growth and the demands of an increasingly affluent urban population.
- The strengthening of a national market, facilitated 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 included in J Bailey Denton's *Farm Homesteads of England* (1863). The shows and publications of agricultural societies, from farmers' clubs to the Royal Agricultural Society of England (RASE) founded in 1837, were important. 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 polices 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.

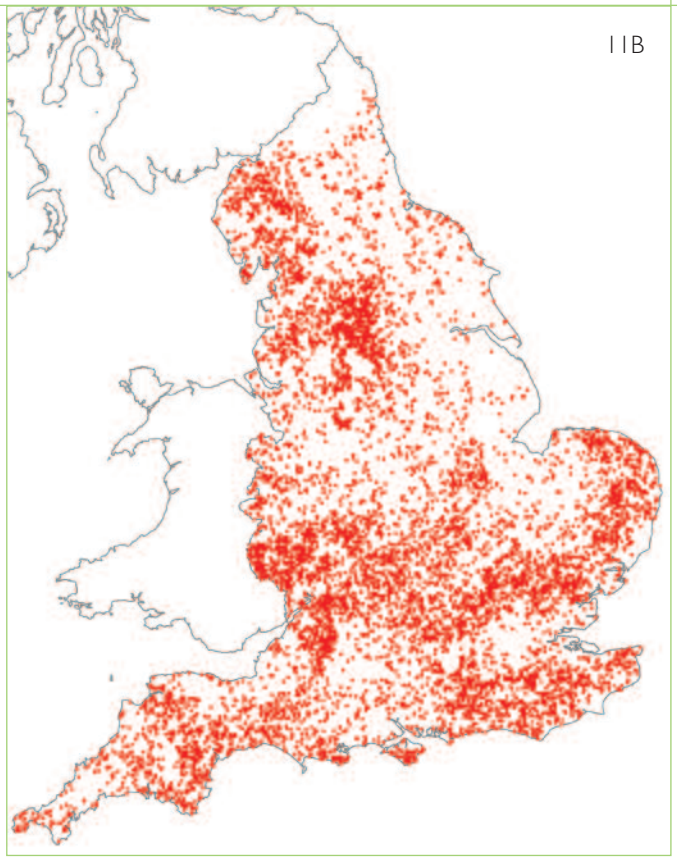
Farmstead design was being affected by the widespread introduction of new types of building and layout, and from the 1840s by the widespread extension of mechanisation (for preparing feed and threshing), the increasing availability of mass-produced fittings and materials, and the adoption of industrial 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 many 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 22, 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

11 Distribution maps of listed barns in England, pre-1550 and 1550–1750
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.





were erected. Some, particularly the planned farmsteads 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 dairy cattle housing with concrete floors and stalls, metal roofs and fittings. County councils began building new farmsteads, 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; 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, 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 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 WEST MIDLANDS

There was already a strong degree of diversity within the Region by the 15th century: large flocks of sheep in the Peak District and on the Shropshire and Herefordshire Hills, the concentration of dairying and cattle breeding in the north, of beef production in Warwickshire and of mixed arable-based husbandry in other lowland areas such as the Herefordshire plain. In the same century there was a large-scale decline in arable cultivation, and an acceleration in the abandonment and shrinkage of settlements (especially in the open-field and primarily arable economies) and the amalgamation and growth of holdings (Dyer 1991, pp. 84-5, 89–92). Only in the extreme south of the Region, in Herefordshire, did arable farming continue as a major element of the agricultural economy. Much of the Region was enclosed by 1750 (see 2.4.2).

By the 17th century industry was providing alternative employment and enabling small-scale farming to be combined with other sources of income. There was also an active interest in agricultural improvement evidenced, for example, in Rowland Vaughan's 1610 book on watermeadows (Bettey, 1999), Andrew Yarrington's influential book on clover growing in Worcestershire in 1663 and Beale's *Herefordshire Orchards* in 1657 (Thirsk 1984, pp.162–3, 159). In much of the Region efforts were being made to improve enclosed pastures by introducing clover and liming acid soils. By the early 19th century, lowland areas were frequently subject to four or five course rotations using root crops.

Farms continued to grow in size, especially in lowland areas and in areas of nucleated settlement. In the western part of the Staffordshire Plain (4.2.1), for example, smaller farms were concentrated in areas characterised by early isolated farmsteads, those in areas of nucleated settlement being more subject to amalgamation, re-siting and rebuilding (Peters 1969, p.30). Post-1750 enclosures are concentrated in patches of heath, forest and moss and on areas of higher ground, such as the upland parts of the Shropshire Hills, possibly with the intention of securing mineral rights over the coal and stone resources available in these areas. The working of these minerals attracted labourers who often created smallholdings within and along the edge of the moorland, keeping sheep and cattle on the common land and enclosing a few acres for hay.

Except on the highest lands in the north and the hills of Shropshire and Herefordshire, cattle were the most important animals, kept for rearing, fattening and dairying. Dairying was especially important in north Shropshire and Staffordshire, which effectively comprised a continuation of the Cheshire plain; the introduction of new crops and rotations in these areas was targeted towards the increase of feed for the growing cattle population. By the 19th century Staffordshire was seen as a dairying rather than a fattening county with the few homebreds that were surplus to requirements being sent south for finishing (Pitt 1813, p.106). Uttoxeter, just to the south of the Peaks, developed an important cheese trade based on its surrounding areas in both Staffordshire and Derbyshire. The lowlands of Herefordshire and south Worcestershire combined corn with the fattening of stock.

Only on the Shropshire and Staffordshire plains were large estates predominant. Over 30% of Staffordshire, and 20% of Shropshire, was in estates of over 10,000 acres by 1871 (Wade Martins 2002, pp. 217, 219). There were, however, also many owner–occupiers with proprietors farming between 200 and 300 acres who were recognised as a significant group in the early 19th century (Pitt 1813, p.20).

The period of high farming in the mid-19th century resulted, as elsewhere, in an enthusiasm for new buildings, the massive increase in cattle numbers in some areas being a major factor. Investment was sometimes secured with the help of loans from the land improvement companies. Between 1850 and 1869, for example, £53,568 was lent to Staffordshire landowners towards the cost of farm buildings. This was probably about 20% of the total outlay. It was mostly the larger landowners who took advantage of the availability of loans and – according to the surviving reports of the surveyor, Andrew Thompson – they were used mainly for the extension or modification of existing plans rather than totally new builds. They were described as replacing 'dilapidated', 'worn out' and 'beyond repair' structures of earth, board and thatch. Only four 'entirely new' farms were built. Not surprisingly, in a county where dairying was becoming increasingly important, loans were mostly directed towards new or additional housing for cows – single or double cow houses for between 10 and 50 cows (Phillips 1996, pp.24–51). The drainage of heavy land for arable crops was another feature of this period, picking up in intensity again after 1940.

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 2.1– 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 more on JCA 52 (White Peak), see East Midlands.

For more on JCA 53 (South West Peak), see North West and Yorkshire and the Humber.

For more on JCA 61 see North West.

For more on JCA 95 (Northamptonshire Uplands), see East Midlands.

For more on JCA 105 (Forest of Dean and Lower Wye), see South West.

For more on JCA 107 (Cotswolds), see South West.

4.2.1 Staffordshire Peak District

This includes South West Peak (JCA 53) and White Peak (JCA 52); more details can be found in the East Midlands. Dairying and the breeding of stock was important in both these areas, with some arable cropping.

In the South West Peak some small-scale enclosures and isolated farmsteads are associated with intakes from the moor, typically from the 15th century (Dyer 1991, pp.84-5) but occasionally earlier. Regular and large-scale enclosures are associated with late 18th- and early 19th-century enclosure of the open moor and common, dotted with field barns and isolated steadings.

More characteristic of the limestone plateau of the White Peak are nucleated villages, formerly surrounded by their open common fields, interspersed with early farmsteads and their associated field patterns. Enclosure was mostly complete by the 18th century, a major reason being the importance of stock for dairying and feeding off its rich grass. By the 19th century cattle rearing, to supply meat to the growing cities nearby, had grown in importance. By the late 19th century, the supply of liquid milk to urban markets had also become a major aspect of the rural economy.

4.2.2 Cheshire, Shropshire and Staffordshire Plain (JCA 61) (Figure 12)

For more details see North West.

This area is an extension of the Cheshire Plain and consists of clays, sands and gravels as well as meres and mosses. The generally wet but mild climate had always favoured grass above corn and so stock and dairying were always the major elements of farming in the north of the area: ploughed land was often given over to the supply of feed for cattle, and there is evidence for enclosure from the 14th century being linked to the emerging dairying industry (Roberts and Wrathmell 2002, p.99). The production of cheese was a major aspect of the rural economy by the late 16th century, expanding rapidly in north Shropshire from the late 17th century (Hey 1984, p.154; Edwards 1977). There are significant variations to this general pattern, with arable being much more important in the south and east of the area, although the growing demand for meat and dairy produce from the Black Country and the Potteries also led to a shift from arable to dairy and stock farming in western lowland Staffordshire by the mid-19th century (Peters 1969, p.131). The increasing supply of liquid milk to the urban areas was also linked to the development of the railway system from the mid-19th century.

Areas of wetland were being drained from at least the 16th century. Improving landlords such as the Marquis of Stafford and the Ansons (Lords Lichfield) owned lands in both Staffordshire and Shropshire. They instigated the draining and regular enclosure of areas of wetland in the 19th century, together with the construction of new steadings. For example, Kinnersley Moss was drained by the Marquis of Stafford as part of his estate improvements in the early 19th century. The whole area to the west of Kinnersley is a distinctive estate landscape of regular fields and planned farms. Elsewhere, land was added to existing farms with at least four sets of new buildings being erected in Kinnersley rather than out in the fields (Wade Martins 2002, pp.90–94).

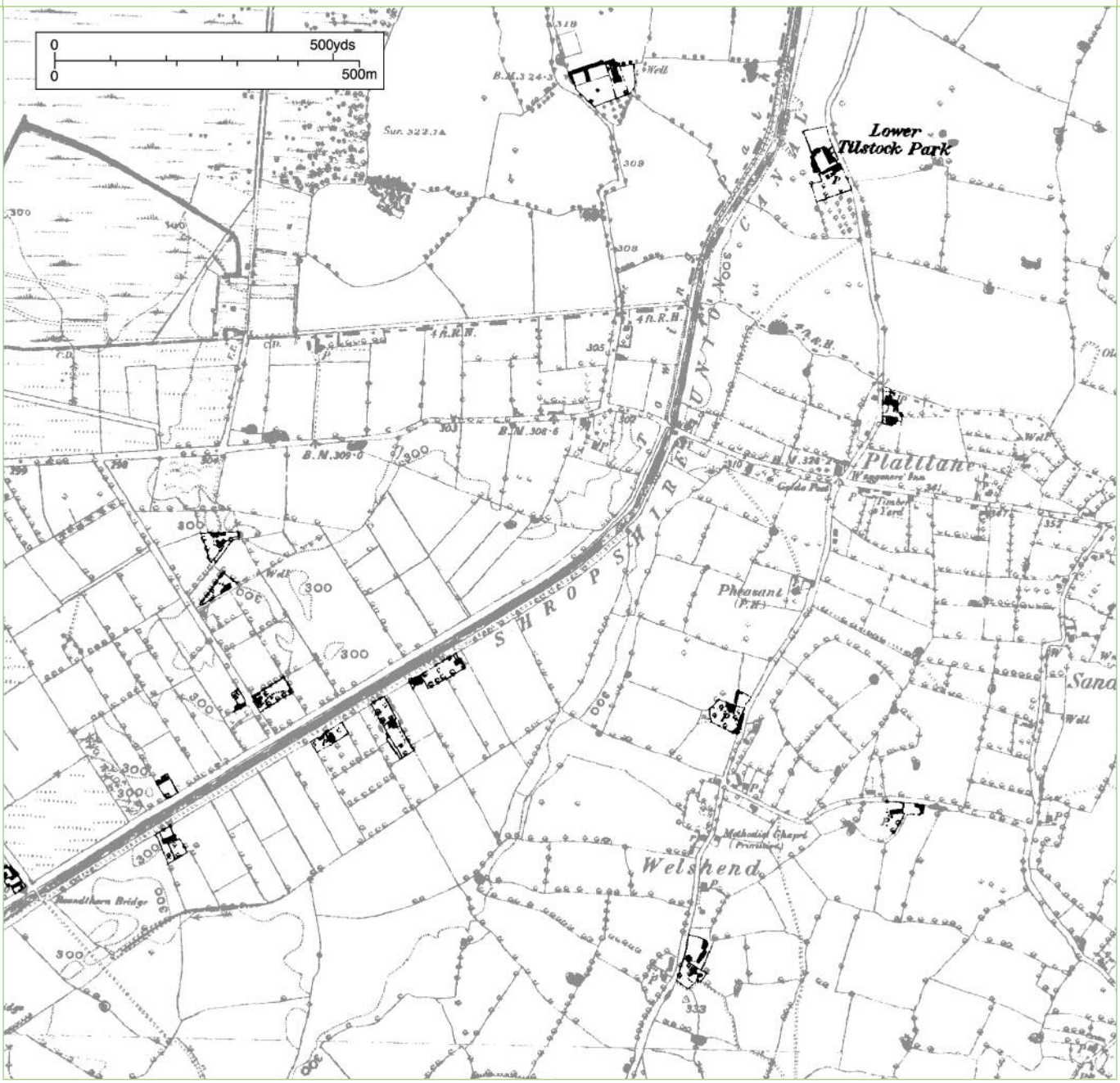
4.2.3 Oswestry Uplands (JCA 63)

This small area, bounded by the Shropshire Plain to the east and the Wales to the east, has a mixture of isolated farmsteads associated with ancient patterns of enclosure, squatter settlements linked to the stone quarrying industry in the south of the area, and late 18th- and 19th-century farmsteads associated with the enclosure of the northern Selattyn Hills. The hill farms specialised in cattle rearing, with extensive sheep grazing from the late 18th century. More arable-based mixed agriculture developed to the east.

4.2.4 Potteries and Churnet Valley (JCA 64)

The heavy clay and generally poor soil quality of this area supported from the medieval period a substantially sheep-based and cattle-rearing pastoral economy. There are patches of regular planned enclosure that contrast with the predominant pattern of centuries-long piecemeal enclosure, dating from the late 18th century and including a high proportion post-dating the 1850s, concentrated on areas of former unenclosed common grazing on the higher and more open land to the north (such as Biddulph Moor). Arable farming was more important in the river valleys, particularly around the Dove and Churnet to the east of Cheadle. In the

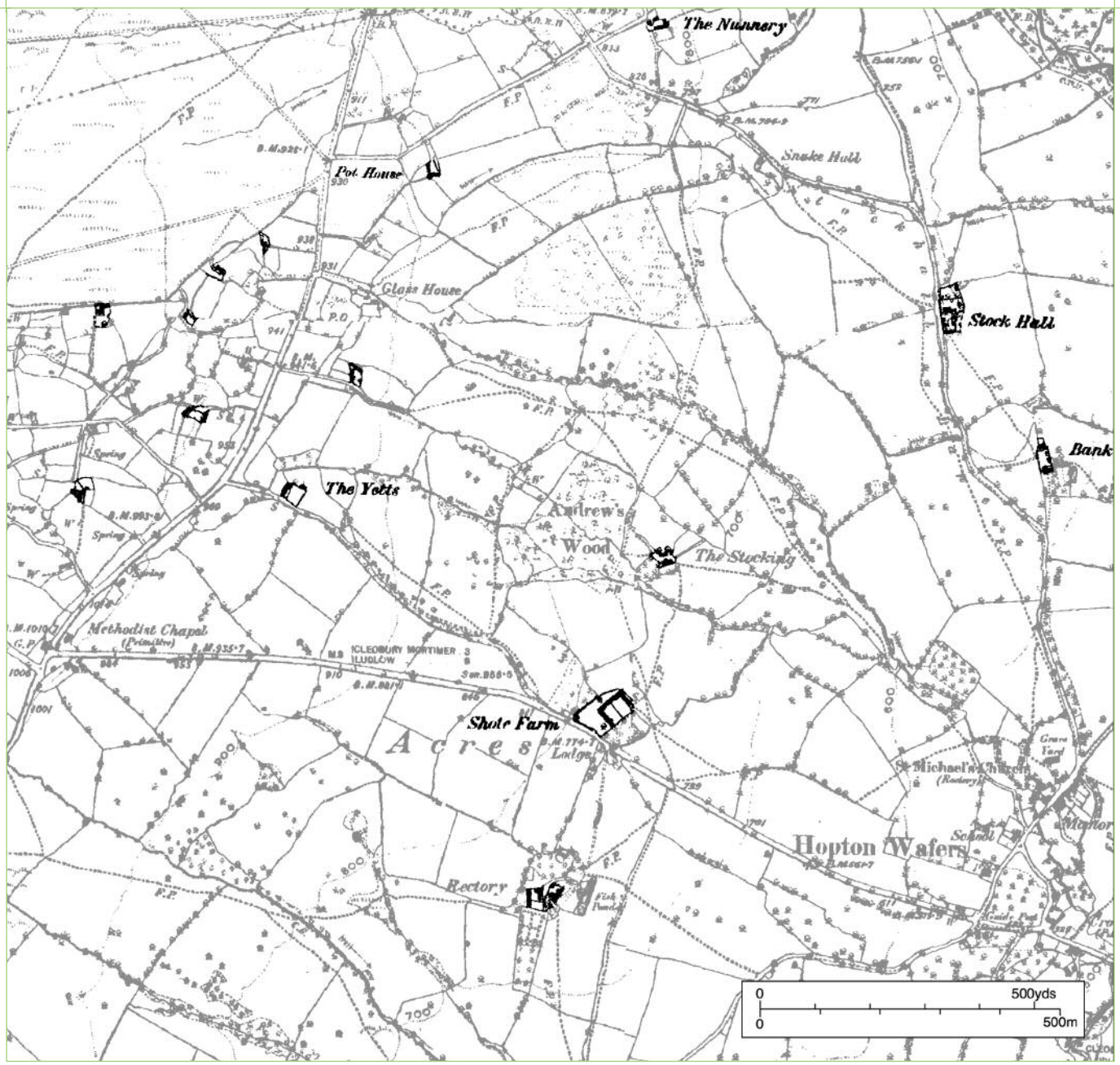
12 Farmsteads in the landscape: Whixhall, Shropshire (Shropshire, Cheshire and Staffordshire Plain)
This map shows the junction of four contrasting landscapes. Tiny hedged fields suggesting early, if not ancient, enclosure and small dispersed farmsteads in the south-east give way to much larger ones to the north where large-scale dairying based on substantial planned brick-built farms, often estate owned, predominated. A small area of heath survives to the north-west, which further south had been subject to small-scale and regular enclosure with straight roads and tracks after the construction of the Shropshire Union Canal (completed 1835). Associated with the regular enclosure are many small farms with few farm buildings. *Based on OS 1st Edition 6" map 1843–1890.*



Potteries, around the ironworkings of the Churnet Valley and near the coalfields, farming was often small scale and, already by 1700 combined with industrial activity. Small-scale farming activities provided subsidiary work (Hey & Thirsk 1984, pp.131, 161).

4.2.5 **Shropshire Hills** (JCA 65) (Figure 13)
This area, which lies between the Welsh border to the west and the Mid Severn Sandstone Plateau to the east, exhibits great diversity. The majority has a long history of mixed farming, with some dairying and arable cultivation being important elements of the farming economy. Sheep and cattle rearing formed the mainstay of the hill farms into the 20th century, much of its rough moorland being enclosed and transformed into pasture from the late 18th century. There was some regular late enclosure of the open heath, such as on Clunton Hill, where some small planned farmsteads were created. In parts of the area – especially on the commons of the southern Clee Hills and on the western flanks of Stiperstones – farming was (increasingly from the 16th century) combined with industrial activities such as coal mining, quarrying and lead mining. In these areas smallholdings and squatter's cottages could be found fringing and encroaching onto the moorland, which provided common grazing, whilst small fields provided hay meadows.

13 Farmsteads in the landscape: Hopton Wafers, Shropshire (Shropshire Hills)
This extract covers an area on the lower slopes of the Clee Hills. Most of the high ground of Clee Hill was open common and had been exploited for coal from the medieval period and for stone from the mid-19th century. On the lower slopes fringing the common are ancient hamlets, and scattered farmsteads, some of which are of medieval origin, set within an anciently enclosed landscape. On some of the higher ground in this area, for example, near The Yetts, there are traces of possible ridge and furrow. In contrast to these larger farms, fringing and encroaching onto the common to the left of the map are the smallholdings of families who combined farming with the coal or quarrying industries, utilising the common grazing for sheep and cattle and holding a few enclosed fields for haymaking. *Based on OS 1st Edition 6" map 1843–1890.*



4.2.6 Mid Severn Sandstone Plateau (JCA 66)

Industrial development from the 16th century, closely linked to the navigation of the Severn and the development of canals, declined with the introduction of railways from the mid-19th century. On the sandstone plateau to the east of the Severn more corn was grown and fewer cattle were kept than on the heavier soils of the Severn valley itself and elsewhere in Shropshire. The fine, dry, sandy soil was fit for growing rye and barley within medieval open fields and later regular patterns of fields brought about by private or parliamentary enclosure (Hey 1984, p.156). The thin soils of the high ground between the Stour and Severn were influenced by the activities of improving estates from the later 18th century, with some heath and common remaining amongst the predominant pattern of regular and large-scale enclosure. The sandier soils around Kidderminster and Stourbridge, and the more gravelly soils north-east of Bromsgrove were well suited – if fertilised with marl and lime – to dairying. The growing of more fodder crops and clover allowed for dairying to expand from the 18th century in response to demand from the rising industrial populations of the Black Country (Thirsk 1984, p. 186).

4.2.7 **Cannock Chase and Cank Wood** (JCA 67)
Large parts of this wood–pasture area, interspersed with large commons, was intensively settled from the medieval period and particularly from the 16th century, with small hamlets associated with industrial activities such as quarrying (limestone and dolerite), coal mining, iron making and edge-tool manufacture. Deep mining of the South Staffordshire Coalfield developed from the 1870s. Piecemeal enclosure of the former common fields was generally complete by the 18th century. By the 19th century the commons – important for the larger farmers and the semi-industrial squatter–cottagers – were being enclosed (Hey 1984, p.143). Dairying became significant on the heavy, poorly-drained soils in the northern part of the area, where large estates such as Shugborough built some notable home farms (its home farm of 1803 and 1806 is one of the earliest water-powered farms in the country) and were well-placed for export of their produce by canal. Arable farming and horticulture have intensified in importance from the late 18th century on the sandstone-derived soils at the eastern and western edges and to the south of the area.

4.2.8 **Needwood Forest and South Derbyshire Claylands** (JCA 68) **and Trent Valley Washlands** (JCA 69)
By the 19th century much of this area specialised in stock fattening and dairying, with farms being generally small in size. Piecemeal enclosure of the former common fields and grazing land, much of this for pasture, was generally complete by the 18th century (Hey 1984, p.141). There are pockets of regular and large-scale enclosure with associated farmsteads. The area immediately to the south of Needwood Forest, for example, represents an estate landscape of parkland, regular late enclosure fields and substantial planned farms.

4.2.9 **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 sited amongst their own fields.

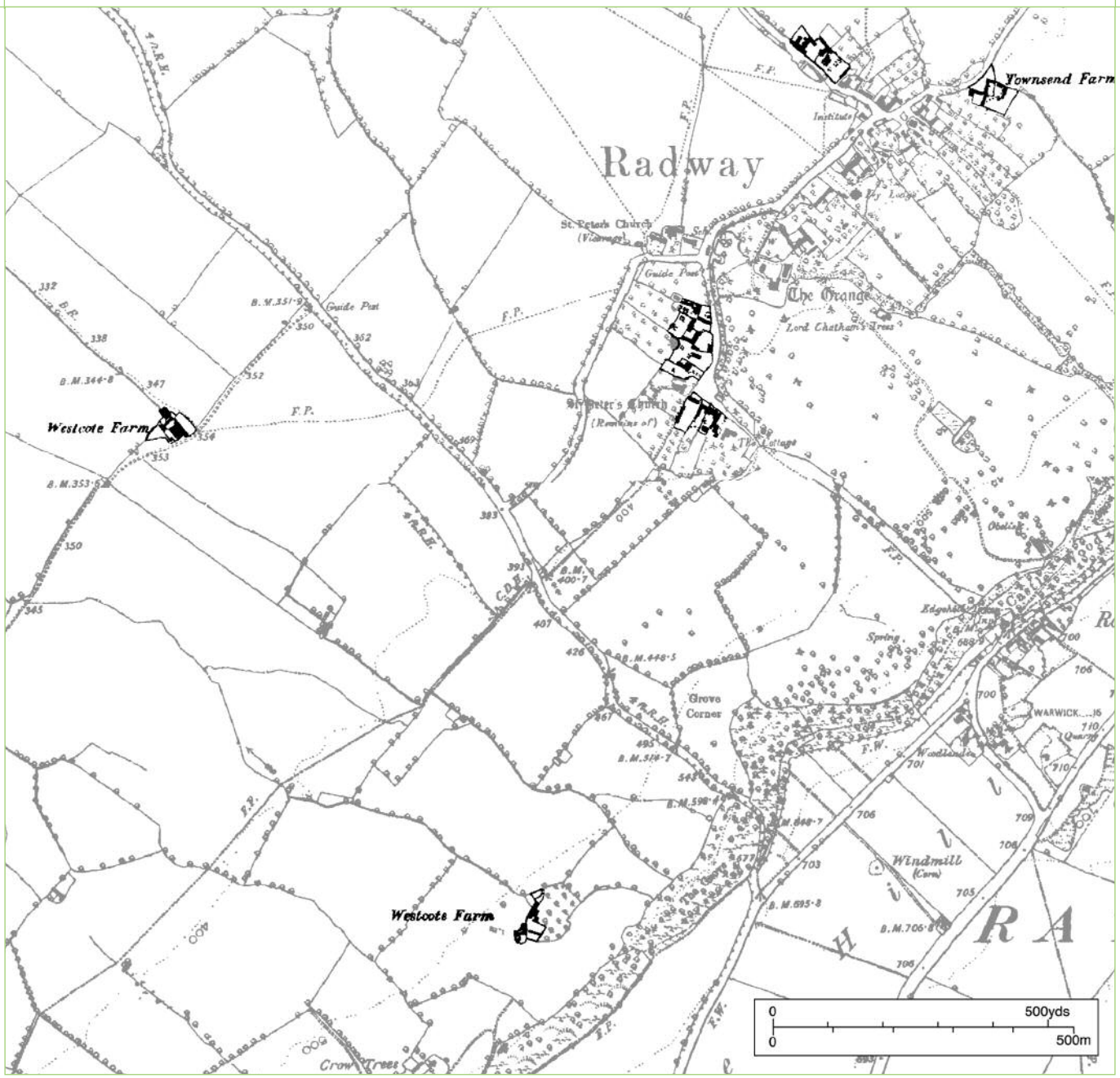
4.2.10 **Dunsmore and Feldon** (JCA 96) (Figure 14)
The Feldon of south-east Warwickshire was traditionally an area of cereal growing and open fields with the fertility being kept up by flocks of sheep. The contrast to Arden was evident by the 14th century (Dyer 1991, p.78). The area experienced the conversion from cultivation to livestock rearing from the 14th to the mid-16th century, when large areas of former open field were subdivided and enclosed by graziers supplying wool to the textile industry. The land was then managed as a mix of arable (with clover and rye grass sown into rotations) and increasingly from the 18th century as pasture for fattening cattle and sheep and to a lesser extent for dairying (Thirsk 1984, pp.164-5). This conversion of land to pasture – to which the alkaline soils of the Lower Lias clays are well suited – was closely linked to enclosure for the containment of stock, the amalgamation of smaller farms and the appearance of large farmsteads in villages and also some in the open landscape. Arable production was historically concentrated on the sandy soils of the plateaux summits and along the clay loams of the main river valleys. Enclosure of the extensive Dunsmore Heath, an area of inter-commoning, was, in the 18th and 19th centuries, focused on arable production.

To the north east of this area is the Leicestershire Vales (JCA 94)
To the south east of this area rise the Northamptonshire Uplands (JCA 95)

4.2.11 **Arden** (JCA 97)
Arden was historically a region of woodland and heaths that was cleared in the medieval period into small fields and owner–occupier farms concentrating on livestock, particularly dairying. Settlement was scattered and farms small, connected by a maze of twisted and sunken lanes. By the late 17th century the development of the Warwickshire coal field and associated industries was bringing change to the area. The population of some parishes doubled in the period 1650–1750, stimulating an increase in grain production in this area to feed the expanding industrial population of this area and of the Birmingham conurbation (Thirsk 1984, pp.180–83). There was a change from wheat to barley, and dairying, particularly cheese production, remained important as these products were in demand. In spite of increasing local demand, cheese was still sent to London.

Mid-19th-century improvers found much to criticise, as they so often did with more anciently enclosed landscapes. Fields were small and the hedges crowded with timber, agricultural practice was backward, few turnips were grown and the land needed draining. Farm buildings were said to be in a very bad state and neglected by their owners: 'They have been suffered to fall into such decay that they cannot be repaired' (Caird 1852, p.222). A few years later, however, Evershed noted that on Meriden Heath, between Birmingham and Coventry, Lord Aylesford had reclaimed 200 acres of heath and bog and built Heath Farm, a group of 'substantial and excellent buildings, where the usual operations of a first-rate model farm are carried on' (pp.490–491). Only in the river valleys did open fields

14 Farmsteads in the landscape: Radway, Warwickshire (Dunsmore and Feldon)
Sited just below Edgehill, Radway lies within the Feldon area of south-east Warwickshire, traditionally an area of cereal growing and open fields with the fertility being kept up by flocks of sheep. There are some areas of earlier enclosure, such as the irregular fields around Westcots Farm to the south of the mapped area. Most of the open fields remained to be enclosed in the 18th century and often resulted in land being put down to grass. Westcote Farm, set within the enclosed fields, may represent the movement of a farm out of the village at the time of enclosure. However, several large farms remained in the village. Although there was a move to pastoral farming, many farmsteads continued to be provided with threshing barns in the 18th century indicating that arable crops continued to be grown, even if it was on a smaller scale than had been earlier.
Based on OS 1st Edition 6" map 1843–1890.



dominate, and here a pattern of nucleated villages developed, later surrounded by large enclosed fields. By 1856 these were divided into large arable farms of up to 300 acres (Evershed 1856, p.476).

4.2.13 Clun and North West Herefordshire Hills (JCA 98)

The hill country of south-west Shropshire and west Herefordshire shared many characteristics: small fields and scattered hamlets and farmsteads, where crops were grown on a subsistence basis, with sheep and cattle rearing forming the mainstay of agriculture into the 20th century (Thirsk 1984, p.193; Whetham 1979, p.32). The Wigmore Basin in the centre (focused on the Teme and its tributaries) has a long history of more intensive arable production. Wigmore Grange was a recognised centre for the breeding of Hereford cattle in the late 18th century.

The complex patterns of enclosure have developed from pre-14th-century enclosures around farmsteads and hamlets, open fields (the largest being around the settlements established in the 11th to 13th century in the lower valleys) and the higher ground. Regular late

enclosure was restricted to areas of open heath on higher ground where, in some cases, small planned farmsteads were created. In the early years of the 19th century 12,000 acres of Clun Forest was reclaimed (Plymley 1813, p.144).

4.2.14 **Black Mountains and Golden Valley** (JCA 99)
To the west of the Herefordshire lowlands lies the Golden Valley, where the Cistercian abbey of Abbey Dore (founded 1147) and the small manorial centres that developed from the 11th century had a major influence on the settlement and farming of the area. Large manorial complexes survive alongside smaller holdings in the valley bottoms, and farmed its rich soils for corn and dairying – it was famous as a dairying area by the 17th century (Thirsk 1984, p.193). For example, Turnastone Court, Vowchurch, is famous as the place where Rowland Vaughan developed the art of building watermeadows to encourage early grass growth in the spring for his stock. He published a book explaining his methods in 1610. The farmsteads in the valley bottoms and sides also had access to extensive upland grazing, the farms to the west being smaller in scale and surrounded by smaller-scale patterns of piecemeal enclosure.

4.2.15 **Herefordshire and Worcestershire Lowlands and Valleys**
This area includes the Herefordshire Lowlands (JCA 100), the Herefordshire Plateau (JCA 101), which stretches into Worcestershire to the north and east, and the Teme Valley (JCA 102) of north-west Worcestershire, which also stretches into Herefordshire and south Shropshire.

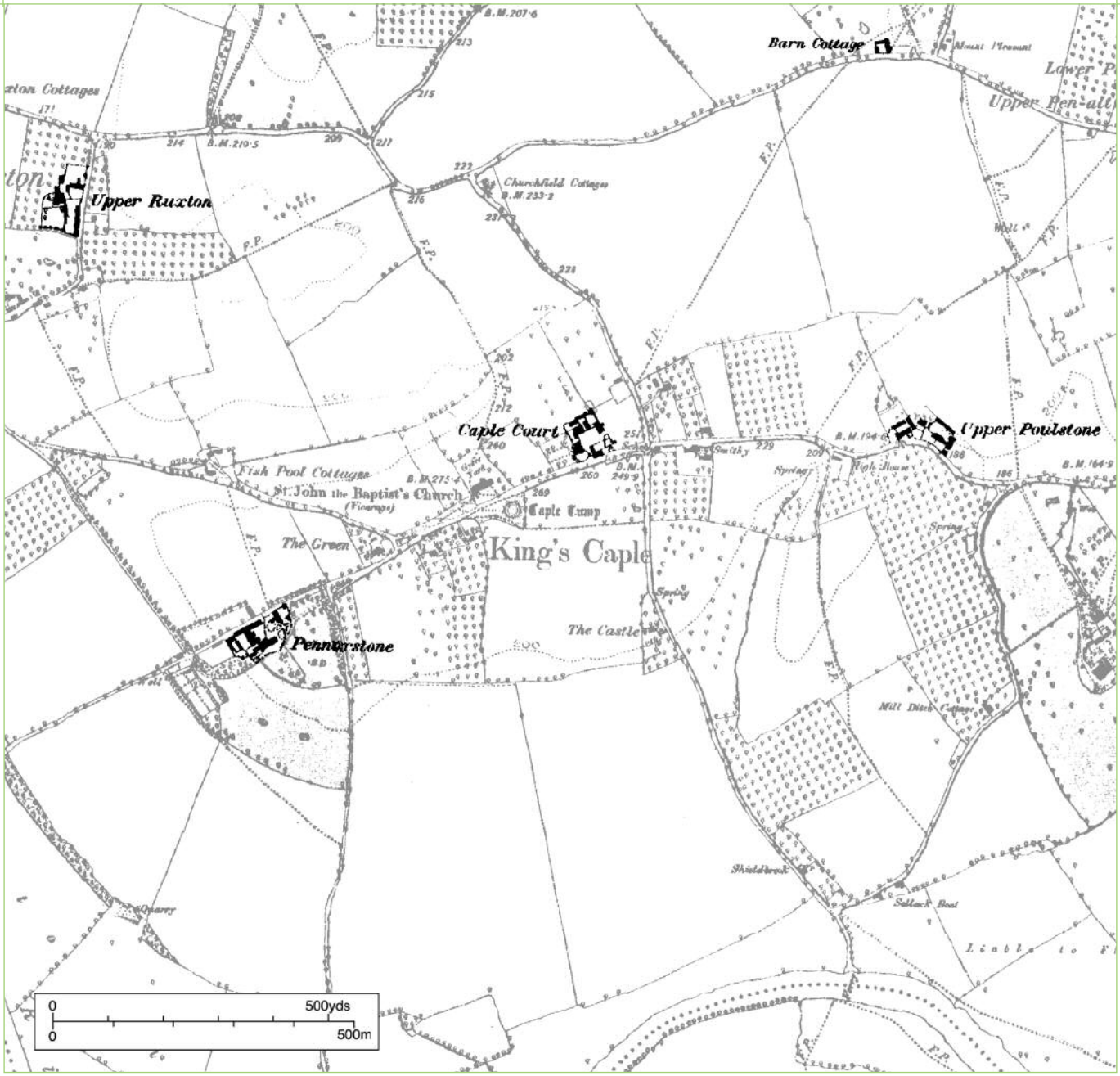
The plains of this part of the Region present a complex landscape of mostly ancient enclosure. This includes individual fields, enclosed fields which were ploughed into communally-managed strips, and open fields, some organised on two- or three-field rotations, which developed from the 11th century around larger nucleated settlements, for example in the Lugg and middle Wye valleys (Roberts and Wrathmell 2002, pp.129–31). On its predominantly heavy loam soils, which had witnessed the abandonment and shrinkage of settlements on a large scale between the 14th and 16th centuries, farmers and the gentry were able to build substantial farmsteads and farmhouses between the15th and 17th centuries. Across much of Herefordshire these farmsteads are often located in hamlets and small villages, closely associated with a medieval church. Enclosure was generally complete by the 18th century, and since then there has been increasing boundary removal in arable areas, the slopes to the higher land being characterised by smaller fields subdivided principally for stock management. Orchards were grown for cider making from at least the 14th century, and together with the hop industry developed on an increasingly intensive scale from the late 17th century. Orchards and hops were typically planted on the valley floor and intermixed with arable, with mixed farming and pasture on the slopes.

In the 17th century Herefordshire generally was the principal corn-growing area of the West Midlands. The central Herefordshire plain, which by that date was mostly enclosed, was primarily a corn–livestock region with the dominant cereal wheat rather than barley, fruit and hops being also important elements of the agricultural economy. Extensive watermeadow systems along the wide river valleys developed from the 17th century. Cattle, many of which were bought in, were fattened for the butcher, and pigs were also an important part of the system, often living in the orchards (Thirsk 1984, pp.172–177). The best wheat lands in the 19th century were said to stretch east from Hereford towards Ledbury (Duncomb 1813, p.10). Farms were still generally small and as late as 1866 the majority were below 50 acres. They are still smaller than farms elsewhere, with 68% of businesses operating on less than 125 acres (MAFF 2000, p.88). The 19th century saw the perfecting of the Herefordshire breed of cattle as a beef animal. They were not as hardy as Devon cattle and whilst they did well in the meadows of the valley bottoms in the summer, they needed to be housed in the winter if they were to fatten well. Several large complexes for fattening cattle and developing pedigree herds survive, such as those at Court of Noke and Willerton. Sheep too were often 'cotted', which meant more buildings were needed. The result was that Herefordshire farm buildings were not 'so deficient as those in other districts' by the 1850s, although the practice of dumping manure in orchards came in for criticism (Rowlandson 1853, p.452).

4.2.16 **Malvern Hills** (JCA 103)
The Malverns have been used as upland grazing by their surrounding lowland communities from prehistory to present day, including a long history as a hunting forest from the 11th to the 16th century, when much of its land was granted or leased prior to final disafforestion and division in 1632 between commoners and the Crown. The fields are generally small in scale, the result of medieval and post-medieval clearance from woodland and intakes from the hunting chase. Associated with this general pattern are scattered farmsteads, nucleated villages being sited to the west of the area.

There is a long history of arable cultivation in the valleys, especially in Cradley Brook Valley, but the acid/neutral soil of the area was best-suited to a pastoral economy. Elsewhere strip lynchets, and strips of ridge and furrow in small closes, are witness to pre-14th-century levels of arable production, and the long later history of pasture

15 Farmsteads in the landscape: King's Caple, Herefordshire (South Herefordshire and Over Severn)
The rich clays and loams of South Herefordshire have supported an arable corn–cattle economy since the 17th century. In this area of the valley of the River Wye, settlement is predominantly dispersed with a few hamlets and small, nucleated settlements surrounded by large fields enclosed from a complex pattern of arable townfields and meadow. The importance of orchards is clear. The farmsteads are relatively large with buildings arranged around two or more yards. *Based on OS 1st Edition 6" map 1843–1890.*



(Bowden 2005, pp.37–43). Orchards developed from the late 17th century, now concentrated on the eastern edge, to the west and to the north, and hop fields from the 18th century, concentrated on the valley sides in the north.

4.2.17 **South Herefordshire and Over Severn** (JCA 104) (Figure 15)
Isolated farmsteads in this area, which lies in south Herefordshire and north-west Gloucestershire, relate to ancient and complex patterns of enclosure, similar in terms of development to those of the Herefordshire plain. The hills to the south and west provided summer grazing for surrounding communities. Its fertile soils have supported a prosperous and long history of mixed agriculture, pasture fields (particularly in the steep-sided valleys) now taking a small proportion of a land cover that is dominated by intensive arable cultivation. Orchards developed to intense scale of production from the late 17th century and were very extensive. The horticultural industry north of Newent – around which is a patchwork character of arable intermixed with woodland, pasture and orchards – developed from the 19th century.

To the south of this area, and forming a continuation of it, is the northern part of the Forest of Dean (see South West).

4.2.18 **Severn and Avon Vales** (JCA 106)
For more details see South West.

To the west of the river Severn, farmsteads relate to ancient patterns of enclosure, in strong contrast to the predominantly village-based settlement to the east of the river. Here the great majority of isolated farmsteads were formed as part of the enclosure of open fields, between the 16th and early 19th centuries, some occupying moated sites of the 12th to 14th centuries and others the sites of settlements that contracted in the 14th to 16th centuries. The relict ridge-and-furrow fieldscapes include some of the best-preserved in England.

Arable has historically been most concentrated on the heavy but fertile soils of the Lias Clay landscapes to the east, although pasture again increased from the 18th century in tandem with enclosure (Thirsk 1984, p.188). Cheese production and fruit orchards, particularly for cider and perry, were features of this area. Within the Vale of Evesham there was already a distinctly more varied agricultural system by 1700 that was moving towards a market-gardening economy, where smallholders made a living from labour-intensive crops including tobacco (Pitt 1813, p.19; Thirsk 1984, pp.163, 184–7). Although the development of the specialised agriculture may have its origins in the gardening activities of Evesham Abbey, it was improved transport links – roads, and then the opening of Birmingham and Gloucester Railway in 1840 – that opened up urban markets such as Birmingham, London, Cheltenham and Bristol for the fruit and vegetables produced in this area, (Collins 2000, p.397; Martin 1985). The upper Avon and the Leadon valley also developed as important horticultural areas. The horticultural industry in the Vale of Evesham has resulted in farmed strips interspersed with orchards, and Worcestershire County Council has from the 1890s fostered the development of smallholdings.

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 can be a development of a linear plan or can represent 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.

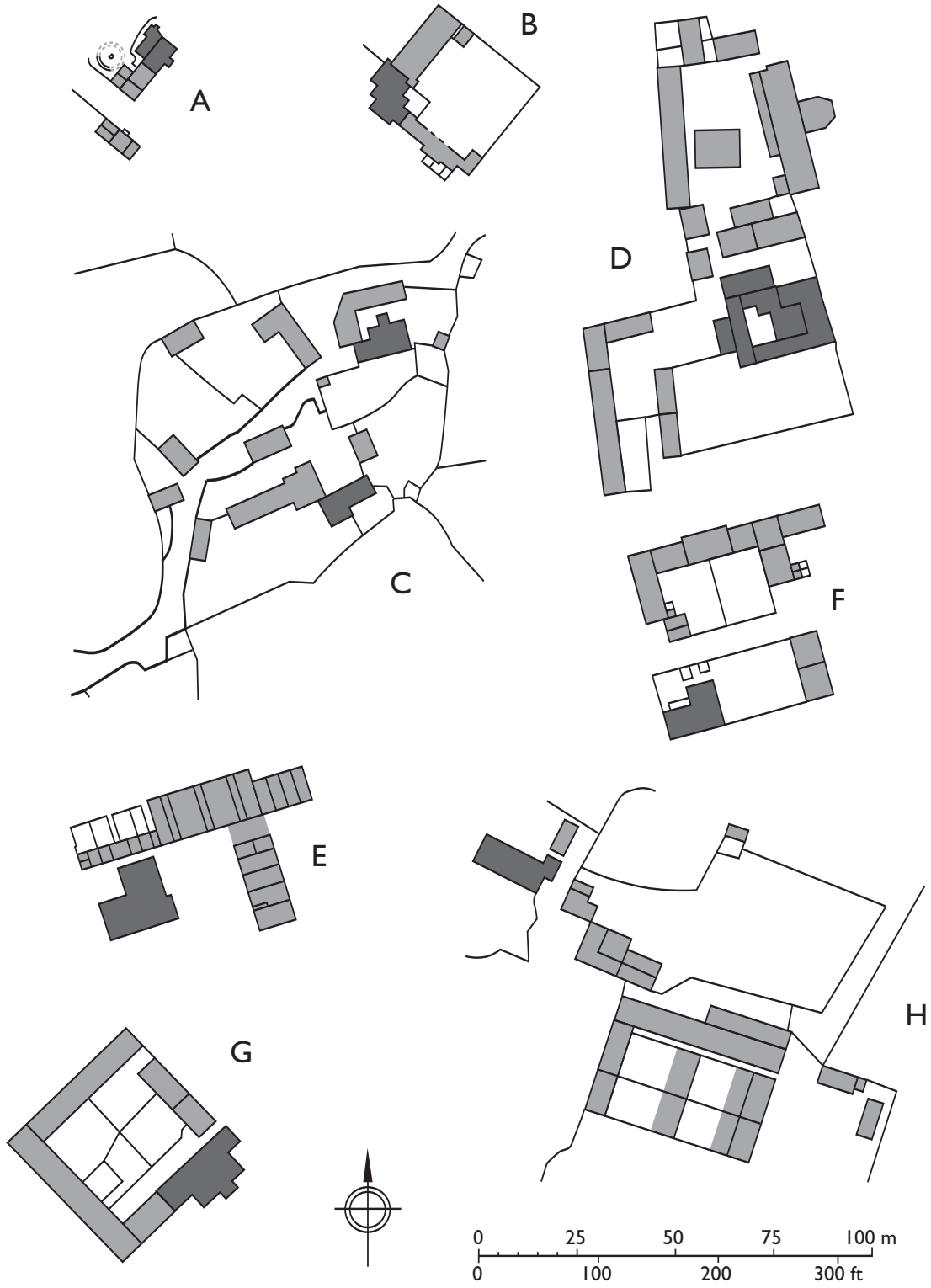
E Regular courtyard L-plan. Two attached ranges form a regular L-shape. The farmhouse is detached from the agricultural buildings.

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

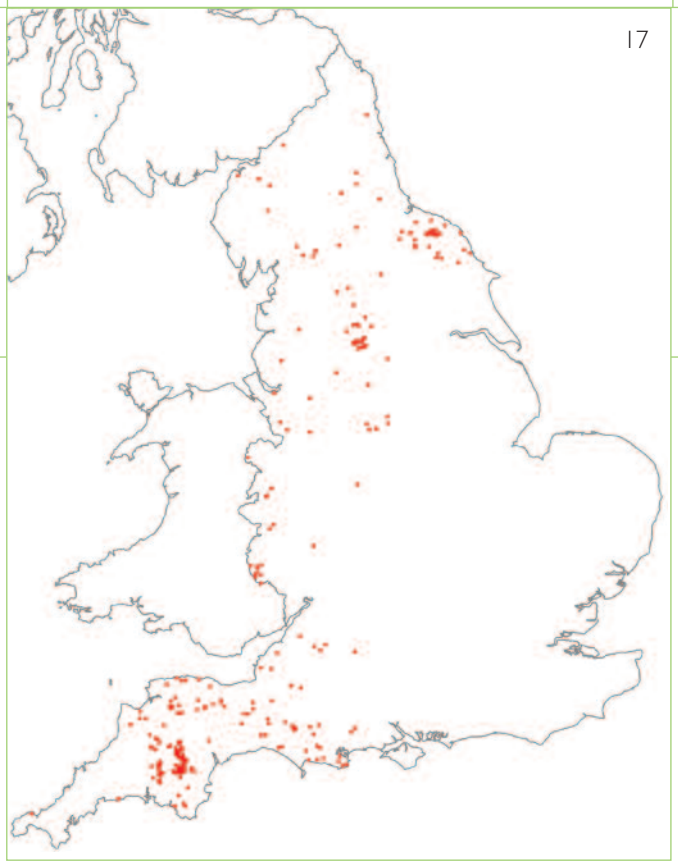
These invariably enclose two sides of a yard, and often represent developments from earlier linear plans, if they have not been constructed in a single phase. L-shapes often evolve from the addition of a barn or byre to an original linear farm, or can represent the partial re-organisation of a dispersed 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. There are a small number of recorded longhouses along the Welsh border, some of which survived through being converted wholly to cow houses when a new farmhouse was built in the 17th or 18th century.

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 could be no more than a wall with a gateway, or contain further sheds or smaller buildings such as pigsties, or be distinguished by a house (usually looking away from the yard). From the 1820s and 1830s, extra yards made E or even double-E plans.

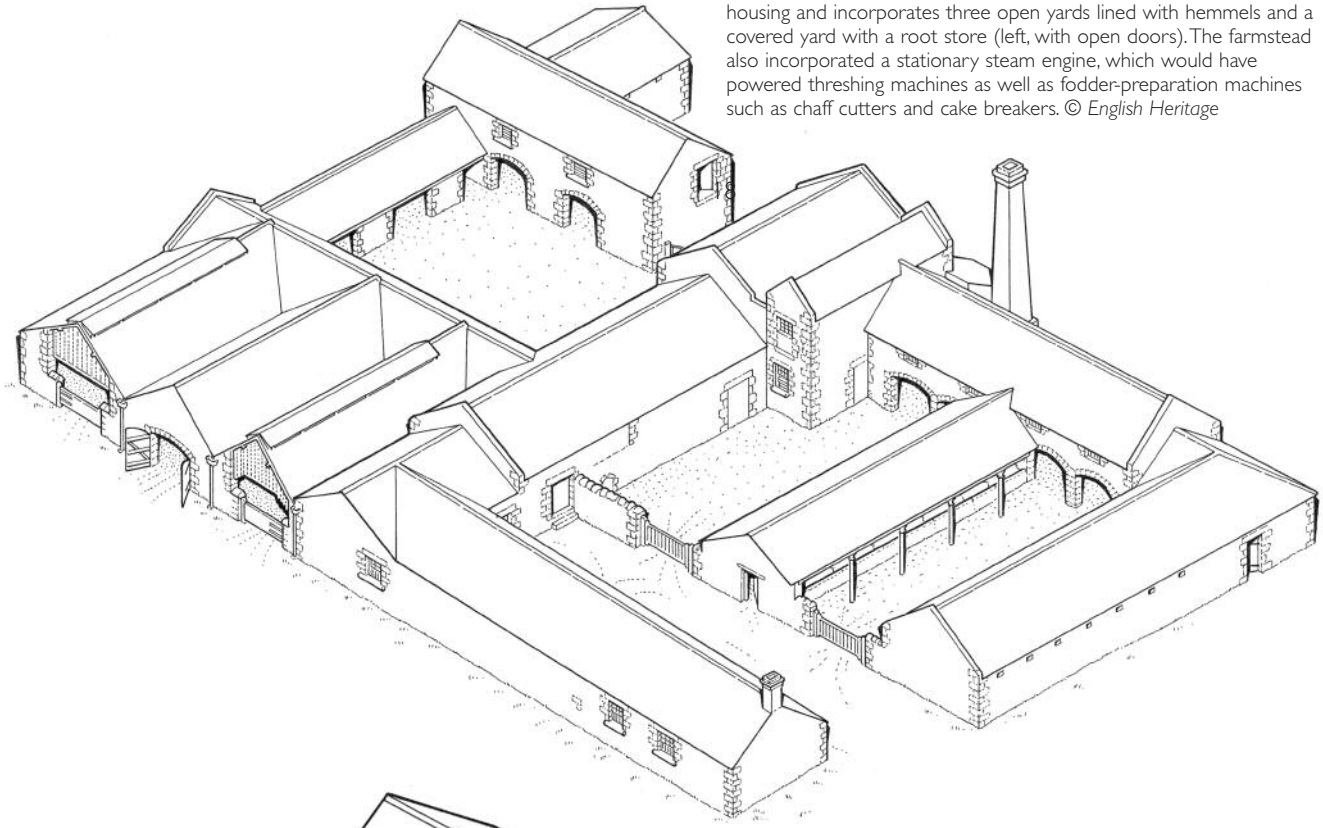
The ultimate examples of courtyard farmsteads are the planned and model farms of the late 18th- and 19th-century estates (Figure 18), the ideas for which were widely disseminated in textbooks and journals (Wade Martins 2002). They are generally associated with holdings over 150 acres, and are far less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

5.2 FACTORS INFLUENCING FARMSTEAD CHARACTER

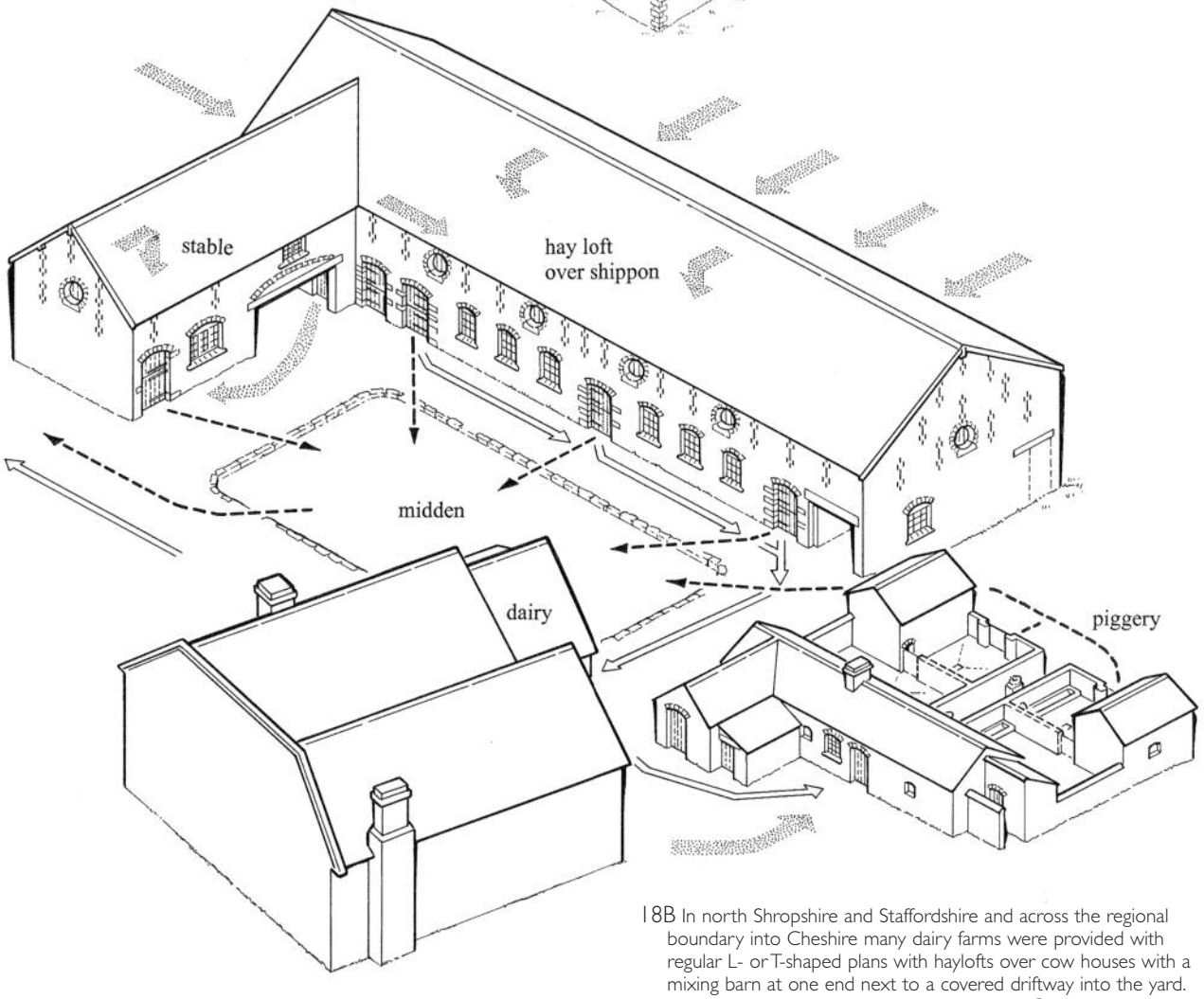
The occasional merging of plan types can make the variations on these principal themes seem almost infinite. The identification and analysis of the broad patterns of plan types can reveal much about the impact of the factors that influence farmstead character.

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



18A 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 incorporates 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*



18B In north Shropshire and Staffordshire and across the regional boundary into Cheshire many dairy farms were provided with regular L- or T-shaped plans with haylofts over cow houses with a mixing barn at one end next to a covered driftway into the yard. (Shropshire Cheshire and Staffordshire Plain) © *English Heritage*

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 thus landlords and their agents, have been massively 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 glaring 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 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 WEST MIDLANDS

Linear plans are most closely associated with smaller steadings, in the north-west of the Region and in the hill country of the Welsh border (see Smith 1975 for

distributions of those in Wales) and a few longhouses are known to survive in the west of the Region along the Welsh border (Figure 17). In western lowland Staffordshire, both linear and L-plan farmsteads had largely been swept away by the later 18th century, as farm sizes grew and buildings proliferated (Peters 1969, p.51). A study of farmstead plans in Shropshire found that as farm size increased above 100 acres, courtyard plans took the place of linear and L-plans (Davies 1952, p.99).

Elsewhere in the Region, it was common from at least the 15th century for the house to be set apart from the farm buildings; although a wide range of building types have been documented, from cart sheds, sheep houses and cow houses to granaries and pigsties, none are known to have survived (Dyer 1986, pp.24–5). The presence of foldyards for the fencing in of cattle – documented from at least the mid-17th century in lowland Staffordshire (Peters 1969, p.135) – would have been a major factor in focusing buildings around a yard. Loose courtyard arrangements are also associated with large arable-based farmsteads, which would have had two or more barns, most notably on larger high-status steadings and the corn lands and vales of Herefordshire and Worcestershire – where, relative to Staffordshire, the lack of landlord investment noted by Pitt (1813, p.19) probably contributed towards the preservation of earlier barns. An idea of the variety that could have been found on a substantial 17th-century farm is given in evidence from Buttas Manor (Herefordshire Plateau) in 1623 where 'a large frame of buildings' had been put up. It included six lofts for malting and other purposes, 'fairstable with chambers over, two glazed and ceiled', two barns, a large 'beast house', a large 'sheepcot', a swine house, pigeon-house and a hop yard with 6,000 poles (Darley 1981, p.184). Whether these were the types of building that Duncomb described as 'inconvenient' and 'ill adapted to the purposes for which they were designed,' is not clear (Duncomb 1813, p.29). Only on the Guy's Hospital estate just north of Hereford was there much rebuilding. At Arrendal Farm, in Pipe and Lyde, a courtyard layout was created. As well as the barn, stable and byre, a major part of one side of the yard was taken up by a cider mill and hop kiln, typical features of a Herefordshire farm.

Pitt wrote in 1813 that whilst the older farm buildings in Staffordshire 'appear often built merely by chance' the new ones were 'well-contrived, comfortable and convenient' (Pitt 1813, p.24). Although regular plans are documented from the mid-18th century, it was the early to mid-19th century that witnessed the greatest concentration of effort in building new steadings or remodelling earlier ones to this plan. This was certainly the case in west lowland Staffordshire, where – as elsewhere in the Region – arable-based steadings were most strongly associated with courtyard plans (Peters 1969, pp.48–50, 180).

In the early 19th century it was generally said that in Shropshire farm buildings were 'inconveniently situated' in villages, and it was claimed that many farms had too many buildings with every farmer anxious to have two barns (Plymley 1813). By the mid-19th century, however, the farmsteads south of Much Wenlock (Shropshire Hills) were described as 'well and substantially built on a square' and elsewhere in the county 'exceedingly good' although some did not provide enough cattle accommodation and stock were still being wintered out of doors (Tanner 1858, pp.29, 61). In 1858, Corve Dale was said to be a prosperous and fertile area, where farmsteads were on a square layout with straw yards and open shedding, 'adapted to the highly respectable class of men who occupy them' (Tanner 1858, p.45). Formal courtyard farms were most common on the great estates, particularly in Staffordshire and, to a lesser extent, north Shropshire, where they could make major architectural statements. Regular U- and E-plan yards were to be found across the estate-owned areas of the Region and in areas where new farms were built on newly enclosed land; for example, they were found on the Shropshire and Staffordshire estates of the Marquis of Stafford (around Lilleshall and Trentham on the Shropshire, Cheshire and Staffordshire Plain), where farmsteads were rebuilt to U-plan layouts open to the south between 1813 and 1820 (Wade Martins 2002, pp.91–4).

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 BARNS

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,

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 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 25), 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 a common practice 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. 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 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, 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.

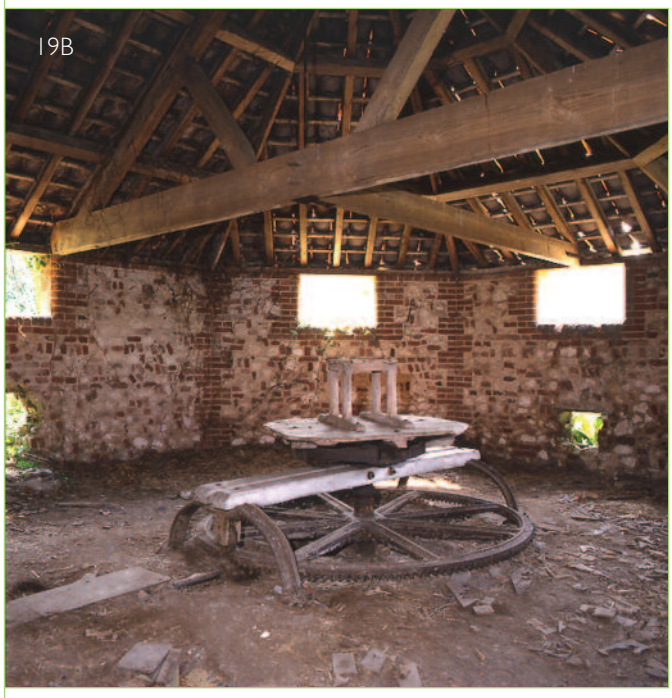
6.1.2 BARNS IN THE WEST MIDLANDS (Figure 20)

6.1.2.1 Threshing Barns

Some fine medieval barns survive in the Region. They include Leigh Court in Worcestershire, the world's largest cruck-framed building, and barns such as Middle Littleton and Bredon in Worcestershire, which share features with examples in Gloucestershire and Somerset. These represent only a small proportion of those originally built: for example, the survival of the mid-14th-century barn at Bredon is attributed to the fact that its entire directly managed farmland (demesne) was leased as a single unit from 1401 and then became the main manor farm.

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 The use of portable steam engines often left no physical evidence within the barn structure but in some cases drive shafts and fly wheels survive in-situ. (Dorset Downs and Cranborne Chase)


19A


19B


19C


19D


19E

Surviving cruck frames, many of which exceed three bays in length and were built on large or high-status holdings, are concentrated on smaller farms in the west of the Region. The standard barn found on 15th-century peasant holdings comprised two- or three-bay cruck frames (Dyer 1986, pp.28–9), which by the 16th century were being subject to replacement by post-and-truss structures.

In much of the Region timber framing is typical of barns built before the 19th century. Plymley noted in 1813 that barns were generally timber framed and walled with boards, rather than being built of stone or brick (Plymley 1813, p.107). The most common plan has a central threshing floor, the usual five-bay length being exceeded on larger steadings and in arable-based areas such as the Herefordshire Lowlands and Plateau, and the Mid Severn Sandstone Plateau. Internal partitions are found

20 Barns in the West Midlands

A Timber-framed barn with high stone plinth, part weatherboarding and part wattle infill to the panels. (Herefordshire Lowlands)

B Timber-framed barn with typical square panel framing, the earlier (16th-century) and more substantial framing being visible to the right. The brick infill dates from the 18th century. (Shropshire, Cheshire and Staffordshire Plain)

C Large, 18th-century seven bay threshing barn with a central threshing floor. (South Herefordshire and Over Severn)

D An eight-bay brick barn. Note the pattern of ventilation holes – such decorative treatment is characteristic of brick barns of the West Midlands Region. (Herefordshire Lowlands)

E Earth-walled buildings, including barns, are found in the south-east part of the Region. This barn in Warwickshire combines 'mud' and stone walling. (Feldon)

F Although linear plan farmsteads are not common in the West Midlands, there are a small number of longhouses and later linear ranges such as this in-line house, barn cow house and stable, probably dating from the late 18th or early 19th century. (Oswestry Uplands)

A © Bob Edwards; B 151428 Taken as part of the Images of England Project © Mr Alan Earle; C 153881 Taken as part of the Images of England Project © Mr Gary Were; D © Joan Grundy, E & F © Jeremy Lake


20A


20B


20C


20D


20E


20F

throughout the Region, for separating types of crop and – when the barn was empty – to sort livestock or accommodate sheep before shearing.

6.1.2.2 Combination barns

Combination barns, with cattle occupying all or part of the ground floor, are found in the western hills and the northern dairying areas. Examples, initially of a high status, date from the later 16th century (Barson & Bond 1999) in the dairying areas of the Shropshire and Staffordshire plain. Examples dating from the 17th century are found from the Oswestry Uplands to the

21 Granaries
A 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*

Herefordshire Plateau, in Arden, the South West Peaks and the Needwood area (see 7.1.2).

The requirement for more housing for cattle from the later 18th century, and the increase in the use of mechanisation during the 19th century resulted in barns throughout the Region developing as multi-functional buildings. In some barns only the threshing floor bay was full height, the bays to one or both sides having lofts over livestock or cart provision, as is seen in the Cheshire, Shropshire and Staffordshire Plain (Peters 1969, pp.65–109) and along the western edge of the Region in particular (see Figure 32B, page 62).

6.1.2.3 Mechanisation

Wheel houses for horse-powered machinery are found throughout the Region, and are a feature particularly of the larger farms on the plains of Staffordshire and Shropshire, the high expense of labour in this part of the Region resulting from the availability of employment in the growing industrial centres around Stoke and the Black Country. Many 19th-century estate farms were built to utilise either water or steam power. Caird, on his tour of 1851, found that many estates were well provided with buildings, reporting that, 'They are generally superior to any other we have met with in other parts of the country'. The buildings of Mr Hartshorne of Brancott on Lord Talbot's estate were extensive and included a feeding house with a railway for moving food and a steam engine for threshing grain. On Groundlaw Farm near Trentham on the Marquis of Stafford's estate, barn machinery was worked by water power (Caird 1852, pp.232–5).

6.2 GRANARIES

6.2.1 NATIONAL OVERVIEW (Figures 21 & 22)

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 25). Window openings were typically small, and, with ventilation being the main objective, the openings were generally either louvers, sliding vents or grilles.

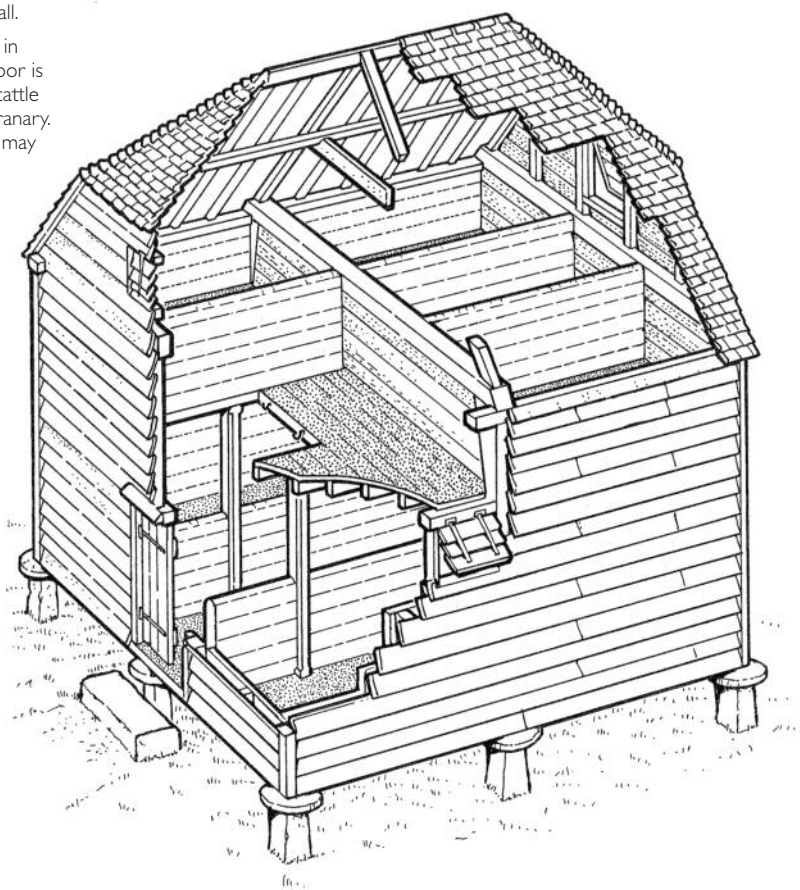
Grain was typically accommodated in:

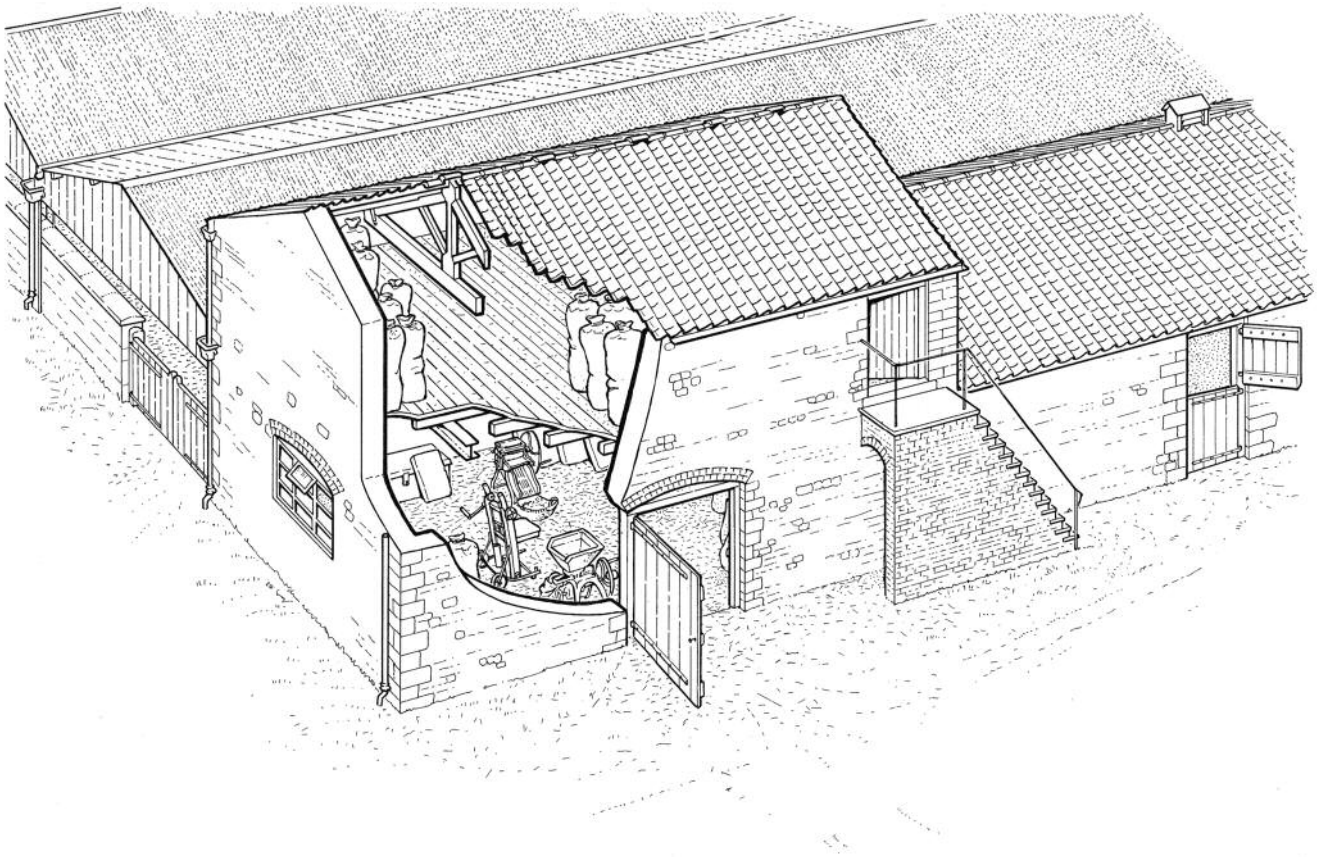
- The lofts of farmhouses, a practice common before 1750.
- Small, square or rectangular structures raised above ground level on mushroom-shaped staddle stones or brick arches and accessed by moveable wooden steps. Internally, they may have been fitted with wooden partitions to create grain bins. They were clearly

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.





23 Granaries and cart sheds in the West Midlands
Free-standing granaries are rare in the West Midlands; they typically form part of another building – usually a cart shed.
A – C Granaries combined with cart sheds. In B the cart shed has been dug into the slope allowing near-ground level access to the granary at the rear. The upper floor of C has been converted to hay and straw storage with the removal of much of the cladding to the first floor level. (A Oswestry Uplands B Herefordshire Plateau; C Herefordshire Lowlands)
D Single-storey, brick-built cart shed of 19th-century date. (Arden)
A © *Jeremy Lake;* B © *Bob Edwards;* C © *Joan Grundy;* D © *Peter Gaskell*


23A


23B


23C


23D

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 21).

- 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 22). 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.

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

24 Distribution of listed hop kilns or oast houses in England
The distribution map of listed hop kilns or oast houses clearly demonstrates the importance of these buildings to the character of the south part of the West Midlands Region, where they are concentrated in Herefordshire and Worcestershire.

6.2.2 GRANARIES IN THE WEST MIDLANDS
(Figure 23)

Historical evidence from both Staffordshire and Herefordshire suggests that grain continued to be stored in lofts within the house until the later 18th or early 19th century, sometimes in purpose-built garrets. Rarely are granaries specifically recorded, the earliest in Staffordshire being from 1752 (Peters 1969, pp.195–7; Grundy 2004, pp.26–8). In Herefordshire malting lofts were recorded and it is possible that these could have also been used for storing grain. However, there are in the Region a small number of listed granaries that date from the 17th century, some of which are free-standing timber-framed buildings. Others are attached to either barns, the farmhouse or are incorporated with other functions such as cart sheds and cider houses. In some of these cases it is possible that grain storage was not the original use of the building.

Granaries in the Region typically form part of another structure rather than being free-standing buildings raised on staddle stones or brick piers, as is common in the east and south of England; examples of the latter can be found in Warwickshire and Worcestershire. Most granaries are over cart sheds whilst some are over stables or other livestock housing. Occasionally they are found associated with other buildings. In Herefordshire granaries sometimes form part of a combination building incorporating a hop kiln and a cider house (although some are the result of extension and adaptation). The opportunity to combine uses may explain why east Herefordshire granaries often have no grain bins, possibly because many lofts doubled up as hop-cooling rooms where a large clear floor would be a priority (Grundy 2004, pp.26–7). A few examples of granaries located over a horse-engine house also survive in the Region.

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 WEST MIDLANDS
(Figure 23)

Both single-storey and lofted cart sheds are found in the Region. The earliest surviving cart sheds date from the 17th century but the majority are late 18th- or 19th-century. In the southern part of the Region cart sheds were also known as 'wain houses'. Relatively few lofted examples are found in Herefordshire, but after about 1870 some estates built cart sheds with granaries or hop rooms above (Grundy 2004, p.28). Small, multi-functional buildings that incorporate a one- or two-bay cart shed, a stable and a granary are also found on some smaller farms, for example in the hill country of Herefordshire and Shropshire. In Staffordshire some late 19th-century cart sheds had open fronts and backs (Peters 1969, p.188).

25 Hop kilns in the West Midlands Region
A & B Two examples of larger hop kiln groups with four and six kilns. (Herefordshire Plateau)
C – E Hop kilns usually form detached buildings but in some cases are part of ranges attached to the farmhouse. In D the hop kiln is part of a complex with a stable and a cider house beneath the cooling floor of the stowage. (C Malvern Hills; D Herefordshire Lowlands; E Teme Valley)
F A slatted floor over the kiln where the hops are spread to dry – here a fine wire mesh prevents the hops falling between the slats; historically a hair mat served this function. (Herefordshire Lowlands)
A–C Joan Grundy; E © *Peter Gaskell;* D & F © *Bob Edwards*

25A

25B

25C

25D

25E

25F

6.4 HOP KILNS

6.4.1 NATIONAL OVERVIEW

Although hops had been used in beer making in the medieval period, the commercial cultivation of hops did not begin until the 16th century. Until a decline in the market for hops in the late 19th century the crop was grown in 38 English counties (Walton & Walton 1998, p.4) but now Herefordshire and Kent are recognised as the primary hop-growing areas of the country.

Mature hops have to be dried after picking and where hops were grown in any quantity this was carried out in a similar fashion to the drying of barley in a malt house. Indeed, it may be that malt houses could also have served as hop kilns for the few weeks of the year when

26 Hay barns: national examples
Buildings including storage space for hay are found in the East Midlands, usually in lofts above stables or cow sheds (see Figures 34A and B). 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 Cheshire, Shropshire and Staffordshire Plain)
A & D © *Jeremy Lake;* B & C © *Jen Deadman*

26A

26B

26C

26D

the crop was harvested. The hops were laid out on a horse-hair mat on a slatted floor and turned periodically as heat from a kiln below passed through them. After drying, the hops were packed in readiness for transportation to a brewery. The alternative to drying hops in a kiln was to dry them slowly in the loft of the house and this may have been the most common way of processing the crop across much of the country where hops were grown on a small scale.

The oast house, characteristic of Herefordshire, Kent and the Wealden parts of Sussex and Hampshire, was a building that was used for only a few weeks of the year and so represented a considerable investment for most farmers. Hop growing was widely considered to be a high-risk venture, with many agricultural commentators advising against involvement in the practice (Jones & Bell, 1989). The earliest oast houses were small buildings typically around 20 feet x 10 feet comprising three rooms. The centre room contained the kiln, over which lay the drying floor which also served as the cooling floor, limiting the efficiency of the building. The other rooms provided storage for green hops and dried hops.

During the 18th century efforts were made to improve the flow of air through the drying floor. This was achieved through the construction of inverted funnels of timber and plaster in the roof space leading to a vent (Martin & Martin 1982, p.143). At this time larger oast houses were built, typically with a kiln measuring between 12 and 18 feet square with a rectangular stowage attached where the hops could cool on an upper floor before being pressed into 'pockets' and stored on the ground floor. The provision of a separate drying floor increased the efficiency and production capacity.

The circular kiln with its conical roof was a development of the early 19th century. It was believed that circular oasts were more efficient but this was eventually shown not to be the case and so later 19th-century kilns are usually square (Walton & Walton 1998, pp.11–13). In oasts built during the period of the brick tax (1784–1850) the upper part of the stowage was often built in timber frame and weatherboarded to reduce the cost. Oast houses may have comprised a single kiln whilst there could be as many as eight kilns. One of the largest groups of kilns was on the Whitbread hop farm in Kent

27 Distribution of listed cider houses in England
The West Midlands Region, and Herefordshire and Worcestershire in particular, contains a high proportion of the country's listed cider houses. These buildings, which can be detached structures or form part of a range of buildings, are an important feature of the farmsteads in the southern part of the Region.

28 Cider-making related buildings and structures. Cider houses rarely display any distinctive external features and often incorporate other functions, in this case a granary above the cider house. Inside the cider mill and press are elements that are highly vulnerable to being removed to enable an alternative use to be made of the space. Cider houses that retain mills and/or presses are of particular importance. (A Clun and North West Herefordshire Hills; B and C Herefordshire Plateau)

where there were 20 kilns. Square and circular kilns may have been combined in one building, and although square and circular kilns were typical, there are a few examples of octagonal kilns. Kilns could also be constructed in other buildings, such as barns, and it is possible that evidence for early kilns may survive in some barns.

6.4.2 HOP KILNS IN THE WEST MIDLANDS

Hops were grown in increasing quantities from the 18th century in the southern part of the Region, particularly to the north-east of Hereford. By the early 19th century Herefordshire was supplying 24% of the hops grown in England and Wales (Holmes 1978, p.12). Hop kilns are a highly characteristic feature of the landscape of Herefordshire and western Worcestershire (the Teme Valley in particular), as indicated by the map of listed oast houses and hop kilns (Figure 24). They are frequently found integrated into combination ranges, and the stowage was often accommodated over a cider mill.

6.5 HAY BARNS AND OTHER CROP-RELATED BUILDINGS

6.5.1 NATIONAL OVERVIEW (Figure 26)

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 (Figure 27).

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.

6.5.2 HAY BARNS AND OTHER CIDER HOUSES IN THE WEST MIDLANDS (Figure 28)

Hay barns, the great majority dating from the mid- or late 19th century, are found throughout the Region. A typical feature of Herefordshire farms, for example, is the corrugated iron Dutch barn. These were almost all made by Alexander and Duncan of Leominster from the late 19th century. In early examples the stanchions as well as the roof supports are of wood, whilst in later ones only the roof trusses are wood with iron tension bars. Finally, by 1900, the whole frame was of iron. Rows of three or four of these barns are to be seen on many of the larger livestock farms in the area. Non-iron examples consisted of no more than brick piers supporting a roof with no end gables, as at Manor Farm, Badley-in-the-Moors.

Cider was commercially produced from the 13th century (Jack 1988, p.473) and was given added impetus with the publication of Beale's *Herefordshire Orchards* in 1657 (Thirsk 1984, pp.163, 159). Growing of apples for cider was important in the south of the Region, from parts of the Shropshire Hills downwards. In Herefordshire alone there are 73 listed cider houses although they are often difficult to distinguish from other storage buildings on the farm. Sometimes parts of the cider mill survive in situ on the ground floor with the apple store above (Major 1988, p.67).

Cider houses are frequently incorporated into other buildings ranged around the yard. Where the cider house is a separate building it usually does not have any particular external characteristics, other than a wide doorway allowing for the passage of barrels, although occasionally the press survives within the building. Cider could be kept for far longer than beer, and thus on some farms where cider was grown for export cider houses were built with storage for barrels.