

### 23 Granaries and cart sheds in the East of England Region

Until the 18th century it was usual on most farms to keep the threshed grain in the farmhouse. As output increased purpose-built granaries were built, typically as part of a combination cart shed/granary. A and B are 18th-century buildings (although A was extended from four bays to eight bays in the 19th century). C is a mid-19th-century example. Free-standing timber-framed granaries raised on plinth walls (D) or standing on staddle stones are characteristic of southern East Anglia and the

south-east of England.

Single-storey cart sheds (E & F) built in timber frame, brick or, more rarely, in earth are found on many farmsteads.

(A North West Norfolk; B Breckland; C North West Norfolk; D East Anglian Chalk; E South Norfolk and High Suffolk Claylands; F South Suffolk and North Essex Claylands)

All © English Heritage / Michael Williams except D © Bob Edwards; F © Susanna Wade Martins



## 24 Hay barns and other crop buildings

A & B Hay barns are not a common building type in the East of England generally but some were built in areas that adapted to dairying at the end of the 19th century. (A The Broads; B Suffolk Coast and Heaths)

C Until the 19th century maltings often formed part of the farmstead. From the mid-19th century malting became a more industrialised activity concentrated in towns leaving farm maltings redundant. Accordingly, maltings such as this example in Cambridgeshire are now rare. (East Anglian Chalk)

A © Jeremy Lake; B & C © Susanna Wade Martins

24A



24B



24C



latter differed from corn barns in that they were open-sided to allow a good flow of air through the hay. They comprised little more than a roof supported on brick, stone or iron piers with solid gable walls. They mostly date from the second half of the 19th century, and are more typical of the wetter pastoral west than the arable east. A very small number of timber hay barns with adjustable roofs – as commonly survive in the Netherlands – survive intact, mostly in Yorkshire. The agricultural depression from the 1870s meant that dairy farming was one of the few branches of farming to remain profitable, leading to an increase in the production of hay. This period saw the introduction of some of the first mass-produced iron farm buildings, such as Dutch barns for hay storage, and also of airtight clamps for the preservation of silage. Silage towers were built in small numbers in the inter-war period, but were not generally adopted until the 1960s (Shaw 1990).

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

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

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

### 6.4.2 HAY BARNs AND OTHER CROP-RELATED BUILDINGS IN THE EAST OF ENGLAND

#### 6.4.2.1 Hay barns (Figure 24)

Hay was either stored in haystacks or in haylofts above stables. Evidence for this previous use of lofts can be seen in the hay drops, open chutes above hayracks through which hay could be pushed down into the racks below. As some areas particularly in Essex and Hertfordshire adapted to dairying at the end of the 19th century, open-sided buildings often consisting of slate roofs supported on brick piers were built as hay barns.

Prefabricated corrugated-iron Dutch barns were also available by the end of the 19th century.

#### 6.4.2.2 Farm Maltings

Malting barley was a significant crop in Norfolk and Hertfordshire and both were important malting counties. With the coming of the railways, most local maltings were given up and the industry became concentrated in the market towns, often around railway stations. In the 18th century, however, farm maltings were a common sight and one survived in a ruinous state on a farm in north-east Norfolk into the 20th century. Its repair had not been recommended by the land agent in the 1890s who wrote, 'Would these malt houses be required by any other tenant in the case of Mrs Horsfield's retirement or death? I should say "no" as country malt houses in the present day are of very little use or profit...' (Wade Martins 1991, p.146). The example surviving at Burwell in Cambridgeshire (Figure 24C) is thus a great rarity. Stone built with a thatched roof, it is long and low allowing for open areas of floor for the germinating of grain that had been steeped at an upper-

floor level for several days. The loading bay for the sacks of barley is halfway along the building at first-floor level. The thatched roof would help maintain an even, warm temperature for germination that would take between eight and ten days, when the grain would be dried in a kiln. Typically the kiln is at one end of the building with a tiled, conical chimney (Brunskill 1982, pp.98–9).

#### 6.4.2.3 Onion Houses

A type of building associated specifically with the traditional market-gardening economy of the gravel soils of the Bedfordshire Greensand Ridge and adjacent Bedfordshire and Cambridgeshire Claylands is the onion shed. Onions were already a leading crop by the early 19th century, but by the second half of the century they were grown on a field scale with production encouraged by the arrival of the railway. When the onions were harvested they were firstly dried on the ground and then hung in high louvre-boarded black barns, which were once a familiar sight around Sandy and Biggleswade and a number survive in the Ivel valley (Clarke, 2001).

# 7.0 Key Building Types: Animals and Animal Products

## 7.1 CATTLE HOUSING

### 7.1.1 NATIONAL OVERVIEW (Figure 25)

There are great regional differences in the management of cattle and the buildings that house them. This extends to how they are described in different parts of the country: for example, 'shippon' in much of the South West; 'byre' in northern England; 'hovel' in central England. Stalls, drains and muck passages have also been given their own local vocabulary.

Evidence for cattle housing is very rare before the 18th century, and in many areas uncommon before the 19th century. The agricultural improvements of the 18th century emphasised the importance of farmyard manure in maintaining the fertility of the soil. It was also recognised that cattle fattened better and were more productive in milk if housed in strawed-down yards and buildings, and fed with carefully measured quantities of nutritious turnips and imported feed. There is hardly a farmstead without 19th-century adaptations for increased livestock accommodation.

The introduction of hygiene regulations early in the 20th century for the production of milk resulted in new floors, windows and stall arrangements being inserted. Animal welfare standards are also important; cows on farms seeking Soil Association assurance require more than double (at 6 square metres) the space of tethered beasts in traditional cow houses. Some, particularly under split-level barns, are too low for modern usage and so have been preserved by abandonment or occasional use by sheep.

Characteristic features of cattle housing include:

- Externally, lower and wider doorways than stabling, with wall ventilation slits (adjustable sliding ventilators from the early 19th century) and holes in gable ends or side walls for the throwing out of muck (especially in areas with limited straw for bedding, where cattle were wintered indoors).
- Internally, ceilings were typically low and there was very little light. Hay was stored above in lofts, and in some examples (such as the Pennines) on either side in 'sink mows', increasing the warmth and airlessness. It was not until the later 19th century that the importance of a well-ventilated cow house became fully appreciated. The size of the haylofts increased as more cows were kept and the production of hay rose; their ceilings were higher and air ducts went from the cow house up on to the roof above the hay barn.

- Interior stalling and feeding arrangements. Cows were usually tethered in pairs with low partitions of wood, stone, slate and, later, cast iron between them. As the breeding of stock improved and cows became larger, the space for the animals in the older buildings became limited and an indication of the date of a cow house can be the length of the stalls or the width of the building. Feeding arrangements can survive in the form of hayracks, water bowls and mangers for feed.
- Variations in internal planning, cattle being stalled along or across the main axis of the building and facing a wall or partition. They were fed either from behind or from a feeding passage, these often being connected to fodder rooms from the late 18th century.

In the following descriptions of buildings for cattle the wide variety in the means of providing accommodation for cattle, both over time and regionally, can be seen .

#### 7.1.1.1 Longhouses

In this type of building the family and animals used a common entrance and the cattle (typically prized dairy cattle) were stalled at one end, usually the end down-slope. Examples (often high status in terms of their size, detail and construction) survive in parts of the north and west of England and are usually the only evidence for cattle housing before the 17th century. They were more widespread in the medieval period (see 5.1.1 and Figure 17).

#### 7.1.1.2 Ox houses

Oxen were the favoured animals for draught work on the farm in the medieval period, although in some parts of the country horses were already replacing them.. They survived in some areas into the 19th and even 20th centuries. Ox houses can be very difficult to identify, the most distinguishing feature being wide doorways and wider-than-average stalling (see 7.3.2).

#### 7.1.1.3 Combination barns

See 6.1.2. These were used for cattle accommodation from the 17th century, and in northern aisled barns from at least that period.

#### 7.1.1.4 Open-fronted sheds

The earliest of these were the two-storey linhays of the South West, with cattle accommodated below a hayloft. Shelter sheds, facing on to yards and either with haylofts above or simply single-storey, were increasingly built from the mid-18th century. Cattle yards with open-fronted sheds were typical of mixed farming areas where cattle

## 25 Cattle housing

- A & B Wooden cow stalls and slate cow stalls, the latter as found throughout the northern uplands. (A Durham Coalfield Pennine Fringe; B Yorkshire Dales)
- C Cow houses needed to be well ventilated, by either slits in the wall or windows. Horizontal sliding hit-and-miss ventilators, as here, achieved wide popularity in the mid- to late 19th century. (Vale of York)

- D A range of looseboxes, easily distinguishable by its rows of doors providing access to individual cubicles for fattening. (North Northumbrian Coastal Plain)
- E The interior of a covered yard, on a home farm of the mid-19th century. (Shropshire, Cheshire and Staffordshire Plain)
- A–C © Jen Deadman; D & E © English Heritage / Michael Williams



were housed on the steading as fatstock and for their manure. Common internal fittings were mangers and hayracks, and sometimes stalls.

### 7.1.1.5 Lean-tos (outshots)

These were attached to other buildings (particularly barns) and farmyard walls, either as part of the initial

phase of build or (particularly if the barn is pre-1750 in date) a later addition. These could be either open-fronted or closed with doorways to individual cow houses or loose boxes.

### 7.1.1.6 Free-standing cow houses

These comprised either single-storey ranges, or two-

storey ranges with haylofts. Pre-19th-century examples of the former include the neathouses of the claylands of Suffolk and examples of both types are found in the West Midlands. In cattle-rearing areas calf houses have also been found; typically they are smaller in scale and often sited close to the house.

#### 7.1.1.7 Looseboxes (Figure 25D)

Mostly dating from the 1850s, these served as accommodation for sick or calving beasts, bulls or most commonly fatstock. They comprised individual boxes or more usually a row of boxes with a central or rear feeding passage. The latter were usually distinguished externally by continuous rows of doors. There was often a feeding passage along behind them, with a feed store at one end. If used for fatstock, the floor of the boxes was sunken and the manure would build up in them during the winter. They reflected a realisation that warm and dry conditions would promote weight gain (through minimising heat loss) and retain the quality of the manure. Double rows would have a central feeding passage and were to be found on many farms by 1860.

#### 7.1.1.8 Covered yards

By the 1850s it had been proved by agricultural chemists that the nutritional value of manure would be better preserved if it were under cover, and as costly feeds produced richer manures, the incentive to protect them was great. The problem was that it could be difficult to provide enough ventilation, but this could be overcome by complex systems of louvers and shutters. Some continued to be built as the depression in grain prices focused attention on livestock production. The best-known examples of covered yards are on the most expensively designed model farms of the mid- to late 19th century, almost all of them being estate-owned. The introduction of roofs to existing yards became general in fatstock areas from the late 19th century and especially after 1940. Dairy cattle are now typically housed in portal-framed sheds erected in the post-war period.

### 7.1.2 CATTLE HOUSING IN THE EAST OF ENGLAND (Figure 26)

#### Pre-1750

This Region has some significant early examples of cattle housing. There is documentary evidence for the stall-feeding of cattle on hay and fodder in the Flegg Loams in the 13th century (see 4.2.5) and the stall feeding of cattle on cabbages and other fodder including turnips from the late 17th century (Thirsk 1967, p. 51; Holderness 1984, pp. 234-5). Before 1750 in Norfolk there is little evidence for the in-wintering of cattle, as opposed to their housing in yards (Wade Martins & Williamson 1991, p. 123) and the housing of cattle in lean-tos to barns facing into cattle yards. Documents and maps from Suffolk of the 16th century and later refer to

cattle housing called 'neathouses', many being sited out in the pastures rather than in the farmyard. On the High Suffolk clays a dairy industry based on cabbage-fed cows was important until the end of the 18th century. Arthur Young noted that every farm was 'well furnished with neathouses, where the cows had standings' and were tied three feet apart. However these were only used for milking and feeding (there are references to milking yards in the Suffolk claylands), rather than keeping in all winter; many dairy cows were kept outside, often tethered in the fields during the winter, and moved to neathouses with their calves after calving, thus reducing the need for buildings (Young 1786, pp.203-4). Surviving examples are difficult to identify, although 18th- and 19th-century examples – identifiable by their lack of lofts, internal subdivision and window openings, unlike stabling – have been recorded (Aitkens & Wade Martins 2002, p. 18). There is abundant documentary evidence for cow houses in the other neighbouring county of Essex – for instance, a very detailed survey dated about 1556 of Ingatestone, near Chelmsford (Ryan 1986) – but no surviving structures have yet been identified.

Cattle housing in the Suffolk claylands could also be incorporated within barn or stable ranges (Aitkens & Wade Martins 2002, p. 18). The growing of turnips from the late 17th century allowed for the keeping of more cattle and an increased number of store cattle were being bought in for fattening. The cool weather and agricultural depression of the 1660s to 1680s meant that landlords were encouraged to build neathouses to keep tenants. In 1670 John Bond of Common Farm, Rishangles, was to have £10 spent 'for building a cowhouse' because of 'the hardness of the tymes'. However by the time of the tithe maps virtually all the neathouses away from the main farm complexes had gone and the small number of cattle now kept were likely to be yarded. Contemporaries commented on the poor quality of the Region's cattle accommodation (Theobald 2000, pp. 176-90). Any examples of cattle housing built before the early 19th century are extremely rare and this makes those that are identified all the more significant.

#### Post-1750

By the end of the 18th century the value of manure for the increased yields of the agricultural revolution was being appreciated, and by the mid-19th century the fattening of cattle had become a major industry in this Region. Cattle accommodation in this Region took several different forms:

The provision of *shelter sheds* around straw yards where manure would build up during the winter. The earliest examples of these, as recorded in Norfolk, comprise lean-tos on the south walls of barns (Wade Martins 1991, p. 183). These brick buildings were usually roofed

26 Cattle housing in the East of England Region

A Pre-18th-century buildings for cattle are rare. This timber-framed cow shed or neathouse was built in the 16th century but may have originally served as a stable. Timber-framed structures were often replaced by more robust brick buildings (South Suffolk and North Essex Claylands)

26A



B Across much of the Region buildings for cattle consist of open-fronted shelter sheds, often attached to a barn and forming part of a larger yard. Large examples of shelter sheds with mixing barns could be arranged to form E-plans as in photograph C, creating two cattle yards where straw and manure would be trampled by the animals. Such planned farmsteads are usually associated with 19th-century improving estates. (B Mid Norfolk; C The Fens)

D & E The covered cattle yard was the final development in cattle housing. The earliest covered yards date from the 1850s but spread in popularity in from the 1870s and again in the early 20th century. (D Bedfordshire and Cambridgeshire Claylands; E South Suffolk and North Essex Claylands)

F A specialist cattle-fattening building found only in the Flegg and Broads of the north-east of the Region. Cattle were housed in the side aisle with fodder (mostly turnips) stored in the central area. (North East Norfolk & Flegg)

A, C, D & E © English Heritage / Michael Williams;  
B © Jeremy Lake; F © Susanna Wade Martins

26B



26C



26D



26E



26F



with pantiles and supported along the open front with brick, cast-iron or wooden piers. Sometimes looseboxes formed part of the range. There were troughs and racks along the back wall, the troughs sometimes supported on chains so that they could be lifted as the level of litter in the yard rose. These regular U- and E-plan yards are to be found across the predominantly estate-owned areas of the Region such as north Norfolk where new farms were built on newly enclosed land. They are also found in the areas where brick and stone building predominated but are less usual in the timber-framed parts of the Region and are unusual in the claylands of South Norfolk, Suffolk and North Essex. In these areas free-standing buildings were roughly grouped around a yard and linked by walls or temporary hurdles to form an enclosure.

*Specialist fattening buildings.* Where cattle were being reared for their meat, fattening was a main consideration and buildings were designed primarily for efficient feeding. Specialised buildings took advantage of specific landscapes and opportunities. An example of this can be found in the cattle houses on the edge of the grazing marshes of the Norfolk Broads. Only a few examples of these sheds survive as evidence for a very localised system in which cattle were housed down side aisles, separated by a central feed-storage area entered through double doors at either end (Figure 26F). This specific type of building has only recently been recognised and it is likely that significant local variations are awaiting identification elsewhere.

*Looseboxes.* From the 1840s, the price of fatstock was rising and more intensive fattening systems were being introduced. The first development was the dividing up of yards so that groups of cattle could be managed individually. More capital intensive was the provision of looseboxes. The Norfolk farmer and MP Clare Sewell Read wrote, 'Where the landlord provides boxes, tenants are only too glad to avail themselves of the change. There can be no doubt that cattle do best in them and make the richest manure, but the first outlay entails a heavy expense on the proprietor.' (Wade Martins 1991, pp.185–6). These boxes were arranged in rows with a feeding passage along behind them, often with a feed store at one end. Double rows would have a central feeding passage and were to be found on many farms by 1860.

*Covered yards,* which are documented throughout the Region from the 1850s. Some covered yards were still being built as the depression in grain prices focused attention on livestock production. They were expensive and were mostly found on estate farms. The Chelmsford-based architect, Frederick Chancellor, produced designs for Essex, Cambridgeshire and Hertfordshire landowners. At a meeting of the Surveyors' Institution in 1883

Chancellor, 'who has had very extensive experience, having erected forty or fifty covered homesteads during the last thirty-five years', was reported as saying that, 'after a great deal of thought and experience, he did not think there was any homestead equal to a covered homestead' (Clarke 1899, p.85).

After the mid-1870s, many landlords were building extra yards for cattle to persuade tenants to stay. Many of these brick and flint ranges, often with date stones of between 1875 and 1900, survive on estate farms in Norfolk (Wade Martins 1980, pp.179–184).

## 7.2 DAIRIES

### 7.2.1 NATIONAL OVERVIEW

The dairy, where milk was stored and turned into butter or cheese, was usually located within the farmhouse (at its service end or in a rear room) or located in a lean-to at the rear of the house. Some dairies were separate buildings but, as the women of the household usually managed the dairy, they were normally situated close to the house. Within the dairy, which was commonly cool and damp, milk was poured into large shallow pans and the cream left to rise to the top before it was skimmed off and churned (usually with a plunger) in order to make butter. New types of churn appeared in the mid-19th century, the most important invention being the centrifugal separator in 1890. On some estates, the individual dairy building could be quite ornate in design; they were often circular, with a tall conical roof and plenty of ventilation, cool tiled floors and a low marble, slate or tiled shelf running almost all the way around inside.

Cheeses were made from the preservation and treatment of the curd, the solid mass that separates from the thin whey: harder cheeses were made from skimmed milk, softer cheese such as Cheshire from whole milk. After pressing, it needed space for storage. In areas where cheese making was important the dairies often had a room above called a cheese loft, where cheese was stored while maturing, or there would be a separate cheese house, the equivalent of the arable farmer's granary. In the 19th century more ornate dairy buildings were built on some of the larger farms, often located within the garden of the farmhouse rather than in the working farmyard.

Dairying for urban markets was already a specialised enterprise by the 1750s, and winter feeding and the ousting of less-productive breeds by the Dairy Shorthorn (after 1820) boosted yields. By the 1850s, butter production for the market was concentrated around towns, and the first small dairy factories started production around 1870. Cheese making in East Anglia gave way to cereal farming and fattening after 1800



27 A typical stable interior for working horses, showing the stalls that prevented the horses biting and kicking each other; the hay rack and cobbled floor. (Dorset Downs and Cranborne Chase) © Bob Edwards

(Holderness in Mingay 1989, pp.160, 158). Commercial cheese making and foreign imports (from the colonies) made inroads from the 1860s, and by around 1914 farmhouse butter was being sold only in Devon and Cornwall, and cheese made only in Cheshire, Leicestershire and the vales of Dorset and Somerset (Whetham 1978, pp.11, 15). Changes in hygiene regulations and the centralisation of production through the 20th century had a major impact on dairies, with the majority becoming redundant to their original use. Changes in use may have resulted in the removal of fixtures such as slate or stone shelves for cooling the milk.

The sale of liquid milk had become massively important in many areas by the early 20th century (Whetham 1978, pp.9–10). The stand for milk churns, often built at the farm gate to save the milk cart or lorry from having to come to the farmstead, and the abandonment of all but a handful of farmhouse dairies and cheese rooms for new milk-production plants were the other visible consequences of these developments.

The industrialisation of much of the dairy industry meant that the majority of farm dairies were redundant by the mid-20th century. Where the dairy was part of the farmhouse it is usual to find that it has been brought into domestic use, typically resulting in the removal of any fittings associated with butter or cheese making. Any survivals of dairy equipment in situ are rare. Detached dairy buildings may also have been brought into an alternative use, again usually resulting in the removal of associated fittings. Surviving historic dairies are both rare and highly vulnerable. Cheese rooms are now especially rare and hard to identify.

### 7.2.2 DAIRIES IN THE EAST OF ENGLAND

Dairies were incorporated in the planning of farmhouses rather than built as separate structures. Cheese rooms and dairies are well-documented in the claylands (e.g. Holderness 1984, p. 230). Biddell describes a cheese room or 'large upper chamber, shelved on both sides, with lattice windows at the ends for securing a draught', which he saw as a child, 'but has long been dismantled and used for other purposes' (Biddell 1907, p.306). It is worth looking for these cheese rooms in the upper floors of farmhouses.

In the claylands of Suffolk, the backhouse served as a combined kitchen / dairy / brewing area. They could be detached structures, only a very small number surviving unconverted, and from the 17th century were mostly added as lean-tos along the back of the farmhouse.



## 7.3 STABLES

### 7.3.1 NATIONAL OVERVIEW

After the barn, the stable is often the oldest building on the farmstead. The high value of horses to the running of the farm meant stables were well built and often placed near the house, with easy access to the fields, and given a certain level of architectural and decorative treatment. A few stables dating to before 1700 have been identified in local surveys, while many more date from the 18th century. One of the reasons for this rise in number was the decline in the use of oxen.

The size of stabling was, like granaries and cart sheds, loosely linked to the arable acreage of the farm. The number of horses needed to work a farm changed little until the arrival of the tractor, with one horse for every 20 acres being the frequently quoted figure. Smaller farms still needed a team of horses, so even a 50-acre farm might well have four horses. Most farms still kept a few working horses until the 1950s, and they were finally replaced by tractors during the 1960s. Farmsteads, and the farmyards attached to manor and gentry houses, often had stables for riding and coach horses, the upper floors commonly being used as accommodation for stable hands. These were usually well appointed and in some cases were used as displays of wealth and status, incorporating architectural detailing not found on most other farm buildings.

Stable interiors are characterised by:

- Horses commonly stalled in pairs with wooden stall divisions between them to stop them kicking each other (Figure 27). Cast-iron stable fittings often replaced wooden ones. More elaborate stalls and mangers were confined to the riding-horse rather than carthorse stable, but on many small farms the riding horse would have been kept alongside the working animals. In early (pre-1750) examples, the stalls are across the end walls; in later examples the stalls are along the side walls, allowing a lengthening of the building and thus housing more horses.