

Demesne Farming in the Chiltern Hills

By DAVID RODEN

FAR from being a backward area in which cultivation was subservient to a woodland or grazing economy, as has sometimes been suggested, the Chiltern Hills was a region of fairly advanced agricultural practices during the Middle Ages. This was best exemplified in the quality of its demesne farming, with elaborate manuring, the early appearance of a three-course rotation, and controlled grazing within large enclosed fields. As in other parts of medieval England demesne cultivation became increasingly complex in character, the relatively simple cropping and pasturing techniques of the twelfth and thirteenth centuries being transformed in the fourteenth century into elaborate and flexible routines in response to changing socio-economic conditions. Owing to the paucity of evidence relating to medieval peasant cultivation, most information about Chiltern agriculture in general at that time, and especially about the practical operation, in terms of cropping, of the field systems peculiar to the region, must be based on extents and accounts for demesne estates. This limits the scope of the conclusions, but it enables comparisons to be drawn with demesne farming elsewhere. Moreover, many demesnes were intermingled with peasant land, and their farming routines must have influenced peasant holdings.¹

The Chiltern Hills comprise a dissected chalk plateau extending nearly fifty miles from the Hitchin Gap south-west to the Goring Gap. From an escarpment that rises 300 to 400 feet above the clay Vales of Oxford and Aylesbury, the Hills dip gently south-eastwards, five to ten miles, to the gravels of the Thames' terraces and the Vale of St Albans. The plateau surface is broken by five troughs, now occupied by the principal streams, and between these it is further scored by a network of deep, steep-sided and mostly dry valleys. Dissection is deepest in the south-west and central Chilterns, where plateau remnants rarely exceed two miles in width, but towards the north-east slopes become gentler and remains of the surface are more extensive. Chalk is exposed only on the scarp face and valley slopes for everywhere the plateau is thickly mantled by superficial deposits (mainly clay-with-flints with brickearths in the north-east) and by scattered outliers of Eocene sands and gravels. There is thus considerable variety of soils, ranging from thin, highly calcareous rendzinas on the steeper slopes to heavy clay loams, silts, sandy loams, and acid gravels on the plateau. All are well drained and essentially dry, but soils of the lower, eastern

¹ I would like to acknowledge a grant received from the Central Research Fund of the University of London towards research expenses.

Chilterns are on the whole more loamy and less stony than those of the more dissected west. Throughout the Hills some of the most easily worked soils are along the lower valley slopes.

Assarting was ending during the thirteenth century to leave a pattern of fields and land use that was to remain basically unchanged for 300 years. Extensive woods and common wastes survived, especially in the south-west and centre of the region. A substantial proportion of the cultivated area lay in severalty, but common fields, subdivided into half-acre and one-acre strips and open to common grazing, existed throughout, although they were most prominent in the north-east, where less than half the arable of some townships was enclosed. Within the individual common fields, strips were grouped into furlongs, yet the fields themselves were small compared with the great open units characteristic of the Vale below the escarpment, and there were often as many as ten, twenty, or thirty separate common fields in one Hill township.¹

By the thirteenth century, too, the Chilterns was an area of moderate prosperity and social mobility. The mixed peasant population of freeholders, villeins, and cottars enjoyed considerable economic freedom: commutation of labour services was often well advanced; those that survived were generally optional to a money payment; and most manorial demesnes were maintained by a body of permanent servants, villein works being enforced only for hay-making, ploughing, and harvesting. Even these obligations had often been abandoned by 1300. Demesne farming was also at its peak, with land values and farm incomes reaching their highest levels during the century, and with the cultivated area at its most extensive. But changing conditions were apparent before 1300, especially on the more marginal manors of the south-west, and the first half of the fourteenth century brought a prolonged decline which was accentuated by the epidemic of 1348–50, with its massive reduction of population, and which continued well into the fifteenth century. As farm labour became scarce, land values dropped and direct demesne farming was restricted or abandoned completely.²

The typical Chiltern demesne farm was fairly big: the average cultivated area of a sample of 14 holdings in the thirteenth and fourteenth centuries was 382 acres,³ twice as large as the Leicestershire average at the end of the thir-

¹ For a more detailed account of the field pattern, see D. Roden and A. R. H. Baker, 'Field Systems of the Chiltern Hills and of Parts of Kent from the late Thirteenth to the early Seventeenth Century', *Trans. and Papers of the Inst. of British Geographers*, xxxviii, 1966, pp. 73–88.

² For a more detailed account of social and economic conditions, see D. Roden, 'Studies in Chiltern Field Systems', unpublished Ph.D. thesis, University of London, 1965, pp. 271–6.

³ These were demesnes for which detailed statements of the whole cultivated area are available. They were at Flamstead, Berkhamsted, Offley, Hemel Hempstead, Great Gaddesden, Codicote, Great Missenden, Lee, Fastnidge, Dundridge, Shortgrave, Caddington, Kensworth, and West Wycombe.—Public Record Office (hereafter P.R.O.), C132/31/3, C133/95, C134/101/10, E142/81/2; *Cal. Close Rolls*, 1323–7, p. 293; British Museum (hereafter B.M.), Add. MS. 4073,

teenth century.¹ There was, however, a considerable range of individual sizes from the 840 acres of Flamstead in 1264 to less than 100 acres on some of the smaller subsidiary manors found in many townships, and the fourteenth-century depression resulted in the reduction of many larger manorial farms either through their incorporation into parkland or, more usually, through limited leasing to tenants.² In general, the largest demesnes, always part of the main manor of a township, were sited on some of the best agricultural land in any locality. In the central and south-west Chilterns, in particular, the larger and older farms lay along the valley bottoms and lower slopes, centres of early settlement and cultivation, where some of the best soils are located and water supply was less of a problem; while the smaller farms of minor manors and monastic granges were often situated on the ridges and plateaux above, where late assarting had been concentrated.

A majority of farms consisted almost entirely of arable land with very small areas of permanent grassland, either meadow (suitable for hay) or pasture. Only along the floodplains of the main streams was meadowland, divided between closes in severalty and common meads, sufficiently extensive to meet, and sometimes even surpass, local needs, and even there the quality of grassland varied considerably from place to place and from time to time.³ A few manors in the south-west also included large meadows down by the Thames. Otherwise, amounts were either very small or non-existent, and on some demesnes it was frequently necessary to import hay to feed the stock in winter.⁴ The greatest areas of grassland were in the parks, already very numerous throughout the region, but these were often devoted to beasts of the chase and only occasionally entered the local farm economy.⁵ Meadow after mowing, patches of poorer grassland along the floodplains, and pasture closes on the upper dip slope (perhaps on land unfit for continuous arable cultivation) provided grazing, yet on many manors permanent pasture was limited to small closes and orchards near to the farmsteads and to hedgerows, greenways, and

fols. 1-2; Stowe MS. 849, fol. 124; Harl. MS. 1885, fol. 76d; Harl. MS. 3688 (extents of 1335); Library of the Dean and Chapter of St Paul's (hereafter St Paul's), WD16 Liber I, fols. 115d and 122; Hampshire Record Office (hereafter Hants. R.O.), Eccl. 2/159282.

¹ R. H. Hilton, 'Medieval Agrarian History', in W. G. Hoskins (ed.), *V.C.H. Leics.*, II, 1954, p. 173.

² A large demesne field was taken into Berkhamsted Park (*Register of Edward the Black Prince*, I, p. 148), while at King's Langley, 1315, about one-third of all rent received by the manor came from leased-out demesne (P.R.O., SC6/866/20-1).

³ Thus hay was being sold in the fourteenth century from the Great Gaddesden demesne, which had 40-50 acres of meadow on the Gade floodplain (Hertfordshire Record Office (hereafter H.R.O.), 2632; P.R.O., C134/73/5; *Cal. Close Rolls*, 1323-7, p. 293), and from the 20 acres of Chenies demesne meadow down by the Chess (P.R.O., SC6/761/4; C135/44/6).

⁴ As at Ibstone.—D. Roden, 'Field Systems in Ibstone, a Township of the South-west Chilterns, during the later Middle Ages', *Records of Buckinghamshire*, XVIII, 1966, pp. 43-57.

⁵ At West Wycombe, in particular, parkland helped support large demesne flocks and herds, grazing in it being leased to tenants when the demesne was understocked.

roadside verges.¹ Scarcity of grassland was reflected in the high values that it commanded: meadow was consistently assessed in manorial extents as worth four or five times as much as arable land, while the better pastures were twice as valuable as arable on the same farm.²

Although common wastes offered extensive grazing, especially in the south-west and centre of the region, the quality of their pasturage was generally poor, they were shared by lords and tenants alike, and the larger wastes were intercommoned by a number of townships.³ Private woodland was not normally used for grazing other than swine pannage, partly because herbage was limited by shade and partly because flocks and herds would have damaged valuable timber.⁴ There was some increase in pasturage after 1350 at the expense of the ploughed area, but on most manors this was a purely temporary trend and within a few years as much land was being cultivated as in the decade before the epidemic.⁵

The shortage of pasture described above underlines the importance of crop production as the basis of demesne farming. On all manors for which medieval grange accounts survive income from grain sales usually far exceeded that from the sale of livestock and their products before 1350,⁶ and the only evidence of a

¹ As at Caddington and Kensworth.—W. Hale (ed.), *The Domesday of St. Paul's of the Year M.CC.XXII*, Camden Society Publications, LXIX, 1859, pp. 1 and 7. At West Wycombe the manor leased out grazing in hedgerows, footpaths, and roads, as well as in the parks and on meadow after mowing, as in 1346.—Hants. R.O., Eccl. 2/159356.

² For a more detailed account of grassland in the medieval Chilterns, see D. Roden, *loc. cit.*, 1965, pp. 306–11.

³ M. A. Havinden has suggested that there was little need for permanent pasture in the Oxfordshire Chilterns because extensive rights of common grazing were available in woods and heaths.—M. A. Havinden, 'The Rural Economy of Oxfordshire, 1580–1730', unpublished B.Litt. thesis, University of Oxford, 1961, p. 134. But the high value of good pastures and the utilization of hedgerows and roadside verges for forage imply that the commons were often insufficient to meet all demands.

⁴ For details of woods and common wastes, see D. Roden, 'Woodland and its Management in the Medieval Chilterns', *Forestry*, xli, 1968, pp. 59–71.

⁵ As at West Wycombe, where the sown area was back to its former extent within ten years.—Hants. R.O., Eccl. 2/159351 ff.

⁶ Manors for which complete grange accounts survive include West Wycombe for most years between 1208 and 1453 (indexed in W. H. Beveridge, 'The Winchester Rolls and their Dating', *Econ. Hist. Rev.*, II, 1929–30, pp. 93–113), Ibstone for most years between 1280–7, 1293–1301, and 1337–60 (Merton College MS. 5056–7, 5059–64, 5066–8, 5070, 5072, 5078–80, 5082–4, 5086–9, and 5091–105), Hemel Hempstead for 1249–50 (P.R.O., SC6/863/2), Hambleden for 1278–9 (P.R.O., SC6/1095/10), Kinsbourne in Harpenden for many years between 1279 and 1379 (Westminster Abbey Muniments, 8798–863), Berkhamsted for three years about 1300 (L. M. Midgeley (ed.), *Ministers' Accounts of the Earldom of Cornwall, 1296–7, Vol. I*, Camden Third Series, LXVI, 1942, pp. 12–27; P.R.O., SC6/863/7–8), King's Langley for many years between 1297 and 1325 (P.R.O., DL29/40/740; SC6/866/15–29), Chenies for 1323–5 (P.R.O., SC6/761/4–5), Chesham Bois for 1341 (P.R.O., SC6/1120/10), Knebworth for 1370–1 and 1404–8 (H.R.O., K100, K108, K110, K112, and K116), Penn for 1372–3 (B.M., Add. R. 659–60), Stonor for 1381–2 and 1386–7 (P.R.O., SC6/1248/14–16), Great Gaddesden for a single year at the end of the fourteenth century (H.R.O., 2632), and King's Walden for three years early in the fifteenth century (B.M., Add. R. 35934 and 45938; Add. Ch. 35746). Detailed statements of demesne crops and stock are also avail-

marked increase in pastoral activity after 1350 was at West Wycombe, where the flock more than doubled in size and cattle numbers increased substantially. Surplus farm produce was often exported from the region to be sold in the markets of the Vale and in London. As early as 1208 wheat and oats from West Wycombe were sent to Southwark, at least part of the consignment going down the Thames.¹

With the exception of wheat, yields in the Hills were comparable with those in other areas (Table I), while variations of soil and slope within the region

TABLE I
GRAIN YIELDS ON SOME DEMESNE FARMS
(quarts for every quart sown)

<i>Manor</i>	<i>Wheat</i>	<i>Mixed corn</i>	<i>Oats</i>	<i>Barley</i>	<i>Dredge</i>
<i>In the Chilterns*</i>					
Ibstone, 1281-1358	3.3	2.8	2.6	2.9	2.7
West Wycombe, 1200-1449	3.3	2.8	2.5	4.0	3.1
King's Langley, 1313-24	2.9	—	3.0	3.6	3.8
Knebworth, 1405-7	3.1	—	2.7	3.1	2.2
<i>Outside the Chilterns†</i>					
Cuxham (in the Vale), 1289-1359	6.4	—	3.1	5.8	4.4
Nine manors of the Bishops of Winchester, 1200-1450	4.1	—	2.7	3.9	—
Norwich Cathedral Priory Estate	4.7	—	2.8	3.3	—

* Merton College MS. *ut supra*; W. H. Beveridge, 'The Yield and Price of Corn in the Middle Ages', *Economic Journal*, Economic History Supplement, I, 1927, p. 156; P.R.O., SC6/866/16-28; H.R.O., K108, K112, and K116.

† P. D. A. Harvey, *A Medieval Oxfordshire Village: Cuxham, 1240 to 1400*, 1965, p. 58; W. H. Beveridge, *op. cit.*; H. W. Saunders (ed.), *An Introduction to the Obedientary and Manor Rolls of Norwich Cathedral Priory*, 1930, p. 60.

itself were reflected in differing emphases on the various crops rather than in changing levels of production. Yields were fairly uniform throughout. Thus wheat was the only winter-sown crop in the north-east, whereas towards the

able for Caddington and Kensworth in 1222 and 1299 (W. Hale, *loc. cit.*; St Paul's, WD16 Liber I, fols. 115d and 122).

¹ Hants. R.O., Eccl. 2/159270. Tenants at West Wycombe and Wheathampstead owed carrying services to London early in the thirteenth century (Hants. R.O., Eccl. 2/159317; B.M., Add. Ch. 8139) and by the fourteenth century corn merchants of towns such as Hertford, St Albans, High Wycombe, and Great Marlow were supplying London with grain bought in local markets (N. S. B. Gras, *The Evolution of the English Corn Market from the Twelfth to the Eighteenth Century*, 1915, p. 165).

south-west, where physical conditions were less favourable to cultivation, the poorer mixed corn (wheat and rye) became important, frequently exceeding wheat in acreage. A large proportion of demesne wheat was usually sold—it was the basis of farm income in the thirteenth century—while mixed corn was used on the manor, mainly in part payment to servants. Oats was the most important spring grain, but a greater variety of crops was sown in spring than in autumn with some land generally devoted to barley, dredge (oats and barley), pease, and vetch. During the fourteenth century, the balance of crops in this course moved away from the overwhelming dominance of oats that had characterized thirteenth-century production, and everywhere areas under barley and dredge, and to a lesser extent pease and vetch, expanded.¹ Oats was usually grown for local consumption, particularly as fodder,² whereas barley and dredge were primarily cash crops, fourteenth-century sales of which, together with malt made from them, frequently surpassed wheat sales in value. Pease and vetch, previously mainly forage crops, were also being sold on an increasing scale.

Sizes of flocks and herds often varied from manor to manor for no apparent reason.³ Nonetheless the overall pattern is clear. Demesne flocks were substantial—the largest contained more than 1,000 sheep (at West Wycombe in the years after 1356) and flocks of at least 200 beasts were common—but they were also more liable to large fluctuations in numbers than any other livestock, and many demesnes were without a flock for some years. No significant variations are apparent in the general distribution of sheep within the Hills: they were just as important in the south-west and centre, where forage on common wastes was more extensive, as in the north-east, where there was more arable grazing. Wool was the most valuable flock product, although cheese made from ewes' milk was sometimes sold.⁴ Sales of live beasts were usually only important as a means of disposing of old and diseased stock and lambs not needed to maintain or build-up the flock. Cattle herds were not large, averaging about twenty beasts and producing cheese and butter for sale,⁵ while horses, not oxen, were the main source of farm power by the thirteenth century. Swine tended to be most numerous on manors with abundant pannage but there were some surprising anomalies: at Berkhamsted and Penn, both townships with extensive woods and wastes, surviving manorial accounts contain no reference to swine.

Arable land was, then, the major component of all demesne farms. Much of

¹ Similar trends have been noted in other parts of England at this time, for example, in Leicestershire and Kent.—R. H. Hilton, *loc. cit.*, pp. 160–1; T. A. M. Bishop, 'The Rotation of Crops at Westerham', *Econ. Hist. Rev.*, ix, 1938, pp. 38–44.

² There were some exceptions: for example, substantial amounts of oats were sold from West Wycombe at times during the thirteenth century, as in 1244.—Hants. R.O., Eccl. 2/159287.

³ For a summary of stock on selected farms, see D. Roden, *loc. cit.*, 1965, Appendix N.

⁴ As at King's Langley.—P.R.O., SC6/866/26.

⁵ The largest herd, with more than fifty beasts, was at West Wycombe, where there was extensive meadowland and parkland.

this lay in severalty: the arable was completely enclosed on 12 of the 22 demesnes for which detailed descriptions of the cultivated area are available,¹ and on the remaining ten, where common and several arable were combined, proportions in the latter were often high.² In general, closes were a more prominent feature of demesne than peasant farming. Manorial holdings at Berkhamsted and Flamstead, for example, contained no common arable even though a relatively high proportion of tenant land in both townships lay in common fields. Much of the very limited enclosure (of common arable) undertaken before the sixteenth century was carried out by the manor, the new closes being added to the demesne farm and continuing to be cropped.³

Enclosed demesne fields were large and sometimes huge. The 840-acre arable farm at Flamstead in 1264 lay as three great closes of approximately equal area, while 334½ acres leased out at Berkhamsted in 1346 comprised three fields. A fourth field, earlier taken into the park, had contained 180 acres.⁴ Sizes such as these were exceptional. More typical was the 50-acre average of the Missenden Abbey farm at Lee, 1335, where individual units ranged from 12 to 80 acres.⁵ Even these smaller fields were considerably larger than the tenant closes which were usually less than 5 acres and rarely greater than 10 acres, and which lay around settlements and were intermixed with woodland and heath in areas of more recent assarting. Like these peasant closes, demesne fields were usually hedged and often also ditched.⁶

As on tenant holdings, too, common arable demesne was scattered amongst only some of the common fields of a township—usually those nearest the manorial farmstead—with no attempt at any regularity in its distribution either between the individual fields or between groups of fields. Thus the open strips of the St Albans' farm at Codicote were confined to five of the twenty common fields of the manor in the proportions of 55, 40, 35, 18, and 9 acres, and the common arable of Kinsbourne farm lay in no more than four of the forty or so common fields in Wheathampstead-cum-Harpenden.⁷

¹ These were at Chenies, Ibstone, King's Langley, Penn, and Stonor (see p. 12, n. 6), and Berkhamsted, Cisservernes in Codicote, Dundridge, Fastnidge, Flamstead, Lee, and West Wycombe (see p. 10, n. 3).

² These were at Caddington, Codicote, Great Missenden, Hemel Hempstead, Kensworth, Offley, and Shortgrave (*ibid.*), and King's Walden, Kinsbourne, and Knebworth (see p. 12, n. 6).

³ D. Roden, *loc. cit.*, 1965, pp. 326–30.

⁴ P.R.O., C132/31/3; *Register of Edward the Black Prince*, I, p. 148; IV, p. 233.

⁵ B.M., Harl. MS. 3688. Some other averages were 60 acres at West Wycombe in 1231 (Hants. R.O., Eccl. 2/159282), 28½ acres at Codicote in 1332 (B.M., Add. MS. 40734, fols. 1–1d), 12 acres at Dundridge and 25½ acres at Great Missenden in 1335 (B.M., Harl. MS. 3688), and 24 acres at Cisservernes in 1414 (B.M., Stowe MS. 849, fol. 124.)

⁶ The expenses of hedging and ditching are frequently recorded in manorial accounts.

⁷ B.M., Add. MS. 40734, fols. 1–1d; Westminster Abbey Muniments, 8807 ff. Common arable of the Missenden Abbey farm at Great Missenden lay in two to four common fields in 1335, and the King's Walden demesne included holdings in seven of the thirty common fields in the township in 1472.—B.M., Harl. MS. 3688; Add. R. 35945.

Considerable pains were taken to maintain soil condition over the ploughed area. Marling was widely practised,¹ legumes were grown on most farms,² while manure from stables and cowsheds,³ litter collected from the streets of towns and villages such as High Wycombe,⁴ and dead leaves and deer droppings gathered from parkland, as at Berkhamsted,⁵ were also spread over the arable. The simplest and commonest way of applying manure, however, was by running stock on the fallow and stubble.⁶ Conversely, these were often also valuable as pasturage.

The earliest evidence of grazing over the arable is of very generous common rights extending over all demesne tillage, both common and enclosed, and often over woods and wastes as well. Twelfth-century Flamstead tenants were free to pasture the entire demesne,⁷ while a mid-century grant in Missenden to the newly established abbey there was accompanied by the right to pasture all the grantor's land.⁸ The first specific reference to grazing on the fallow is in an agreement made in the 1170's, by which Alexander de Hampden gave pasture rights "in wood and field" for a fixed number of animals to Missenden Abbey in return for common grazing for himself and his men in whichever of the three fields of the Abbey's farm at Honor should be fallow.⁹ These and similar grants appear to have been made regardless of whether the demesne arable was scattered in common fields or lay in compact closes; both the Flamstead farm and the Honor grange were probably completely enclosed, while closes and woods owned by the monks of Thame at Wyfold were pastured in common by more than thirty farmers until 1230.¹⁰

¹ The earlier West Wycombe accounts refer to the cost of marling, as in 1208 when 28 acres had been treated and in 1226 when 21 pits were dug.—Hants. R.O., Eccl. 2/159270-1; 159281. There are also numerous medieval references to marl pits, including a case at Medmenham where a priest died following a fall into a marl pit.—J. G. Jenkins (ed.), *Calendar of the Rolls of the Justices on Eyre, 1227*, Publications of Records Branch, Bucks. Archaeolog. Soc., VI, 1942, p. 48, no. 526.

² *Vide supra*, p. 14.

³ As at Ibstone (Merton College MSS. 5066 and 5089) and Berkhamsted (*Register of Edward the Black Prince*, I, p. 148). At West Wycombe dung was sometimes bought from tenants for the demesne farm, as in 1347 (Hants. R.O., Eccl. 2/159357).

⁴ A. Clark (ed.), *The English Register of Godstow Nunnery near Oxford*, Early English Text Society, CXXIX, CXXX, CXLII, 1905-11, p. 100, no. 104; M. W. Hughes (ed.), *A Calendar of the Feet of Fines for the County of Buckingham, 7 Richard I to 44 Henry III*, Publications of Records Branch, Bucks. Archaeolog. Soc., IV, 1940, p. 49.

⁵ *Register of Edward the Black Prince*, IV, p. 82.

⁶ The value of this is implicit in a King's Walden grant of 100 sheep for the manorial fold for two years.—B.M., Add. Ch. 35684.

⁷ A grant of land to the Priory of St Giles-in-the-Wood included "common pasture in my land in wood and in field such as others of my men."—H.R.O., 17465.

⁸ J. G. Jenkins (ed.), *The Cartulary of Missenden Abbey, Part I*, Publications of Records Branch, Bucks. Archaeolog. Soc., II, 1939, p. 66, no. 65.

⁹ *Ibid.*, p. 178, no. 192.

¹⁰ They then remitted rights over the land in return for common of pasture elsewhere.—W. H. Turner and H. O. Coxe (eds.), *Calendar of Charters and Rolls Preserved in the Bodleian Library*, 1878, p. 315, no. 35.

Although early arrangements were often revised and limited during the thirteenth century,¹ extents of the *inquisitiones post mortem* suggest that common grazing was still practised over the enclosed arable of some demesnes in the fourteenth century.² But by this time more orthodox rules were followed on the majority of farms. Common arable holdings were thrown open to the stock of the township after cropping along with the rest of the fields in which these lay: the 204 acres of the St Ledger demesne scattered amongst the open strips of Offley were said to be without value when unsown "because it lies in common."³ Conversely, pasturage in most demesne closes was by now restricted to the flocks and herds of the farm, except where grazing was leased to tenants on an annual basis when the demesne was understocked.⁴ Pasturing arrangements presented no problems in the smaller closes, while hurdles were used to control grazing on forage and fallow plots in the larger enclosures.⁵

All available evidence is that cropping before 1350 was so organized as to leave a regular and frequent fallow. This was as vital a part of the system of husbandry on totally enclosed farms as in manors where a substantial proportion of the demesne arable lay in common fields. Careful preparation of the fallow was also important. When the Berkhamsted farm was leased out in 1349, the 89 acres lying uncropped had been ploughed three times in preparation for the winter sowing and 18 acres had been manured by the sheep fold.⁶ The usual practice was to leave between one-third and one-half of a holding fallow each year, although exact ratios might vary considerably from time to time.

Three-course arrangements—whereby the arable holding was divided into three parts, each about the same size and subject to the sequence of fallow, winter-sown crops, and spring-sown crops—had appeared in the Hills by the twelfth century. Eighty acres of the Kensworth demesne were left fallow in

¹ For example, the Hampden grant to Missenden Abbey was revised forty years later, while pasture rights, attached to the grant of land in Missenden, were reviewed at least twice before 1300 with both parties agreeing to forgo rights over the arable of the other.—J. G. Jenkins, *loc. cit.*, 1939, pp. 67, 68, 184, nos. 66, 67, 198, 199.

² According to the extents, the entire demesne arable or all the demesne fallow of at least eight manors lay in common. Part of this land may have been in common fields, but it is unlikely that all the demesne arable of any Chiltern manor was entirely unenclosed. A reasonable explanation is that both enclosed and common arable, where this latter existed, were open to common pasturing. An alternative explanation is that the statements of the inquisitions are false, and took advantage of the fact that land in common was assessed at a lower value than that in severalty. The eight demesnes were at Amersham, Stonor, Chesham, Wigginton and Little Gaddesden, Luton Woodcroft, Lilley, and Watton.—P.R.O., C135/225/9; C135/128/11; C135/28/17; C135/81/10; C135/18/24; C135/35/33; C135/17.

³ P.R.O., C134/101/10; C135/42/18.

⁴ As at Ayot (P.R.O., C135/127/17), Knebworth (H.R.O., K112), King's Langley (P.R.O., DL29/40/740; SC6/866/15-19, 21, 23-5, 28), West Wycombe in many years between 1208 and about 1300, and Ibstone (D. Roden, *loc. cit.*, 1966, p. 50).

⁵ The expense of making and repairing hurdles is a frequent item in manorial accounts.

⁶ *Register of Edward the Black Prince*, IV, p. 82.

1152 and the two sown courses each contained 70 acres, surely one of the earliest specific references to a three-course rotation in England.¹ Twelfth- and thirteenth-century Missenden charters imply the existence of similar arrangements in the central Chilterns,² while the three-fold division of the Flamstead demesne in 1264, together with the fact that ploughing services were owed in equal amounts at each of three cropping seasons, suggests that there, too, a three-shift system was in force.³ By the early fourteenth century triennial fallowing was common throughout the region. In comparison, the change to a three-course rotation, or at least to a three-field system, did not take place in many of the open-field townships below the escarpment until after 1300.⁴ Possibly the presence of a large number of monastic and clerical estates in the Hills had facilitated the early introduction of more advanced techniques—the Kensworth farm was owned by the Dean and Chapter of St Paul's—but the flexible field systems, and especially the existence of substantial areas of enclosed arable on most demesnes, would also have encouraged any attempt to increase output, stimulated, no doubt, by market demands.

The three-course rotation was not universally applied, for a biennial fallow was apparently enforced at times, as on the Chenies and Chesham Bois demesnes.⁵ Soil condition may have been significant in determining the size of the uncropped area: land at Chenies was said to be "in an extremely bad state and very stony;" Northale manor farm (in the Vale) included arable up on the Hills which was "white land in bad condition and stony" and which was left fallow every other year;⁶ while at Little Gaddesden, where soil was also said to be very poor, no more than 30 acres of the 100-acre arable demesne had been sown by the middle of May 1347.⁷ But both there and at Ayot, with less than half of its 400 demesne acres under crop in June 1355, the large extent of unsown arable may well have reflected deteriorating economic conditions.⁸

¹ W. Hale, *op. cit.*, p. 128.

² E. C. Vollans, 'The Evolution of Farm-Lands in the Central Chilterns in the Twelfth and Thirteenth Centuries', *Trans. and Papers of the Institute of British Geographers*, xxvi, 1959, pp. 230-1.

³ P.R.O., C134/15/3.

⁴ H. L. Gray, *English Field Systems*, 1915, Appendix II; W. E. Tate, *A Hand-List of Buckinghamshire Enclosure Acts and Awards*, 1946, pp. 14-15; M. D. Lobel (ed.), *V.C.H. Oxon.*, vii, 1962, p. 99; viii, 1964, pp. 67-8, 105, 225.

⁵ In both cases this is suggested by a comparison of manorial extents and accounts. The Chenies demesne was assessed as 300 acres in 1336 whereas in 1323-4 only 142½ acres of this had been sown (P.R.O., C135/44/6; SC6/761/4). The Chesham Bois demesne included 180 acres of arable early in the fourteenth century and again in 1340, yet no more than 92 acres was cropped in 1341 (P.R.O., C134/21/7; C135/60/7; SC6/1120/10).

⁶ P.R.O., C135/74/5.

⁷ P.R.O., C135/81/10. The Wigginton demesne nearby, held by the same lord, had a three-course rotation in that year. By May 80 acres of the 120-acre farm had been sown.

⁸ P.R.O., C135/127/17. At King's Langley, too, only 80 acres of the 130 arable acres of Bulstrodes tenement were sown in 1349.—P.R.O., C135/100/16.

Throughout the Chilterns, in the middle decades of the fourteenth century, abnormally large proportions of farm-land were being left fallow and sometimes turned over to grazing for a few years. The average annual sown acreage at Ibstone was reduced by more than 50 per cent and at West Wycombe by about 25 per cent. Probably a simple two-course system was not practised at either Little Gaddesden or Ayot: rather some land remained fallow for a number of years, to be brought into cultivation only occasionally and in small amounts, as certainly happened at Ibstone.¹ Poor soil condition may also have been related to the worsening economic climate, for, with a shortage of skilled labour, land could not be adequately prepared before sowing.

By the thirteenth century two- or three-course rotations were, in any case, no more than long-term approximations, valid only as averages over a number of years. The size of the fallow area often varied markedly from year to year, while sown land was rarely apportioned evenly between winter and spring crops, the difference between the two sometimes being considerable.² One course might remain larger than the other for a number of successive seasons or its area might fluctuate widely from year to year. Annual variations of the area sown and the crops grown reflected not only changing demands, but also changes in weather from season to season. A long wet winter, by limiting ploughing and sowing, would be followed by a growing season in which the uncropped area was abnormally large, and a good autumn or a bad spring might result in an excess of winter grains over the spring crops.³

Although demesne rotations were fairly straightforward, evidence of the ways in which the arable was organized into coherent cropping systems, supposedly designed to ensure a regular sequence of cultivation over the individual plots comprising a farm holding, reveals a pattern of increasing complexity. Twelfth- and thirteenth-century arrangements were simple. Three-course rotations were often translated into three-field systems on both several and common arable; field and cropping course were one. Thus, arable of the Missenden Abbey farm at Honor, about 1170, was probably confined to three closes, one of which lay fallow each year.⁴ A similar lay-out at High Wycombe clearly involved common field land alone: common arable furlongs of the

¹ D. Roden, *loc. cit.*, 1966, pp. 50-1.

² The winter-sown course at Kensworth, in 1299, was larger than the spring and fallow courses together, whereas less than one-quarter of the demesne arable at neighbouring Caddington (also farmed for St Paul's) was under winter crops.—St Paul's, WD16 Liber I, fols. 115d and 122.

³ At West Wycombe, 1376, a long winter was followed by a smaller than average spring course.—Hants. R.O., Eccl. 2/159384.

⁴ J. G. Jenkins, *loc. cit.*, 1939, p. 178, no. 192. Alexander de Hampden and his tenants were allowed common pasture in the third field next to Grims Ditch when it was unsown. Twelfth- and early thirteenth-century grants of land in Great Missenden, Kingshill, and Chesham that were evenly allotted between the grantors' three *culturae* may also represent early three-field arrangements.—E. C. Vollans, *op. cit.*

manor of Gynaunt's Fee were grouped into east, middle, and west fields (only a few of the many common fields of the township) and a 3-acre grant was taken in equal proportions from each of these;¹ whereas the three-field system in force on the Flamstead demesne in 1264 comprised land that was completely enclosed—840 acres were simply divided into three great fields, two of which each contained 290 acres while the third was 260 acres.² Organization of the West Wycombe demesne rotation after about 1260 was slightly more elaborate in that eight enclosed fields were apportioned between three shifts, but the same combination of fields recurred year after year.³

At West Wycombe, too, a variety of crops—usually of the same season—was often grown in a single large close contemporaneously,⁴ while sown fields commonly included some fallow land. By the early fourteenth century, practices such as these were normal features of demesne farming throughout the region. Within a few decades there is no further suggestion, in the evidence available, of the earlier systems based on three separate fields. Larger fields were often subdivided into plots in separate courses,⁵ and by mid-century there were rarely any clear groupings of fields but rather a bewildering variety of combinations, with one course of the farm rotation comprising different units in a single close and arable in a number of fields. The same shift might be followed in one close for many successive seasons without interruption, presumably on separate pieces of land.⁶ A rotation of crops was thus followed within the individual field as well as between closes or groups of closes. On some farms it was customary for a few fields, normally left under pasture, to be brought into cultivation only occasionally, supplementing the large core of continuously farmed land, somewhat in the manner of the convertible husbandry that obtained in parts of Kent.⁷ At West Wycombe, where it had been established practice for at least a century, this system was expanded after 1350

¹ J. G. Jenkins (ed.), *The Cartulary of Missenden Abbey, Part III*, Publications Bucks. Rec. Soc., xii, 1962, pp. 114-16; 118-19; nos. 710-12, 715-16.

² P.R.O., C132/31/3.

³ Cropping at West Wycombe before 1260 had been very irregular, but appears to have been rationalized about then at the same time as the average sown area was substantially reduced. The annual cropped area, which had varied between 350 and 400 acres before 1260, settled down at 250-300 acres, a figure that was maintained—with temporary interruptions—until 1378. There then followed a steady decline to 105 acres early in the fifteenth century.

⁴ There were some exceptions between 1231, when field names appear in the grange accounts for the first time, and 1260, when cropping on the farm was rationalized. In 1235, for example, Great Field contained both wheat and oats.—Hants. R.O., Eccl. 2/159284.

⁵ At Chenies, 1323-4, and at Penn fifty years later, two fields included both winter and spring grains; Mill Field, on the Stonor demesne, contained wheat and oats in 1388; while at least one of the Knebworth fields in which wheat was sown also included oats in 1404-5 and again in 1407-8.—P.R.O., SC6/761/4; SC6/1248/16; B.M., Add. R. 659-60; H.R.O., K108 and K116.

⁶ For example, Papenhamescroft in Knebworth contained a spring crop for four successive years.—H.R.O., K108, K110, K112, and K116.

⁷ T. A. M. Bishop, *loc. cit.*

to absorb the greater area then being left unsown. Fields which had formerly been cropped intermittently were turned to permanent grazing, while other closes, previously in continuous cultivation, were now ploughed only sporadically.¹ At Ibstone, too, reduction of the sown demesne to one-third of its former average size was accomplished through extension of the fallow area rather than by allowing land to leave arable production entirely. The distinctive feature of the Ibstone arrangement was that the ploughed area often shifted within individual fields instead of between fields.² The main advantage of more sophisticated methods such as these was the greater flexibility that they allowed, especially important at a time when conditions were becoming increasingly hostile to large-scale demesne farming. Acreages under the different grains were not tied to fixed field areas and could be changed easily from year to year. Substantial variations in the proportion of land devoted to winter and spring grains in any one season could be adjusted within the farm rotation, while wider changes in production over a long period were accommodated within the general framework.

Cropping within each common field was usually uniform. A variety of grains might be grown but they were always of the same season, sown and harvested at about the same time.³ The separate fields were thus the normal units of common arable cultivation in the Chilterns: the large number of relatively small fields in many townships apparently provided the flexibility that could only be attained in the great common fields of the Midlands and elsewhere by basing rotations on the furlong.⁴ Sixteenth- and seventeenth-century evidence suggests that the common fields of at least some Hill parishes were organized, for greater convenience, into three divisions, fields in each group being subject to the same sequence of sowing, harvesting, and grazing, and lying fallow every third year.⁵ In practical terms these combinations were the Chiltern equivalent of the large units of the typical Midland two- or three-field township, the role of the constituent fields being closer to that of the Midland furlongs.

The need to throw common fields open to pasturing at a predetermined date

¹ Thus the fields known as Senghet and Yrildefeld, in sporadic production by the 1280's, went out of cultivation early in the fourteenth century; Foxor and the field below Haveringdoun, ploughed regularly before 1330 and then turned to intermittent cropping, were not sown at all after 1350; Chetenor and Hachefeld were changed from full- to part-time production after 1350; while both Castelfeld and Smythfeld remained in periodic cultivation throughout the fourteenth century.

² D. Roden, *loc. cit.*, 1966, pp. 50-1.

³ Demesne in the separate fields was confined to a single course of the farm rotation, as on Kinsbourne manor farm.—Westminster Abbey Muniments, 8807 ff.

⁴ N. S. B. and E. C. Gras, *The Economic and Social History of an English Village (Crawley, Hampshire), A.D. 909-1928*, 1930, p. 31; R. H. Hilton, *The Economic Development of Some Leicestershire Estates in the Fourteenth and Fifteenth Centuries*, 1947, pp. 52-66 and 152-6; W. G. Hoskins, *The Midland Peasant*, 1957, pp. 67-70 and 95; P. F. Brandon, 'Arable Farming in a Sussex Scarp-Foot Parish during the late Middle Ages', *Sussex Archaeolog. Coll.*, c, 1962, pp. 60-72.

⁵ D. Roden, *loc. cit.*, 1965, pp. 67-8.

precluded any variation from the customary routine. As a result, cropping on individual farms had to be arranged in such a way that cultivation of their common arable holdings conformed with the practice in the various fields in which this land lay. Strips in a fallow common field, for example, had to lie in the uncropped course of the farm rotation. This was achieved on the Chiltern demesnes by balancing several and common arable within the rotation, combining them in a single shift if necessary. Thus one *seisona* of the St Alban's Abbey farm at Codicote, in 1332, contained 82 acres in three common fields and $53\frac{1}{2}$ acres in two closes, another course comprised common arable alone (in two fields), and the third course was entirely in severalty.¹ Cropping on the farm as a whole was not tied to the fixed routines of the common fields.

For the same reason, equitable division of the common arable holding between individual common fields, or even between common arable "seasons" comprising groups of fields, was unnecessary. It simply did not matter whether or not approximately the same area of common arable demesne was ploughed each year, and, as at Codicote, very varying amounts were left fallow.²

There are few references to direct demesne farming in the Chilterns during the fifteenth century, and by 1600 many of the great enclosed fields had been broken up into smaller units, still substantially larger than other closes, which were leased out to different tenants, or had been incorporated into parkland.³ But some former demesnes continued to be worked as single holdings, especially where they had been acquired by London businessmen.⁴ The growth of the London market attracted capital into the area, favoured the maintenance of large farms, and stimulated agricultural improvements, of which the most notable were enclosure of common arable land and renewed clearing of woods and wastes.⁵

The few medieval accounts of tenants' goods that have survived, together with sixteenth- and seventeenth-century probate inventories, suggest that

¹ B.M., Add. MS. 40734, fols. 1-1d. This was one of the pieces of evidence upon which A. E. Levett based her claim that an imperfectly developed or decaying three-field system existed in this part of Hertfordshire. But she failed to ascertain the type of land involved, and as a result some confusion has arisen as to the precise implications of her suggestions. At Codicote, at least, the triple division of demesne arable was nothing more than a convenient apportionment of the farm-land, both enclosed and common, into cropping courses necessary for the rational working of the farm rotation. It neither proves nor disproves the existence of a separate communal cropping system over the township as a whole. See A. E. Levett, *Studies in Manorial History*, 1938, pp. 182-4; J. Thirsk, 'The Common Fields', *Past and Present*, xxix, 1964, p. 6; J. Z. Titow, 'Medieval England and the Open-Field System', *Past and Present*, xxxii, 1965, p. 89.

² On the Abbey farm at Great Missenden, too, all three shifts of the farm rotation included both enclosed and common arable in very irregular proportions.—B.M., Harl. MS. 3688.

³ Two Berkhamsted demesne fields of 80 and 160 acres in 1607 had recently been divided into 16 closes rented by tenants (P.R.O., E315/366, fols. 5-5d), and part of the King's Walden demesne was turned to parkland some time after 1600.

⁴ As, for example, the main King's Walden manor.—B.M., Add. R. 35997.

⁵ D. Roden and A. R. H. Baker, *loc. cit.*, p. 83.

mixed farming was also the basis of medieval peasant cultivation,¹ although, in view of the extensive common pastures that were available to tenants in most of the region, livestock may have been relatively more important than on the demesne farms with their much larger areas of arable land. Certainly, as is clear from presentments for trespass brought to the manorial courts, peasant flocks were substantial—it was not unusual for a single tenant to have more than 100 sheep—and were often expanding during the fourteenth century. Pig-keeping may also have been a useful source of income for the many smallholders who had built cottages along the edges of common woods and heaths, and who found supplementary employment on the bigger farms, in the woods, and in the brick and tile industries that were often established on the commons.² Perhaps, too, cattle fattening and dairying, supported on Thames-side pastures in the sixteenth century,³ were already significant in townships adjoining the river.

Three-course rotations were practised on tenant farms, as on most demesne holdings by 1300,⁴ apparently being enforced in some townships by the manorial authorities.⁵ Peasants were also dividing their larger closes into land under two or three crops. In fact, in the south-west, where a complete customary holding might comprise only one or two closes, some could scarcely have done otherwise, although the degree of subdivision was never as marked as on demesne farms.⁶ There is almost no evidence concerning peasant cultivation in the common fields before 1500, but it is difficult to see how this could have differed from the pattern revealed in the demesne extents and accounts. Uniformity of cropping in a single common field, necessitated by common pasturage, would have inhibited any deviation from the established routine. Yet, as on the demesne farms, many tenants must have been able to adjust cropping on their own holdings to suit the common arrangements through combinations of enclosed and common field land, or, failing this, through permutations of arable in a variety of common fields. Likewise, location of the individual common arable holding was not determined by need for an equal distribution of land either between separate fields or between groups of fields.

¹ B.M., Add. R. 27021; 35933; H.R.O., 40703, St Mark 5 E.111; Merton College MS. 5248b; *Cal. Inq. Misc.*, II, p. 439, no. 1174; D. Roden, *loc. cit.*, 1965, Appendix A.

² M. A. Havinden has suggested that these latter were important in the Oxfordshire Chilterns about 1600.—*Loc. cit.*, p. 123.

³ *Ibid.*, p. 109.

⁴ The duration of a number of late thirteenth-century tenant leases at Codicote was expressed both in years and in the number of crops to be taken from the land in that period. Comparison of the two statements invariably suggests triennial fallowing.—B.M., Stowe MS. 849, fols. 7, 11d, 24d.

⁵ As at Ibstone.—D. Roden, *loc. cit.*, 1966, p. 52.

⁶ As at King's Walden.—B.M., Add. R. 35922; 35939.