

Land Use and Management in the Upland Demesne of the De Lacy Estate of Blackburnshire c 1300

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Henry, son of Kitte renders his *compotus* of 42 cows and 1 bull of remainder, and 6 of addition and 1 received from the Instaurator; total 49 cows and 1 bull, also one bull of addition. Of which he counts 3 delivered to S. le Geldhirde, and 2 to the Instaurator: 44 cows, 2 bulls remain. Also 1 ox of addition delivered to G. the parker. Also 10 yearlings of the remainder; 3 steers and 7 heifers remain. Also 13 calves of the remainder: of which 1 in tithes: 12 yearlings remain (5 males). Also 19 calves of the year, and 1 received from the Instaurator: total 20: of which 3 in murrain, hides 1d.; 2 delivered to the Instaurator: 10 [*sic*] calves remain.

Total of the cattle remaining in this vaccary; 44 cows, 2 bulls, 3 steers, 7 heifers, 12 yearlings (5 males) and 15 calves. Afterwards one cow is allowed to him because it was taken away by robbers; it is forgiven him by the Earl (De Lacy *compoti*, 1295-6).¹

Abstract

This paper attempts to reconstruct the patterns of seasonal land management in the granges, forest vaccaries and central 'pools' of the earl of Lincoln's Ightenhill demesnes in upland Lancashire. Two of the estate's Michaelmas accounts survive, dating to a period now seen as a watershed between the prosperous 'High Farming' period of the thirteenth century and the 'Crisis years' of the first quarter of the next. This relatively remote estate was geared to a cash economy, and the products were such as could well be produced under local conditions of climate, terrain and transport.

IT is now generally thought that the population of England reached a peak about 1300 and thereafter declined. The relative significance of factors which have been invoked to explain this population increase is still under discussion. There is, however, agreement that a long period of good harvesting conditions; a sufficient workforce to intensify production on previously under-used areas; and favourable financial and administrative policies are all likely to have played a part, though to a greater or lesser degree in different parts of the country. Even before the end of the century poorer climatic conditions, poorer harvests, malnutrition and increased risk of disease in man and animals may have played a part in starting the decline in living

conditions and population growth which becomes very apparent in the 'Crisis' years and especially those of the 1315 and 1316 famines, and the widespread cattle murrain of 1319-20. Lancashire shared in these disasters, but in the same period suffered also from local faction and anarchy which culminated in widespread disruption after the execution of Thomas, Earl of Lancaster in 1322 and, in the following year, a damaging raid by the Scots under Robert Bruce.²

² J Z Titow, *English Rural Society 1200-1350*, 1969; H H Lamb, *The Changing Climate*, 1966, chapters 1 and 7; M L Parry, *Climatic Change, Agriculture and Settlement*, Folkestone, 1978, pp 113-17 and 122-25; M M Postan, 'Medieval agrarian society in its prime: England', pp 548-632 in M M Postan, ed, *The Cambridge Economic History of Europe*, I, Cambridge, 2nd ed, 1966; B Harvey's introductory survey in B M S Campbell, ed, *Before the Black Death: Studies in the 'Crisis' of the Early Fourteenth Century*, Manchester, 1991; C Dyer, 'Documentary evidence: problems and enquiries' in G G Astill and A Grant, eds, *The Countryside of Medieval England*, Oxford, 1988, pp 12-35; G H Tupling, ed, 'South Lancashire in the reign of Edward II', *Chetham Society*, 3rd Series, I, 1949.

¹ P A Lyons, 'Two *compoti* of the Lancashire and Cheshire manors of Henry de Lacy, earl of Lincoln', *Chetham Society*, OS, 112, 1884 [hereafter De L.C.], p 24(131).

The demesnal estate of Henry de Lacy, Earl of Lincoln, was centred on Ightenhill in upland Blackburnshire in north-east Lancashire (Fig 1). Of the few surviving Michaelmas accounts of this estate those for the years 1295-6 and 1304-5 fall into the period just prior to these disasters, and may portray a northern demesne when some adjustments had already been made to the estate economy, but before the harshest years of the 'Crisis'. Ightenhill lay some forty miles from the earl's principal Yorkshire estate centred on Pontefract, and offers an example of a distant estate which did not supply the household but was largely geared to a cash economy.³

Matilda de Percy in 1189 said of Salley (Sawley) Abbey, close neighbour to the Ightenhill estate, that it stood 'in a cloudy and rainy climate so that crops, already white in the harvest, usually rot in the stalk; and the convent, for forty years or more, has been oppressed by want and lack of all necessities through the intemperate weather'.⁴ It is an area where grass is the crop with the best potential, and like the upland estates of Fountains and Sawley Abbeys and Bolton Priory in the adjacent district of Craven the emphasis on the Ightenhill estate by the end of the thirteenth century was on the production of stock. The former estates with the advantage of limestone pastures around Malham Moor increasingly concentrated on sheep for wool and food for the household; the latter, on the lower, but poorly drained shales and grits of the Upper Carboniferous, produced mainly oxen for sale to the markets of Bolton-le-Moors and Pontefract.⁵

Blackburnshire was the alternative title for the hundred or wapentake of Blackburn, and as lord of a private hundred, Henry de Lacy, Earl of Lincoln had full jurisdiction in the hundred court at Clitheroe of the sixty vills which comprised the hundred. However, he retained in hand at this time only the four forests (strictly chases) of Trawden, Pendle, Rossendale and Accrington, and eighteen vills, all of them in the upland half of the hundred. R B Smith in his study of the origins of Blackburnshire suggested that the term manor 'is best abandoned altogether'. The hundred was a discrete estate with a villar structure in which the bondmen of the 'demesne vills' owed service (bovate by bovate) at one or more central demesnal establishments (the granges), and the other vills, originally held in thanage, but by now also by knight service and 'homage', owed little more than attendance at the hundred court. Boonworks at the central grange were owed by the bondmen of the demesne vills at times of ploughing, hay-making and harvest, but with some carrying services they amounted to a relatively small number of days in a year.⁶

By 1295-6 the commitment of the Ightenhill estate to a money economy is especially noticeable. In four demesne vills such labour services had been remitted for cash, and in two others the limited areas of demesne within the vills had been let: so too had 'the demesnes under Salthill' in Clitheroe; and eleven mills, the herbs and fruits of the Clitheroe Castle garden and the hall, grange and kitchen at Accrington. These produced about £50 in the year of each *compotus*. In addition the lactage of the twenty-seven vaccaries (twenty-nine in the later year) was let to the vaccary keepers at a rent of £3 per vaccary. This may have been a recent change of policy for at Accrington a small amount of butter

³ M Mate, 'Medieval agrarian practices: the determining factors?', *Ag Hist Rev*, 33, 1985, pp 22-31; G G Astill and A Grant, 'The medieval countryside: efficiency progress and change' in Astill and Grant, *op cit*, pp 226-32.

⁴ Quoted by I Kershaw, *Bolton Priory*, Oxford, 1973, p 21.

⁵ W T Lancaster, *Abstracts of the Charters and other Documents contained in the Chartulary of the Cistercian Abbey of Fountains*, 2 vols, Leeds, 1915; D J H Michelmores, 'The Fountains Abbey lease book', *Yorks Arch Soc Record Series*, CXL, 1981; Kershaw, *op cit*; M A Atkin, 'The medieval exploitation and division of Malham Moor', *Nomina*, XIV, 1990-1, pp 61-71.

⁶ R B Smith, *Blackburnshire*, Occasional Papers No. 15, Department of Local History, Leicester, 1961, pp 5-16.

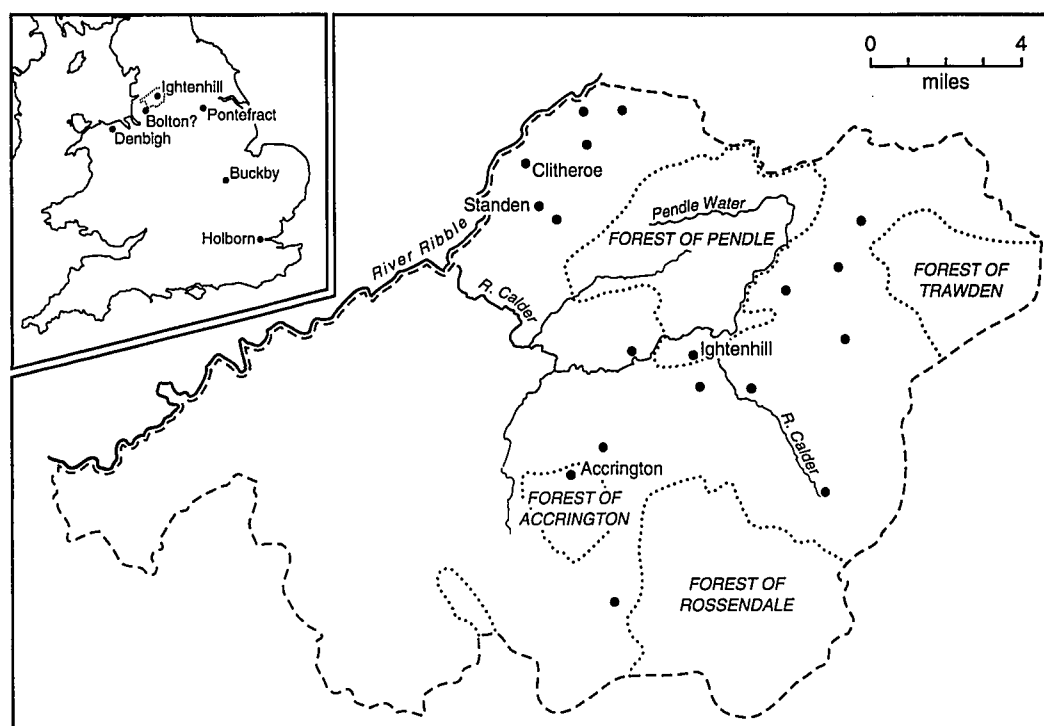


FIGURE 1

Blackburnshire in 1311: demesne vill, granges and forests (after R B Smith). Inset: De Lacy holdings which exchanged goods with Blackburnshire

and cheese was produced in the summer of 1295, but the sale of it produced less money than the lactage rent charged later. These rents plus those of the demesne and other vill and various customary dues were supplemented by the profits from the sale of oxen, horses, corn, hay and herbage in the forests, vaccaries and granges which were the only parts of the demesne held in hand and produced over £500 and £800 for transmission to the constable of Pontefract Castle and other of the earl's officers in the periods covered by the two *compoti*.⁷

The centralized administration of the estate and the detailed accounts with their own built-in checks on income and expenditure make it clear that the earl's chief

officers were very well aware of such treatises on estate management as that of Walter of Henley. We can only speculate how far such recommendations trickled down to affect the ways in which freemen and bondmen cultivated their own holdings. It is, however, worth remembering that it was the latter who did the actual work of effecting any new practices on the demesnes, and that as labour services became commuted they too were entering a money economy.⁸

Ightenhill lay in the core of the bend where the river Calder turns sharply to the west from its initial northward course, and the four (largely treeless) forests lay round it in the uplands to the north, east and south (Fig 1). Accrington, the smallest and

⁷De L.C., for 1295-6, pp 1-20 (118-29) and 20-42 (130-42); for 1304-5, pp 68-116 (156-86).

⁸D Oschinsky, ed, *Walter of Henley and other Treatises on Estate Management*, Oxford, 1971; Kershaw, *op cit*, p 36.

lowest of the forests, included important lowland pastures at Antley as well as the grange of Accrington. Trawden Forest lay east of Ightenhill, across the headwaters of the river Colne, itself tributary to the Calder. Pendle Forest, north of Ightenhill, spread across the basin of the Pendle Water which rises on the flanks of Pendle Hill, and flows first east, then south-west, to join the Calder near Ightenhill. The Forest of Rossendale, the largest and the most remote from Ightenhill, incorporated the upper Irwell and its tributaries and reached south-eastward to the Yorkshire boundary. Its plateau surface, which reaches over 1000 ft, is cut by deep and narrow valleys.

The higher parts of the forests receive an average of more than 50 in of rain annually, and the high rainfall and the steep slopes, largely masked by boulder clay, sometimes conspire to produce serious flooding along the tributary streams, damage occasionally reaching well down the main rivers. The area today is dominantly one of pastoral farming and clearly was so in the Middle Ages. Standen was the most favoured of the demesne granges in terrain and climate, and produced some wheat, barley and beans; but the dominant crop here as in the other granges was oats. The herdsmen of the vaccaries probably produced some subsistence crops. Climate, altitude and the thin soils of the Millstone Grit series limit the number of animals carried per acre. In 1869 the highest townships of Pendle Forest (lying above 500 ft) carried only one cow to between three and four acres,⁹ and it is unlikely that the medieval stocking ratios would have been any better, despite the more favourable climatic conditions thought to have obtained in the period before 1300.

⁹ A Metcalfe, 'Agricultural changes in Pendleside 1869-1969', unpublished dissertation for the Certificate of Education, Chorley College of Education, 1970. This study was based on the annual agricultural returns to the Board of Agriculture made available through the Public Record Office.

I

The dominant activity in the twenty-seven vaccaries of the four forests was the rearing of oxen for sale in the markets of Bolton and Pontefract.¹⁰ Each year at Michaelmas (29 Sept) the men responsible for the management of stock farming in each forest met at Ightenhill to account for their animals since the previous Michaelmas, to list the various classes of stock still remaining on the vaccaries in each forest, and to report additions and losses. The quotation at the head of the text is the report of one such vaccary in the Forest of Pendle taken as an example of the detailed records for the years 1295-6 and 1304-5 of part of the de Lacy estates. These records and those of the stock 'pools' and granges, coupled with knowledge of the terrain and climate and what the Orwins called 'the common sense of farming practice', permit reconstruction not only of the pattern of management of this large and centralized pastoral estate, but also, though more dimly, of the individual vaccaries.¹¹

The vaccaries were identified in these two years only by the name of the keeper, but later audits offer place-names, and some of these are identifiable through later field patterns.¹² Each vaccary was in the charge of a vaccary keeper, and there was an associated hamlet or 'booth' where the herdsmen lived. The size of the whole business may be gauged by the large numbers of cattle which were over-wintered on the vaccaries. The audit at Michaelmas 1296 recorded a total of twenty-seven vaccaries, eleven of the vaccaries were in Pendle; Rossendale had eleven vaccaries

¹⁰ De L.C., pp 15 (126) and 87 (167).

¹¹ C S and C S Orwin, *The Open Fields*, Oxford, 1954, p 14.

¹² The place-names of the vaccaries were recorded in 1323-4; see W Farrer 'Lancashire inquests, extents and feudal aids, 1205-1355', *Record Society of Lancs and Ches* II, 1905-15, pp 198-201; G H Tupling, 'The economic history of Rossendale', *Chetham Society*, NS, 86, 1927, reprinted New York, 1965, p 19. Tupling implies that a 'booth' constituted little more than a wooden hut, but the number of animals recorded in each vaccary implies the need for several herdsmen in addition to the vaccary keeper: M A Atkin, 'Some settlement patterns in Lancashire' in D Hooke, ed, *Medieval Villages*, Oxford, 1985, pp 173-79.

and Trawden had five. Of these, all except two recorded an autumn total of over eighty head of stock, and the other two had over seventy animals, all of them apparently intended to be over-wintered. In Accrington Forest there was a single huge vaccary which carried over 230 animals: thus the total winter stock approached 2500 animals. In the 1305 *compotus* there was one vaccary less in Pendle, but the large Accrington vaccary had been divided, and there were now three there, though one was still very much larger than any other.¹³

The central 'pools', not all of which carried stock through the winter, were in the charge of officers of the estate. Simon the Geldhird was in charge of the 'cattle of croin', the old and/or barren cows, and had pastures for them in Higham on the south-facing slopes of the Calder valley.¹⁴ William of Antley and Geoffrey the Parker each had charge only of oxen, the latter presumably in the park at Ightenhill, and the former probably at Antley pastures near Accrington. Gilbert de la Legh, the chief instaurator or stockman, was responsible for the management of the whole estate, and had charge of the exchange of old animals and redistribution of young stock to the vaccaries, as well as responsibility for marketing the surplus stock, comprising both the old cows and the oxen which were the principal product of the system. Since he had large numbers of animals sent to him at Ightenhill for redistribution or over-wintering he had a deputy (Peter de Bradley in 1295-6, and John de Paldene in 1304-5) to take charge of them. Each forest had a stockman (*instaurator*) who

attended the Michaelmas audit with his vaccary keepers to present the accounts for 'his' forest.¹⁵

The tenancy arrangements of these vaccaries were evidently very similar to some of the tenancy agreements of the 'lodges' of Fountains Abbey. In each estate the animals were part of the demesne, and the chief stockman not only required them to be accounted for in detail annually, but he undertook the replacement of old stock with young animals taken from the vaccaries into the central pools of stock. This system was described in some Fountains leases as 'the ancient custom used time out of mind'.¹⁶

One vaccary in Pendle, that of Henry, son of Kitte, (head of text) will be used here to discuss the nature of the evidence, and to exemplify and clarify the wider picture (Table 1). In the autumn of 1295 Henry had evidently recorded the following classes of stock 'of remainder' which he was going to over-winter on his vaccary: forty-two cows, one bull, ten yearlings and thirteen 'calves of remainder', that is, calves born in the previous spring, 1294. There were no entries of 'remainder' under heifers and steers, or oxen.

The cows were the core of his breeding herd and to these he added '6 cows of addition', and '1 bull of addition'; and he sent '1 ox of addition' to Geoffrey the Parker. This term 'addition' refers to the heifers and steers, and one young bull of the previous autumn of 1295, now 'added in' under a different heading. These were not entered as 'remainder' under the heading of heifers/steers because they have been re-classified: the heifers, having calved, are now counted as cows, the three-year old

¹³ A Watkins notes the very much smaller numbers of stock in Arden: 'Cattle grazing in the Forest of Arden in the later Middle Ages', *Ag Hist Rev*, 37, 1989, pp 12-25.

¹⁴ De L.C., p 40 (140). The Latin text of the *compoti* pp 38-9, 40, 85 reads: *croin*, *croym*; *Simon le geldhirde, custos croin*. In R E Latham, *Revised Medieval Latin Wordlist*, Oxford, 1965 are *croinardus* — crone, old, worn out sheep; and *croimium* — weeding out of old animals; and (*re)croin(atu)s* — old animal weeded out of flock. 'Crone' is still in use today, usually applying to old sheep, though here referring to old or barren or lame cattle.

¹⁵ In 1295-6 the forest stockman of Pendle, Henry del Estock, was also a vaccary keeper in Pendle: De L.C., pp 30 (134) and 38 (139). He was presumably sufficiently numerate and literate to keep accounts of his forest and present them at the audit.

¹⁶ Michelmores, *art cit*, leases for Bouthwaite, Heyshaw and Lofthouse, nos. 205 and 238, 212, and 206. A modified form of this type of tenure is found in those Cumbrian tenancies in which 'heafed' flocks 'go with the land'.

TABLE 1

The returns made by Henry, son of Kitte (Pendle no. 3), Michaelmas to Michaelmas 1295-6

	Cows	Calves of the year	Bulls	Calves of remainder	Yearlings m f	Heifers-steers	Oxen
<i>Credit</i>							
Remainder	42		1	13	10		
Additions	6		1				1
Calves of year		19					
From instaurator	1	1					
Sub-total	49	20	2				
<i>Debit</i>				- 1 tithe			- 1 to parker
Murrain		- 3					
To geldherd	- 3						
To instaurator	- 2	- 2					
*Total	44	10 (sic)	2		5m (7f)	7 3	(0)
		15 (corrected in final total)					

Afterwards 1 cow is allowed to him because it was taken away by robbers. It is forgiven him by the Earl.

* This was described in the *compotus* as 'Total of the cattle remaining in this vaccary'.

Figures in brackets are deduced from the actual data in the *compotus*: e.g. '12 yearlings remain (5 males)'.

(gelded) steers as oxen, and the young ungelded (entire) bull is now to take his place in the breeding herd.¹⁷

This same process of re-classification can be seen in the 'calves and yearlings of remainder'. The former, minus one of their number used to pay tithe, are now yearlings, and the latter are heifers and steers, being now one year older. During the coming year these seven new heifers, now entering their third year, will go to the bull, and should bear their first calves in the spring of 1297.

There must have been some policy, and a decision-maker, guiding the selection of male calves to be reared entire, a decision which would have to be made soon after their birth in February or March since the other young males were probably gelded before they were a month old. The purchase of 'candles bought for the vaccary of Accrington and Baxtanden and for gelding

calves' indicates their need to provide good lighting in the calf-house at a dark time of the year. The deputy or the geldherd may have been the decision-maker. Perhaps he and the forest stockman went round the vaccaries in the spring picking out the best male calves for rearing entire, gelding the rest, and agreeing with the vaccary keepers on which old or sterile cows should be culled that year from their herds.¹⁸

In 1296 there were two more vaccaries in Pendle (nos. 4, 7), as well as Henry's, which kept one bull of remainder as well as the one of addition. There may have been a policy of retaining the old bull while introducing the young one in order to guarantee complete coverage of the herd. Among the Rossendale herds four two-year old bulls were recorded, and in 1304-5 Robert de Merkelesdene had two

¹⁷ P D A Harvey, 'Agricultural treatises and manorial accounting in medieval England', *Ag Hist Rev*, 20, 1972, pp 170-82.

¹⁸ T Tusser, *Five Hundred Points of Good Husbandry*, 1557, reprinted by OUP, 1984 p 77: January — 'Geld bulcalfe and ramlamb as soon as they fall, for therein is lightly no danger at all'. De L.C., p 87 (167): rushlight, probably the more usual form of lighting, would have been much cheaper, but would give only very limited light.

young bulls in his herd, one of which was sent to the chief stockman as a two-year old, but the other was retained on the farm, and perhaps was intended to replace the existing bull. There is no evidence that the vaccary bulls were moved round from one vaccary to another, and any concept of selective breeding is unlikely at that time. There may, however, have been a reluctance to allow the bull to breed with his own progeny which could occur after four years.

Under the heading of 'calves of the year', that is those born during the spring of 1296, Henry recorded nineteen calves. To obtain only nineteen calves from a breeding herd of forty-two cows is a low calving ratio, being less than a half. Even allowing for poor winter feeding, and higher losses in calving through lower levels of knowledge and hygiene than today, this ratio is worse than that recorded in some contemporary herds, though not appreciably worse than those of Bolton Priory.¹⁹ A possible explanation may be that the figure of nineteen calves represents only the estate's share of the calves, and that numbers over that figure, perhaps up to an agreed maximum, were the perquisite of the vaccary keeper and his herdsmen: any calves above that maximum were then to be sent to the 'pool'. This would be similar to the situation on some of the cattle lodges of the Nidderdale estates of Fountains Abbey.²⁰ Henry also received

one cow and one 'calf of the year' from the chief stockman. These, with the bull, were given a 'credit' total of forty-nine cows, twenty calves of the year and two bulls.

The debits offer clues to some of the losses which might be experienced on the medieval vaccaries. No losses in calving, either of cows or of calves, are recorded in any of the vaccaries. Perhaps, as must have been the case at Bouthwaite, calving losses were made up from the keeper's share. Nevertheless, one vaccary keeper was fined 12d 'for calves badly kept', and in Rossendale a vaccary keeper, Cecilia, was replaced, and her son paid a fine of 10s 'for 4 calves lost by defect of custody of the said Cecilia'.²¹ Disease caused the highest losses of stock, murrain accounting in 1295-6 for as many as three or four 'calves of the year' per vaccary. Over the whole estate eighty 'calves of the year' were lost, as well as ten cows. Other categories of stock appear to have been less vulnerable, perhaps having gained some immunity as a result of earlier attacks. The precise nature of 'murrain' is unknown. Foot and mouth, rinderpest, or pneumonia (common in housed stock) are likely to have been endemic in herds in earlier periods, but the term may have been used as a general term for any cattle disease.²²

Frequent re-siting of cattle-housing for the young stock seems to have been a regular policy of the estate, and suggests some perception of the value of avoiding fouled land. The list of expenses in both 1295-6 and 1304-5 records 'removing and rebuilding' housing for various classes of stock. As these were almost certainly of a prefabricated timber construction it would

¹⁹ Kershaw, *op cit*, p 100 quotes 80-90 calves to 185-219 cows between 1310 and 1316. Contagious abortion (brucellosis) could have caused very heavy losses. Although a cow in subsequent years will gain some immunity, heifers entering the herd will be affected since the calves themselves, the afterbirth, and all discharges are highly infective: Ministry of Agriculture, Bulletin No. 169, 1959.

²⁰ Michelmore, *art cit*, lease no. 238, Bouthwaite, p 251. In a tenancy agreement of 1537 the abbot and convent granted that '...to go towards the fyndyng and wages of themselves and their servants... the tenants of Bouthwaite lodge should have...all the calves that shall come yearly to the 60 cows and their 27 followers of three ages...' except for '...30 calves that shall come yearly from the cows and their followers'. This appears to mean that thirty calves of the year were to be the property of the monastery, and any calves of the year above that figure were regarded as the property of the lodgekeeper and his men. Although these leases date from the early sixteenth century several of them state that various (and

different) aspects of the system had been the custom 'time out of mind' or 'customary from ancient times in the dale' — lease nos. 206, 212, 227, 228, 238.

²¹ De L.C., pp 28 (133), 32 (135).

²² Tupling, *op cit* (1927). Foot and mouth disease, like brucellosis, is one which leaves surviving animals with some immunity against further attack, but endemic in a herd will continue to decimate young animals.

TABLE 2
Losses of stock through murrain and wolf attack in the four forests, 1295-6

Forest	Cause	Cows	Calves of the year	Calves of remainder	Yearlings	Totals
Pendle	Murrain	10	27	8	1	46
(11 vaccaries)	Wolf				1	1
Trawden	Murrain	4	14		2	20
(5 vaccaries)	Wolf	1		1	2	4
Rossendale	Murrain	6	35	10	2	53
(11 vaccaries)	Wolf	4		2	1	7
Accrington	Murrain	2	4		2	8
(1 vaccary)	Wolf			3		3
Total losses	Murrain	22	80	18	7	127
	Wolf	5		6	4	15

In addition, the parker reported 2 oxen lost through wolf attack, and William of Antley lost 2 oxen in murrain. There were also losses of a few animals through robbery, but these appear to relate to theft in a previous accounting year.

TABLE 3
Losses of stock through murrain and wolf attack in the four forests, 1304-5

Forest	Cause	Cows	Calves of the year	Calves of remainder	Yearlings	Totals
Pendle	Murrain	5	12	8	3	28
(10 vaccaries)	Wolf					0
Trawden	Murrain	4	7	1	1 bull	13
(5 vaccaries)	Wolf					0
Rossendale	Murrain	21	37	10	2	70
(11 vaccaries)	Wolf	1		1	6	8
Accrington	Murrain	3	7	1	1	12
(4 vaccaries)	Wolf	2	1			3
Total losses	Murrain	33	63	20	7*	123
	Wolf	3	1	1	6	11

* Including 1 mature bull.

be a relatively easy job to pull off and burn the thatch, and shift the timbers to a new site. In this way clean ground could be provided for the housing at fairly frequent intervals, for no more than the cost of new thatching and labour.²³

The risk of loss from attack by wolves was minimal compared with the losses caused by murrain (Tables 2 and 3). Over

the four forests, in 1295-6, five cows, six calves of remainder, four yearlings and two oxen were recorded as 'strangled by the wolf', Rossendale suffering the greatest losses. The younger cattle are clearly the most vulnerable, but there are considerable losses of grown cows, perhaps because the greatest risk of wolf attack would be in late winter when other prey was in short supply, and at that time the cows were heavy with calf. No calves of the year were lost to wolves, almost certainly because they were housed until they were weaned. The vulnerability of the older calves was recognized, for the stock pool accounts

²³ De L.C., pp 40 (140), 90 (169). In 1295-6 '...a house for yearlings in Sapedene...', '...an ox house at Rughley — Roughlee; both in Pendle. In 1304-5 '...summer lodges made anew (*de nova facta*) for yearlings...' at Riley and Antley, in Accrington. Tupling, *op cit* (1927), p 24: a *compotus* of 1341 lists the timber cut for a new cowhouse at Bacup in Rossendale as 2 crossbeams (*pannae*) 80 ft long, 14 posts and 7 beams, and 4 large sills. This is clearly for a building of six bays, each bay apparently 13 ft long.

include the wages of '1 man guarding the calves from the Wolf'. On the vaccaries the keeper and his herdsmen no doubt carried that responsibility themselves. There are a few records of cows lost through theft, but at least in the case of two of them the vaccary keeper was not regarded as having been negligent, for the loss was recorded as 'forgiven by the Earl'. The estate evidently kept a check on any tendency to thievery on the part of the herdsmen themselves for the seneschal, the constable, and the steward were paid expenses for carrying out 'Views' or 'a Seneschal's inspection', in course of which they did find some animals. Although there were high losses of 'calves of the year', the losses in older stock were generally very small, and suggest that careful tending of the animals was usual.²⁴

Henry sent three cows to the geldherd. This official, 'Simon the Geldehirde', was described in another part of the *compotus* as 'keeper of the cattle of croin'. The term 'crone' for old or barren cattle or sheep is still in use today in some areas. On the Fountains Abbey estate the term 'crochy' was used for similar cows, and there was an agreement with each lodge-keeper that at Whitsuntide he would send to the monastery 'nine of his oldest and most "crochy" cows...to be fed in other pastures belonging to the monastery...' '...and for the nine "crochone" cows so delivered...' the monastery would send, at Michaelmas, '... nine heifers to fulfil the stint'. This exchange of heifers for old cows was described as '...customary from ancient times'.²⁵

A similar system was clearly operative in the Blackburnshire vaccaries, and evidence from another part of the *compotus* shows that the 'croin' cows were pastured on the south-facing pastures in Higham for twenty-one weeks of the summer before

being sold for meat. This suggests that like the Fountains Abbey lodges, the 'croin' cows were dispatched to the geldherd round about Elenmas (3 May), their twenty-one weeks of grazing terminating about Michaelmas. Since the number of young cows (three year-olds) joining the breeding herds each year averaged about five, and the vaccary herds each contained about forty cows (eight generations), so the age of those culled was probably ten years and above.²⁶

Table 4 shows the number of animals sent to the geldherd from each of the Blackburnshire vaccaries in 1295-6, the numbers varying between none and seven, but most of the vaccaries sent two or three, the total from all four forests being fifty-nine cows and fourteen 'calves of the year'. Not all the croin cows were barren; a few calves went with their mothers because they would still be suckling, but their small number reflects the generally poor quality of these cows.²⁷

Tables 5 and 6 reveal the cows and calves, and a handful of bulls, which moved between the vaccaries and the steward. His function (with the help of his deputy) was to arrange the redistribution of young cows and 'calves of the year' between the vaccaries, so as to maintain the breeding herd on each individual vaccary.²⁸ To this end it is clear that during the course of the year some stock was sent in from most of the vaccaries to the steward (Table 5), and at another point in the year that same body

²⁴ De L.C., pp 40 (140), 24 (131) and 30 (134); 34 (137), 75 (160) 78 (162).

²⁵ Michelmores, *art cit*, lease no. 238, p 252, and lease no. 206, p 200.

²⁶ De L.C., p 40 (140); Mate, *art cit*, p 24. Sickly stock were put on the best land to fatten, and then sold to the butcher. Michelmores, *art cit*, p lviii: El(l)enmas (3 May) and Michaelmas (29 Sept) were the traditional dates in Craven for moving stock from lowland to upland pastures and back again. These dates appear to be significant in north-east Lancashire too. The herdsmen's terms of employment at the 'pools' ran from Michaelmas to Elenmas and Elenmas to Michaelmas: De L.C., p 87 (167).

²⁷ De L.C., p 40 (140). The two calves described as issue of the croin cattle were probably born while the latter were in the geldherd's hands; the other twelve were born on the vaccaries.

²⁸ I have assumed that these were young cows which had successfully produced their first calf as these would be the most satisfactory long-term replacements for old stock.

TABLE 4
Croin stock moving TO the geldherd FROM the vaccaries, 1295-6

Vaccary	1	2	3	4	5	6	7	8	9	10	11	Total cows	Total calves
Pendle													
Cows	3	3	3	2	1	1	2	2	2	4	2	25	
Calves	0	1	0	1	0	0	0	2	0	0	1		5
Trawden													
Cows	2	3	3	2	7							17	
Calves	1	2	1	1	1								6
Rossendale													
Cows	2	0	0	3	1	0	4	1	2	0	1	14	
Calves	0	0	0	0	1	0	0	1	1	0	0		3
Accrington													
Cows	3											3	
Calves	0												0
Total of all vaccaries												59	14

These figures compare with the 60 cows and 12 calves which the geldherd said he had received from the vaccaries, plus 2 calves, issue of croin cattle in the geldherd's custody.

TABLE 5
Stock moving TO the steward FROM the vaccaries, 1295-6

Vaccary	1	2	3	4	5	6	7	8	9	10	11	Total cows	Total calves
Pendle													
Cows	8	1	2	1	5	0	0	4	0	2	0	23	
Calves	7		2	2	5	0	0	4	0	2	0		22
Trawden													
Cows	5*	2	3*	4	0							14 (+2 bulls)	
Calves	5	2	3	4	0								14
Rossendale													
Cows	5	2	2	1	3	4	2	0	2	0	2	23	
Calves	4	0	0	0	3	2	0	1	1	0	0		11
Accrington													
Cows	3*											3 (+1 bull)	
Calves	1												1
Total sent from all vaccaries												63	48 (+3 bulls)

* Indicates presence of a bull as well.

of stock was redistributed around the vaccaries (Table 6).

It is surely no accident that, although the number of cows sent from or to the individual vaccaries through the steward, is highly variable, the total number which the steward has through his hands is very similar to the number of 'croin' cows sent to the geldherd. These cows are evidently the replacement stock. They are

accompanied by calves of the year both to and from the steward and in numbers very similar to that of the cows. It would seem therefore that those going to the steward, probably in early summer (Elenmas) are likely to be young cows (the best replacement stock) with their still-unweaned calves at foot. At the end of the summer they could be redistributed to the vaccaries with weaned calves (not necessarily their

TABLE 6
Stock moving FROM the steward TO the vaccaries, 1295-6

Vaccary	1	2	3	4	5	6	7	8	9	10	11	Total cows	Total calves
Pendle													
Cows	0	4	1	0	1	6	3	1	3	2	5	26	
Calves	0	4	1	0	2	6	?3	0	3	2	?2		?23
Trawden													
Cows	1	0	0	0	3							4	
Young bull				1									
Calves	1	0	0	0	4								5
Rossendale													
Cows	2	3	6	5	1	0	4	3	0	6	4	34	
Calves	1	3	5	6	1	0	4	2	0	6	4		34
Accrington													
Cows	0											0	
Calves	2												2
Total sent to all vaccaries												64	64*
Total lost from all vaccaries													
Murrain: 80 calves of year, 22 cows, 25 others (mostly calves of remainder)													
Wolf: 5 cows, 17 others													
Robbers: 2 cows													
Grand total losses: 151 animals (c 6 per cent of Michaelmas totals)													

* Includes 14 from croin cows.

own) just before the audit in September. Such an arrangement would allow the steward to send male or female calves according to the need to balance the numbers on the individual vaccaries, and would also give the young cows in their first lactation the advantage of rich summer grazing on lowland pastures in the Calder valley. Furthermore, by reducing the pressure of stock within the vaccaries at the time of the 'hungry gap' when grass growth is slow it would enable more of their land to be closed up for growing hay for the winter.²⁹

Henry, son of Kitte, our example (Table 1), held Pendle vaccary no. 3 in Tables 4-6. In the early summer he sent three croin cows to the geldherd, and two cows and two calves of the year to the

steward (Table 5), and he received one cow and one calf as replacements from the steward in September (Table 6). The forty-two cows of remainder which he had in September 1295 now stood, with the six cows of addition and the single replacement, at forty-four in September 1296, so he had two more cows in his breeding herd than he started with. Henry's final total of calves of the year (fifteen) is below the number that were born on the vaccary (nineteen), for he sent more to the steward than he got back, and he lost three calves in murrain.

Table 7 demonstrates the steward's redistribution of calves of the year to maintain a balance of numbers between the vaccaries. Apart from vaccary no. 1, most of the Pendle vaccaries end the audit year with about fifteen calves. It is noticeable that, apart from bulls, these young cows and their calves are the only classes which are redistributed: the one-and-two-year olds

²⁹ N Harvey, 'Walter of Henley and the old farming', *Agriculture*, LIX, 1953, p 488 defines the 'hungry gap' as the period between the ending of stored hay and the growth of new grass. As in the Middle Ages it still presents problems to the North Country farmer: Atkin, *art cit* (1990-1), pp 64-5.

TABLE 7
Calves of the year on the Pendle vaccaries, 1295-6

Vaccary	1	2	3	4	5	6	7	8	9	10	11
Born	24	15	19	23	22	12	15	23	16	19	19
Net Gain/ Loss*	-11	+2	-4	-7	-7	+3	+1	-7	+1	-3	-3
At Michaelmas	13	16	15	18	14	15	16	16	17	16	16

* Including murrain.

do not move. There also appears (Table 8) to be a deliberate attempt (perhaps because the emphasis was on oxen for sale rather than dairy produce) to maintain a balance between the sexes in each vaccary. This can, of course, only be demonstrated in the two classes of stock for which this information is given, and has here been demonstrated for Pendle Forest only.

II

There were big changes between the *comptus* years in the Accrington vaccaries. The vaccary held by Macock of Antley in 1295-6 had a range of stock comparable with the forest vaccaries but was almost three times as big. It recorded a 1296 Michaelmas herd of 238 animals. By 1304-5 it appears to have been replaced by three vaccaries, one still very large with 145 animals and one held by Macock of standard size.³⁰ The third vaccary was held by Elias de Hayleghes and was evidently just building up. He had only one generation of calves at Michaelmas 1295 so it looks as though the vaccary may have been established only in the previous year. He received a generous allocation of cows and calves, fourteen of each, from the steward, so by the time of the autumn audit his breeding herd was thirty-six cows and a bull, and he had eighteen calves of the year and twenty-one yearlings, nine of them females. His vaccary, therefore, was then

comparable in size and stock to the normal forest vaccaries.

III

The management of the stock from the estates seems to turn on the management of the winter grazing available in the 'pools'. In 1295-6 four officers were the recipients of the stock from all four forests, and were in charge of the stock 'pools' sited in, or near, Ightenhill and Antley by Accrington. Geoffrey the Parker was presumably in charge of the deer park at Ightenhill and he also handled the young oxen (of addition) coming from the vaccaries. In 1295-6 he had only over-wintered three oxen, but in spring received the 137 young oxen (three-year olds) from the vaccaries. He evidently kept them through the summer (losing two in murrain) and before Michaelmas sent them to the geldherd. This cleared his park of oxen so he would not record any oxen of remainder in the next year's audit. Since, as parker, he was also responsible for maintaining a herd of deer, his policy appears to be to reduce the cattle in the park in autumn in order to provide grazing and additional fodder for the deer over the winter. In 1304-5 he was not involved with the cattle at all.³¹

Simon the Geldhird, was the keeper of the cows of croin, and probably from

³⁰ Lyons assumes Macocke and Mokot are the same person: De L.C., pp 37 (138), 84 (165) and (193).

³¹ Food for the deer included 'oats for the wild animals': De L.C., p 95 (173); and browsings cut in the park and the forest, e.g. '... cutting down branches' (*ramis*): De L.C., pp 113 (184), 38 (139).

TABLE 8
The balance between the sexes on the Pendle vaccaries

1295-6												
Vaccary	1	2	3	4	5	6	7	8	9	10	11	12
Males												
Years.	9	6	5	5	5	7	5	7	4	6	8	8
Steers	6	6	3	9	8	3	7	5	8	7	4	4
Total	15	12	8	14	13	10	12	12	12	13	12	12
Total in Pendle Forest 133												
Females												
Years.	3	9	7	6	7	6	8	6	8	6	8	6
Heifers	7	6	7	5	2	5	3	8	4	4	4	5
Total	10	15	14	11	9	11	11	14	12	10	12	9
Total in Pendle Forest 126												
1304-5												
Vaccary*	1	2	3	4	5	6	7	8	9	10	11	12
Males												
Years.	9	6	9	6	5	7	7	6	5	5	5	7
Steers	5	5	7	6	8	7	7	5	5	2	2	7
Total	14	11	16	12	13	14	14	11	10	7	7	14
Total in Pendle Forest 122												
Females												
Years.	4	9	4	8	8	5	7	7	5	5	5	7
Heifers	6	4	6	5	4	5	5	9	6	6	6	7
Total	10	13	10	13	12	10	12	16	11	11	11	14
Total in Pendle Forest 121												

* There were only 10 vaccaries in Pendle Forest in 1304-5.

Elenmas to Michaelmas fattened a total of sixty croin cows from all the forest vaccaries on his good pastures in Higham before they were sent to the chief stockman for sale at Michaelmas 1296. This cleared his pastures to receive Geoffrey the Parker's herd of 135 young oxen before Michaelmas 1296, and since he recorded them as 'remaining' he evidently kept them on his pastures through the next winter (1296-7). By the next spring these oxen would come of age as draught animals.³² One of his duties during this winter may have been the breaking of these oxen to the yoke. If he sent them on to the chief stockman in the early spring, he would be able to clear and rest his pastures before he received the next year's croin cows at Elenmas. The geldherd's pastures were, therefore, in use for cattle in both winter and summer, but might be rested in the spring.

Gilbert de la Legh, the chief stockman, was the ultimate recipient of all the stock passing through the stock pools, having over 300 animals through his hands in the course of the year although only about 100 remained after each Michaelmas. He received and redistributed the young cows and calves of the year, and received and sold the four-year old oxen. His pastures were managed by a deputy and used both for the sixty plus young cows with their calves which were summered there before being redistributed to the vaccaries before Michaelmas, and for the animals which were gathered there, presumably for assessing their quality, before they went for sale. Some stock remained over the winter,

both in 1295-6 and 1304-5, usually but not exclusively oxen.

The fourth officer, William of Antley, was described as 'keeper of oxen' in 1304-5. He had evidently over-wintered the previous year's (1294-5) 122 young oxen at Antley before sending them to the chief stockman for sale. He had cleared his pastures by Michaelmas 1296. Since the young oxen of 1295-6 were wintered with the geldherd it seems likely that there was a policy of resting their pastures in alternate winters.

The pattern of management in the stock 'pools' described in the 1304-5 *compoti* is very much the same as it had been in 1295-6, but many more oxen (213 compared with 137) were sent for sale apparently including some three-year olds. There is now a fifth officer, William de Bakestonden, who is described as 'keeper of the barren cattle of Accrington': he only handled oxen in 1304-5. Henry Hare is now performing the role held earlier by Geoffrey the Parker and is working as a team with William of Antley. Peter de Bradley has been replaced by John de Paldene as deputy to the chief stockman. Simon the Geldhird has taken on an intermediate role, presumably in assessing and redistributing stock between the officers, but as the figures he records are augmented ones, it is not as easy to trace the passage of a body of animals through the system.

Neither Geoffrey the Parker nor William of Antley handled any cows or calves, and the geldherd took only the cows of croin and the handful of calves which presumably came with (or of) these older beasts. The chief stockman and his deputy, Peter de Bradley, shifted at least five classes of animals through their pastures, probably most of them for relatively short periods prior to redistribution or before sale.

The relatively few oxen retained on the demesnes will be discussed later. In the earlier year most of the oxen were sold 'in

³² J. Bourdillon, 'Countryside and town: the animal resources of Saxon Southampton' in D. Hooke, ed., *Anglo-Saxon Settlements*, Oxford, 1988, pp. 177-95. While this study refers to a much earlier period, it is clear that animals whose bones were found had served other uses and had reached a (very?) mature age before they were eaten. Even in the later period it seems likely that the young oxen sent to the markets would have been sold as draught animals rather than immediately for beef. J. Langdon, 'The economics of horses and oxen in medieval England', *Ag Hist Rev*, 30, 1982, pp. 35-6, Table 4 indicates an average working life on a demesne of an ox was 5.1 years before sale (presumably for meat).

the markets of Bolton and St Egidius'. This last was the earl's market of St Giles in Pontefract held presumably on 1 September. Lyons identifies the former as Bolton-le-Moors in Lancashire, some twenty miles away.³³ The numbers despatched to each are not recorded and only the Bolton market was served in 1304-5. The oxen were sold for an average price of 9-10s in the latter year, but only for 8s 6d in 1295-6. Many more were sold in 1304-5 and at a better price than nine years earlier. The average price of an ox in 1295-6 was 8s 6d and the croin cattle about 6s 8d each. In 1304-5 oxen made almost 10s each and 168 cows (including at least 79 croin cows) 5 bulls and 2 calves made £67 8s 4d, averaging about 8s per mature beast. There is no evidence that any of the stock was allowed to the keepers or officials in either year.³⁴

In the earlier year the hides and flesh of stock affected by murrain appear to have been sold directly from the vaccaries for what could be got, and prices (for a total of about twenty-five cows) ranged from 1s to as high as 4s, though mostly about 1s 10d. The highest prices were obtained in Rossendale. The flesh of calves of the year had no value, and the hides fetched only fractions of a penny. The flesh and hides of other classes of stock ranged between these extremes. In 1304-5 there seems to have been a change of policy which may reflect an intervention by management, perhaps to counter fraud: only the price for hides is quoted and always the same price, that of cows being 2s 2d. Possibly the skin had to be produced to an official as proof of authenticity, and was then paid for at a standard price.

IV

Although arable crops were grown at the three granges, the largest acreages (customary) were under meadow at Accrington and Ightenhill, the two most closely linked with the rearing of stock. Ightenhill grange, which included a stud for the rearing of riding horses (*runcini*), produced 27 qrs of oats (unthreshed) on 16 acres in 1296. Over half was set aside for seed and 4 qrs were sold, but the rest was kept as provender for the foals. At Accrington, 53 qrs were produced from 11½ acres, which was threshed, of which 70 per cent was sold, 16 qrs being kept for seed and 1 qr for a working mare and foal and for 12 oxen.³⁵ These acreages compare with over 60 acres of meadow at Ightenhill, and (1304-5 figures) 80 acres at Accrington and another 120 acres at its subordinate farms of Hoddlesden and Baxenden. (Probably through oversight the Accrington acreage was only recorded in the later year).

With the lowest and most favoured site on level surfaces in the valley of the Ribble and with limestone-derived soils, Standen was the principal grange. Here in 1296 they produced 2 qrs of wheat and 121 qrs of oats. In 1305 they also produced barley and beans, nearly 9 qrs of wheat and nearly 180 qrs of oats. All was sold apart from that set aside for seed and 5 qrs provender for 20 oxen. No acreage is recorded: instead in each year the area is measured in terms of 'food and wages of those reaping, gathering and binding', 'wages of 109 men reaping as if for a day'. This last is probably a reference to boonworks owed by the bovate from nearby demesne villis and performed at Standen. The work was

³³ Bolton, once a major Domesday manor, subsumed in the de Lacy manor of Bradford, Yorks by the thirteenth century, and lying midway between Ightenhill and Pontefract may be an alternative possibility.

³⁴ Prices quoted by Watkins, *art cit*, p 16 for beef for the duke of Buckingham's demesne (about a century later) are very much cheaper at c 2s 4d per carcase.

³⁵ De L.C., pp 17-20 (127-8), 93-6 (172-3). The statute acre was measured at 5.5 yards to the pole. Customary acres varied from one part of Lancashire to another, being 7 to 8 yards to the pole (Tupling, *op cit* (1927), p 105). Thus the customary acre of 8 yards to the pole was almost the equivalent of a hectare. De L.C., pp 1-3 (118-9); 88-90 (168-170). There were 8 bushels to a quarter (Assize of Bread and Ale, 51 Hy.III).

now paid but the obligation to do it still rested on the vills.³⁶

There are some signs that the weather in 1296 was poor. The harvest at Standen was much lower, and the yield per acre at Ightenhill only half that in 1304. The absence of beans and barley in 1296 from the crop-list may be due to crop failure. That may also explain the lower cost of mowing and making hay at Accrington, Hoddlesden and Standen, and also the low acreages mowed at Standen and Ightenhill. Prices for oats sold in 1296 were higher at *c* 2s 3d, compared with *c* 1s 10d per qr in 1305. Wheat sold in 1295 raised 3s 1d per qr but there is no separate price for wheat in 1305. These are ambiguous records, but there are clearer signs in reports of flood problems at Whitacre where they had had to 'turn the course of Kelder [Calder] water...to save the [park] paling' and it may have been flood damage which required repair to eight mills, 'the paling round the fish pond and the fence at Royle'.³⁷

North Lancashire weather is frequently quite different from most of the rest of the country and comparison with historical climatic data in southern England is especially unreliable. For what it is worth, 1296 is a year when the harvest in eastern England is listed by Hallam as 'poor'. It is one of the few years when he offers no report as to the weather, but 1296 falls in a period of droughts there. It is fair to point out, however, that the sort of flood and harvest disaster suggested by the De Lacy records could have resulted from rapid run-off of one very heavy thunderstorm following a drought which had dried and baked the ground and reduced the hay crop. However, a storm could also produce a rapid run-off if it followed a rainy summer which had saturated the ground and ruined the hay crop. Farmers in that

part of Blackburnshire have experienced both in recent years.³⁸

In 1295-6 the demesnal estate largely conformed with Walter of Henley's views on the economic advantage of oxen over horses for draught, and neither Standen nor Ightenhill recorded a workhorse but Accrington had one working mare. By 1304 the number of workhorses had risen to five, though two were apparently bought in only for part of the year. Langdon suggests that the availability of grass may have been a factor in favouring oxen in north-west England.³⁹

It is possible that at Ightenhill they occasionally put their finer quality animals to work. There were between forty-five and fifty breeding mares at the stud in each of the two years recorded, and about thirty foals born each year, though murrain losses in these were high. Most of the male riding horses (*runcini*) were sent, when mature, to the earl's other estates, or were sold (seventeen in 1304-5) fetching £5 apiece. There were also Welsh riding horses, valued at £3 15s which probably came from the earl's estate in Denbigh.

V

Apart from numbers of stock and expenses for some repairs, direct information in the *compti* about the vaccaries is slender, because although the animals were part of the demesne the vaccary keepers were not paid a wage. They evidently held the vaccary, its land and perquisites in return for service. However, accounts of seasonal work in other parts of the demesnes, and consideration of the constraints imposed by the weather and terrain permit some reconstruction of work on the vaccaries.

Behind each vaccary keeper lay his or her family and those of the vaccary herds-men. The total work force (including chil-

³⁶ De L.C., pp 41-42 (141-2), 90-94 (170-2).

³⁷ De L.C., pp 18 (128), 2 (118), 4 (119), 15 (125).

³⁸ H E Hallam, 'The climate of eastern England 1250-1350', *Ag Hist Rev*, 32, 1984, p 127.

³⁹ Langdon, *art cit*, p 33.

dren) might be as many as thirty or forty people over three generations. The whole unit formed a small hamlet of three or four lowly dwellings, a slightly superior one for the keeper, and additional barns, shippens, and other housings for stock, small crofts and gardens, and, perhaps shared with an adjacent vaccary, a corn kiln and water-mill.⁴⁰ Between the nine years of the two audits there were changes in the holders of the vaccaries, but eight names recur (possibly nine, if Henry 'son of Kitte' of 1296 is the Henry 'son of Christiana' of 1305). In 1295-6 three women are recorded holding vaccaries; these were evidently widows holding the tenancy until their son's majority. Two or three entries appear to be sons who have inherited the tenancy. Thus, at least half the tenancies were stable: there may have been more, but patronymics obscure them.

After Michaelmas preparation for what can be a six-month winter in this area required repairs to housing for humans and stock, and the cutting of bedding, probably bracken and other fern, for housed animals.⁴¹ The problem of housing so many animals may have been met in part by sending some of the yearlings to the pastures at Standen for twelve weeks.⁴² Cows still in milk and calves of the year would be housed, at least at night, though older stock may have been turned out on the in-by land during the day to reduce the health risks which were always high in stalled beasts. Since winter grazing does not appear to have been in short supply, heifers and steers probably remained out of doors for all but the most severe win-

ters.⁴³ They would be folded at night for security, and grazed close to the settlements for ease of carrying fodder. Branches were cut as browsings for the animals through the winter, the evergreen holly being one of the most valued.⁴⁴ An annual crop of acorns cannot be relied on in this area, but in good years pigs were turned into the woods, though in poor years this was probably restricted to the demesne swine.⁴⁵ In the autumn of 1296 eighty acorn-fed pigs were killed, but there is no mention of pigs in 1304-5.

A first ploughing of land intended to carry their subsistence oats and barley would allow winter frosts to break up clods, and later ploughings would clean any winter-grown weeds. The high rainfall and the risk of flood demanded thorough clearing of small streams and drainage ditches, and attention to wells or spouts supplying water to the farm, since carrying water to housed stock would be a heavy burden. Collecting fuel, manuring and tilling their own gardens and fields, and hedging and fencing, were made easy or aggravated by the variability of climate to which the area is subject in the winter: snow is no rarity.⁴⁶

The *compoti* tell us nothing of any stock save that of the estate, and the animals of the herdsmen and vaccary keepers have to be inferred, but would certainly exist. In Fountains the 'private' stock of these men was usually restricted to 'x cows and their young of one (or two) years', since the estate was unwilling to risk over-grazing

⁴⁰ Atkin, *op cit* (1985), pp 173-9.

⁴¹ For example, '...removing and rebuilding an ox house at Roughlee...', '...removing and rebuilding 1 house for yearlings': De L.C., p 40 (140); '...a summer lodge made...anew for the yearlings...' at both Riley and Antley: De L.C., p 89 (169). These mostly cost relatively small sums (15 8d; 19s 9d; 5s 10d; 11s 3d) but compare the cost of (semi-skilled?) labour for '...16 men for a day at one penny each...', employed to help the carpenter to rear the (prefabricated) timbers of the 80 foot cow-house at Bacup in 1341-2. The carpenter for his work in cutting the timber in the wood, and preparing it, received 28s: Tupling *op cit* (1927), p 25.

⁴² De L.C., p 40 (140).

⁴³ Both winter and summer herbage was let in Pendle in 1295-6 and 1304-5, and hay was sold as well. Cattle were agisted in Trawden and Rossendale, and in Standen in summer and winter: De L.C., pp 4-5 (119-20), and 90 (170). These animals were presumably additional to those belonging to the estate, and perhaps included the personal stock of the vaccary keepers.

⁴⁴ De L.C., pp 6 (120), 40 (140), 113 (184).

⁴⁵ De L.C., pp 8 (121), 16 (126).

⁴⁶ '...repairing vaccaries in Rossendale Forest': De L.C., pp 40 (140), 18 (127), 92 (171), 94 (127); ditching and hedging: p 18 (127); cutting and carrying fuel: p 89 (169); carrying and spreading dung: references to foldage (*faldagio*), De L.C., p 87 (168), on the demesne suggest that the value of manuring was recognized.

the pastures.⁴⁷ Thus the keepers' stock over their stint was probably sent for sale in autumn, or killed and salted down for home consumption. The lactage of the demesne cattle was rented out in each audit year, almost certainly to the vaccary keepers themselves. As the rent was substantial, it is clear that the cows could provide sufficient milk to feed calves and yet leave enough for cheese-and butter-making which would be a considerable daily chore until after Michaelmas. The responsibility of milking and dairy work, and usually the marketing too, belongs by tradition in this area to the womenfolk of the farms.⁴⁸

After the festivities to mark the turn the year the harshest part of the winter still faced them, with constant hard work in cleaning out shippens and stalls, foddering the animals, tending sick ones, and further ploughing ready for the spring sowings of oats, barley, peas and beans. Candlemas (4 Feb) was the traditional date for calving.⁴⁹ This was the time for a visit by one of the officers to select promising bull calves and geld the rest and to pick out the croin cattle. As days lengthened animals may have been turned out briefly during day-time, but now brought highest risk of attack by wolf, stray dogs or robbers, and care in guarding them was essential. After weaning calves were more likely to stray from their mothers and it was necessary to

identify the animals belonging to the estate. An allowance to the chief steward and his clerks 'for marking cattle' suggests that they went round the vaccaries branding and recording the young stock. This may have been carried out as part of the 'View' mentioned earlier.⁵⁰

Herdsmen's terms of employment began or terminated on the feast of St Elena (4 May) or Michaelmas, thus splitting the grazing year into a summer and winter season.⁵¹ Elenmas was also the time when the croin cows were taken down to the geldherd's pastures, and some of the young cows and their calves sent to the steward. Most of the rest of the stock was sent with several herdsmen and some of the older children to tend them. This was the period when the 'summer lodges' were brought into use.⁵² They are always described as being 'for yearlings', that is for last year's calves. The places mentioned in the accounts suggest that the grazings for the yearlings were large enclosures on the lower hill-slopes which would provide the clean, but not over-rich pastures, which these young animals needed. Thus the early part of May must have seen an enormous amount of stock movement across and within the forests, as stock were shifted to low or high ground according to their ages and classification. The departure of much of the stock off the vaccary permitted the shutting up of the in-by land to allow the grass to grow for hay. The women would remain at the home farm to tend the cows in milk and their calves for this was the height of the cheese-making season.

Haytime was usually late in these uplands, starting in July, and lasting, if the weather was good, over two or three weeks. Frequent showers at this time could extend the winning of the hay far into

⁴⁷ Michelmores, *art cit*, lease no. 205, p 196; lease no. 238, pp 251-2; lease no. 227, pp 227 and lxxvii-lxxviii.

⁴⁸ De L.C., pp 14 (125), 111 (183); *Albo vacca(ria)rum*. The letting of the lactage produced an income for the estate of £81 and £87 in the two years recorded. In 1295-6, De L.C., p 3 (119), the Accrington vaccary produced 260 stones of butter for sale and 156 cheeses (16 of them made after Michaelmas). Apart from 16 which were for tithe, the rest, weighing 82 stones were sold. Thus the average weight of the individual cheeses was 8.2 lbs, which would be derived (according to M Hartley and J Ingleby, *Life and Traditions in the Yorkshire Dales*, 1968, pp 12-13) from between 8 and 12 gallons (c 36-54 litres) of milk. On a Dales farm in 1870 two or three cheeses of this size would represent the daily production from 7 or 8 cows. Cheese-making 'houswyffely handled' continued beyond Michaelmas on Fountains Abbey vaccaries: Michelmores, *art cit*, lease no. 205, p 196, lease nos 257 and 194, pp 272 and 181. This is later in date than the Michaelmas termination recommended by contemporary writers: Oschinsky, *Walter of Henley*, pp 282-5.

⁴⁹ Tusser *op cit*, p 69: 'Calves likely reare, At rising of yeare'.

⁵⁰ De L.C., p 40 (140): 'An iron bought for marking cattle'; 'Allowed to the Instaurator of the forests for marking cattle and the wages of his clerks'.

⁵¹ De L.C., p 87 (167).

⁵² De L.C., pp 89 (169), Summer lodges in Antley and Riley, and 40 (140), 'a house for yearlings in Sabden'.

autumn, the situation becoming desperate once the night dews of September had wetted the cut grass faster than the day's sun could dry it. A rapid and timely hay-making released the labour for the corn harvest to begin in late August or early September. It too was vulnerable to the weather, and the grain may have needed to be dried in a corn kiln such as are known to have existed in the Middle Ages.⁵³ A damp and sunless summer, especially if combined with a late spring, was likely to produce greater hardship and increase animal disease than a hard winter.

VI

The wild beasts of the forests were a recognized resource. When the earl did not come to hunt himself, his men took the stags and does and despatched them, salted, to the castle at Pontefract;⁵⁴ the hawks, with their grooms, were sent to London.⁵⁵ They mined lead and iron, smelting it with brushwood and small-wood; and the great timber, including oak and ash, was used for building housing and for palings, and alders were cut for making tables and benches.⁵⁶ Stone flags were quarried for roofing houses, and limestone burnt for making mortar.⁵⁷ Coal and peat provided yet other sources of fuel.⁵⁸ Even

the great numbers of cattle owned by the estate did not consume all the available grazing in the forests; grazings were let, both winter and summer for 'foreign' stock, and hay was cut within the forest both for the stock of the vaccaries and of the stud, and still left a surplus for sale.⁵⁹

The administration of the earl of Lincoln's estate shows an awareness of current advice on efficient management and book-keeping and also, in the development towards a money economy, an awareness of what the district could produce profitably within the constraints of local conditions. This process may still have been in an evolving state; records of the later year are longer and more detailed, especially the list of expenses, and suggest that administration was being tightened. It is possible also that some activities absent in the account of the earlier year, like manure-spreading and foldage may be an indication of new ideas being tried out.

The two accounts, falling at the end of the 'High Farming' period provide a detailed picture of his estate just prior to the disasters between 1315 and 1323. They could provide comparison with two later surviving accounts for the estate, by then under new management. One was made in 1323 to assess the damage done by the years of crisis, and one made in 1341 portrays a return to fairly stable conditions and an organization functioning much as it had done at the start of the century. In fact, this recovery was short-lived and before the end of the fourteenth century much of the demesne was let to tenants, and records inevitably became fragmented.

⁵³ Excavation in Stamford castle revealed corn-drying kilns (*Med Arch*, XVI, 1972, pp 188-9) and late twelfth century in Reigate, (*Med Arch*, XXXV, 1991, p 192) and J M Steane, *The Archaeology of Medieval England*, 1984, p 50. Such kilns still exist in Cumbria at Hartsop and at Widewath in Askham. In Norway corn-drying kilns also served as bath-houses of sauna type.

⁵⁴ De L.C., pp 18 (128), 114-5 (185). Salt bought, p 115 (185).

⁵⁵ De L.C., pp 114-5 (185).

⁵⁶ De L.C., pp 5 (120), 7 (121), 'Ashes', viz, potash: pp 94 (172), 96-7 (174-5), 112 (178); 'Ashtrees': pp 102 (178), 98 (175), 99 (176), 107 (181).

⁵⁷ De L.C., pp 102 (178), 98 (175): roofing stone; lime kiln.

⁵⁸ De L.C., pp 4 (119): Trawden; 100 (176): Colne; 11 (123), 108 (181): coal and peat.

⁵⁹ De L.C., pp 4-5 (119-120), 8 (121), 41 (141), 88 (168), 90 (170), 99 (176), 112 (178).