THE KILWARDBY SURVEY OF 1273-4: THE DEMESNE MANORS OF THE ARCHBISHOP OF CANTERBURY IN THE LATER THIRTEENTH CENTURY

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The Kilwardby Survey contains the manorial accounts for most of the archbishop of Canterbury's demesne manors in South-East England;[1] these were the manors which the archbishop farmed himself, and they provided him with both food and income. The Kent Archaeological Society has mounted the Survey on its website, in the original Latin and in an English translation (by Dr Bridgett Jones), and has thus made it much more widely accessible.[2] The Survey covers the archbishop's manors in Surrey and Middlesex: namely, Lambeth, his seat near London and Westminster, Wimbledon and Croydon, and Harrow and Hayes. His manors in West Sussex are included, the most important being Pagham, and also Tangmere, East Lavant and Slindon. There is, however, no account for the important manor of South Malling in East Sussex, and of other manors in that area; possibly, these accounts have been lost, as the last membrane has suffered damage. Most of his possessions lay in north and east Kent, and the Survey provides detailed information for Gillingham, Teynham, Westgate (by Canterbury), Reculver, Wingham, Aldington, Bishopsbourne, Petham, Lyminge, Saltwood, Otford, Bexley, Northfleet, Maidstone, Charing and Boughton under Blean, together with their outlying dens in the Weald. All these were demesne manors; one subinfeudated manor is accounted for at Gillingham, as a custody in the lord's hands. These manors exhibit considerable variations in farming, depending on their location, types of landscape and soil, and communications; woodland and marsh were carefully exploited along with arable land.

The emphasis in the Survey is very much on a rural, farming economy; references to urban development and to markets and fairs are few. Besides the Survey, few other accounts survive for the later thirteenth century;[3] there are a few for Bexley, and accounts for Maidstone and Otford for 1296-7. Farming profits and losses were bound to fluctuate from year to

year, and many of the figures recorded in the Survey would differ from earlier and later years. The Survey focuses on the archbishop and his interests, and the Pecham Survey of 1283-5 is especially valuable in providing far more detailed material on the tenants, and their lands, rents and services.[4]

Robert Kilwardby succeeded Archbishop Boniface of Savoy (d.1270) after a vacancy of over two years. During the vacancy, the estates had come into the king's hands, and the jurors of the Hundred Roll inquiry of 1274-5 give a graphic description of the activities of the royal escheator at Otford, Charing and elsewhere. Kilwardby received the estates of the archbishopric in December 1272, was consecrated as archbishop the following February and enthroned in September. He left Canterbury on his creation as a cardinal in 1278, dying the following year.[5]

The Survey dates from 1273-4. There is no contemporary heading to the Survey, and the individual accounts are undated, although many specify that they cover a whole year. Two pieces of internal evidence throw light on the dating. The Aldington account mentions the archbishop's presence at the Council of Lyons in 1274, and there are references to Edward I at Canterbury shortly after he landed in England from his crusade in August, 1274; the Lyminge account, for instance, refers to obtaining venison and the Westgate account to the purchase of hay in preparation for the king's arrival.[6] The medieval financial year began on 29 September, giving the probable dates for the accounts as Michaelmas 1273 – Michaelmas 1274.

This was apparently not a good year for farming. It was usual for bailiffs and reeves to comment on the weather in order to explain low yields and higher expenses, although this special pleading was not always allowed by the auditors. The Lambeth, Croydon and Harrow accounts refer to scarcity, and the Slindon accounts to shortage; both terms indicate a poor harvest. There was flooding along the Thames; streets and limehouses were flooded at Lambeth, and at Bexley a saltmeadow was flooded and a ditch and wall constructed against the Thames. Pasture was flooded at Reculver, and land flooded by the sea at Oxney.[7]

The thirteenth century was an age when great ecclesiastical and lay landowners directly exploited their lands. At the same time, rents remained important, so the archbishop was a rentier as well as a farmer. The development of direct farming, found from *c.*1200 until after the Black Death, came about for economic, social, cultural and political reasons. The English population continued to rise until *c.*1300, and by the late thirteenth century there was intense pressure on land and abundant labour. Towns were growing, especially London, stimulating demand for grain, meat, cheese, wool and wood. Lords could often secure good prices, while wages were low. The growth of schools and universities and the demand for administrators at court and in great households contributed to

the rise of men anxious to pursue a lucrative career. These were the men who staffed the archbishop's central administration and supervised the farming of his demesne manors. Handbooks were produced, as by Walter of Henley, to ensure that they fully understood their work.[8]

The central officials of whom most is heard in the Survey are the steward, Ralph of Sandwich, and the treasurer, Thomas de Lynsted. Ralph of Sandwich was a career administrator; he had worked in the royal administration in 1265.[9] The two men kept a close eye on the demesne manors. In each account, the Expenses section opened with the sum of money which was paid to the treasurer. At Pagham, the former collector, Nicholas de Lanor, accounted for his arrears of nearly £23, and the pence were taken to Canterbury where the officials rendered their account. A later entry recorded the deliveries of nearly £232 to the treasurer, involving three journeys, two of them to London.[10] The central officials visited the manors regularly and this was essential to ensure that demesne farming was working efficiently. The Teynham account refers to such a visit by the steward, described as coming from London, his clerk, the treasurer and other officials, and the swineherd's expenses were validated on the steward's order. On another occasion, the steward and other officials celebrated Pentecost at Teynham. Both the steward and the bailiff came to supervise the harvest.[11] Each account was audited after the end of the financial year. Auditors were chosen from the archbishop's officials, and at Lambeth the audit was carried out by the steward, treasurer and clerks. The Wingham account mentioned three pigs being sent to Canterbury for the auditors.[12]

Central supervision facilitated large purchases of stock and transfers of grain and stock between manors. The Northfleet account refers to the selection of sheep in Essex from the bishop of London's stock, driving them into Kent, and driving some of the ewes to Boughton under Blean; 145 ewes remained at Northfleet, and 264 gelded sheep and rams probably came from the same source. At Bexley, the reeve and four men purchased cattle and sheep in Essex, hiring a small boat to bring them back; 25 cows and 1 bull were received from the bishopric of London, 5 bullocks, 2 ewes and 1 lamb from Wingham, 5 piglets from the bishopric of Rochester, and 2 swans from Northfleet. From Lambeth, 80 wethers, 110 ewes and 120 lambs were sent to Pagham. Teynham sent 24½ seams of wheat to Maidstone and 2 seams to Charing; the Maidstone account refers to selecting the wheat at Teynham.[13]

At the local level, manors were run by bailiffs, reeves and collectors, the term used in West Sussex and also in Kent for sub-divisions, often outlying portions, of large manors; the main duty of the collector was to collect the rent of assize. The creation of bailiwicks, groups of manors in a particular locality, dates from 1292-5, during the vacancy following the death of Archbishop Pecham. Yet it appears that the bailiwick of Pagham

was already operating as a unit in 1273-4; the Pagham receipts include payments from the reeves of Slindon, Tangmere and Lavant, and from a former collector of Pagham for his arrears. The arrangement of the Survey (see **Appendix**) indicates that bailiwicks were coming into existence in Kent, although probably in an embryonic form. Bailiffs were responsible for more than one manor; their expenses were entered in the accounts, but they probably received their annual fee centrally. The bailiff was expected to know his manors thoroughly, to farm them profitably, and to hold the local courts.[14]

The reeve had overall responsibility for the demesne farming on the manor and collected the rents, helped by the reap-reeve (or overseer of the harvest), beadles who were sometimes in charge of customary work, and other local officials. At both Westgate and the Barton of Wingham, the harvest overseer received a wage of 3*s*. On most English manors, the reeve was a villein (or unfree peasant), and at Otford, where Martin de Syppeham, died during the year, Martin's heriot of one ox was entered in the stock account.[15] The reeve could, however, be a substantial peasant; Adam of Twydole, the reeve of Gillingham and a gavelkind tenant, held over fifty acres of land, and his son became a priest.[16] The reeve normally received a wage, expenses and a food livery, the amounts varying between manors. At the Barton of Wingham, he received a wage of 6*s*. 8*d*. a year, and expenses of £2 14*s*. 10*d*. a year, apart from the five weeks of the harvest season when he was paid separately, and his duties included guarding the barn; no food livery was recorded. At Wingham, the reeve received a wage of 10*s*. and the two beadles 8*s*. a year; the harvest overseer and the reeve received food liveries of wheat, and the harvest overseer a livery of barley.[17] On most manors, the reeve was the only official to receive a livery of wheat.

The reeve's work was responsible and onerous. He was accountable to the archbishop, and his financial burden continued after the end of his term of office. If he died, his wife and executors were liable for his debts, as was the case at Otford where the account was rendered by the bailiff, Adam de Illegh, John de Sevenak, and Sibyl, widow of the reeve Martin de Syppeham.[18] It was rare for the reeve to have nothing owing at the end of his account, and arrears were pursued in subsequent years and former reeves distrained to make them pay. Moreover, sharp practice or concealments on the reeve's part were punished. The reeves of Harrow and Wingham were fined for false presentments. The reeve of Maidstone was fined 10*s*. for a concealment in the account, twice the amount of his yearly wage. The serjeant at Hythe was fined 6*s*. 8*d*. for contempt and default.[19]

The form taken by the accounts is very different from that found at the present day. The aim of the manorial account in the Middle Ages was to show what was due to the lord from his bailiffs and reeves. Each account

was divided into three sections: Receipts, Liveries and Expenses, and the Grain and Stock Account. The first part constituted the Charge section of the account, listing everything, including arrears, for which the reeve had to render account, and totalling the amount at the end; rents, judicial profits, pannage, herbage, and sales of pasture, wood, grain and stock were entered in this section. Even small sums were recorded, such as 6*d.* from the sale of garden fruit at Gillingham.[20] The second part comprised the Discharge section, listing all that the reeve had had to pay out, including money delivered to the treasurer, payments for repairs, and labour. The sums were totalled at the end, and any money owed by the reeve was entered as arrears in the Charge section the following year. The Grain and Stock Account listed each item, with the amounts at the beginning and the end of the year, and including the size of the harvest and amounts received as multure from the mills, food liveries, food allowances for stock, transfers between manors, sales and purchases, births and deaths among the stock, and the amount of grain used for seed.[21] Apart from this section of the accounts, the emphasis was very much on financial receipts and expenditure, and there are only occasional references to food and fuel being supplied to the archbishop, as when hens and firewood were sent to Canterbury from Petham, and twenty-seven large seams of charcoal were made at Bishopsbourne and sent to Canterbury for the lord's use. Two porpoises were rescued at Reculver and taken to Canterbury.[22] Judging from the treatise by Walter of Henley and the practice on other great estates, lords relied considerably on their manors for the basic foodstuffs of bread, ale and meat, and also fuel, and the archbishop probably received more food from his manors than the occasional references show.

All the manors practised mixed farming to a greater or lesser degree, depending on their terrain and soil, the proximity of markets, and the needs of the archbishop. In addition to arable and stock farming, rents and the profits of courts comprised a large part of the archbishop's income. Looking first at the manors in Surrey and Middlesex, i.e. in the order of presentation in the Survey, rents (mainly rent of assize, but also including small increments and rents in kind which had been commuted into a money payment) amounted to 78 per cent of the receipts (minus arrears) at Hayes, 71 per cent at Harrow, 60 per cent at Croydon, 48 per cent at Wimbledon, and 43 per cent at Lambeth (see **Table 1**). Pasture and woodland were important on most of the manors, producing pannage dues, and the profits from the sale of pasture and sale of wood. Sheep farming was significant at both Lambeth and Wimbledon. 86 sheep were sold at Lambeth, including 12 weak hoggets; it was the usual practice to sell weak stock. At Wimbledon, two-thirds of the receipts from the sale of stock came from the sale of 300 sheep.[23] Sheep were valuable for their milk as well as their wool, and most of the cheese mentioned

TABLE 1. RECEIPTS FROM THE ARCHBISHOP'S DEMESNE MANORS (TO THE NEAREST £)

Manor	Rents[a]	Judicial Profits[b]	Pannage, Herbage, etc.[c]	Sale of Wood	Sale of Grain	Sale of Dairy Produce	Sale of Fleeces & Woolfells	Total
Middlesex								
Harrow	75[d]	5	9	14		4		107
Hayes	25	2	2	1				30
Surrey								
Croydon	53	8	6	10	3[e]			80
Lambeth	24	3	7	7				41
Wimbledon	42	3	9	6[f]		4	2	66
Sussex[g]								
Pagham	49[h]	45	9		53[i]	3	2	161
Slindon	8	2	11	13	7	2	3	46
Tangmere	3	2	3[j]		9[k]	2		19
Kent								
Aldington[l]	121	20	46					192
Bexley	19	6	6	5	6	2	7	51
Bishopsbourne	34	4	7	10	6	2		63
Boughton under Blean[m]	26	7	11	9	11		5	69
Charing	40	10	6	13				69
Gillingham	46	9	3		13	6	10	87
Lyminge	46	14	16	21				97
Maidstone	56	13	3		14			86
Northfleet	41	27	2		36	5	9	120
Otford	82	66[n]	11	11	7	2	7	186
Petham	16	2	13	6	3			40
Reculver	66	8	30	10	11	13	3	141
Saltwood	18	2	5		2			27
Teynham	50	10	7	18	46	3	4	138
Westgate	28	7	4	7	29	5		80
Wingham & its Barton	103	17	29	18	134[o]	15	23	339
TOTAL	1,071	292	255	184	390	68	75	2,335

[a] The main rent receipt came from rent of assize, and small increments and commuted rents in kind have also been included.

[b] Judicial profits include the pleas and perquisites from the courts, reliefs, heriot, licences for marriage, fines for succession and entry on land, and profits from the view of frankpledge. The type of receipts varied from manor to manor.

in the Survey was sheep's cheese, although at Harrow cheese came from cows and goats. Sheep were, however, susceptible to murrain, as at Wimbledon where 160 died. Cattle were important at Lambeth, but most passed through the manor to other estates, such as Aldington and Pagham. Some sheep and cattle provided meat for the archbishop or were sold as food, such as the thirteen fattened oxen from Canterbury sold after the archbishop's enthronement feast; the proximity of the London food market was important.[24]

Although grain was grown on the Surrey and Middlesex manors, little was available for sale and substantial quantities often had to be purchased. Apart from Lambeth, the principal grain crop was oats. At Wimbledon, the amount of wheat, rye and barley harvested was small, and purchases were essential to provide food liveries for the wage labourers, bread for the boon works, and seed. The barley harvest of 9½ quarters was supplemented by 32 quarters from the farm of the mill, but 29¼ quarters still had to be bought and 3 quarters were received from Lambeth. Although the oats harvest amounted to just over 104 quarters, this was not sufficient for next year's seed, and 59½ quarters were bought. Apart from seed, oats was needed for feeding the horses, and 3 quarters was ground into flour for the pottage of the wage labourers.[25] The figures bring out the problems of grain cultivation, the reliance on purchases, and the amounts needed for grain liveries, mostly barley, and for the stock. This situation is in contrast to Kent where it was possible on some manors to sell large quantities of grain.

The farming on the Sussex manors contrasts with that in Surrey and Middlesex. The largest estate was at Pagham where the rents, with the farm of the mills, constituted a much lower proportion of the receipts

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Notes to Table 1 (cont.)

[c] Receipts from sales of pasture have also been included.
[d] This figure included commutation of labour services.
[e] Most of this sum came from the sale of oat malt.
[f] This figure includes the sale of grain.
[g] The manor of East Lavant has been omitted, because the account is defective.
[h] This figure includes the farm of the mills.
[i] This figure includes the sale of malt.
[j] This figure includes rent from two salterns.
[k] This figure includes the sale of peas and vetch.
[l] The entry for Aldington includes the collectorates and demesne land at Willop. No rent of assize was entered for Aldington itself.
[m] Cheeses were produced and sold, but the money received was not entered.
[n] This figure includes £45 received from reliefs.
[o] Of this sum, £19 was received from the sale of malt.

than in Surrey and Middlesex. Judicial profits were exceptionally high at nearly £45, largely because £33 14*s*. 4*d*. came from licences to marry and entry fines. Both sheep and arable farming were important, a flock of 92 ewes, 6 rams and 79 lambs remaining at the end of the year, after transfers and murrain. Nearly 260 quarters of oats, 32 quarters of beans, 30 quarters of peas, and 53 quarters of vetch were sold, legumes obviously constituting an important crop. Food liveries and seed took up almost the whole of the barley crop. 82¾ quarters of wheat had to be purchased to make up the amount of seed; nearly 61 quarters had been harvested and 110 quarters received as rent and also from the former rector of Pagham, but 205½ quarters were needed for seed. At Tangmere, the pattern of farming was similar, although this was a smaller manor. Pasture and woodland were more important at Slindon where pannage dues brought in £10 6*s*. 4*d*., and the sale of dead wood £12 10*s*. 3*d*. Certain details are found at Pagham which are fairly unusual elsewhere, namely the boat custom at West Wittering (presumably a form of toll), salt works, and the sale of cider.[26]

The majority of the archbishop's demesne manors lay in Kent, and, due to their situation and to the variety of soils and landscape in the county, there were considerable differences between them. The rectangular shape of many of the manors enabled them to take advantage of a variety of soils, and, in addition, many had dens in the Weald, a relic of outlying pasture rights established before the Weald was settled. Gillingham, for instance, included land on the Isle of Grain and contained marshland and Downland, and four dens in the Weald. Charing contained Downland, the mixed soils of the Chart and land in the Weald.[27] Wheat crops were found particularly along the southern edge of the North Downs, barley did best on light to medium silts and loams, and oats were more tolerant of heavy or water-logged soils such as the marshland.[28] Most manors had good communications, with access to Watling Street, and to rivers, creeks or the sea; water transport was cheaper than taking goods by land. They thus had access to London, Essex and the Continent.

The size of the archbishop's demesne farm affected farming and profits. The acreage of the demesne was set out in the Pecham Survey of 1283-5 which shows that many of the demesnes were comparatively small. While Wingham and Wingham Barton had an arable demesne of *c*.1,200 acres and Otford 665 acres, several manors had only 200-300 acres. The demesne arable was cultivated in blocks, sometimes within larger fields. The sale of grain and malt at Wingham and the Barton of Wingham in 1273-4 brought in about £134, with wheat and barley as the most important crops; wheat commanded the highest prices. The harvest comprised 360 quarters of wheat, 220¼ quarters of winter barley, and nearly 582 quarters of spring, or palm, barley; the Barton grew most of its barley as a winter crop, and Wingham concentrated on spring barley. At

Westgate, with an arable demesne of 292 acres, the sale of grain brought in £29, with 80 quarters of barley and nearly 89 quarters of wheat being sold. The emphasis at Northfleet, with a demesne of 237 acres, was on barley and oats, and the sale of grain yielded £36. Only 28¾ quarters of wheat were harvested and 4¾ sold, as against just over 165 quarters of barley harvested and 132 sold, and over 126 quarters of oats harvested and 30 quarters sold. The crops grown were those best suited to the soils.[29]

Not all the grain accruing to the archbishop came from his own harvest. The tenants owed multure when they brought their grain to be ground at the lord's mill, so a proportion of the grain went to the lord. At Gillingham, for instance, where no wheat, over 19 quarters of barley and 21 quarters of oats were harvested, 14 quarters of wheat and 104 quarters of barley were received as multure; nearly 65 quarters of barley were sold. At Wingham, 123 quarters of barley were received from the farm of the mill, although it was pointed out that one mill was idle for twelve weeks.[30] When mills were leased out, the miller paid a rent in money or grain.

When grain was transferred between manors, or sent to Canterbury, the destination was given, but there are no references to where sales of grain took place nor to their destination, and no names of merchants or their places of business were recorded. As Westgate adjoined Canterbury, it is likely that its grain was sold in the city, and the same may well be true of other archiepiscopal manors. With burgeoning towns like Maidstone, where inhabitants concentrating on craft occupations probably had little land, grain sales are likely to have been local. £14 was received by the archbishop from the sale of Maidstone grain, most of which came from multure.[31] It is, however, likely that grain was also sold to London merchants, and use made of the River Thames for transport, as was the case later. London's population reached about 80,000 *c.*1300, and the demand for food for people and animals was intense.[32]

A similar pattern of marketing is likely with animal husbandry. The importance of livestock varied from manor to manor. Pigs were kept, but their numbers were relatively small and they were not a major source of income. The marshland along the River Thames and in east Kent provided rich pasture, and most profit came from cows and especially sheep, not only from fleeces and woolfells, but from cheese, butter and, occasionally, a small quantity of sour milk.[33] Sales brought in about £16 at Gillingham and Reculver, £38 at Wingham and its Barton, £9 at Bexley, and £14 at Northfleet (see Table 1). All these manors had demesne marshland. However, as seen earlier, animal husbandry was risky partly because of flooding, but also because of murrain which could wreak havoc among flocks and herds.

Gillingham can be taken as an example of what could happen to a flock over a year.[34] Here the archbishop had a large flock, and 418½ sheep's and 74 lambs' fleeces were sold, together with 333 cheeses, ½ wey of butter,

and some sour milk. There were 446 ewes when the account opened of which 18 were barren. 80 died of murrain before or after lambing, 366 were shorn, and 4 sickly ones died of murrain after shearing. 362 ewes and 7 rams remained at the end of the year. 198 gelded rams were sent to Wingham before shearing, with only a small number remaining at Gillingham. 83 out of 96 yearling lambs remained at Gillingham at the end of the year. 407 lambs were born in 1273-74, of which 96 were sold before shearing, 219 died of murrain before shearing, and 74 remained at the end of the year.

Legumes (peas, beans and vetch) were grown as animal fodder, and peas and beans went into the pottage of the wage labourers. On several Kent manors, such as Gillingham, Reculver, and Wingham, the whole crop was used for seed; at Bexley, half the crop was used for seed and half sold. Probably it was realised that legumes added to the fertility of the soil; it is now known that they restore nitrogen. The grain accounts show that oats was regarded as valuable nutrition for stock, with food allowances carefully prescribed. At Gillingham, over 36 quarters were allocated to the harrower and four horses for 211 nights from 6 October to 6 May.[35]

Woodland was a valuable demesne resource on many Kentish manors. It was carefully managed by coppicing, and the wood sold ranged from timber trees to firewood. In view of the need for wood for heating and cooking, it was a profitable crop and a certain amount was probably sold to London. To take a few examples, at Reculver sixty-nine oak trees and four beech trees were sold for £8 3*s*. 4*d*., and £1 6*s*. 8*d*. was received for 800 faggots. At Lyminge, wood was sold in the Weald for £13 13*s*. 4*d*., 1,672 faggots were sold for £2 12*s*. 4½*d*. (including 800 from the park), and £5 2*s*. was received for wood sold elsewhere. The Charing account also refers to wood from the Weald, fifty-nine oak trees and five 'dry' beech trees were sold in seven dens for £12 16*s*. 6*d*., with 43,000 bundles of dry wood and the loppings of the timber felled at the mill.[36]

Certain manors had their own vineyards, although by the later thirteenth century vineyards were less common in England than 200 years earlier. Vineyards were mentioned at Otford, Pagham and Slindon, and there are detailed accounts in the Survey for Teynham and Northfleet, although the amount of wine made is unknown. The work at Teynham included pruning the vines and repairing the roof of the vineyard building. The vineyard was fenced, and props and hoes were made. Hoeing, manuring, digging, pruning and tying up the vines cost £7 1*s*. 8*d*. Two men were paid for looking after the vineyard, the more important man being employed for 224 days between 14 February and Michaelmas, and paid £2 14*s*., with 8*s*. for his robe. He also received a food livery of barley between Christmas and Michaelmas. The Northfleet account is similar, with pruning, digging, hoeing and tying up being carried out; five tuns were

bought for wine, and cuttings were taken from the vines. Gathering the grapes cost 8*s*. 3*d*. and the vineyard had its own winepress. The vineyard may have been irrigated in 1273-4, as water was carried there in barrels and a tub. The vine-dresser and reeve received a wage of 20*s*. between them, and the vine-dresser a food livery of wheat and barley.[37]

Arable and livestock farming and woodland management were important features of the great estates of the thirteenth century. Yet, for the archbishop and other lords, other sources of revenue were as important, if not more so, notably pannage, herbage and sale of pasture; courts and judicial perquisites; and, above all, rents. As elsewhere, the archbishop and his officials were intent on securing as much as possible from the manors. This was the reason for selling the right to pasture livestock whenever the land was not needed by the archbishop, whether the pasture was in the vineyard, park, on the stubble after harvest, or on marshland or grazing land. The sums paid could be substantial. At the Barton of Wingham, summer herbage brought in £13 6*s*. 2¾*d*., and pigs and other livestock on the stubble a further £2 1*s*. 8½*d*. At Otford, herbage payments were received for a number of pieces of land, the largest sum of £2 13s. 0½*d*. coming from the herbage of the park, and the smallest, 12*d*., from the herbage round the pond towards the park.[38]

Pannage was paid by the archbishop's tenants for permission to pasture their pigs, and usually comprised one-tenth of the pigs sent to pasture; it was rendered in money by the thirteenth century, and by then applied to pasture inside and outside the Weald. The practice of fattening pigs on acorns and beechmast in the Weald goes back to early Anglo-Saxon times. At Otford, £2 9*s*. 11*d*. was paid for the pannage of the wood of Sevenoaks, and £1 4*s*. 1½*d*. for the pannage of the park. The Wingham account referred to 18*s*. received from pannage in the Weald. At Aldington, the pannage in the Weald brought in £4 5*s*. and the pannage of the park £5 10*s*.[39]

The archbishop's tenants were expected to attend the manor or hundred court, and pleas and perquisites made a useful addition to income. Amounts varied according to the size of the manor, the franchises exercised by the archbishop, and amount of business transacted. The archbishop had extensive franchises, and his own gaols at Croydon and Maidstone. Sums ranged from about £2 at Petham and Saltwood, to £17 at Wingham, £21 at Aldington, and £27 at Northfleet, although this included the manor and hundred courts and three lawdays.[40] At Otford, the figure of £21 was augmented by £45 from reliefs, the payment made when succeeding to or obtaining land. Exceptional or serious fines were usually entered separately in the account. The Otford total included £1 11*s*. 6*d*. for heriot, the due payable on the death of a villein or unfree peasant, usually his best beast; because of the number of free peasants,

such a reference rarely occurs in the Kent Survey, and it is noted that the heriot was paid in pence. At Wingham, in addition to £10 3*s*. 4*d*. from the pleas and perquisites of the hundred, 14*s*. 0½*d*. was received from small reliefs, and 6*s*. 8*d*. for remission of suit from Sandhurst and Oxney. The archbishop had the right to take the chattels of felons and fugitives; 3*s*. 6*d*. was received for the goods of an unnamed woman fugitive, £5 because she had escaped, and 5*s*. 6*d*. for the goods of an unnamed man who had been hanged, presumably a felon. The reeve was fined £1 5*s*. for false information on the account. A much heavier fine of £5 was imposed on the reeve of Aldington 'for all the defaults and deficits upon the account which were proved and confessed'.[41]

The largest single source of income on nearly all the manors came from rents (see Table 1), and the importance of rents to the archbishop should not be underestimated. Rent was the chief obligation of gavelkind tenants, and was normally fixed, although it is clear from the Pecham Survey that it varied from manor to manor; 2*d*. an acre was charged at Charing, but ½*d*. at Reculver. Gavelkind tenants also owed rents in kind which had usually been commuted into money payments by the later thirteenth century; the account entry gives the rent in kind and the money payment. Rents were also paid by the cotmen who were the lowliest of the archbishop's tenants. In the Kilwardby Survey, the principal rent payment was described as the rent of assize, payable in varying sums at set terms over the year; small increments were sometimes entered as well. Occasionally rents were entered for pieces of land which had presumably been leased out. Other rents which were mainly peculiar to Kent were also entered.

According to the Pecham Survey, the manor of Aldington owed the highest amount of annual rents, £171, but, although the Kilwardby Survey gives the amount of rent owed by the collectorates of Aldington, it does not enter a sum for Aldington itself. At Otford, the amount from rents was about £20 lower than the figure in the Pecham Survey. For the other manors, taking the rent of assize, rents in kind and increments entered in 1273-4, the sums are broadly comparable, as was to be expected where the principal rent was a customary payment. It is likely that at Aldington and Otford there were management problems in 1273-4. The Aldington account entered a £5 fine on the reeve for all his defaults and deficits, and only £5 was delivered to the treasurer from Aldington itself, although larger sums were delivered from the collectorates. At Otford, the reeve died during the year. It was essential for the lord to keep track of customary rents, and the Wingham account refers to a man assessing customary payments and a clerk writing them down.[42]

The two accounts for Otford provide a full account of both the terms for rent of assize and the sums due:[43] £29 3*s*. 4*d*. at the terms of Christmas, Easter and the Nativity of St John the Baptist, with swine money and

honigavel; £11 13*s*. 4*d*. at Mid-Lent; £36 4*s*. 5½*d*. at Michaelmas; and 9*s*. *wodegavel* at Michaelmas. The terms varied. At Boughton under Blean, a payment was due at the feast of St Martin, and Saltwood had payments due at the terms of St Andrew, Christmas, Mid-Lent, Easter, the Nativity of St John the Baptist, St Peter ad Vincula, and Michaelmas.[44]

The Kentish rents brought in small sums; by the thirteenth century most were rendered in money. *Honigavel* was a rent originally paid in honey, and *wodegavel* (or *wodelod*) was paid for the commutation of the service of carting firewood to the lord's house. Several manors record payments of *dangerium*, due from the inhabitants of dens when there was no acorn or beech harvest. In the Gillingham account, 'Heyherst' paid 18*d*. for this due, and Teynham recorded sums of 2*s*. 6*d*. and 6*s*. 8*d*. for den payment at 'Deriete'. The Gillingham account mentioned a rent of *gavelbords*, an obligation due mainly in the Weald to supply the lord with a certain number of boards. 2*s*. was paid at Otford as *gavelsester*, a rent originally paid in ale. *Lefgavel* was referred to in the collectorate of Weald and was paid by the occupier of a den for the right to plough during the pannage season. *Housbot* and *medescot*, mentioned at Bishopsbourne, denoted the payments to take timber to repair a house or farm-buildings, and to commute the service of mowing.[45]

In an age of direct demesne farming, it was relatively rare for land to be leased, but small pieces of land which had escheated to the lord might be rented out. At Otford, however, significant farms were received for Wrotham and Sundridge; Wrotham was taken back into demesne by Archbishop Pecham in 1284 and its customs entered in the Pecham Survey. The farm of Wrotham amounted to £32, and a payment of rent of assize at Mid-Lent amounted to £4 12*s*. The farm of Sundridge brought in £23 12*s*.[46]

Rents in kind normally comprised hens, eggs and ploughshares. At Gillingham, money received from the rent of 102 hens, 1,491 eggs, eight ploughshares, three small carts, one pair of plough-wheels, five *gavelbords*, 5¼ quarters of oats and one bushel of salt came to £2 8*s*. 9*d*. Some rents indicate a local product, such as the salt at Gillingham. The rents in kind at Saltwood included 833 herrings, and at Aldington 20 gross of eels and 44¼ quarters of salt. Teynham owed a rent of 500 oysters.[47]

References to urban rents and perquisites are few and far between. The Otford account mentions a rent of 19*s*. 7½*d*. from shops in Sevenoaks. The market was referred to at Charing, but no references were made to markets at Reculver and Maidstone. The archbishop had urban interests at Romney and Hythe. At Hythe, he received £1 9*s*. 7¾*d*. from the market, sea and ferry toll, and moorings of ships. At Romney, he received £5 14*s*. 5¼*d*. from toll, stallage, and customary payment of the market, 7*s*. from moorings of ships, and 2*s*. 8*d*. from ferry toll. Fishing was also referred to; 8*d*. was received for spreading out nets.[48]

One account is found in the Kilwardby Survey for a wardship, namely

the ½ knight's fee of Adam son of Hugh of Gillingham. The wards were probably Adam's two sons as there is reference in the Maidstone account to the purchase of clothing for them. Arable farming was practised, with £4 4*s*. 11½*d*. being received from rents and £50 13*s*. 8*d*. from the sale of grain. £2 8*s*. was received from the sale of rushes. Wheat, winter and spring barley, oats and peas were grown. Adam had also held land in gavelkind which would not have been subject to the archbishop's wardship.[49]

The Expenses section of the accounts recorded the cost of running the demesne manors and the degree of investment in farming. In calculating costs, the bailiff and reeve had to think in terms of land and crops, including fertiliser and farm equipment; labour; and farm buildings and mills. Soil exhaustion may have been a problem in parts of the over-populated England of the later thirteenth century, and it was well known that soil needed fertilising whenever possible. Stock were therefore important for their manure as well as for milk and wool. The practice of animals being folded on the lord's land meant that this was likely to be the most fertile; cotmen had to put their sheep in the lord's fold from Easter to 11 November.[50] Even so, yields were very low by modern standards. Several of the accounts refer to the carting and spreading of dung. At Lyminge, the men carting manure were paid 2*s*. and received fish and cheese by custom; 8*d*. was paid to the men spreading dung. At Petham, the man driving the plough on the fallow field and carting dung received a food livery of five bushels of barley. Spreading dung at Aldington cost 17*d*., while at Wingham spreading manure on forty-one acres cost 6*s*. 10*d*.[51] The acreage mentioned, and the low level of costs elsewhere indicate that the use of manure was limited. Marl was occasionally mentioned, but needed to be found in the locality, since it was heavy to cart. It was used at Bexley where three marlers during the summer were paid 18*d*.; two received a food livery for twelve weeks of three quarters of barley, and one marler received seven bushels for seven weeks. The allowance for two horses used for marling for ten weeks in summer, and one horse marling for five weeks was 5 quarters 3½ bushels of oats.[52]

Expenditure on farm equipment (ploughs, carts, harrows) varied between manors, and presumably from year to year, but was not a major expense. At Northfleet, the costs came to £1 16*s*. 2¼*d*., while the purchase of one carthorse and one ox came to £1 10*s*. 4*d*.; at Reculver, expenditure on equipment and farrier work amounted to £2 3*s*. 4¾*d*., while the purchase of one harrower's horse, three plough-horses and two oxen cost £4 9*s*. 6*d*. Although oxen are mentioned on the manors, much of the ploughing and harrowing was carried out by horses; it was increasingly usual at this time for horses to be used for farm-work. There is a problem here in the Survey, in that the Latin word used, *stottus*, means either a horse or a steer, a castrated bullock. Yet the frequent practice of putting carthorses

and *stotti* in a single entry in the stock account, indicates that the word should be translated as horses, although probably a lighter and cheaper horse than the carthorse. On the land of Adam of Gillingham, one horse bought for harrowing cost 15*s*., two *stotti* 20*s*. 2*d*., and two oxen 30*s*. 6*d*. Moreover, the *stotti* were certainly shod, and this would not be the case with steers. At Otford, farrier and iron work for the ploughs and *stotti* cost 29*s*. 4*d*. with the smith's wages. Iron-work for the animals presumably meant shoes. In view of this evidence, *stottus* has been translated as plough-horse in this article.[53]

Equipment for livestock husbandry was cheap. At Bexley, purchases for the dairy included salt, measures, platters, canvas, three buckets, a tripod and a cheese-press, all for 3*s*. 8*d*. Supplies for sheep farming were also relatively cheap. Hurdles were purchased for sheepfolds, costing 16*s*. 3*d*. for three folds at Reculver, while dipping and shearing sheep at Bexley cost 3*s*. 2*d*.[54] The transfer of sheep between manors kept down the cost of replacing the flock.

Seed was set aside from grain harvested, or secured from another manor, or purchased. If seed had to be bought, this could be a considerable expense. Seed rates per acre were high, with wheat and legumes sown at four bushels to the acre, winter barley at four to six bushels, spring barley at five to seven bushels, and oats at three to eight bushels.[55] A farmer could only hope to harvest two or three times the amount sown. There is no information on yield rates in the Survey, apart from the references to scarcity. A few of the grain accounts give the acreage planted, and the amount of seed can be compared with the previous harvest, and amounts received from multure, transfer and purchase. At Boughton under Blean, 103 acres was sown with wheat at four bushels to the acre, fifty-three acres with barley at six bushels to the acre, 32¾ acres with oats at eight bushels to the acre, and forty-two acres with vetch at four bushels per acre. Little corn had to be bought and there were transfers of wheat and oats to Charing, and vetch to Charing and Teynham. At Charing, where there was no wheat harvest, and only two quarters received from multure, the manor was dependent on what it received from Boughton and Teynham; the oats and vetch harvest was less than needed for seed, so transfers from Boughton were again essential, and in all £10 0*s*. 4½*d*. was spent on wheat, barley and oats.[56]

Thirteenth-century agriculture was labour intensive, and peasant labour services in Kent were on the whole light, in contrast to many other parts of England, including Middlesex, Surrey and Sussex. The cotmen's duties varied from manor to manor. The obligations of tenants in gavelkind comprised some ploughing and reaping (*gavelerth* and *gavelrip*), carriage of goods by packhorse, and some carting, mostly of firewood (*gavelwode*). They also owed boon-work for ploughing and reaping, which amounted to more than *gavelerth* and *gavelrip*. Other services included making a

small amount of malt, and maintaining walls and fences.[57] Services not required were commuted and a sum of money paid to the lord.

These labour services were inadequate to carry out the farming on the demesne manors, and the archbishop made extensive use of wage labour, sometimes for specific tasks, such as threshing, but more often employing men for a year or less to carry out specific work, such as ploughing, carting and looking after livestock. Such *famuli*, as they were called, usually received a wage and a food livery which were listed under Expenses and in the Grain Account; most of the food liveries were of barley, although the reeve usually received wheat. Wages and liveries were not necessarily the same from year to year. In addition, some workers received a customary payment, in money or kind. The reeve, ploughmen and carters were normally employed for the year, but many others only for the part of the year when they were needed. In the accounts, groups of workers were often put together, so it is difficult to work out individual wages and liveries; joint payments were not necessarily divided up equally. Few women were employed, although the Wimbledon account refers to a dairymaid who was subordinate to the dairyman.[58] Many estates employed a household maid to look after the poultry and make pottage, but there is no sign of this in the Survey.

Some tasks were paid for as piece-work, as was the case with cultivating the vineyard at Northfleet. Dipping and shearing sheep, hoeing, mowing hay, threshing and winnowing were at least partly treated as piece-work. At Reculver, hoeing corn there and on Thanet cost 10*s*. 10*d*., because of the number of thistles. Boon-works were not paid for, but the workers usually received food and drink, except in the case of dry boons when no drink was supplied. Harvest officials received their expenses for the harvest season, usually lasting four or five weeks; at Northfleet, the reeve, beadle, harvest overseer and cook received 19*s*. 5½*d*.[59]

The *famuli* employed varied from manor to manor according to the nature of farming. At Northfleet, two ploughmen, two drovers and one carter were employed for the year, receiving 13*s*., 11*s*. and 5*s*. 6*d*. respectively. One shepherd was employed in the Christmas term at a cost of 10*d*., and three in the terms of Easter and the Nativity of St John the Baptist for 5*s*.; the chief shepherd and his fellow received 3*s*. 6*d*. and 3*s*. respectively in autumn, and the keeper of the lambs 6*d*. The household cook was paid 2*s*. 6*d*. a year. Of the liveries of barley at Northfleet, one carter and four ploughmen received 32½ quarters a year, the cook 3 quarters, except for the harvest season, the keeper of the lambs ½ quarter, and three shepherds (one from 1 November to Michaelmas, and two from Christmas to Michaelmas) received 16 quarters 7½ bushels, their helper receiving 1 quarter out of this. The shepherd was entitled to one lamb in customary payment, one fleece and one cheese.[60]

Expenditure on walls and buildings was constant; roofs had to be

repaired, farm buildings adapted as with the provision of new partition walls, and fences and walls had to be maintained. Three particular areas are of interest in the accounts, the manorial halls, mills and seawalls. The archbishop maintained a number of halls at his Kentish manors, for his own visits, and those of the steward, treasurer and bailiff. In some instances, it was a matter of running repairs; in others, new rooms were added. The details in the accounts throw light on both building methods and materials. At Reculver, the hall was heightened and thatched; expenditure on this and on farm buildings came to £3 10*s*. 5*d*. At Wingham, repairs were carried out to the hall, the lord's chamber, stables, bakehouse and cloister. At Aldington, the hall, chapel and kitchen were roofed with shingles, and the almonry, saucery, bakehouse and great stable thatched. Bishopsbourne had a new kitchen. The Otford account refers to considerable roofing work, using shingles, for the hall, the lord's treasury, kitchen and chamber; the louvre, or smoke vent, and the oriel window in the hall were specifically mentioned. Reference was also made to the knights' chamber and the gatekeeper's house, and much work was done on the stables and oxhouse. The Maidstone account referred to work on the chamber of St Thomas, the cloister and chapel. The wardrobe of the new chamber was mentioned at Charing.[61]

In view of the importance of multure, it was vital to keep windmills and watermills in working order. In fact, a number of mills were out of action for at least part of the year, as at Teynham where the mill was idle for three weeks. The mill might be held by the lord himself, with the miller keeping a proportion of the grain as his wage, or be leased out in return for rent. Maintenance was expensive, especially new millstones, their transport and installation, although some peasants owed labour service in this connection, as at Wingham and Gillingham. At Reculver in 1273-4, just over £10 was spent on the mills. A millstone, purchased for the mill there, together with transport, cost £2 8*s*. 8*d*., and one for another mill there, with carriage by water and cart, came to £2 10*s*. According to the grain account for Reculver, 126 quarters of barley were received from the farm of five mills, considerably more than was harvested. At Saltwood, two millstones were selected by the miller and bought at Sandwich at a cost of £4 6*s*. 8*d*.; transport, by water to Hythe and then to the mill, added a further 12*s*. 3*d*. Installation cost £1 2*s*. 11*d*.; then cleaning the water-course, making the floodgate and minor repairs added 4*s*. 5½*d*.[62]

The necessity of maintaining seawalls only affected a small number of manors, and the situation was not as acute as with the bad weather of 1287-93. Even so, the account for the Barton of Wingham referred to storms. At Reculver, work on drainage and seawalls cost £3 15*s*. Seawalls were repaired and raised, and some marshland beyond the seawall was drained. At the same time, old ditches were cleaned out and new ditches dug, totalling 284 perches. The work was apparently done by wage

labour. A similar sum was spent on the marsh and seawall at the Barton of Wingham. Channels were repaired, with timber being felled and used to form a defence for the reclaimed land. As at Reculver, ditches were scoured, including those round sheepfolds. Similar work was done at Willop and at Oxney where encroachment by the sea is mentioned.[63]

These necessary expenses reduced the amount of money received by the archbishop. The Expenses section always opened with the amount of cash delivered to the treasurer, and altogether this totalled nearly £1,700 in 1273-4. Usually, the end of the account contained a note of money which was still owing; rents might not have been paid, or sales might have been concluded on credit and the cash not yet received. Admittedly, 1273-4 was a poor year, and South Malling and the manors in its later bailiwick were omitted from the Survey, while Wrotham had not yet been recovered as part of the demesne. In the years that followed, the value of the estate increased; in 1292-95, during the vacancy following Archbshop Pecham's death, the annual average value came to £2,616.[64]

The archbishop's estate in the Kilwardby Survey was typical of the great estates, ecclesiastical and lay, of the later thirteenth century. Direct demesne farming was widely practised, estates only reverting to the widespread leasing of the demesne in the aftermath of the Black Death. At the same time as lords were engaged in arable and livestock farming, rents remained important, providing a steady source of income in good years as well as bad. Where Kent differed from the Midlands and central Southern England was in the relationship between the majority of its peasants and the lord. Gavelkind tenants were freer than the villeins who comprised most of the peasant population elsewhere; among other advantages, they had lighter labour services, and the freedom to alienate their land. The archbishop was therefore more heavily reliant on wage labour, although wages, at a time of high levels of population, were relatively low. The administrative structure of the archbishopric ensured that the manors were on the whole efficiently run, to the benefit of the archbishop. The Kilwardby Survey portrays the workings of a great estate from the viewpoint of the lord, and it is fortunate for historians that the document has survived.

[See also the note on the technical aspects of watermill/windmill operation and maintenance revealed in the Kilwardby Survey in Researches and Discoveries in Kent, at pages 370-377. Ed.]

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ENDNOTES

[1] British Library, London, Add. MS. 29794.

[2] www.kentarchaeology.ac.

[3] J.A. Galloway, M. Murphy and O. Myhill (eds.), *Kentish Demesne Accounts up to 1350: a Catalogue* (London, 1993), pp. 1, 3-5, 7, 18, 30-1, 35, 37, 42, 45, 48. The overall development of Bexley is discussed by F.R.H. Du Boulay, *Medieval Bexley* (2nd edition, Bexley, 1993), pp. 6-16.

[4] K. Witney (ed.), *The Survey of Archbishop Pecham's Kentish Manors, 1283-5*, Kent Archaeological Society, Kent Records, XXXVIII (2000); B.C. Redwood and A.E. Wilson, *Custumals of the Sussex Manors of the Archbishop of Canterbury*, Sussex Record Society, LVII (1958); L. Fleming, *History of Pagham* (3 vols., Ditchling, 1949-50), I, pp 25-35. Many peasants in Sussex were unfree, and on the whole owed heavier labour services than peasants in Kent.

[5] *Oxford Dictionary of National Biography* (Oxford, 2004), XXXI, pp. 580-4; J. Ward, 'The Kent Hundred Rolls: Local Government and Corruption in the Thirteenth Century', *Archaeologia Cantiana*, CXXVII (2007), 67; *Kent Hundred Rolls*, pp. 47-8, 53-4, 141, on www.kentarchaeology.ac.

[6] *Kilwardby Survey*, pp. 57, 91, 118.

[7] *Ibid.*, pp. 2, 4, 18, 23, 63, 103, 137, 140, 188.

[8] D. Oschinsky, *Walter of Henley and Other Treatises on Estate Management and Accounting* (Oxford, 1971), pp. 307-43.

[9] F.R.H. Du Boulay, *The Lordship of Canterbury* (London, 1966), p. 393.

[10] *Kilwardby Survey*, pp. 169, 172.

[11] *Ibid.*, pp. 47, 49, 51, 54.

[12] *Ibid.*, pp. 4, 82.

[13] *Ibid.*, pp. 7, 52, 54-5, 140, 142-4, 146, 150, 155. The stock from the bishoprics of London and Rochester probably came from the goods of two bishops who had died, Henry of Sandwich, d. 15 September 1273, bishop of London, and Lawrence of St Martin, d. 3 June 1274, bishop of Rochester. A wether was a castrated ram.

[14] Du Boulay, *op. cit.* (see note 9), pp. 195-6, 264. The arrangement of the Survey suggests that bailiwicks were coming into existence. The manors and collectorates of the Aldington and Otford bailiwicks were grouped together (*Kilwardby Survey*, pp. 89-126, 126-51. Wingham bailiwick later consisted of Wingham and its barton, Westgate and Reculver, and these were grouped in the text, although Wingham was put at the end of this group (*Ibid.*, pp. 56-89). The entry for Maidstone was followed by Charing and Boughton under Blean, both later members of the Maidstone bailiwick, but Gillingham and Teynham, both later members, were entered in a different part of the Survey (*Ibid.*, pp. 33-56, 151-69).

[15] *Kilwardby Survey*, pp. 59, 86, 135. The reeve's death at Otford explains why the account was rendered in two parts. The Barton belonged to the manor of Wingham, but it was situated on the coast and accounted separately.

[16] F.R.H. Du Boulay, 'Gavelkind and Knight's Fee in Medieval Kent', *English Historical Review*, LXXVII (1962), 510; Witney (ed.), *op. cit.* (see note 4), pp. 115-17.

[17] *Kilwardby Survey*, pp. 78-9, 85-6. The reeve received 5 seams 7 bushels of wheat, and the harvest overseer 3 seams 3 bushels of wheat and 3 seams 3 bushels of barley. 1 seam or 1 quarter of grain comprised 8 bushels; see the Table of Weight, Measures and Money in B.M.S. Campbell, J.A. Galloway, D. Keene and M. Murphy, *A Medieval Capital and its Grain Supply: Agrarian Production and Distribution in the London Region c.1300*, p. ix. The seam was a measure widely used in Kent; its equivalence to the quarter is made clear in the Barley and Oats accounts for Lyminge: *Kilwardby Survey*, pp. 119-20.

[18] *Kilwardby Survey*, p. 126; this first part of the Otford account ran from Michaelmas until 29 August.

[19] *Ibid.*, pp. 22, 73, 78, 104, 152, 155.

[20] *Ibid.* p. 33. Pannage was due from tenants for the right to pasture their pigs. Herbage was the payment due for grazing on the lord's land.

[21] Multure was the due by which tenants paid a proportion of their grain to the lord when they brought it to be ground at the lord's mill. Most of the food liveries to the wage labourers were of barley; allowances of oats were allocated to animals working on the land. Grain for the wage labourers' pottage, a thick porridge of grain and vegetables, was also listed, and for feeding the lord's birds, such as swans, cranes and peacocks.

[22] *Kilwardby Survey*, pp. 68, 107, 112-13.

[23] *Ibid.*, pp. 1, 7. A hogget is a sheep, usually in its second year.

[24] *Ibid.*, pp. 6, 14, 23, 27. The term murrain was used to denote fatal disease among livestock.

[25] *Ibid.*, pp. 12-13. References to rye are rare in the Survey.

[26] *Ibid.*, pp. 169-83, 186-7. Coastal Sussex and east Kent were one of the leading areas for legume production in the Middle Ages; P. Brandon, 'Demesne Arable Farming in Coastal Sussex during the Later Middle Ages', *Agricultural History Review*, XIX (1971), 123.

[27] Witney (ed.), *op. cit.* (see note 4), pp. xi-xiii; K.P. Witney, *The Jutish Forest. A Study of the Weald of Kent from 450 to 1380 A.D.* (London, 1976), pp. 232, 259; A.R.H. Baker, 'Open Fields and Partible Inheritance on a Kent Manor', *Economic History Review*, 2nd series, XVII (1964-5), 2-3.

[28] Campbell *et al.*, *op. cit.* (see note 17), pp. 116, 120, 125.

[29] Witney (ed.), *op. cit.* (see note 4), pp. 1, 90, 273, 315; Du Boulay, *op. cit.* (see note 9), p. 207; *Kilwardby Survey*, pp. 57, 60-1, 74, 78-81, 83, 86-7, 145, 148-9. See Table 1 for the overall receipts from demesne manors.

[30] *Kilwardby Survey*, pp. 38-9, 80.

[31] *Ibid.*, pp. 152, 156.

[32] Campbell *et al.*, *op.cit.* (see note 17), pp. 171-83.

[33] A woolfell was the skin of the sheep with the wool still on it.

[34] *Kilwardby Survey*, pp. 33, 35, 40-1.

[35] *Ibid.*, p. 40.

[36] *Ibid.*, pp. 63, 116, 157-8; Witney, *op. cit.* (see note 27), pp. 259, 267-8.

[37] *Kilwardby Survey*, pp. 47-51, 53, 128, 145, 147-9, 173, 188; D. Sutcliffe, 'The Vineyards at Northfleet and Teynham in the Thirteenth Century', *Archaeologia Cantiana*, XLVI (1934), 140-9.

[38] *Kilwardby Survey*, pp. 83, 127.

[39] *Ibid.*, pp. 73, 90, 128.

[40] *Ibid.*, pp. 17, 154-5. The view of frankpledge when tithings were checked and crime reported took place at the lawday.

[41] *Ibid.*, pp. 73, 90, 127.

[42] *Ibid.*, pp. 78, 91.

[43] *Ibid.*, pp. 126, 132.

[44] *Ibid.*, pp. 121, 162.

[45] *Ibid.*, pp. 33, 46, 48, 96, 104, 121, 132; Witney (ed.), *op. cit.* (see note 4), pp. 376-8.

[46] *Kilwardby Survey*, pp. 126-7, 132.

[47] *Ibid.*, pp. 33, 48, 90, 121.

[48] *Ibid.*, pp. 103-4, 132, 157A; *Calendar of Charter Rolls, 1257-1300* (London, 1906), p. 37; *The Great Roll of the Pipe, 5 Henry III*, Pipe Roll Society, new series, XLVIII (1984-6), p. 208.

[49] *Kilwardby Survey*, pp. 42-6, 152; Du Boulay, *op. cit.* (see note 16), pp. 507-10; Witney (ed.), *op. cit.* (see note 4), pp. 116-18.

[50] Witney (ed.), *op. cit.* (see note 4), p. lxiv.

[51] *Kilwardby Survey*, pp. 78, 92, 114, 118.

[52] *Ibid.*, pp. 140-2. Marl is a mixture of clay and carbonate of lime, used to improve the soil.

[53] *Ibid.*, pp. 66-7, 130, 147-8.

[54] *Ibid.*, pp. 67, 139, 148.

[55] Witney (ed.), *op. cit.* (see note 4), p. xv; Du Boulay, *op. cit.* (see note 9), pp. 209-11; A. Smith, 'Regional Differences in Crop Production in Medieval Kent', *Archaeologia Cantiana*, LXXVIII (1963), 154, 156.

[56] *Kilwardby Survey*, pp. 158, 160-1, 165-8; Witney (ed.), *op. cit.* (see note 4), pp. 160, 187. Boughton had an arable demesne of *c.*260 acres, and Charing *c.*223 acres.

[57] Witney (ed.), *op. cit.* (see note 4), pp. lvi-xi, lxiv-vi.

[58] *Kilwardby Survey*, p. 12.

[59] *Ibid.*, pp. 68, 148.

[60] *Ibid.*, pp. 148-51.

[61] *Ibid.*, pp. 64, 75, 91, 106, 129, 153, 159. The saucery was the household department which made sauces. If the hall of Reculver was the one at Ford, details of work of *c.*1300 at the north end of the great hall survived until 1964; H. Gough, 'The Archbishop's Manor at Ford, Hoath', *Archaeologia Cantiana*, CXXI (2001), 253. Sarah Pearson, 'The Archbishop's Palace at Charing in the Middle Ages', *ibid.*, 320, suggests that Kilwardby may have been responsible for building the great chamber.

[62] *Kilwardby Survey*, pp. 52, 65-6, 122; Witney (ed.), *op. cit.* (see note 4), pp. 2, 129.

[63] *Kilwardby Survey*, pp. 68, 84-5, 98, 102-3; R.A.L. Smith, 'Marsh Embankment and Sea Defence in Medieval Kent', *Economic History Review*, 1st series, X (1939-40), pp. 36-7.

[64] Du Boulay, *op. cit.* (see note 9), pp. 242-3.

APPENDIX

KILWARDBY SURVEY ORDER OF CONTENTS

Membrane no.	Manor, sub manor, etc.
m.1	LAMBETH
	WIMBLEDON
	CROYDON
	HARROW
m.2	
	HAYES
	GILLINGHAM
m.2v	
	TEYNHAM
m.3	
	WESTGATE

Membrane no.	Manor, sub manor, etc.
m.3v	
	St Martin
	RECULVER
m.4	
	WINGHAM
m.4v	
	Barton of Wingham
m.5	
	ALDINGTON
	Collectorate of Willop
	Collectorate of Lydd
	Collectorate of Newchurch
	Collectorate of St Martin
	Collectorate of North Stour
	Collectorate of the Weald
m.5v	Willop
	Oxney
	Palstre
	Romney
	Hythe
	BISHOPSBOURNE
	PETHAM
m.6	LYMINGE
	SALTWOOD
	Thorne
m.6v	OTFORD (I)
	OTFORD (II)
m.7	
	BEXLEY
	NORTHFLEET
m.7v	
	MAIDSTONE
	CHARING
m.8	
	BOUGHTON UNDER BLEAN
m.8v	PAGHAM
	TANGMERE
	EAST LAVANT
m.9	
	SLINDON