

Resource allocation and peasant decision making: Oakington, Cambridgeshire, 1360–99*

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Abstract

The later fourteenth century is often considered a period of rising standards of living, attributed in part to falling grain prices and diminished population pressure in the aftermath of the Black Death. Yet data from Oakington, Cambridgeshire, obtained from unusually complete tithe accounts, suggests that smallholding peasants in this region remained constrained by competing needs of production and consumption, even at the end of the fourteenth century. This article examines resource allocation and decision making on peasant land, and considers the effects of falling grain prices on standards of living in a region dependent on arable husbandry. By modelling a hypothetical peasant holding, this article argues that peasants at Oakington prized stability of yield, flexibility of crop use, and the calorific value of the land for people and, crucially, livestock. This allowed peasants to meet their consumption and contractual needs, but hindered their ability to respond quickly to changing economic circumstances.

The decades after the Black Death are often considered a turning point in the nature and organization of land use and agricultural production.¹ As the population continued to decline, the pressure placed on landed resources eased. In many places falling population levels led to increased access to land per person or household, and an increase in the amount of agricultural output available to peasants. Food production was put to less calorie-intensive purposes, with more land given over to growing grains for brewing to meet the rising demand for ale, and arable converted to grass to raise livestock for meat and dairy produce.² As labour became scarce, wages rose, increasing the amount of money to which people had access. The period after the Black Death, and in particular the years after the good harvest of 1375, which brought an end to high grain prices, are thus seen as a period of improving diets and standards of living.³ This was the period Postan considered the beginning of ‘a golden age of English

* I would like to thank Prof. John Hatcher, the anonymous referees and members of the Medieval Economic and Social History seminar at Oxford for comments made on this research. Any errors remaining are mine alone.

¹ B. M. S. Campbell, *English seigniorial agriculture, 1250–1450* (2000), systems of post-Black Death England: A classification’, *AgHR* 44 (1996), p. 132.

² B. M. S. Campbell and M. Overton, ‘A new perspective on medieval and early modern agriculture: Six centuries of Norfolk farming, c.1350–c.1850’, *Past and Present*, 141 (1993); R. Lennard, ‘The alleged exhaustion of the soil in medieval England’, *Economic J.*, 32 (1922), p. 26; B. M. S. Campbell *et al.*, ‘The demesne-farming

³ J. Hatcher, ‘England in the aftermath of the Black Death’, *Past and Present* 144 (1994), pp. 21–4; D. Stone, *Decision-making in medieval agriculture* (2005), p. 143; D. Farmer, ‘Prices and wages, 1350–1500’, in E. Miller (ed.), *The agrarian history of England and Wales*, III, 1348–1500 (1991), pp. 483–90. B. M. S. Campbell,

peasantry'. Although some historians have argued that this is an exaggeration, the idea of an 'era of cheap and plentiful food' remains central to the assumed overall increase in standards of living at the end of the fourteenth century.⁴

Many years of research into the well-documented demesnes of medieval England have shown the sensitivity of landlords to the balance of prices and wages, and their ability to alter dramatically the intensity of demesne land use to fit the prevailing economic circumstances.⁵ Recent research has suggested that peasant agriculture can be understood in similar terms, arguing that peasants also adjusted the level and type of production on their land in response to commercial opportunities in a similar manner to their lords, choosing which crops to produce and in what quantities based on potential sales prices.⁶

Dodds's important study of the Durham tithes has demonstrated that in some parishes peasants altered cropping patterns as well as total output in reaction to market indicators, demonstrating the flexibility of peasant agriculture in the later Middle Ages. Yet as Dodds acknowledges, these peasants were operating in a region in which relatively large holdings prevailed and where ample grassland and low population pressure meant that peasants there were not as constrained in their choices as the smallholding peasants further south.⁷

This article seeks to examine the resource allocation and decision-making processes of peasants who lived in a region where the population remained high even after the Black Death, where holdings remained small, and where access to grass was very limited. These peasants had to use the same small parcels of land to grow food for the family, fodder for livestock, and grain to sell in order to acquire the money needed to meet tenurial obligations of rent and maintenance. These competing resource needs were perhaps of particular significance for peasant producers who relied upon the consumption and sale of arable crops for their livelihoods, and for whom the falling grain prices of the late fourteenth century necessitated the sale of more produce to acquire the same amount of money than had hitherto been the case. The question of how, and indeed if, peasants were able to marshal the resources necessary to effect dynamic change under these circumstances has been left largely unanswered.

The records from the Crowland Abbey manor of Oakington, Cambridgeshire, provide a remarkable opportunity to gain insight into the resource allocation, cropping strategies and decision-making processes which informed peasant agriculture. Much is known of the manorial organization of Crowland Abbey, the cultivation of its demesnes, and its manor

Note 3 *continued*

'Matching supply to demand: crop production and disposal by English demesnes in the century of the Black Death', *JECH* 57 (1997), pp. 385, 838; Campbell, *English seigniorial agriculture*, pp. 430–32.

⁴ M. Postan, *The medieval economy and society: An economic history of Britain in the Middle Ages* (1972), p. 142; C. Dyer, 'Did the peasants really starve in medieval England?', in M. Carlin and J. T. Rosenthal (eds), *Food and eating in medieval Europe* (1998), p. 70.

⁵ For example Campbell, 'Matching supply to demand'; id., *English seigniorial agriculture*; David Stone, 'Medieval farm management and technological

mentalities: Hinderclay before the Black Death', *EcHR* 54 (2001), pp. 612–38; P. F. Brandon, 'Cereal yields on the Sussex estates of Battle Abbey during the later Middle Ages', *EcHR* 25 (1972), pp. 403–20.

⁶ B. Dodds, 'Demesne and tithe: Peasant agriculture in the late middle ages', *AgHR*, 56 (2008), pp. 123–41; M. Bailey, *Medieval Suffolk: An economic and social history, 1200–1500* (2007), p. 78; Stone, *Decision-making*, p. 270.

⁷ B. Dodds, *Peasants and production in the medieval North-East: The evidence from tithes, 1270–1536* (2007), pp. 45, 94, 160.

court at Oakington, but the records have not been explored fully in the context of peasant agriculture.⁸ The most informative records are the series of reeves' accounts that survive from 1360 to 1399, which include an unusually complete series of tithe receipts, and a concurrent series of manor court rolls, which include information about peasant transactions in land and goods. Combined, these documents can be used to model the output of a peasant holding over time based on peasant cropping patterns and local price data, providing a glimpse into the agricultural strategies of the peasantry.

This article seeks to contribute to our current understanding of medieval peasant agriculture by examining a manor operating under entirely different conditions to those described by Dodds. It will demonstrate that the conditions under which peasants at Oakington were living led them to allocate their resources in ways which were well suited to household consumption and contractual needs, but which did not respond with flexibility to market indicators. Instead, it will be suggested that peasants at Oakington prized stability of yield, flexibility of crop use, and the calorific value of the land for both people and livestock. This article will argue that peasants at Oakington were constrained by competing resources needs, which remained acute even after the Black Death. In this, it agrees with Dodds's suggestion that peasants in highly arable, highly populated regions would have found the changing economic conditions of the later fourteenth century particularly challenging.⁹ This article provides quantitative evidence to demonstrate the extent to which peasant producers were disadvantaged by falling grain prices. To this end, the arable output from a hypothetical peasant holding has been modelled, demonstrating the use to which tithe accounts can be put. Once this model has been constructed, discussion will turn to consideration of how and why peasants at Oakington allocated their arable resources in the ways they did. The analysis will question the extent to which peasants at Oakington experienced a significant improvement in standards of living after the Black Death.

I

Oakington was one of three Cambridgeshire manors of the Lincolnshire-based Crowland Abbey. These three manors were separated by little more than six miles, with Dry Drayton furthest to the west, the fenland Cottenham furthest to the east, and fen-edge Oakington almost equidistant from both.¹⁰ Oakington's landscape is flat, with no woodland or navigable waterways. Importantly, the soils around Oakington do not support lush growth of native grasses, and this lack of adequate grass supply acted as an impediment to the development of a large pastoral sector.¹¹ The regional scarcity of grassland at Oakington meant that peas

⁸ F. M. Page, *The estates of Crowland Abbey: A study in manorial organisation* (1934); S. Raban, *The estates of Thorney and Crowland: A study in medieval monastic land tenure* (1977); M. Wretts-Smith, 'Organization of farming at Croyland Abbey, 1257-1321', *J. of Economic and Business Hist.*, 4 (1932), pp. 168-92; C. Briggs, *Credit and the village society* (2009).

⁹ Dodds, *Peasants*, p. 95, 160.

¹⁰ Page, *Crowland*, foldout map.

¹¹ 'Oakington', *Victoria County History, Cambridgeshire*, IX, p. 192; H. E. Hallam, 'Eastern England' in H. E. Hallam (ed.), *The Agrarian History of England and Wales*, II, 1042-1350 (1988), p. 337; C. Hodge, 'Topographical Map of Cambridge, Sheet 188', and id., *Soils of the district around Cambridge* (1966), pp. 31, 53, 56, 71, 84-6.

were an especially important fodder crop in the medieval period, and this is highlighted by the prices for which the demesne sold unthreshed peas, pea straw and pea chaff.¹² Lack of grassland meant that peasants at Oakington remained predominantly reliant upon cereal husbandry throughout the later Middle Ages. The arable was divided into three 'partially regulated' open fields in which field rotations could be altered. The peasants often cultivated peas on the fallow.¹³

In the latter half of the fourteenth century, Crowland's manor at Oakington was conservatively administered. The demesne was still cultivated directly and labour services were still owed from Crowland's largely unfree peasantry.¹⁴ Yet Oakington also lay four miles from Cambridge, a leading market for brewing grains, and a potential market for wage labour. The extent to which this proximity to Cambridge affected peasant agriculture will be addressed below.

In order to determine how and why peasants used their land in the way they did, it is necessary first to consider the agricultural resources to which they had access. To do this, the output from a hypothetical peasant holding has been modelled. Both Dyer and Kitsikopoulos have modelled hypothetical peasant holdings to demonstrate the difficulties peasants faced in balancing income and expenditure in the late thirteenth century.¹⁵ However, this study differs from previous studies in two important ways. First, it is based on local prices and time series data of peasant output calculated from peasant tithe receipts. Second, it aims to create a series of values, both monetary and calorific, in order to demonstrate annual and medium-term fluctuations in the value of peasant arable output.¹⁶

This assessment will first calculate the total calorific and monetary values of a hypothetical holding, demonstrating the maximum level of calorie consumption and sale possible on this hypothetical holding. This is not the say that peasants ate or sold all of what they grew. A consumption pattern in which all of a holding's produce was eaten, leaving the peasant family entirely reliant upon wage labour to acquire the money needed to pay for rent and maintenance, would have been a highly implausible use of resources in late fourteenth-century Oakington. A small demesne, lack of industry, and a dearth of wealthy peasants would have made employment from wage labour difficult to find. Indeed, there is little evidence to suggest that wage work became easier to find at Oakington after the Black Death than before. Threshing fell from 3½*d.* for three quarters of grain in 1360 to 3*d.* by the end of the century, well below the national decennial averages for the period.¹⁷ Similarly, a consumption pattern

¹² Cambridge University Library, Queen's College (hereafter CUL Q), Box 6, roll 6, m. 8 (reeves' accounts); A. Sapoznik, 'Peasant agriculture at Oakington, Cambridgeshire, c.1290–1400' (unpub. Ph.D. thesis, University of Cambridge, 2010), p. 160.

¹³ B. M. S. Campbell, 'Commonfield origins: the regional dimension', in T. Rowley (ed.), *The origins of open-field agriculture* (1981), p. 115; A. Sapoznik, 'The productivity of peasant agriculture: Oakington, Cambridgeshire, 1360–1399', *EcHR*, 66 (2013), pp. 526, 228.

¹⁴ Labour services at Oakington are detailed in Page, *Crowland*, pp. 89, 126–28.

¹⁵ C. Dyer, *Standards of living in the later Middle*

Ages: Social change in England, c.1200–1520 (1989); H. Kitsikopoulos, 'Standards of living and capital formation in pre-Plague England: A peasant budget model', *EcHR* 53 (2000), pp. 237–61.

¹⁶ The importance of local data is noted in M. Bailey, 'Peasant welfare in England, 1290–1348', *EcHR* 51 (1998), p. 245.

¹⁷ CUL Q, Box 6 (reeves' accounts); national averages rose from 6½*d.* to 7.7*d.* for threshing and winnowing three quarters of grain. Farmer's wage rates combine threshing and winnowing (average national rate of 1*d.* per three quarters): Farmer, 'Prices and wages', p. 471.

in which all of the produce was sold and cheaper foods were purchased would not have been advantageous. It will be shown that a very heavy reliance on dredge at Oakington meant that peasants were already producing a relative abundance of the cheapest grain and very little of the higher-priced wheat and maslin. Nevertheless, the initial calculations given here provide an essential set of parameters within which to consider the options open to peasants needing to balance resource allocation between consumption and sale.

The method used here to assess peasant resource allocation relies upon a model of a hypothetical peasant holding, calculated from the tithe receipts recorded in the reeves' accounts. This method makes two important assumptions. First, that the majority of peasants at Oakington held 11 acres of land. Second, that the total amounts of tithed crops recorded in the reeves' accounts reflect the majority of peasant cropping patterns at Oakington.

That the average holding size at Oakington was 11 statute acres (10 customary acres) is demonstrated in the 1344 rental and the court rolls for the period.¹⁸ This situation appears to have remained unchanged over the latter part of the fourteenth century. Despite high mortality, holdings were not left vacant and the court rolls suggest there was little opportunity for the engrossment of holdings seen in other parts of the country after the Black Death.¹⁹ Although a few tenants were able to amass large holdings for short periods of time, these holdings tended to become fragmented.²⁰ It must be borne in mind, however, that peasants with access to significantly more or less land probably allocated their resources in different ways.

Evidence from the tithe receipts demonstrates that the cropping pattern followed by peasants at Oakington was land-extensive, with a particular emphasis on dredge and black peas.²¹ Although wheat and maslin made up a not unimportant proportion of the tithe receipts, dredge and black peas were considerably more prominent, together comprising 85 per cent of peasant produce, requiring 88 per cent of peasant land to achieve the level of output attained.²² That the aggregate output of many small producers was a preponderance of dredge and peas strongly suggests that the majority of peasants followed this cropping pattern at Oakington.

If, as Dyer has calculated, 12 to 15 acres was the threshold at which a family would have been able to grow all the grain they needed, and that even at 18 acres a peasant family would have had a difficult time creating a surplus, the problem of household sufficiency at Oakington even at the close of the fourteenth century becomes very clear.²³ It seems likely that, given the limited supply of land and the limited pastoral sector, the resource allocation of arable commodities would have been an especially pressing concern.

¹⁸ CUL Q, Box 8 Misc. Roll (1344 Rental). Briggs's work refers to customary acres, as they were recorded in the Oakington documents: Briggs, *Credit*. Preference here has been given to statute acres: F. Seebohm, *Customary acres and their historical importance, being a series of unfinished essays* (1914), Map Figure 1, facing p. 100. The difference between customary and statute acres can help explain some discrepancies in calculating the acreage of the manor over time.

¹⁹ CUL Q, Box 3, roll 4, mm. 15–17; Box 4, roll 12, mm. 8, 9 (court rolls).

²⁰ CUL Q, Box 4 roll 9, m. 1,7; roll 8 m. 13 (court rolls); Box 6 roll 6, m. 36 (reeves' accounts); Box 8 Misc. Roll (rental); Box 4 roll 8, m. 17 (court rolls).

²¹ CUL Q, Box 2 Misc. Roll (account roll); Box 6 rolls 3–6 (reeves' accounts); Box 5 roll 6; Box 7 roll 1 (bailiffs' accounts).

²² The method used to convert the tithe receipts to acreage under each crop is discussed below, p. 0000.

²³ C. Dyer, *An age of transition? Economy and society in England in the later Middle Ages* (2005), p. 175; Kit-sikopoulos, 'Standards'.

TABLE 1. Crops as a percentage of the tithe receipt and of peasant land, 1360–99

	<i>Wheat</i>	<i>Maslin</i>	<i>Dredge</i>	<i>Oats</i>	<i>White peas</i>	<i>Black peas</i>
Per cent tithe receipt	7	6	67	2	1	18
Per cent of land used	6	5	55	1	1	33

Source: CUL Q, Box 2 Misc. Roll, Box 6 rolls 3–6; Box 5 roll 6.

Note: A rounding error causes the tithe receipts and amount of land to add up to 101%.

Although tithe data for the years before and after the period discussed in this article is scanty, it should be noted that the cropping pattern displayed here is not particular to the 50 years after the Black Death and appears to have evolved over the high-pressure years of the early fourteenth century. The tithe receipts from the late thirteenth century are often incomplete, but the years 1275/6, 1291/2 and 1297/8 indicate that on average wheat and rye made up 24 per cent of the tithe receipt, dredge and its constituent crops 50 per cent, and peas 26 per cent. But over the 1310s and 1320s the proportion of wheat and maslin in the tithe receipts decreased from 20 per cent in 1318/9 to 7 per cent in 1321/2. The omission of black peas from the tithe accounts for 1411/2, a year in which so little peasant output was recorded that it seems tithe collection methods had changed by this time, makes direct comparison impossible. Nonetheless, the account indicates a continued emphasis on dredge.²⁴

To assess the impact of patterns of production at Oakington, the cash and kilocalorie values of hypothetical peasant lands have been calculated. These calculations assume, for reasons that have been addressed elsewhere, that seeding rates on peasant lands were the same as that on the demesne, and that peasant yields were roughly the same as demesne yields.²⁵ In order to give a reasonable range between which the output of a peasant holding was likely to fall, an 11-acre holding with a third of the land left fallow and an 11-acre holding which was continuously cropped will both be considered. It has been demonstrated that peasants at Oakington often cultivated the fallows, enabling very high levels of land productivity.²⁶ Because the amount of land under cultivation almost certainly fluctuated annually, these calculations provide reasonable upper and lower boundaries for production. It is probable, however, that the amount of land actually under cultivation fell somewhere in between. It is not likely that the fallow was entirely cropped in a given year.²⁷

To calculate the level of output of a hypothetical peasant holding, the problem presented by the unknown quantity of peasant land under each crop has been solved by taking the receipt of the tithe of each grain, and multiplying it by 10 to give the actual amount of grain produced on peasant land. This figure has then been divided by the demesne yield accounted for each crop that year to determine the possible acreage of that crop under peasant land. The

²⁴ CUL Q, Box 1 roll 5, rolls 14, 17; Box 5 roll 5; Box 8 roll 4; Box 7 roll 5.

²⁵ Sapoznik, 'Productivity', pp. 531–33.

²⁶ *Ibid.*

²⁷ This is unlike parts of eastern Norfolk, where fallow was sometimes almost completely eliminated,

at least on the demesnes: B. M. S. Campbell, 'The regional uniqueness of English field systems? Some evidence from eastern Norfolk', *AgHR* 29 (1981), esp. p. 21; Brandon also found less extensive fallowing practiced on some of the Sussex demesnes of Battle Abbey, 'Cereal yields'.

TABLE 2. Calculation of possible peasant acreage under each crop, 1363/4

	<i>Wheat</i>	<i>Maslin</i>	<i>Dredge</i>	<i>White peas</i>	<i>Black peas</i>	<i>Oats</i>	<i>Total acreage</i>
Tithe recorded/demesne yield = peasant acreage under each crop	20	25	314	11	153	0	523
Percentage of total acreage	4	5	60	2	29	0	100
Acreage, 11-acre holding, no fallow	0.4	0.6	6.6	0.2	3.2	0	11
Acreage, 11-acre holding, 1/3 fallow	0.3	0.4	4.4	0.15	2.12	0	7.37

Source: CUL Q, Box 6 Roll3, Roll 6 m. 3.

acres of each crop have been added together to give the total amount of peasant land under cultivation that year, and the percentage each crop comprised of the total has been calculated. These percentages have then been multiplied by 11 to determine the amount of land under each crop on the holding. This is demonstrated, for the year 1363/4, in Table 2.

Multiplying these acres by the demesne yield gives the amount of grain produced from the holding. From this, 10 per cent has been subtracted for tithe, the amount needed for seed, multure at a rate of 1/24 taken only from wheat, maslin and the part of dredge allocated for bread, and 10 per cent for wastage.²⁸ Assuming each person consumed between 1100 and 1500 kilocalories per day averaged over the entire year, the number of people an 11-acre holding could sustain can be determined.²⁹

To calculate the monetary value of peasant holdings over time, the same method has been used for grain prices as was used to determine food values of holdings. This calculation uses the sales prices for demesne crops as recorded in the reeves' accounts. Prices for arable products in this region were persistently low, and the reeves' accounts indicate that wheat and maslin fell roughly one third below that indicated by Farmer in his national price data series, while dredge and pea prices, for which the data sets are complete, were very similar to those found nationally.³⁰ Because of this, gaps in the prices for wheat and maslin are estimated to have been two thirds of Farmer's national prices. Because wheat and maslin accounted for only a relatively small proportion of the grain grown at Oakington, this is not of too much concern. Using Farmer's prices does not alter the trends in the monetary value of the produce from peasant holdings, although it does exaggerate the monetary importance of these crops. The results of these calculations are summarized in Tables 3 to 5.

²⁸ This follows the methods used by Campbell and Stone: Campbell, *English seigniorial agriculture*, pp. 215, 221–24; D. Stone, 'The consumption of field crops in medieval England', in C. Woolgar, D. Serjeantson, and T. Waldron (eds), *Food in medieval England: Diet and nutrition*, (2006), p. 21; Stone's figures are based on Campbell, *English seigniorial agriculture*, pp. 215, 221–24. For the human food value of peas, D. Landblom and C. Poland, 'Nutritional value' *Research Report*, Dickinson Research Extension Center (1997).

²⁹ Kitsikopoulos, 'Standards', p. 242.

³⁰ Farmer, 'Prices and wages', p. 444, 448; CUL Q, Box 6, roll 6; Briggs, *Credit*, p. 186; J. R. Maddicott, 'The English peasantry and demands of the crown, 1294–1341', in T. H. Aston (ed.) *Landlords, peasants and politics* (1987), p. 316; P. J. Bowden, 'Agricultural prices, farm profits and rents, 1500–1640', in J. Thirsk (ed.), *The Agrarian History of England and Wales*, IV, 1500–1640 (1966), pp. 614–15.

TABLE 3. Average total value of output for an 11-acre holding, continuously cropped, 1361–93

	<i>Wheat</i>	<i>Maslin</i>	<i>Dredge</i>	<i>White peas</i>	<i>Black peas</i>	<i>Oats</i>	<i>Total</i>
Output (qr.)	0.62	0.55	6.19	0.05	1.31	0.01	8.72
Kilocalorie value	274300	234400	1805700	2600	731300	2100	3073800
Monetary value	2.55	1.74	18.04	0.14	2.86	0.01	25.34

Source: CUL Q, Box 2 Misc. Roll, Box 6 rolls 3–6; Box 5 roll 6.

Note: Kilocalorie rates from Stone, 'Consumption', p. 21, but altered in the following way: given the high rate of dredge production at Oakington, it is unlikely that half of all dredge produced was consumed as ale. Even if three quarters of dredge were malted each year, just under 40% of dredge would have been brewed, leaving the rest for bread and pottage, here calculated as 50% bread and 10% pottage, leaving an extraction rate of 0.62, compared with Stone's rate of 0.56 based on 50% ale, 40% bread and 10% pottage. Stone's figures are based on Campbell, *English seigniorial agriculture*, pp. 215, 221–24. Prices based on demesne sales prices and Oakington price structure.

TABLE 4. Average total value of output for an 11-acre holding, one-third fallow, 1361–93

	<i>Wheat</i>	<i>Maslin</i>	<i>Dredge</i>	<i>White peas</i>	<i>Black peas</i>	<i>Oats</i>	<i>Total</i>
Output (qr.)	0.92	0.82	9.24	0.07	1.95	0.01	13.01
Kilocalorie value	409500	349800	2695000	3900	1091400	3100	4587800
Monetary value	3.80	2.60	26.92	0.21	4.27	0.02	37.32

Source: as Table 3.

The total kilocalorie and monetary value of a peasant holding over time are demonstrated in Figures 1 and 2 below. As they demonstrate, over the later fourteenth century, both the total calorific outputs and monetary value of holdings tended to fall, although the number of calories produced for human consumption remained relatively stable and the monetary value of the produce fell more sharply than the calorific value.

Just as high levels of production could offset the effects of falling prices, as in 1389/90 and 1392/3, so too did low levels of production mute the potential benefits of high grain prices, as in 1370/1, the year following the national harvest failure of 1369. The negative effect of falling grain prices after 1375 on potential peasant income at Oakington is also clear. Calculating for several different cropping patterns indicates that the output of peasant holdings at Oakington was less valuable in monetary terms than could have been otherwise. If the amount of land under each crop had been evenly distributed, peasant output would have been worth 30 per cent more. Had a third of peasant land been put under peas, as it was, but the rest of the land spread evenly with the remaining crops, peasant output would have been worth 22 per cent more.

Of course, there were institutional and environmental constraints that inhibited such dramatically different cropping strategies. The very heavy emphasis on spring crops – a regional phenomenon – suggests an aversion to winter sowing, either because the soils were not suited to extensive wheat and maslin cultivation or because of the harsh winter weather

FIGURE 1. Monetary and kilocalorie values of an 11-acre peasant holding with no fallow, 1361-93

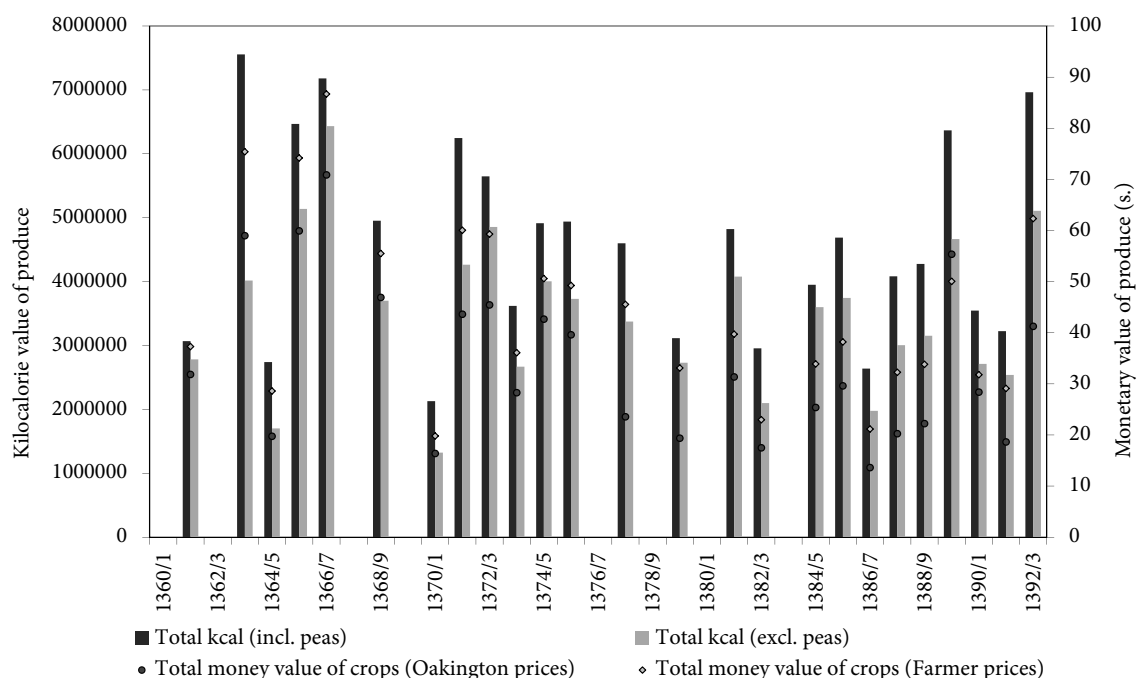
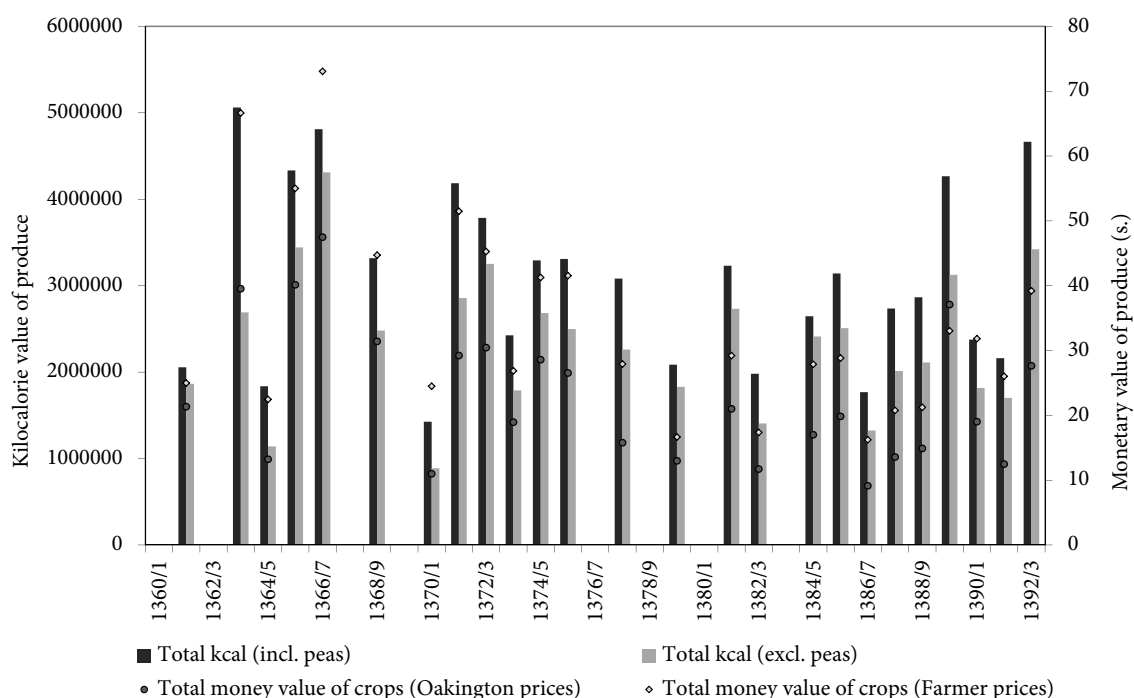


FIGURE 2. Monetary and kilocalorie values of an 11-acre peasant holding with one third fallow, 1361-93



in a flood-prone region.³¹ Furthermore, the field system, although not a strictly controlled Midlands system, did involve some level of communal cooperation. This would have made extensive changes for individual producers extremely difficult, if not impossible.

The land-extensive cropping pattern followed by peasants at Oakington relied very heavily on low-yielding crops of dredge and especially black peas. Despite the preference for lower-yielding crops, peasant productivity was very high because this allowed for extensive cultivation of the fallows. The key to this cropping pattern was the preference for crops that were less soil-exhaustive than wheat and maslin: hence nitrogen-fixing peas and less nutrient-hungry dredge.

Yet producing dredge primarily for sale would not have been particularly beneficial for peasants at Oakington, because the price differences between crops was not advantageous. The price of dredge was lower than wheat, maslin, and white peas, and only very marginally (less than 3*d.* per quarter) more than pure oats. It will be shown below that, taking various consumption patterns into account, selling dredge was the least valuable pattern of consumption in monetary terms. Yet the reliance on dredge, which allowed more land to be used more often, would have meant that more grain was left over after consumption than would have otherwise been possible.³² Resource allocation on peasant land at Oakington seems to have been driven by more complex factors than reliance on the potential sales of dredge.

II

The cropping pattern at Oakington was heavily dependent upon large-scale dredge production in a period of nationally rising demand for ale. In this, the pull of Cambridge cannot be ignored, for it was the marketing centre of a region specializing in malting grains.³³ Yet, surprisingly, there is very little evidence of large-scale trade in dredge between Cambridge and either the Oakington demesne or peasants.³⁴ This is in sharp contrast to the neighbouring Ramsey estates, which routinely sent grain from the demesne to Cambridge as a specific labour obligation.³⁵ That the Oakington demesne was not geared towards marketing grain

³¹ For example, Campbell, *English Seigniorial Agriculture*, pp. 244; 266–7, 288, 294; Stone, *Decision-making*, p. 48; R. H. Britnell, 'Eastern England', in Miller (ed.), *Agrarian History III, 1350–1500*, p. 62.

³² Very high levels of arable output may further explain the apparent 'credit-worthiness' of peasants with the holding size modelled here, a group Briggs found to have been able to secure credit successfully in the decades before the Black Death: C. Briggs, 'Credit and the peasant household economy in England before the Black Death: Evidence from a Cambridgeshire manor', in C. Beattie *et al.* (eds.), *The medieval household in Christian Europe, c.850–c.1550: Managing power, wealth, and the body* (2003), p. 246.

³³ See for example N. S. B. Gras, *The evolution of the*

English corn market from the twelfth to the eighteenth century (1915).

³⁴ That Crowland Abbey's demesnes were among the least commercialized in the country is noted in Campbell, 'Matching', p. 849. For an exceptional, and, Briggs notes, puzzling, contract regarding 20 quarters of dredge for malting in 1337 see Briggs, *Credit*, p. 47. The difficulty tracing evidence for rural trade is noted in C. Dyer, 'The consumer and the market in the later Middle Ages', *EcHR* 42 (1989), p. 323. There are no surviving records of contracts from Oakington to Cambridge for malt in the late fourteenth century, although this was a known malt-producing region: J. Lee, *Cambridge and its economic region* (2005), esp. p. 104.

³⁵ Gras, *Evolution*, p. 21.

TABLE 5. Values of grain sales by consumption, Oakington price structure, mean 1361–93

	1100kcal/person/day			1500kcal/person/day		
	<i>Selling wheat and maslin</i>	<i>Eating some of each grain</i>	<i>Eating all wheat and maslin</i>	<i>Selling wheat and maslin</i>	<i>Eating some of each grain</i>	<i>Eating all wheat and maslin</i>
11-acre, no fallow	20s. 2d.	22s. 2d.	19s. 2d.	14s. 11d.	16s. 8d.	13s. 11d.
11-acre, 1/3 fallow	8s. 0d.	9s. 3d.	7s. 3d.	2s. 8d.	4s. 4d.	2s. 0d.

Source: as Table 4.

Note: as Table 4.

TABLE 6. Values of grain sales by consumption, Farmer prices, mean 1361–93

	1100kcal/person/day			1500kcal/person/day		
	<i>Selling wheat and maslin</i>	<i>Eating some of each grain</i>	<i>Eating all wheat and maslin</i>	<i>Selling wheat and maslin</i>	<i>Eating some of each grain</i>	<i>Eating all wheat and maslin</i>
11-acre, no fallow	27s. 8d.	29s. 0d.	22s. 2d.	21s. 7d.	22s. 0d.	13s. 11d.
11-acre, 1/3 fallow	12s. 1d.	12s. 4d.	10s. 3d.	6s. 0d.	6s. 2d.	4s. 2d.

Source: as Table 4.

Note: as Table 4. Prices from Farmer, 'Prices and wages', *Agrarian History* III, p. 444.

in Cambridge does not mean that peasants did not sell dredge there or anywhere else: it is very likely that Oakington's peasants would have sold their dredge surplus.³⁶ Briggs's assessment of Crowland's Cambridgeshire manors demonstrates the importance of credit transactions there, implying a highly monetized economy.³⁷ Nevertheless, although the commercial opportunities provided by proximity to such an important town within the grain trade should not be overlooked, there is little evidence to suggest that this was the *primary* reason for the cropping pattern followed there.³⁸ A relationship between the tithe receipts and prices (including those of malt) cannot be demonstrated using the methods outlined by Dodds or Stone, by simple correlation, single or multiple regression analysis, even allowing for varying time lags of one to three years.³⁹ It seems likely, therefore, that peasant cropping patterns were driven by more complex factors, including environmental and institutional constraints, as described above, but also subsistence and monetary needs internal to the household.

³⁶ Briggs also suggests peasants sold surplus malt after consumption needs had been met: Briggs, *Credit*, p. 50.

³⁷ Briggs, *Credit*; Briggs, 'Household'.

³⁸ Cambridge may have acted in a similar manner to Colchester, which was not the main purchaser of

agricultural surplus, despite being the only substantial grain market within its economic region: R. Britnell, *Growth and decline in Colchester, 1300–1525* (1986), pp. 41–6.

³⁹ Using methods outlined by Stone, *Decision-making*, pp. 52–3; Dodds, *Peasants*, pp. 145–7.

To understand the relationship between patterns of consumption and the monetary values of holdings, three hypothetical strategies regarding the grain-based portion of the peasant diet have been calculated. The first is a peasant household in which all of the wheat and maslin produced by the holding are sold and the household's calorie intake from grain comes from dredge. The second is a peasant household in which some of each grain is consumed and the excess is sold, and finally, a peasant household in which all of the wheat and maslin is eaten, the kilocalorie shortfall is made up in dredge, and the excess dredge is sold.⁴⁰ These calculations consider only a small peasant household of four people.⁴¹ Had the household been larger, less money would have been made from sales of grains, and so the calculations below represent the maximum sales value of the crops. Tables 5 and 6 show the amount of money to be made from sales of grain using three consumption patterns and two levels of consumption depending on the price of each crop.

Including rent, which was 5s. 6½d. for an 11-acre holding, it can be seen that at the higher rate of calorie consumption the 11-acre holder who left one third of the land fallow would have been unable to meet the minimum level of cash needed for his rent. At the lower rate of consumption, rent would have used about half or more of the money made from grain sales, not including other fines and fees such a tax and tallage, which although deceased from the first half of the fourteenth century, were still liable to be paid.⁴²

If maintenance – which would have included clothing, upkeep and repair of tools and buildings – were taken into account, even less money would have been left over.⁴³ In fact, it is likely that the 11-acre holder who left one third of the holding fallow would have been unable to meet these needs and obligations even at the lower rate of grain consumption. Furthermore, at the lower level of grain consumption, a greater proportion of the diet must have been derived from other foods. Chickens provided eggs, and peasant crofts at Oakington were quite large, and could have allowed for a substantial amount of garden produce.⁴⁴ But this still leaves the problem of meat and dairy products, the prices of which were falling less sharply over the later fourteenth century than those of arable products.⁴⁵

It has been noted that Oakington lay in a region of inadequate grassland resources. Although the amount of money a peasant holding needed in order to account for all of its

⁴⁰ Kitsikopoulos, 'Standards', p. 242. The consumption pattern in which some of the wheat and maslin is consumed assumes 15% of the family's total kilocalorie consumption from grain was derived from wheat and 15% from maslin, while the remaining 70% came from dredge.

⁴¹ Kitsikopoulos' peasant diet is based on a total kilocalorie consumption of 1700kcal per person per day, of which 1143kcal, or 67%, are from grain. Campbell, *et al.* use a model diet in which 2000kcal are consumed per day, of which 1500kcal, or 75%, are from grain. To avoid malnutrition, at most 80% of the total calorie intake can be derived from grain: Kitsikopoulos, 'Standards', p. 242; B. M. S. Campbell *et al.*, *A medieval capital and its grain supply: Agrarian production and distribution in the London region, c.1300* (1993), p. 33.

⁴² CUL Q, Box 8 Misc. Roll; Box 6.

⁴³ A detailed consideration of maintenance requirements is given in Kitsikopoulos, 'Standards', p. 245.

⁴⁴ The presence of large gardens is indicated by numerous entries involving messuages, curtilages, and crofts in the court rolls. The majority of stipends in the court rolls record the continued use of pieces of this type of land by those who have relinquished their land: CUL Q, Box 3–4. 'Small tithes' of garden produce were valued £8 9s. 4d. in 1341: *Nonarum inquisitiones in curia scaccarii temp Edwardi III (1807)*, p. 203; Dyer further notes the regional importance of gardens in East Anglia: C. Dyer, 'Gardens and garden produce' in Woolgar *et al.* (eds), *Food in medieval England*, p. 38.

⁴⁵ Farmer, 'Prices and wages', pp. 455–61, 467.

fodder needs cannot be quantified with any certainty, it seems probable that fodder was a more important part of peasant expenditure at Oakington than current models of peasant budgets allow.⁴⁶

This article is primarily concerned with arable output, but of course pastoral husbandry was vital to peasant agriculture, diets, and incomes. The peasant livestock profile at Oakington is difficult to discern, but the court rolls offer some glimpses into this aspect of peasant agriculture. Overall, they do not suggest a highly developed pastoral sector, although some tenants did increase their livestock holdings by the end of the fourteenth century. Wool would have provided the opportunity for some income at Oakington, although declining fleece weights and wool prices were features of the period after 1370.⁴⁷ In 1360/1, the reeve recorded that 300 sheep had been kept in the foldcourse that year.⁴⁸ This no doubt underestimates the number of sheep owned by peasants at Oakington, given the frequency of the fines imposed for not folding sheep in the lord's fold. Whereas the largest flock mentioned in the court rolls before the Black Death was 32 sheep, all of which were pastured at Dry Drayton and Histon, after the Black Death flock sizes for some tenants increased, and three men appear to have acquired flocks of 100 or more sheep by the late 1390s.⁴⁹ These entries stand out as atypical, and the view of peasant livestock provided by the court rolls is one which suggests that most people owned a few sheep and at least one horse, while cattle make more infrequent appearances. In this, John Frost – who forfeited his holding of one messuage and 11 acres in 1395 and had among his diverse goods and chattels four *bacones*, two carthorses, two ewes and two lambs – may have been typical in his livestock holding, despite his fugitive status.⁵⁰ Of the 17 heriots noted during this period, seven were for cattle, typically oxen, nine were for horses and one was for sheep. References to pigs are infrequently found in the court rolls, an absence perhaps explained by the lack of woodland, which meant that pigs were sty-fed and so unlikely to be caught damaging corn in the fields.

Evidence from the court rolls suggests that the typical peasant household would have had access to some pastoral products, but it cannot be certain that peasants would have been able to produce the entirety of their dairy requirements from their holdings alone. Writing in the thirteenth century, Walter of Henley considered one cow equal to 15 ewes in terms of milk production.⁵¹ Although historians differ on the amount of milk a cow would have produced and a household would have consumed, when adjusted for a household of four people,

⁴⁶ For example, Kitsikopoulos, 'Standards', p. 246; G. Clark, 'The price history of English agriculture, 1209–1914', working paper (University of California, Davis, 2003), p. 56.

⁴⁷ M. Stephenson, 'Wool yields in the medieval economy', *EcHR* 41 (1988), 368–91, esp. p. 381.

⁴⁸ CUL Q, Box 6, roll 6, m. 1.

⁴⁹ John Lamb was fined for pasturing his sheep in Drayton and Histon in 1323 and is listed in the 1344 rental as a five-acre man: CUL Q, Box 3 roll 2, m. 27. In 1397 and 1398 Robert Cust, and John Pappe are each recorded as having 100 sheep outside the lord's fold and John Dette had 200 sheep outside the lord's fold: CUL

Q, Box 4 roll 9, mm. 19, 22.

⁵⁰ CUL Q, Box 4 roll 9, m. 16. He was taken by the bailiff in the following year and returned to the lord: Box 4 roll 9, m. 17. In 1393/4 John Frost bought a half quarter of maslin from the demesne, one of only two such transactions to appear in the reeves' accounts: Box 6 roll 6, m. 29. *Bacones*, possibly 'bacon', Hallam translates as 'hogs': Hallam, 'Life of the people', p. 826.

⁵¹ D. Oschinsky, 'Husbandry', in D. Oschinsky (ed.), *Walter of Henley and other treatises on estate management and accounting* (1971), p. 333.

estimates fall between one half and the whole dairy product of one cow.⁵² Therefore, even on very meagre dairy intake it seems probable that some proportion of peasant households at Oakington would not have produced enough dairy produce to fulfil dietary needs and therefore would have had to purchase these items. The lack of a substantial pastoral sector at Oakington presents itself with more force on comparison with Cottenham, the entries for which appear in the same court rolls. At that manor, the fenland landscape afforded ample grazing on lush grass, and the evidence there indicates a highly active dairy sector.⁵³

Wage labour, although apparently scarce at Oakington, must have been an important factor in making up for budgetary or dietary shortfall, but whether wages could be relied upon to make up for a significant deficit is questionable. Factors which caused economic distress – particularly poor harvests and the decreasing values of what peasants were producing – would have affected the entire community of peasant producers, although to varying degrees. In turn this may have glutted the labour market, making it difficult to find wage work when it was needed most. Oakington lay in a poor but heavily populated region, which remained so throughout the late middle ages. In fact, the region around Oakington became relatively poorer over the fifteenth and early sixteenth centuries.⁵⁴ This seems consonant with a dependence on arable cultivation at a time when prices were falling, and a region with a pool of excess labour.⁵⁵

The patterns of consumption detailed above suggest a range of different ways in which grain could be consumed or sold. Many other patterns could have prevailed, and surely each household managed its resources differently. Evidence for individual peasant household consumption at Oakington is, however, frustratingly scant. Retirement contracts provide a potentially useful source of information regarding peasant diets in medieval England. In keeping with a general decline in contracts of this kind, no retirement agreements of which part of the maintenance was comprised of grain were contracted after the Black Death at Oakington. Four such contracts were recorded before the Black Death, between 1307 and 1329.⁵⁶

These four contracts do not indicate a consistent pattern of consumption. Wheat was mentioned in all four contracts, comprising between one fifth and one half of the grain stipulated. Maslin was stipulated in two of the contracts, comprising one seventh and one fifth

⁵² Bailey, *Suffolk*, pp. 81–6; Dyer, *Standards*, p. 114; Kitsikopoulos, 'Standards', p. 242. E. Phelps Brown and S. Hopkins, 'Seven centuries of the prices of consumables compared with builders' wage-rates', *Economica*, 23 (1956), p. 182; Farmer, 'Prices and wages', p. 775; R. Trow-Smith, *A history of British livestock husbandry to 1700* (2006), pp. 119–20.

⁵³ J. Ravensdale, *Liable to floods: Village landscape on the edge of the fens, A.D. 450–1850* (1974), pp. 58–69; Page, *Crowland*, pp. 26–27; Wretts-Smith, 'Organization', p. 190. In 1333/4 flooding of the pasture at Oakington meant that sheep from there were pastured in the marshes at Cottenham: CUL Q, Box 3 roll 3, m. 23; peasants also pastured their sheep on the marshes at Cottenham without license, as in 1345/6: CUL Q, Box 3 roll 4, m. 14. Cottenham cheese was well known in

England until at least the nineteenth century: Ravensdale, *Liable*, p. 59; J. C. Loudon, *An encyclopedia of agriculture* (seventh edn, 1871), pp. 892, 1047.

⁵⁴ J. Lee, 'Tracing regional and local changes in population and wealth during the later middle ages using taxation records: Cambridgeshire, 1334–1563', *Local Population Studies*, 69 (2002), esp. p. 36.

⁵⁵ This may also add to Briggs's explanation for why the size of money debts at the three Cambridgeshire manors was smaller after the Black Death than before: Briggs, *Credit*, p. 59.

⁵⁶ R. M. Smith, 'The manorial court and the elderly tenant in late medieval England' in M. Pelling and R. M. Smith (eds), *Life, death and the elderly: Historical perspectives* (1991), p. 49; CUL Q, Box 3 roll 2, m. 25; Roll 3, mm. 6, 9, 10.

of the grain recorded. Dredge and its constituent crops comprised between one fifth and one third of grain in three contracts but was not mentioned in the fourth. Peas were stipulated in all four contracts, comprising between 20 and 40 per cent of grain recorded. These contracts provide detail on an individual level, which does not appear to mirror the consumption patterns suggested by the tithes. Yet these contracts were made in the high-pressure years of the early fourteenth century, a period when demand for land at Oakington was very high.⁵⁷ It is possible that these contracts demonstrate something of the desired diet of the elderly people who relinquished their land, and the amount which those taking land were willing to pay in order to enter the holding.⁵⁸ In this, the high proportion of wheat is instructive. This was a period in which those selling land to retire were at a distinct advantage. How the grain components of retirement contracts would have changed over the period covered in this study remains uncertain. It may be speculated that the peas in these retirement contracts were eaten as pottage, but evidence from the account rolls suggests that after the Black Death it is unlikely that black peas were consumed in this way.

Another possible source of information regarding peasant diets is the grain-based portion of payments to the manorial *famuli*. At Oakington, wheat and dredge were paid at constant rates of 2 qr 5 b between 1362/3 and 1380/1 and 2 qr 4 b from 1381/2 to 1390/9 and the rest of the payments were made in maslin.⁵⁹ Maslin amounted 81 per cent of the total grain paid to *famuli*, rising from 80 per cent before 1380/1 to 83 per cent thereafter. This rise in maslin corresponds to a slight increase in maslin grown on the demesne, and stands in marked contrast to the declining popularity of rye nationally. That the proportion of wheat in the *famuli* payments decreased slightly, while that of less palatable rye increased, might suggest that the expectations of the manor's full-time labourers had not risen over the period.⁶⁰ It should be noted that the quality of grain had improved on comparison with the early fourteenth century, when oats and peas were part of the *famuli* payments, but this improvement did not continue thereafter.⁶¹ The high level of maslin in the payments may suggest that this was a sought-after crop at Oakington, suggesting that the grain-based portion of the peasant diet at Oakington remained relatively unimproved over the period under consideration.

Consideration of all aspects of peasant consumption patterns, including amounts consumed, kilocalorie extraction rates, and prices, indicate that a combination of factors determined the extent to which peasant diets could be changed in order to maximize the amount of money produced from a holding. It seems unlikely that dredge was purely a cash crop, as this would have meant almost complete reliance upon markets for the majority of peasant diets at Oakington. Yet the court rolls do not offer evidence of the economic and social dislocation this would have caused in years of extremely high prices and low production.⁶² Examination of the court rolls for data indicative of deterioration in peasant conditions, such as land transactions, heriots, instances of theft, and cases of debts, reveals little to suggest that peasants found

⁵⁷ See for example F. M. Page, 'Customary poor-law of three Cambridgeshire manors', *Cambridge Historical J.*, 3 (1930), pp. 125–33.

⁵⁸ Dyer, 'Did the peasants really starve?', pp. 56–7; Smith, 'Elderly'.

⁵⁹ CUL Q, Box 6 roll 6.

⁶⁰ For prominence of rye in *famuli* payments, see R. Britnell, 'Eastern England', *Agrarian History*, III, pp. 65–67.

⁶¹ CUL Q, Box 5 roll 5; Box 8 roll 4.

⁶² CUL Q, Box 3–4; Sapoznik, 'Peasant agriculture', pp. 156–65.

themselves in financial or subsistence crisis at Oakington.⁶³ Furthermore, had dredge been grown primarily in response to market indicators, as dredge prices fell, the amount of dredge in the tithe would have increased to make up for the loss in value; again, this relationship cannot be demonstrated.⁶⁴

Calculation of values of arable produce, combined with assessment of consumption strategies, the lack of evidence for a highly commercialized arable sector in the court rolls, and the absence of a quantifiable relationship between prices and the tithe receipt, suggests that peasant production at Oakington was not primarily market-oriented, despite reliance upon a sought-after arable commodity. The Oakington evidence points to the conclusion that other factors, such as stability of yield and flexibility of use, were more important than the cash value of different crops in determining peasant cropping strategies.

III

Herein lies the tension at the heart of peasant resource allocation and decision making. The need to use the same produce for consumption and sale meant that peasants had to find an effective way of balancing these competing needs, all of which were crucial to the sustenance of the household and holding. The evidence from Oakington suggests that peasants met resource needs by giving large portions of their land over to crops that were less soil exhaustive, allowing them to maximize the output possible from small holdings.

In this, the advantage of dredge lay in its flexibility of use and stability of yield. Dredge could be consumed in a number of ways and with varying calorie extraction rates, as pottage, bread, ale, and even fodder. It could be sold raw or as malt, which was a value-added commodity. The straw of its constituent crops, barley and oats, was more palatable to livestock, particularly sheep, than that of wheat or rye.⁶⁵ Furthermore, the stability of the yields of mixed crops, especially dredge, is well known, and dredge was by far the most stable-yielding crop at Oakington.⁶⁶ It is likely that it was extensive dredge cultivation that allowed peasants at Oakington to avoid aggregate harvest failure in the first quarter of the fourteenth century, as well as economic dislocation during the very poor harvest year of 1369.⁶⁷

Likewise, black peas had multiple uses. They were an important fodder crop, particularly for the most prevalent animals at Oakington, horses, pigs and sheep. Their extensive cultivation was also a vital component of soil maintenance, fixing atmospheric nitrogen, choking weeds and providing a green manure. In years of poor harvests, they could be used for human consumption, although the rapidity with which the Abbey stopped giving peas to the poor of

⁶³ CUL Q, Box 3–4.

⁶⁴ Regression analysis of the tithe receipts shows no significant response to price as a predictive variable: CUL Q, Box 2 Misc. Roll, Box 6 rolls 3–6; Box 5 roll 6; Box 7 roll 1; Sapoznik, 'Peasant agriculture', pp. 52–4.

⁶⁵ C. Weder, *Drought options: Supplementing straw and chaff to beef cows* (Alberta Agriculture, Food and Rural Development, 2001); R. Butler, *Stubbles: their use by sheep* (Farm note 188, Government of Western

Australia Department of Agriculture and Food, 2006), p. 4.; S. Barnhart, 'Short-term and supplemental forages', *Cows and Plows*, IBCo7–9 (Ames, Iowa, 2007).

⁶⁶ J. Pretty, 'Sustainable agriculture in the Middle Ages: The English manor', *AgHR* 38 (1990), p. 5; Sapoznik, 'Productivity'.

⁶⁷ This has been noted elsewhere in East Anglia: H. E. Hallam, 'The climate of eastern England', *AgHR* 32 (1984), pp. 124–32.

the parish in the decades after the Black Death suggests that this was not a popular food crop, even among this group.⁶⁸

The impact of the falling price of grain at the end of fourteenth century was two-fold, for although peasants were able to purchase more food for less money, it also meant that they received less money for what they produced. When combined with low wages and the continuance of a system of landholding in which smallholding prevailed, gains in peasant standards of living would have been held back by continuing pressure on arable resources. Tenants no longer needed to compete with a large landless population for wage labour, but low and stable wages on the Oakington demesne are indicative of a labour pool that continued to meet or surpass demand.

Cambridgeshire was a county of fertile soils, high arable production, and, consequently, of low prices.⁶⁹ Yet although the monetary value of the produce from peasant holdings decreased, the food value remained stable. While the grain component of the peasant diet may have remained stable or even improved, it is unclear as to whether their consumption of meat and dairy followed a similar pattern. It has been suggested above that peasants at Oakington probably remained at least partially reliant upon purchases of pastoral products, whose prices did not decline as sharply as had the prices of their own produce. The more stable local price of dredge, the primary arable product at Oakington, may have helped peasants absorb this cost. Yet it is highly unlikely that dredge was grown *primarily* for sale. Rather, it is suggested here that it was the flexibility in the ways in which dredge could be consumed and sold, rather than large-scale production expressly for market, which made dredge such an attractive crop for peasants on smallholdings.⁷⁰

IV

This article set out to understand peasant production strategies in the light of the resources available to smallholding tenants. Its analysis has revealed a pronounced continuity of cropping patterns at Oakington and demonstrated that the elsewhere extraordinary transformation of the English economy over the period studied had surprisingly little impact on peasants there.

This is not to say that there was no increase in standards of living at Oakington in the aftermath of the Black Death. Insofar as comparison can be made between living standards before and after the Black Death, it must certainly be noted that over the later fourteenth century the land market slowed. While very few tenants at Oakington were in a position to engross their holdings, in a sense peasant holdings were larger because they were less fragmented by subtenancies. It is likely that the average peasant household was producing more after the Black Death than before, and this access to more grain for consumption and sale must have had a significant positive impact on standards of living, even as prices for arable

⁶⁸ For more on this see Sapoznik, 'Productivity', p. 536.

⁶⁹ Bowden, 'Agricultural prices', pp. 614–15.

⁷⁰ A point also raised regarding barley in late medieval Wiltshire: J. Hare, 'Lord, tenant and the market:

Some tithe data evidence for the Wessex region' in B. Dodds and R. H. Britnell (eds), *Agriculture and rural society after the Black Death: Common themes and regional variations* (2008), p. 140.

products were falling. The apparent decline in black pea consumption by peasants may be seen as a consequence of this increased access to more palatable crops.

Similarly, the landless population at Oakington was likely to benefit from the declining population pressure after the Black Death. Fewer new family names appear in the land transactions recorded in the court rolls after the Black Death than before, and they make up a smaller proportion of the total number of people involved in land transactions. Nonetheless there are numerous examples of the previously landless children of landed families taking land after the Black Death.⁷¹ It may be inferred from this that these people, too, would have seen their standards of living increase. However, this study throws doubt on the extent to which peasant standards of living continued to increase after this initial rise due to consolidation of, or entry into, an 11-acre holding.

Of course, Oakington represents a very small portion of the peasantry that comprised three quarters of the population of medieval England. Clearly some peasants were able to respond to changing economic circumstances in dynamic ways, as has been demonstrated by Dodds's study of the Durham tithes. Elsewhere, Dodds has argued that peasants in some Kent parishes grew higher priced grains in order to sell them to purchase greater quantities of lower-priced grains, again demonstrating that peasants organized their arable production around market opportunities.⁷² In a similar vein, Bailey has proposed that barley was grown as a cash crop on peasant land in parts of Suffolk.⁷³ The less regulated field systems and more varied landscapes of these places probably afforded peasants more opportunities for agricultural flexibility than those at Oakington.

At Oakington, the open-field system, lack of grassland, and continued population pressure combined to create an environment particularly unsuited to adaptation to changing markets and demand for pastoral products. The large number of village by-laws regulating livestock in open-field regions in the decades after the Black Death have been used by Dyer to suggest that cereal-dependent systems continued to prevail in some places even at the close of the fourteenth century.⁷⁴ The constraints placed on peasants whose systems of production were geared towards cereal husbandry in the decades before the Black Death have long been known.⁷⁵ Cornwall's assessment of peasant agriculture in medieval Buckinghamshire demonstrated how detrimental to peasant income the lack of a developed pastoral sector could be, arguing that in such regions 10 to 15 acres was the minimum holding size necessary to meet subsistence needs.⁷⁶ This provides an interesting parallel to late-fourteenth century Oakington, particularly on consideration of the acute strain on income as grain prices fell after 1375.

⁷¹ From 1290–1348, 65 separate family names were involved in land transactions, of which 32 were names not found in the *Hundred Rolls*, 1327 lay subsidy list, or any of the Crowland documents. From 1349–1400, there were 41 separate family names involved in land transactions, or which only 16 were names previously unassociated with Oakington: CUL Q, Boxes 3 and 4; *Rotuli hundredorum temp. Hen. III & Edw. I*, II (1818) pp. 407–08; R. Glasscock (ed.), *The lay subsidy of 1334* (1975), p. 25; CUL Q, Box 4 roll 12, m. 8; Box 3 Roll 4, m. 17; Box 3 Roll 5, mm. 1–4; names compared with Box

8, 1344 Rental.

⁷² Dodds, 'Demesne and tithe'.

⁷³ Bailey, *Medieval Suffolk*, p. 77.

⁷⁴ Dyer, *Standards*, p. 144.

⁷⁵ For example Dyer, *Standards*, p. 131.

⁷⁶ J. Cornwall, 'Medieval peasant farmers', *Records of Buckinghamshire* 20 (1975), pp. 71–4. Cornwall takes into account fewer animals than either Dyer or Kitsikopoulos, and his conclusions regarding peasant budgets are consequently less optimistic: Dyer, *Standards*, p. 114; Kitsikopoulos, 'Standards', p. 239.

Yet despite the constraints under which peasants were producing at Oakington, they created a system of land use that allowed for very high levels of output. This should not necessarily be viewed as a less innovative response to the problems posed by a difficult social, economic, and physical environment than price-responsive market production. This analysis has demonstrated the complexity of peasant agriculture and the complicated, and often highly localized, factors driving resource allocation and decision making on peasant lands.

Peasants at Oakington could well have been representative of a section of the English population who, constrained by competing needs of production and consumption, and unable to change their conditions of tenure, found themselves little or no better off at the end of the fourteenth century than they had been at the beginning of the period. For these people, the dramatic alterations to the national economy of late medieval England brought very little change to their own smaller, local economies. Further research, using local data within the framework utilized here, would show how far the experience of Oakington is reflective of peasant agriculture in the late medieval period.