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CHANGES IN CROPPING SYSTEMS IN HERTFORDSHIRE

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EXAMINATION of statistics, beginning with the *Board of Trade Returns, 1866*, and ending with the *Ministry of Agriculture Returns, 1927*, gives the following information :

(1) The total area under crops and grass has fallen by 14,000 acres. This is probably due more to the urbanization of South Hertfordshire since 1866 and to the increase in the number of roads than to land actually going out of cultivation; but it is safe to assume that in recent years at least the latter factor has been exercising an increasing effect.

(2) The changing proportion of arable land to grass-land. Since 1866 there has been a steady decline in the area of land under arable cultivation, that has been much accentuated in the immediate past. In the space of sixty-one years 42,951 acres have been converted to permanent pasture, and 57,376 acres have gone out of arable cultivation. Arable land which in 1866 occupied 73 per cent. of the total area under crops and grass now occupies only 58 per cent. There is every reason to believe that in the near future the proportion will be still further reduced. Many farmers are laying down land to grass as fast as they can, and the fact that the decline is not more rapid is to some extent due to the farmers' inability to keep pace with their intentions.

These effects have been accompanied by the following changes : cereals and pulse crops have decreased by 48,000 acres, and roots and forage crops by 27,000 acres; seeds and clovers show a slight but continuous fall; the acreage under potatoes is small but steady; bare fallows have increased by 6000 acres.

Examination of the area devoted to individual crops brings out the following points :

(1) The decline in the wheat area until 1896, its rise from 1906 to 1913, and its rapid decline after 1923. In 1927, 12,155 acres less were grown than in 1866, and 10,123 acres less than in 1913.

(2) The comparatively rapid and continuous decline in the area of barley since 1876, less than one-third of the area then grown being cultivated in 1927. Since 1913 there has been a decline of 4289 acres.

(3) The increasing area coming under oats until 1906, and its

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gradual but continuous decline since that year. In 1927, 3191 acres less were grown than in 1913.

(4) Rye, while never a crop of much significance, has also fallen away.

(5) The marked decrease in the bean area in 1927 as compared with 1866, and the continued fall after the war years.

(6) The reduction of the pea area from the substantial one of 6676 acres to the almost insignificant one of 458.

(7) The continuous decline in the area under turnips and swedes.

(8) The increase in the area of mangolds until 1913, and their decrease since that date.

(9) The comparative equality in the acreage under cabbages, rape, etc.

(10) The continuous decrease in the acreage under forage crops, such as lucerne, sainfoin, tares, etc.

(11) The increase in bare fallows until 1896, their decrease until 1913, and their rapid increase since that date.

(12) The great increase in the potato area in 1886 and its continuance at an approximate level of 5000 acres ever since.

Viewed as a whole, the outstanding changes are the reductions in arable area, in wheat and barley areas, in bean and pea areas, and in turnip and swede areas; the increases in bare fallowing, and the introduction of potatoes in increasing quantity from 1876-1886.

Farming in the Nineteenth Century

Much of the early farming appears to have been based on heavy applications of dung and chalk. It was no uncommon practice to put on dressings of from 80 to 120 loads of chalk per acre. To-day, in many parts of the county, there is a definite lime-deficiency. Dung was and still is largely used. Much of this was and still is purchased from London, and Arthur Young records that in the period about 1800 many poor people from Hatfield and St Albans made a practice of collecting the manure from the turnpike roads and selling it to neighbouring farmers. The price paid was two-pence per bushel. Soot and bones were favourite manures, and the former is still largely used.

Rotations commonly in use from 1800 to 1900 are set out in the following Table:—

1800—

(a) Heavy Land.	1. Fallow	}	or	{	1. Fallow
	2. Barley				2. Barley
	3. Clover				3. Peas
	4. Wheat				4. Wheat

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- | | | | |
|--|---|---|--|
| | <ol style="list-style-type: none"> 1. Fallow 2. Wheat 3. Fallow 4. Barley 5. Clover 6. Oats | varied every
second rotation
with | <ol style="list-style-type: none"> 1. Fallow 2. Wheat 3. Clover 4. Barley 5. Fallow 6. Wheat 7. Oats, Peas or Beans |
|--|---|---|--|
- (b) Light Land.
1. Turnips
 2. Barley
 3. Clover
 4. Wheat and, if land was in good heart,
 5. Peas or Oats

1860—

- | | | |
|-----------------|--|--|
| (a) Heavy Land. | <ol style="list-style-type: none"> 1. Fallow or Roots 2. Barley or Wheat 3. Clover 4. Wheat 5. Oats | <ol style="list-style-type: none"> 1. Fallow or Roots 2. Wheat or Barley 3. Clover or Beans 4. Wheat |
| (b) Light Land. | Very similar to 1800 | |

1880—

- (a) Heavy Land. (1) Fallow sown with mustard ploughed in; (2) Wheat; (3) Red Clover; (4) Wheat; (5) Barley or Oats; (6) Beans manured with F.Y.M. or dead Fallow; (7) Wheat; (8) Sainfoin; (9) Sainfoin; (10) Wheat.
- (b) Light Land. (1) Swedes fed off with sheep; (2) Barley; (3) Clover; (4) Wheat; (5) Oats followed by: (1) Roots for sheep; (2) Barley; (3) Sainfoin; (4) Sainfoin; (5) Sainfoin; (6) Wheat; (7) Oats.

The fallow system was not much pursued except on the heaviest soils and where the land had become so foul as to make a complete fallow the only satisfactory method of cleaning it, turnips being grown wherever they possibly could. Wheat was an important crop, and next in importance came turnips and swedes.

Clover was grown clean, and is said to have been cultivated in Hertfordshire as long as, or longer than, in any part of the kingdom. Lucerne and sainfoin are mentioned as being grown in small quantity. Tares were very generally grown on heavy land for soiling the work teams. This was a common practice in 1740 before it was practised elsewhere. Red clover was not regarded as a safe crop oftener than once in eight or ten years, and winter beans were increasing in favour as a substitute for this crop.

Mangolds were coming into use about 1860.

Milk production for the London market seemed to commence about this time, and it is recorded that the milk was conveyed in tin cans night and morning by railway from Hatfield.

Some time about 1850 the commercial cultivation of water-cress appears to have begun.

About 1880 there was a large influx of Scotsmen into the county and they introduced the potato crop into their general cropping. Between 1880 and 1881 the acreage under potatoes rose from 2912 to 4404. To-day it is still an important crop on many farms lying in a line between Knebworth and Rickmansworth, but elsewhere in the county it is not much cultivated and the heavy soils are not suitable for its proper growth. Formerly the practice was to dung the land heavily with London dung, which was plentiful and easily obtained. The dung was placed in drills under the seed, now it is put on the flat and ploughed in.

There was also a very considerable trade in hay with London.

Recent Developments

In more recent times, within the past twenty years or so, some of the developments that stand out most clearly are as follows:

(1) The use of marrow-stem kale in place of white turnips about ten or fifteen years ago.

(2) The growing of many hand-thinned roots is proving uneconomical owing to the high labour-cost involved, and more and more land is being fallowed rather than cropped. A further development is the sowing of more root crops, such as kale broadcast, and penning them off. Even beans are sometimes broadcast or drilled close. These practices are likely to grow in future.

(3) The transition from arable sheep-feeding to grass sheep. Formerly, breeds such as the Wiltshire, Hampshire Down, Dorset Horn and Lincoln were kept on arable land, but the high cost of growing roots and the changing public demand for mutton have replaced these by sheep kept on grass-land, mainly Half-breds and Mashams.

(4) The development in the production of milk. Dairy-farming has increased many times over within the past fifty years and now is an important factor in farm economy, particularly in the south and west of the county. Much of the milk goes to the urban areas of the county and some to London, but, despite the large quantity of milk produced, the county is not self-supporting, more particularly in the Watford area.

(5) The use of silos as a means of preserving green fodder has been revived within the past ten years. The capital outlay is heavy, but the crop is cheaper than roots to cultivate and is generally a good smotherer of weeds. Its cultivation, while increasing in the years before 1925, does not seem to have made much progress since.

(6) The introduction of brussels sprouts in the north-east of the county within the past ten years. This crop, formerly almost confined to the Biggleswade area of Bedfordshire, has been spreading into Hertfordshire in increasing area each year. In 1927 over

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1200 acres were grown. While normally occupying part of the root acreage, in a few cases it is being grown continuously on the same land. How far this latter practice can be carried appears to be doubtful, the determining factor being the incidence of diseases—such as finger and toe.

(7) The introduction of the sugar-beet crop, which in 1927 occupied 2000 acres. Sugar-beet has been introduced also as part of the root-break and as a continuous crop on the same land. Great hopes were expressed that it might help to solve some of the difficulties of the Hertfordshire farmers, but the realization has not been up to the expectation, and the tendency now is to reduce the acreage under this crop. The heavy labour bill is undoubtedly the chief drawback to the maintenance of this crop in the rotation. Distance from a factory is another factor.

(8) The area under fruit is increasing, mainly in the direction of soft fruits such as black-currants. A few farmers have planted considerable areas with this crop, but it is doubtful if there will be much further increase on the farms. Cherry orchards have spread into West Herts from Buckinghamshire, and there is an annual cherry sale at Hemel Hempstead. In the east of the county and down the Lea Valley are apples and plums, most of which have been planted during the past forty years.

(9) Probably the most important development that has taken place in the utilization of land is the introduction of the glass-house industry in the Lea Valley. While scarcely agricultural, its great importance as an example of intensification of production in Hertfordshire merits more than passing mention. Its growth is almost a romance; and the glass-house area is now located in the three counties of Herts, Middlesex and Essex, the greatest acreage being in Hertfordshire. The total area is 1400 acres, of which 850 acres are in Herts. The capital involved is about £5,000,000, of which over half is in this county. The number of growers is about 600, and the men and women employed number 6000, taking about £500,000 in wages annually. Tomatoes and cucumbers are the principal crops grown, with miscellaneous crops such as grapes, roses, ferns, palms and carnations. The estimated turnover in Hertfordshire alone is £1,500,000. The following Table gives an idea of the acreage occupied by the different crops:

	Total	Herts
Tomatoes	875	560
Cucumbers	275	178
Miscellaneous	250	122

The miscellaneous acreage includes 75 acres grapes and 75 acres under roses.

Equally striking is the size of the individual units, a few varying from 30 to 40 acres in extent.

(10) Market gardening as distinct from agriculture is also developing, and some farmers are devoting more attention to market-garden crops.

With regard to rotations the position to-day is exceedingly complicated. The four-course rotation is still practised on the heavy land, and the five-course on the lighter soils; but there are endless variations, and some farmers do not work to any particular rotation, cropping their land in such a way as to secure the best possible cash return. Three white crops may be grown in succession. Potatoes may come into the course at close intervals, and, as already mentioned, there is a very marked increase in the area under grass.

As for live stock, changes in public demand have led to greater attention being paid to early maturity in cattle, sheep and pigs. Poultry-keeping on the farm is developing to a marked extent.

Summary

To sum up, recent developments in cropping in Hertfordshire have been mainly along two lines: (1) the transition from arable to grass, and (2) the diversification of the root crops. How far these changes are affecting the economic position of the industry it is difficult to judge. In some cases improvement may have been effected, in others nothing has been achieved. The chief trouble is undoubtedly the cost of labour and low prices, and farmers are more and more tending to fight shy of those crops which have a high labour requirement.

There is an increased interest in and demand for labour-saving devices, and a growing inclination to adopt cheaper, if less correct, methods.

While a few farmers may be doing well, the great majority are having a hard fight. Hertfordshire agriculture is in a parlous state. Farmers generally are alive to the need for something being done. So far, escape has eluded them. They keep on hoping for conditions to improve, but hope, while a valuable asset, is scarcely a marketable commodity.

RECENT CHANGES IN NORTHAMPTONSHIRE HUSBANDRY

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ON examining the figures of the acreages of agricultural land and of the principal farm crops in 1914 (the last year uninfluenced by the war), in 1919 (the year after the cessation of hostilities), and in the two recent years, 1926 and 1927, the most striking feature is that the acreage of arable land is 15,600 acres less in 1927 than