

No. 2

Sugar Beet in the
Eastern Counties

1928

DIAGRAM I.

Distribution of Costed Fields in relation to the Factories.



University of Cambridge
Department of Agriculture

Farm Economics Branch

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Sugar Beet in the
Eastern Counties

1928

Being an Investigation into the Financial Results obtained on
One Hundred Farms and Some of the Factors Influencing Them,
as well as Contrasts and Comparisons with the Previous Year

BY

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Acknowledgments

IN the following pages the material supplied by one hundred sugar beet growers is sifted and analysed. The provision of such data must often be an irksome and seemingly thankless task to those who undertake it, and at times it must be hard to keep alive the interest which inspires it. It can only be hoped that, in addition to the sincere gratitude of the Department, those who have provided the basic material, many of them for two successive years, may find in this second *Report* some points of interest which will help to compensate them for their untiring support. They desire to remain anonymous, but, none the less, our obligation to them must be recorded. In addition, every reader of this volume will owe a debt of gratitude to Mr. P. E. Graves, who has been responsible for the innumerable mathematical calculations which lie behind a work of this nature.

Some Observations on Sugar Beet Production

It is probable that no crop, since the introduction of the turnip into the rotation of Norfolk husbandry, has caused such widespread discussions, demonstrations and investigations as has sugar beet. Scientists, economists, agriculturists and politicians have vied with each other to convince the farmer, and the country at large, of its merits and demerits. Research workers and county officials have carried out field and experimental investigations, and a mass of information has been accumulated and is being sifted, tested and made more easily available to the practical man with each successive season. In addition, each grower has, in effect, been carrying out private experiments on his own behalf, and thus, within a few years, expansion and progress has been made which, without Government assistance, might not have been achieved within a century.

Looked upon as an ordinary commercial proposition, how does the introduction of the sugar beet crop appear to the "average" farmer? As an addition to the list of "cash" fallow crops it is undoubtedly very welcome, for in these days of narrow profit margins, and limited capital, every fresh opportunity for increasing the rate of turn-over is of considerable assistance. Farming in general, and arable farming in particular, suffers under many handicaps which are unknown to the industrialist, and of these one of the most serious is the necessity of maintaining within the organisation certain departments which can never be made directly profitable. The fallow "shift" is one of these departments, but the substitution of sugar beet for, say, mangolds or swedes, greatly reduces the time-lag between outlay and income, while the availability of pulp, coupled with, perhaps, a judicious modification of the cropping system enables the stock carrying capacity of the land to be maintained and the "out-put" to be increased.

Attention to detail is to-day one of the most important essentials to successful, that is profitable, farming. In so far as successful sugar beet production is concerned certain details stand out as being of paramount importance. The farmer's factory, or as some prefer to call it, his raw material, merits consideration in this respect. Thus, soils may be subjected to many forms of classification, although from the practical man's point of view, the nature of its texture and the degree of its fertility are probably the most common. So far as the three categories of "heavy," "medium" and "light" soils are concerned the first would appear to be unsuited to sugar beet production, for the preparation of a good seed bed and the ultimate harvesting of the crop on this type of land provide economic difficulties which, for the present, are

insurmountable. Where fertility is the basis of classification it may safely be said, however, that many soils which are to-day classed as unfit for sugar beet production, or, at best, capable of producing only an indifferent crop, may, by liming and suitable manuring and cultivation, be made to yield satisfactory results.

Of the many factors concerned in the production of sugar beet, labour is one of the most important and costly. In this connection it is pleasing to be able to record in the following pages that experience in growing the crop is effecting considerable advances in the efficiency of both manual and horse labour, with consequent reductions in acreage and tonnage costs. But there still appears to be wide scope for improvements in the art of hoeing and singling, for all too many disappointing results have been observed which were due to careless work and indifferent supervision during this most critical period in the life of the crop. While emphasising the importance of hoeings and singling, the question naturally arises as to what is the ideal spacing of plants and rows. Local conditions, soil fertility, variety of seed and many other variable factors will influence the decision, but it is clear that the treatment of mangolds is still too frequently taken as being equally applicable to sugar beet. There is no doubt that a large number of growers would benefit from heavier seeding and closer spacing of plants. It is suggested, too, as a result of close observation on a very considerable area of beet land in the province, that many growers, in spite of constant warnings from the factories and the advice of County Organisers, neglect to give adequate supervision to drilling. The 1929 season, with its abundance of tilth, will demonstrate, it is feared, the dangers of burying the seed beyond any hope of obtaining a full plant.

While up to the present sugar beet does not appear to have been allotted any definite place in the rotation, owing, no doubt, to the influence of the subsidy, there is a tendency for it gradually to fall into the normal fallow "break." It would appear fairly safe to assume that, with the accumulated experience in the technique of its production, as well as an ever increasing appreciation of the value of its by-products and after-effects, the crop seems to have come to stay throughout a large area of the eastern counties in which the growing of alternative "cash" fallow crops is not an economic proposition. Whether the factories' requirements will be satisfied with the production from the present fallow area, or whether the fallow acreage will be increased, it is difficult to predict; but it does seem reasonably certain that the sugar beet crop, coupled with other factors in the economics of present-day farming, will materially influence the rotation of the future.

As new growers take up the production of the crop it is but natural that many queries should arise in their minds as to the correct method of manuring. Here, as with points of a cultural nature, local conditions will influence the decision, and it is safe to leave the matter in the hands of the local agricultural advisors who, year by year, conduct manurial experiments for their own particular districts, and who can base advice on their experience and judgment of

the requirements of each particular field. There are not, and never can be, set types and quantities of manures suitable for the whole country, or even for one individual county.

Turning to implements, the past season has not produced much of an outstanding character in this direction. Mention may be made of what is claimed to be an improved horse-hoe. The feature of this implement is that the lateral movement of the framework carrying the hoes is made almost finger-light by means of a small wheel which runs on the fixed carriage; and although the hoe can be made to take the width of an ordinary corn drill, the work is not too heavy for one horse. A new combined horse-hoe and manure distributor has been designed for top-dressing while horse-hoeing. This implement will no doubt appeal to those growers who favour the method of "dobbing," as it is called in some districts, i.e., placing a pinch of some nitrogenous top-dressing at the base of each plant after singling. It will certainly save the growers many plants, for when this operation is done by hand the employees are often observed wearily dropping, from an upright position, some potent manure directly into the crown of the plant. A new implement which tops, cleans and loads the beet needs no comment here, as a full description appears elsewhere in this volume. It may be said, however, that seen at work on one of the worst days of the late season and under the most vile conditions, its performance was most impressive. The outstanding features of this machine were the speed with which the work was accomplished, the thorough cleaning given to the roots, and the ease with which the unsoiled tops could be collected afterwards—this last point being of no mean consideration to those dairymen and stock-owners who appreciate their feeding value, whether fresh or ensiled. One other outstanding advantage of the implement lies in the fact that a great proportion of the adhesive soil is deposited in its original site, and not carted away to swell the already high freight rates and cause inconvenience and expense to the working of the factory. Whether the price of the implement will place it beyond the reach of the average grower remains for the future to decide, but it would appear that the inclusion of such a useful machine in the outfit of the steam cultivator or threshing tackle contractor is worthy of consideration on his part.

The advantage of being able to utilise the by-products of the crop, in the form of dried pulp and tops, was most marked during the last season, and in the majority of cases where enquiries were made enthusiastic accounts were given of their value. All classes of stock-owners spoke in glowing terms, and in many cases dried pulp is now being asked for in quantities far in excess of the grower's quota. A number of flock-masters found the pulp a veritable sheet-anchor during the spell of severe frost, and in no case has adverse criticism been heard. During the early period of the beet campaign it was feared in some quarters that, owing to the displacement of forage crops, a reduction in the numbers of livestock might result. The reverse appears to have been the case, for there is evidence of a tendency, where capital is available, to increase

the head of stock formerly carried. This, in itself, is a healthy sign in more ways than one. The visit recently paid to the Continent by a party of farmers left many of them impressed with the advantage of ensiling tops, either in clamp or pit, and those in this country who have already practised this method are very well satisfied that the idea is sound and that the product provides excellent food for all classes of stock. On account of the interest which has thus been aroused, this subject is expanded in the present *Report*. As a digression, it may be mentioned that a movement is on foot to utilise the plant at some factories for the purpose of drying surplus potatoes for cattle food, either alone or mixed with the pulp. As this process, however, is not yet beyond the experimental stage, it can, for the present, only be watched with interest.

The testing out of varieties of seed has met with a considerable amount of attention during the last season, and the results have been published individually by the county authorities and collectively by the Ministry of Agriculture. English grown seed again gave promising results, and there certainly seems to be quite a future for those farmers who specialise in seed production under contract. It is well within the realms of speculation that this country may at no distant date be able to provide its own requirements.

The rail congestion which occurred during the earlier years seems to have been overcome, no mean achievement, and this, coupled with greatly improved road transport, has meant much to the industry, even though freight charges are still a serious burden. Any difficulty in regard to the supply of labour to those growers who contract for large acreages, or those who grow beet in excess of their normal fallow "break," appears to have been overcome by the recent factory arrangements for providing gangs at reasonable terms. This has been much appreciated, and the results appear, in every case, to have been satisfactory. It is a system which has much to commend it, if only as a safeguard against the disorganisation of the regular farm staff at those times of the year when other essential operations are demanding attention.

The spell of brilliant weather experienced during the summer of 1928, coupled with the excellent harvesting conditions in the early autumn, presented a remarkable contrast to the 1927 season. The psychological effect was most encouraging, and optimistic forecasts of a record yield were made by many growers. The dry, hot spell experienced in the early summer with its accompanying insect and fungoid diseases had, however, been overlooked, and greatly diminished yields were experienced over many of the very light soil areas. It is yet too early in the life of the crop in this country to say much of pests as understood by Continental growers, but where beet followed beet, wireworm attacks seemed to be more prevalent than usual. Whether this was due to more thorough cultivation, a greater abundance of residual food supply, or higher farming generally, it is difficult to say, since many farmers contend that by this latter means reputed "wireworm" land can be freed of the pest. Experience, however, will doubtless bring with it a better understanding of sugar beet diseases.

APPENDIX A. GENERAL ECONOMIC DATA.

Farm Number.	General Description of Soil.	Total Acreage.	% Arable.	Rent and Rates per Acre.	Density per 100 Ac's*		Number of Tractors,†	Total Beet Grown expressed as a % of Total Arable.				1928 Beet Crop actually Costed.	Factories Supplied.	Approximate Road Distance (Miles) to Factory.		
					Labour.	Horses.		1925	1926	1927	1928				Number of Fields.	Acres.
302	Sandy loam	699	86	25 9	3.7	2.7	1	13.8	16.1	18.7	16.4	5	98½	Bury	2.	
304	Light loam	465	86	23 4½	3.9	2.4	1	7.5	16.0	32.5	28.5	3	34	Bury	44.	
305	Light mixed	236	58	29.1	2.5	3.4	—	—	3.7	4.4	5.9	1	8	Bury	30.	
306	Light over chalk	319	92	27.7	2.9	2.6	1	2.1	7.0	10.6	12.3	1	1	Felsted	23.	
307	Very light	602	88	12.9½	4.0	3.3	1	5.3	8.7	11.7	23.3	6	122	Bury, Ely and Ipswich.	4, 40, 23.	
308	Strong loam	1015	75	33.3½	4.5	3.4	—	2.1	5.2	7.8	10.5	2	44	Bury	11.	
310	Gravel loam	280	54	24.6½	3.6	2.5	—	5.3	11.3	18.0	18.7	2	2	Bury and Ipswich	23, 23.	
313	Mixed on sand	760	62	32.9	4.5	2.4	1	2.1	2.1	2.1	2.6	1	12	Bury	21.	
313A	Clay loam	440	91	33.5	3.4	3.0	—	6.0	4.5	7.3	6.0	1	24	King's Lynn	23.	
314	Light sand	1000	95	32.5	4.4	3.0	—	4.5	4.8	4.5	2.6	1	25	King's Lynn	18.	
317	Sandy loam	70	64	33.3½	4.3	4.3	—	6.7	13.3	21.1	22.2	3	10	Bardney	9.	
318	Mixed	441	57	28.7	2.0	2.3	1	2.8	2.8	4.0	9.6	1	18	Bardney and Selby.	7, 50.	
320	Sand and warp	242	66	45.7	3.5	4.1	1	3.8	3.8	3.8	1.4	1	2½	Brigg	12.	
321	Sand to strong loam	490	69	38 4½	2.9	2.9	—	—	1.8	4.4	1.2	1	4	Brigg	10.	
322	Clay and sand	197	63	30.7	2.5	2.5	1	12.9	3.2	14.5	12.9	1	16	Bardney	20.	
323	Fen	600	88	34.10	3.3	3.3	3	3.4	3.4	8.8	5.9	1	25	Bardney	4.	
324	Medium loam	350	80	30.5½	2.9	2.3	—	3.2	3.2	6.0	2.1	1	6	Bardney	6.	
326	Mixed loam	144	79	37.10	4.2	4.9	—	8.8	10.5	14.0	14.9	2	17	Cantley	14.	
329	Light loam	112	89	21 5½	3.6	3.6	1	5.0	11.0	10.0	5.0	1	5	Ely	22.	
336	Strong loam	159	87	29.4	5.3	3.3	1	7.5	7.5	9.6	11.5	2	15	Ipswich and Cantley.	25, 35.	
339	Gravel loam	178	64	76 3½	6.7	2.8	1	—	1.8	2.6	6.1	1	7	Peterborough	29.	
342	Loam on clay	380	68	34.1½	5.8	2.6	1	4.6	6.9	6.9	9.6	2	19	Cantley	21.	
343	Fen	1411	96	50.11	5.7	5.0	2	11.8	11.8	12.5	15.4	1	17	Ely	8.	
344	Gravel loam	599	60	27.6	2.0	2.0	—	2.7	6.0	6.0	6.0	1	18	Peterborough and Spalding.	13, 15.	
351	Sewage farm on sand	309	83	27.8	4.0	3.3	1	6.0	9.2	12.8	18.8	6	47	Kelham, Colwick and Bardney.	11, 25, 30.	
353	Very mixed	800	75	27.3	2.0	2.1	—	—	2.3	2.3	1.7	3	10	Bardney and Kelham.	6, 20.	
354	Gravel	73	96	25.5½	4.1	4.1	—	2.9	5.7	8.6	8.6	1	6	Bardney	6.	
356	Gravel loam	70	69	35.5	4.0	4.3	—	—	7.3	16.7	31.3	1	4	Kelham	20.	
357	Sandy loam and clay	485	75	31.5½	4.1	3.1	1	2.2	4.1	5.5	6.8	1	26	Cantley	15.	
360	Black fen	144	100	47.1	4.2	5.6	1	—	3.5	3.8	13.9	2	18	Peterborough	4.	
362	Medium to heavy	95	68	46.7	3.2	5.3	1	—	3.1	6.2	3.1	1	2	Peterborough	8.	
366	Fen	44	77	74.6	4.6	4.6	—	5.9	17.6	26.5	35.3	1	6	Peterborough and Spalding.	8, 11.	
367	Limestone	1353	33	29.4	0.9	1.0	—	—	2.2	4.4	2.2	1	10	Peterborough	8.	
368	Medium fen	196	87	73.8½	5.1	4.6	1	8.8	8.8	8.8	20.0	1	32	Peterborough, Ely and Colwick.	22, 22, 25.	
371	Fen on gravel	470	47	65.4	2.6	2.6	1	24.5	24.5	28.4	31.8	1	10	Ely	10.	
372	Fen on gravel	129	100	55.4	2.5	2.5	—	—	16.6	36.6	75.0	1	25	Ely	11.	
373	Fen on gravel	209	75	55.4	4.3	6.0	—	—	28.7	28.7	46.7	1	8	Ely	12.	
375	Medium loam	98	65	27.1½	4.1	4.1	—	6.6	14.1	14.8	11.7	2	7	Ipswich	21.	
377	Clay loam	180	100	34.5½	3.8	1.7	1	—	3.9	12.2	12.2	1	4	Felsted	15.	
378	Light loam	200	80	34.6	4.0	4.0	—	3.1	5.0	6.3	6.3	1	9	Cantley	15.	
383	Sewage farm on sand	541	55	32.3½	3.1	2.2	1	5.1	5.1	11.5	19.5	6	58	Cantley	14.	
384	Light loam on chalk	750	95	23.6	4.8	5.1	—	2.8	5.6	3.4	5.6	1	23	Bury	34.	
386	Light loam	1179	21	14.5	1.3	0.7	—	7.3	—	4.9	7.3	1	18	Bury	14.	
389	Silt loam	400	90	88.6	6.2	4.0	1	2.8	6.9	8.3	2.8	1	10	King's Lynn	17.	
390	Skirt	50	76	35.7	4.0	4.0	—	—	5.3	5.3	15.8	1	6	Bury	20.	
391	Very light	999½	22	6.3	1.0	1.0	1	8.2	13.6	22.7	13.6	1	16	Ipswich	18.	
392	Gravel loam	137	62	34.1	2.9	2.9	—	9.4	9.4	12.9	5.9	1	5	Ipswich	23.	
393	Light to loam	1700	59	29.7	4.1	2.0	2	5.9	9.9	11.0	5.6	3	34½	Ipswich	10.	
394	Light	230	87	23.3½	4.3	4.3	—	8.0	8.0	11.5	12.0	1	24	Ipswich	6.	
396	Light loam	800	59	29.8½	3.5	1.8	1	6.8	7.5	11.3	25.0	1	10	Ipswich	9.	
398	Skirt	54	70	52.5	3.7	5.6	—	7.9	15.8	18.4	15.8	1	6	Ely	13.	
400	Clay loam	168	84	35.9	5.4	4.2	1	4.2	7.0	6.5	10.2	1	11½	Ipswich	5.	
405	Chalk loam and clay	215	81	35.11½	6.0	3.7	—	9.7	12.0	12.0	14.3	1	20	Ely	18.	
406	Fen	260	90	55.7	5.0	6.2	—	17.0	20.0	23.8	13.4	2	31½	Peterborough	18.	
408	Mixed heavy	260	86	23.6	5.4	3.5	1	1.8	4.5	6.4	2.9	1	6	Bury	14.	
409	Black fen	760	79	56.7	5.0	5.5	2	4.2	10.0	15.0	41.7	1	8	Ely	15.	
411*	Very mixed	426	69	30.4	4.8	3.3	1	1.2	3.1	4.8	5.0	2	11	Ely	17.	
412	Light loam	236	98	33.4½	3.4	2.1	2	1.3	3.0	3.0	3.0	1	7	Bury and Felsted.	25, 25.	
414	Light to chalk	362	75	15.5½	3.3	2.2	1	2.1	5.2	6.9	5.2	2	14	Bury, Felsted, Ely and Wissington.	35, 23, 30, 70.	
415	Mixed loam	84	64	34.4½	3.0	6.0	—	—	22.7	33.0	31.1	3	16½	Bury and Ely	15, 12.	
416	Heavy	46	93	32.3½	4.4	4.4	—	7.0	11.6	11.6	11.6	1	5	Ipswich	13.	
417	Sandy loam	18	100	27.8	5.6	11.1	—	—	—	—	77.8	3	10	Bury and Ely	16, 12	
418	Light to strong	72	76	30.6	4.2	5.6	—	—	7.3	8.2	8.2	1	4½	Bury	8.	
421	Medium loam	105	47	24.2	6.7	4.8	—	6.1	6.1	18.4	15.3	1	7½	Cantley	16.	
422	Mixed clay to sandy loam.	120	89	53.4½	5.8	3.3	—	—	—	3.7	5.6	1	6	Cantley	17.	
423	Sandy loam	294	74	37.11	3.4	3.9	—	—	—	4.7	1.3	1	2	Cantley	16.	
424	Sandy loam to strong	73	82	54.5½	4.1	5.5	—	—	—	6.7	12.5	2	7½	Brigg and Selby	8.	

* Excludes casual labour. † Excludes tractors hired. ‡ Experimental farm.
§ Includes 750 acres heath, for which only a nominal rent is paid.

Appendix A.

GENERAL ECONOMIC DATA—continued.

Farm Number.	General Description of Soil.	Total Acreage.	% Arable.	Rent and Rates per Acre.	Density per 100 Acre's*		Number of Tractors.†	Total Beet grown expressed as a % of Total Arable.				1928 Beet Crop actually Costed.		Factories Supplied.	Approximate Road Distance (Miles) to Factory.
					Labour.	Horses.		1925	1926	1927	1928	Number of Fields.	Acres.		
425	Mixed and fen ..	130	81	28/3½	3.8	4.6	—	47.6	66.7	66.7	51.4	5	54	Ely and Bury ..	14, 17.
426	Light to mixed loam	95	57	23/2	3.2	4.2	—	—	—	11.1	38.9	1	21	Bury ..	28.
427	Loam ..	4½	100	53/2½	—	—	—	—	—	—	44.4	1	2	Bury ..	17.
428	Sandy loam ..	230	74	24/2	4.4	3.0	—	8.8	23.5	35.3	35.3	5	60	Ipswich ..	20.
429	Sand ..	1600	88	7/4½	1.9	0.9	2	—	—	7.2	15.0	2	210	King's Lynn ..	20.
430	Fen and skirt ..	312	84	65/8	4.8	6.4	1	4.6	6.1	9.2	9.9	2	26	Ely and Wissington	17, 6.
431	Light fen ..	275	45	31/6	2.2	1.5	—	24.0	24.0	24.0	53.4	1	30	Wissington ..	1.
432	Heavy fen ..	450	94	70/6	3.3	1.1	1	13.1	13.1	13.1	11.3	1	50	Spalding ..	104.
433	Light loam ..	250	79	28/-	3.2	5.5	1	—	6.6	9.1	7.6	1	15	Cantley ..	5.
433A	Medium loam ..	220	85	33/-	5.5	3.2	—	—	6.6	9.1	8.0	1	15	Cantley ..	5.
434	Mixed sand ..	720	61	22/2	2.9	2.5	—	4.5	9.1	6.8	6.8	3	30	King's Lynn ..	16.
435	Sandy loam ..	250	40	42/3½	2.0	1.2	1	—	4.0	8.0	8.0	2	8	Cantley ..	16.
436	Sandy loam ..	390	82	37/4½	3.6	3.3	—	—	—	1.9	3.1	2	10	Cantley ..	18.
437	Light loam ..	420	71	23/7½	3.1	2.9	1	—	2.7	5.7	6.3	1	19	Cantley and Bury	10.
438	Fen ..	280	91	58/9½	2.5	2.9	—	—	—	4.7	3.9	1	10	Bardney ..	20.
439	Mixed loam ..	200	75	32/6	4.0	5.0	—	—	20.0	22.0	19.7	3	294	Cantley ..	20.
440	Fen ..	200	61	44/-	5.0	4.5	1	32.5	40.7	48.8	50.4	2	55	Ely and Bury ..	9, 19.
441	Light to strong ..	501	68	21/9½	4.4	3.2	—	1.5	5.9	13.2	13.1	1	20	Bury and Cantley	20, 20.
442	Sand to clay loam ..	300	50	25.4	6.0	3.3	—	8.0	20.0	23.3	18.0	2	27	Ipswich and Bury	13, 35.
443	Clay loam ..	212	81	24.4	3.3	3.3	—	5.8	11.6	11.6	12.8	3	22	Ipswich and Bury	20, 20.
444	Sandy loam ..	150	75	35/-	6.7	4.0	—	—	—	17.7	16.8	1	9	Ipswich ..	6.
445	Gravel loam to strong	407	63	25/8	2.0	1.7	—	—	14.1	15.6	14.1	3	36	Bury and Ely ..	7, 20.
447	Medium loam ..	53	79	44/8½	5.6	5.7	—	—	7.1	11.9	9.5	1	4	Cantley ..	12.
448	Sand and clay loam	110	66	53/9	4.6	5.5	—	5.5	17.1	24.7	9.6	1	7	Cantley ..	30.
449	Light mixed loam	164	71	36/-	5.5	4.9	—	5.1	8.5	12.0	12.6	2	74	Cantley ..	7.
449A	Light mixed loam	164	71	36/-	5.5	4.9	—	5.1	8.5	12.0	12.6	2	74	Bury ..	22.
450	Mixed on chalk ..	50	80	45/8½	6.0	6.0	—	30.0	30.0	12.5	12.5	2	5	Ely ..	38.
451	Medium loam ..	790	73	21/9½	4.9	3.4	—	—	1.4	2.9	4.5	3	26	Cantley ..	17.
452	Medium ..	47	92	44/3	4.3	4.3	—	9.3	18.6	18.6	14.0	1	6	Cantley ..	15.
453	Heavy loam ..	740	86	33/1½	4.0	2.7	1	—	0.1	1.4	2.3	1	15	Ely ..	40.
454	Skirt ..	21	81	70/6½	6.5	9.5	—	17.7	23.5	47.1	35.3	1	54	Wissington and Ely	9, 20.
455	Clay silt ..	30	60	72/-	3.3	3.3	—	—	11.1	11.1	16.7	1	3	King's Lynn ..	7.
456	Loam ..	220	59	25/-	2.3	2.7	—	9.2	9.2	9.2	9.2	1	12	Felsted ..	32.
Totals and averages		36,134½	74.3	36/6	3.9	3.6	47	5.3	9.3	12.8	15.6	173	20364	—	17.0

* Excludes casual labour.

† Excludes tractors hired.

APPENDIX B. FIELD DATA.

Farm Number.	Field Number.	Soil Class.	Acres.	Preceding Crop.	Variety of Seed.	Seed lb. per acre.	Mean Date of Drilling.	Ridge or Flat.	Distance (ins.) between		Succeeding Crop.
									Drills.	Plants	
302	1	V.L.	11	Barley ..	Kuhn, Dippe ..	16	?	Flat	24	9	Barley.
	2	V.L.	16	Barley ..	Kuhn, Dippe ..	16	?	Flat	24	9	Grass.
	3	V.L.	7 $\frac{1}{2}$	Oats ..	Kuhn, Dippe ..	16	?	Flat	24	9	Barley.
	4	L.-M.	51 $\frac{1}{2}$	Sugar Beet, Oats and Barley	Kuhn, Dippe ..	16	?	Flat	24	9	Barley.
304	7	L.-M.	13	Barley ..	Kuhn, Dippe ..	16	?	Flat	24	9	Barley.
	8	V.L.	8	Barley ..	Mixed ..	12	May 21	Flat	19	6	Oats.
	9	L.-M.	16 $\frac{1}{2}$	Barley ..	Mixed ..	12	May 11	Flat	19	6	Barley.
	10	V.L.	9 $\frac{1}{2}$	Wheat ..	Mixed ..	12	May 21	Flat	19	6	Barley.
305	11	L.-M.	8	W. Barley ..	Zapotal ..	14	April 28	Flat	21	9	Barley.
306	12	L.-M.	2	Barley ..	K.W., Dippe ..	12	May 6	Flat	22	8	Barley.
307	13	L.-M.	44 $\frac{1}{2}$	Sugar Beet and Wheat.	K.W., Kuhn ..	15	May 15	Flat	19	9-12	Sugar Beet and Barley.
308	14	L.-M.	16	Rye ..	K.W., Kuhn ..	17	June 12	Flat	19	9-12	Sugar Beet.
	15	L.-M.	22 $\frac{1}{2}$	Sugar Beet ..	K.W., Kuhn ..	15	May 28	Flat	19	9-12	Sugar Beet.
	16	L.-M.	12	Sugar Beet ..	K.W. ..	12 $\frac{1}{2}$	April 23	Flat	19	9-12	Kale.
	17	L.-M.	13 $\frac{1}{2}$	Seeds ..	Kuhn ..	20 $\frac{1}{2}$	April 8	Flat	19	9-12	Sugar Beet.
	18	L.-M.	15 $\frac{1}{2}$	Sugar Beet ..	K.W. ..	15 $\frac{1}{2}$	May 3	Flat	19	9-12	Sugar Beet.
	19	M.-H.	24	Wheat ..	Mixed ..	12	May 2	Flat	22 $\frac{1}{2}$	9	Barley.
	20	M.-H.	20	Wheat ..	Mixed ..	12	April 30	Flat	22 $\frac{1}{2}$	9	Barley.
	21	L.-M.	20	Barley ..	Mixed ..	16	May 15	Flat	24	9	Barley.
310	22	L.-M.	8	Sugar Beet ..	Mixed ..	18	April 14	Flat	18	9	Sugar Beet.
313	23	L.-M.	12	Carrots ..	Marsters ..	15	April 30	Flat	18	8	Barley.
313A	24	L.-M.	24	Oats ..	Kuhn ..	15	May 8	Flat	18	8	Sugar Beet.
314	25	L.-M.	25	Carrots and Turnips.	Johnsons, Dippe.	15	May 11	Flat	18	8	Barley.
317	26	L.-M.	3	Wheat ..	Kuhn ..	18	May 9	Flat	19	10	Sugar Beet.
	27	L.-M.	6	Sugar Beet ..	Kuhn ..	15	May 11	Flat	19	10	Oats.
	28	L.-M.	1	Oats ..	Horning ..	18	May 15	Flat	19	10	Wheat.
318	29	M.-H.	18	Wheat ..	K.W., "Z."	15	May 13	Flat	18	10	Oats.
320	30	F.	2 $\frac{1}{2}$	Wheat ..	Kuhn ..	20	May 13	Ridge	21	10	Potatoes.
321	31	L.-M.	4	Barley ..	Horning, Strube.	15	?	Ridge	22	10	Barley.
322	32	M.-H.	16	Wheat ..	Schreiber ..	14	?	Flat	20	10	Barley.
323	33	F.	25	Oats and Wheat	Mixed ..	17	April 28	Flat	22	?	Oats.
324	34	L.-M.	6	Seeds ..	Strube ..	16	May 9	Flat	18	10	Barley.
326	35	L.-M.	7	Wheat ..	Mixed ..	15	?	Flat	20	8	Sugar Beet.
329	36	L.-M.	10	Wheat ..	Mixed ..	15	?	Flat	20	8	Barley.
329	37	L.-M.	5	Wheat ..	Dippe ..	10	May 18	Flat	19	9	Barley.
336	38	L.-M.	12	Wheat ..	Mixed ..	12	May 8	Flat	22	9	Barley.
339	39	L.-M.	3	Oats ..	Marsters ..	12	May 1	Flat	22	9	Wheat.
339	40	L.-M.	7	Runner beans	K.W. ..	11	April 17	Flat	22	10	Peas.
342	41	M.-H.	6	Wheat ..	Mixed ..	16	April 20	Flat	20	9	Barley.
342	42	L.-M.	13	Tares ..	Mixed ..	16	May 6	Flat	20	9	Barley.
343	43	F.	17	Rye ..	Mixed ..	12	?	Flat	20	9	Rye.
344	44	L.-M.	18	Barley ..	K.W., "E."	12	April 6	Flat	18	8	Barley.
351	45	S.	9	Oats ..	Mixed ..	12	?	Ridge	24	8	Barley and Potatoes.
	46	S.	9	Wheat ..	Mixed ..	12	?	Ridge	24	8	Sugar Beet.
	47	S.	5	Wheat ..	Mixed ..	12	?	Ridge	24	8	Rye.
	48	S.	5	Sugar Beet ..	Mixed ..	12	?	Ridge	24	8	Sugar Beet.
	49	S.	3	Mangolds ..	Mixed ..	12	?	Ridge	24	8	Mustard.
	50	S.	16	Roots ..	Mixed ..	12	?	Ridge	24	8	Barley.
353	51	L.-M.	3	Sugar Beet ..	Kuhn, Horning	10	May 3	Ridge	22	10	Sugar Beet.
	52	V.L.	2	Sugar Beet ..	Kuhn, Horning	10	April 24	Ridge	22	10	Sugar Beet.
	53	V.L.	5	Seed Mustard	Kuhn, Horning	9	April 27	Ridge	22	10	Barley.
354	54	L.-M.	6	Potatoes, Sugar Beet and Mangolds.	K.W., "E.", Strube.	15	May 5	Ridge	20	10	Sugar Beet.
356	56	L.-M.	4	Wheat ..	Kuhn, Marsters	13	June 6	Ridge	24	8	Sugar Beet and Barley.
357	57	L.-M.	26	Barley ..	K.W., Hilleshog.	15	May 7	Flat	19-20	8	Barley.
360	58	F.	12	Wheat ..	K.W., "Z."	14	May 4	Flat	20	10	Wheat.
	59	F.	6	Barley ..	K.W., "Z."	12 $\frac{1}{2}$	May 8	Flat	20	10	Barley.
362	60	M.-H.	2	Oats ..	K.W., "E."	12	May 19	Flat	22	10	Barley.
366	61	F.	6	Wheat ..	Kuhn, Schreiber "S.S."	15	April 17	Flat	21	9	Potatoes.
367	62	M.-H.	10	Wheat ..	K.W., "E."	12	May 1	Flat	22	8	Wheat.
368	63	F.	32	Oats and Wheat	Mixed ..	10	May 1	Flat	19 $\frac{1}{2}$	19	Wheat and Potatoes.
371	64	F.	10	Wheat ..	K.W., "Z."	15	?	Flat	21	9	Wheat.
372	65	F.	8	Barley ..	K.W., "Z."	15	?	Flat	21	9	Oats.
	66	F.	25	Wheat ..	K.W., "Z."	15	?	Flat	21	9	Oats.
37	67	L.-M.	6	Wheat ..	Kuhn ..	19	April 30	Flat	19	8-10	Barley.
	68	L.-M.	1 $\frac{1}{2}$	Wheat ..	Kuhn ..	19	April 21	Flat	19	8-10	Barley.
377	69	M.-H.	4	?	?	?	?	Flat	21	19	?
378	70	L.-M.	9	Oats ..	Marsters, Hilleshog.	15	?	Flat	15	8	Barley.

* Part failed and was re-drilled.

V.L. = Very light. L.-M. = Light to medium. M.-H. = Medium to heavy. F. = Fen. Silt or Warp. S = Sewage.
"K.W." indicates *Klein Wanzleben*. "Mixed" indicates that more than two varieties were drilled.

Appendix B.

FIELD DATA—continued.

Farm Number.	Field Number.	Soil Class.	Acres.	Preceding Crop.	Variety of Seed.	Seed lb. per acre.	Mean Date of Drilling.	Ridge or Flat.	Distance (ins.) between		Succeeding Crop.
									Drills.	Plants	
383	71	S.	11½	Barley	Mixed	15½	May 4	Flat	18	8	Sugar Beet.
	72	S.	7	Sugar Beet	Mixed	16	April 13	Flat	18	8	Oats.
	73	S.	10	Oats	Mixed	16	April 23	Flat	18	8	Oats.
	74	S.	11	Wheat	Mixed	16	May 21	Flat	18	8	Oats.
	75	S.	9½	Sugar Beet	Mixed	15	June 3	Flat	18	8	Silage.
384	76	S.	9	Oats	Mixed	15	May 16	Flat	18	8	Oats.
	77	L.-M.	23	Barley and Wheat.	Kuhn, Dippe	15	April 27	Flat	18	9	Barley.
386	78	V.L.	18	Sugar Beet	Mixed	12	May 8	Flat	20	6-7	Barley.
389	79	F.	10	Wheat	Marsters	15	April 24	Flat	19	9	Potatoes.
390	80	F.	6	Mustard	Schreiber	13	May 7	Flat	21	8	Sugar Beet.
391	81	L.-M.	16	Sugar Beet	Johnsons	10	?	Flat	22½	8	Barley.
392	82	L.-M.	5	Barley	Kuhn	12	May 4	Flat	18	8	Barley.
393	83	L.-M.	9	Oats	Johnsons	12	May 21	Flat	22	8	Barley.
	84	L.-M.	14	Oats	Johnsons, Kuhn.	12	May 27	Flat	22	8	Oats.
394	85	L.-M.	11½	Barley	Kuhn	12	May 15	Flat	22	8	Grass.
	86	L.-M.	24	Wheat	K.W.	16	May 2	Flat	18	8	Wheat and Barley.
396	87	L.-M.	10	Oats	Kuhn "P"	15	May 13	Flat	18	8	Barley.
398	88	F.	6	Wheat and Oats	K.W., Hilleshog.	12	April 20	Flat	19½	9	Oats and Barley.
400	89	M.-H.	11½	Wheat	K.W., Dippe	15	April 25	Flat	22	10	Barley.
405	92	L.-M.	20	Wheat	Kuhn	14	April 24	Flat	24	8	Barley.
406	93	F.	19	Mustard	Kuhn	16	Mar. 29	Flat	20	10	Sugar Beet.
408	94	F.	12½	Carrots	Kuhn	16	May 2	Flat	20	10	Sugar Beet.
	95	M.-H.	6	Oats	Kuhn	15	?	Flat	21	9	Barley.
409	96	F.	8	Potatoes	Marsters	12	April 16	Flat	20	8	Wheat.
411	96A	L.-M.	4	Kale	Variety trials	9†	May 3	Flat	18-20	10	Barley.
	96B	L.-M.	7	Wheat	Variety trials	17	May 4	Flat	18	10	Barley.
412	97	L.-M.	7	Oats	Kuhn	16	May 13	Flat	16	10	Barley.
414	98	L.-M.	8	Barley	Mixed	11	?	Flat	21	10	Barley.
	99	L.-M.	6	Barley	Mixed	11	?	Flat	21	10	Barley.
415	100	L.-M.	6	Barley	Dippe	15	?	Flat	20	9	Barley.
	101	L.-M.	3	Wheat	Dippe	15	?	Flat	20	9	Wheat.
416	102	L.-M.	7½	Sugar Beet	Dippe	15	?	Flat	20	9	Barley.
	103	M.-H.	5	Oats	K.W.	15	May 1	Flat	19	12	Barley.
417	104	L.-M.	4	Barley	Kuhn	14	?	Flat	20	9	Barley.
	105	L.-M.	4	Barley	Kuhn	14	?	Flat	20	9	Barley.
418	106	L.-M.	2	Barley	Kuhn	14	?	Flat	20	9	Barley.
	107	M.-H.	4½	Barley	Dobrovic	12	May 9	Flat	36	9-10	Barley.
421	108	L.-M.	7½	Oats	K.W.	14	May 10	Flat	19	9	Barley.
	422	109	L.-M.	6	Oats	Kuhn, Schreiber.	13	May 10	Flat	21	7
423	110	L.-M.	2	Oats	Dippe	15	April 26	Flat	20	8	Barley.
424	111	L.-M.	4	Potatoes	Kuhn	12	May 6	Ridge	20	9	Wheat.
	112	L.-M.	3½	Oats	Kuhn	12	May 15	Ridge	20	9	Wheat.
425	113	F.	8	Sugar Beet	K.W."Z."	15	?	Flat	20	8	Barley.
	114	F.	10	Sugar Beet	Kuhn, K.W."Z."	15	?	Flat	20	8	Sugar Beet.
115	115	F.	6	Sugar Beet	Kuhn, K.W."Z."	15	?	Flat	20	8	Sugar Beet.
	116	F.	18	Grass	Kuhn, K.W."Z."	15	?	Flat	20	8	Sugar Beet.
117	117	F.	12	Grass	Kuhn, K.W."Z."	15	?	Flat	20	8	Sugar Beet.
	426	118	L.-M.	19	Barley, Roots and Clover.	Kuhn, Schreiber	14	?	Flat	21	10
427	119	L.-M.	2	Wheat	Schreiber	14	May 14	Flat	21	10	?
	120	L.-M.	2	Wheat	Dobrovic	15	April 18	Flat	21	9	Sugar Beet.
428	121	V.L.	14	Sugar Beet and Vegetables.	Kuhn	17*	June 10	Flat	20½	8	Sugar Beet.
	122	V.L.	16	Sugar Beet	Kuhn	10	May 29	Flat	20½	8	Barley.
123	123	V.L.	10	Sugar Beet	Kuhn	9	May 2	Flat	20½	8	Oats.
	124	V.L.	7	Sugar Beet	Kuhn	9	April 26	Flat	20½	8	Sugar Beet.
125	125	V.L.	13	Sugar Beet and Vegetables.	Kuhn	10	May 8	Flat	20½	8	Sugar Beet.
	429	126	V.L.	88	Oats, Mustard and Sugar Beet.	Kuhn	12	?	Flat	24	8
430	127	V.L.	122	Sugar Beet, Fallow, Barley and Oats.	Marsters, Johnsons.	12	?	Flat	24	8	Barley.
	128	F.	15	Wheat	Mixed	18	April 24	Flat	19½	9	Potatoes.
431	129	F.	11	Wheat	Kuhn, Marsters.	18	April 23	Flat	19½	9	Oats and Mangolds.
	130	F.	10	Sugar Beet	Zapofil	16*	May 2	Flat	21	10	Mustard.
432	131	F.	20	Sugar Beet	Zapofil	14	May 8	Flat	21	10	Mustard.
	132	F.	50	Sugar Beet Seed and Wheat.	Kuhn, Marsters.	10†	April 19	Flat	17	8	Potatoes.
433	133	L.-M.	10	Kale and Cabbage.	Hilleshog	16	April 27	Flat	17	8-9	Potatoes.
	134	M.-H.	5	Silage	Hilleshog	17	May 8	Flat	17	8-9	Barley.
433A	135	M.-H.	6½	Wheat	Dippe	15	April 25	Flat	17	8-9	?
	136	L.-M.	8½	Lucerne	Johnsons	15	May 7	Flat	17	8-9	?
434	137	L.-M.	7	Wheat	Dippe	15	April 19	Flat	22	10	Barley.
	138	L.-M.	12	Oats	Dippe	15	April 29	Flat	22	10	Barley.
139	L.-M.	11	Barley	Dippe	15	May 7	Flat	22	10	Barley.	

* Part failed and was re-drilled

† Spacing drill used.

V.L. = Very light. L.-M. = Light to medium. M.-H. = Medium to heavy. F. = Fen, Silt or Warp. S. = Sewage.

"K.W." indicates *Klein Wanzleben*. "Mixed" indicates that more than two varieties were drilled.

Appendix B.

FIELD DATA—continued.

Farm Number.	Field Number.	Soil Class.	Acres.	Preceding Crop.	Variety of Seed.	Seed lb. per acre.	Mean Date of Drilling.	Ridge or Flat.	Distance (ins.) between		Succeeding Crop.
									Drills.	Plants	
435	140	L.-M.	4½	Barley ..	Dippe, Kuhn ..	20	May 3	Flat	18	8	Sugar Beet.
	141	L.-M.	3½	Kale ..	Dippe, Marsters ..	20	April 24	Flat	18	8	Barley.
436	142	L.-M.	4	Barley ..	Kuhn ..	17½	May 9	Flat	20	8	Sugar Beet.
	143	L.-M.	6	Sugar Beet ..	Dippe, Schreiber ..	16	May 8	Flat	20	8	Wheat.
437	144	L.-M.	19	Sugar Beet and Oats.	Mixed ..	15	April 23	Flat	29	8	Barley.
438	145	F.	10	Potatoes ..	Marsters, K.W."E." ..	18	May 5	Flat	29	10	Barley.
439	146	L.-M.	6½	Wheat ..	Hillesboj ..	15	May 2	Flat	20	9	Barley.
	147	L.-M.	5	Wheat ..	Marsters ..	15	May 4	Flat	20	9	Barley.
440	148	L.-M.	18	Wheat and Oats	Dippe, Kuhn ..	14½	May 12	Flat	20	9	Barley.
	149	F.	40	Sugar Beet ..	Kuhn ..	17½	April 28	Flat	20	9	Oats and Potatoes.
441	150	F.	15	Barley ..	K.W. ..	16	May 13	Flat	20	9	Barley.
	151	L.-M.	20	Barley and Oats	K.W., Kuhn ..	14	May 8	Flat	22½	6-10	Barley.
442	152	L.-M.	8	Roots ..	Kuhn ..	14	April 19	Flat	22	12	Barley.
	153	L.-M.	19	Barley ..	Dippe ..	14	May 2	Flat	22	12	Barley.
443	154	M.-H.	6	Mustard (folded).	Mixed ..	15	May 3	Flat	22	?	Barley.
	155	M.-H.	12	Barley ..	Mixed ..	15	April 18	Flat	18	?	Barley.
444	156	M.-H.	4	Wheat ..	Mixed ..	15	May 18	Flat	18	?	Barley.
	157	L.-M.	9	Barley and Oats	Marsters ..	14	April 24	Flat	18-19	7	Sugar Beet.
445	158	M.-H.	14	Barley ..	Kuhn ..	16	May 9	Flat	21	9	Barley.
	159	L.-M.	8	Potatoes ..	Kuhn ..	16	May 2	Flat	21	9	Barley.
447	160	L.-M.	14	Sugar Beet ..	K.W. ..	16	May 20	Flat	21	9	Barley.
	161	L.-M.	4	Wheat ..	K.W. ..	15	April 13	Flat	18	10	Barley.
448	162	M.-H.	7	Wheat ..	Dippe, Kuhn ..	16	?	Flat	18	8	Mangolds.
	163	L.-M.	3½	Wheat ..	Kuhn ..	12	April 27	Flat	18	9	Barley.
449	164	M.-H.	4	Oats ..	Kuhn ..	24	April 25	Flat	18	9	Barley.
	165	L.-M.	2½	Wheat ..	Schreiber ..	17½	April 27	Flat	15	9	Barley.
449A	166	M.-H.	4½	Wheat ..	Schreiber ..	26	May 2	Flat	18	9	Barley.
	167	L.-M.	2	Cabbage ..	K.W."Z." ..	20	May 5	Flat	22	8	Brussel Sprouts.
450	168	L.-M.	3	Potatoes ..	K.W."Z." ..	16	May 17	Flat	22	8	Brussel Sprouts.
	169	M.-H.	8	Sugar Beet ..	Dippe ..	14	May 1	Flat	18	10	?
451	170	M.-H.	12	Seeds ..	Dippe ..	14	May 10	Flat	18	10	Sugar Beet.
	171	M.-H.	6	Oats ..	Dippe ..	14	May 31	Flat	18	10	Sugar Beet.
452	172	L.-M.	6	Wheat ..	Dippe ..	14	May 9	Flat	21	10	Barley.
	173	M.-H.	15	Wheat, Oats and Sugar Beet.	Hillesboj ..	16	April 19	Flat	20	10	Wheat.
454	174	F.	5½	Sugar Beet ..	Kuhn, Marsters ..	14	April 27	Flat	21	9	Wheat and Potatoes.
	175	F.	3	Cabbage ..	Kuhn ..	15	?	Flat	20	10	Cabbage.
456	176	L.-M.	12	Oats ..	K.W."Z." ..	7½	May 17	Flat	22	10	Barley.

V.L. = Very light. L.-M. = Light to medium. M.-H. = Medium to heavy. F. = Fen, Silt or Warp. S. = Sewage. "K.W." indicates *Klein Wanzleben*. "Mixed" indicates that more than two varieties were drilled.

APPENDIX C. YIELD DATA.

Field Number	Yield in Tons per Acre.		% Tare.	Effective % ^a Sugar Cont.	lb. Sugar (Su-cro-se) per Acre.	lb. Sugar (Su-cro-se) per £ labour.	† Haul-age. Miles.	‡ Method of Trans- port.	Tops per Acre.		
	Un-washed.	Washed.							Estimated Tons.	Method of Disposal.	Value. £ s. d.
1	7-990	7-026	12-06	18-4	2896	323			8	Carted off	3 0 0
2	7-990	7-026	12-06	18-4	2896	290			8	Folded	3 0 0
3	7-990	7-026	12-06	18-4	2896	277			8	Ploughed in	2 4 0
4	6-765	5-949	12-06	18-4	2453	242		1/2	8	Ploughed in	2 4 0
7	7-990	7-026	12-06	18-4	2896	306			8	Folded	3 0 0
8	9-322	8-097	13-16	18-4	3338	354			6	Ploughed in	1 13 0
9	10-305	9-222	10-51	19-3	3987	442		1/2	6	Ploughed in	1 13 0
10	5-529	5-236	6-16	19-7	2309	268			6	Ploughed in	1 13 0
11	8-253	6-877	16-68	17-4	2681	185		1	8	Carted off	3 0 0
12	7-509	7-009	6-67	19-5	3058	349		1 1/2	6	Ploughed in	1 13 0
13	8-479	7-234	14-68	18-1	2932	353			3	Part folded and part ploughed in ..	1 15 6
14	8-136	6-259	23-26	16-4	3299	196			5	Part folded and part ploughed in ..	1 12 6
15	10-547	9-069	14-01	17-3	3515	352			4	Ploughed in	1 2 0
16	9-744	8-444	13-54	18-4	3481	361		1 1/2	4	Carted off	1 10 0
17	10-005	9-156	8-48	20-1	4122	399		1 1/2	4	Folded	1 10 0
18	11-935	10-369	13-55	19-3	4482	608		1 1/2	5	Folded	1 17 6
19	10-347	9-381	9-34	19-3	4057	464		1/2	9	Part carted and part ploughed in ..	3 3 0
20	9-135	8-224	9-97	19-3	3553	372		1/2	9	Part carted and part ploughed in ..	2 18 6
21	14-341	12-602	12-12	18-6	3251	348		1 1/2	9	Part carted and part ploughed in ..	3 7 6
22	15-234	13-827	9-24	19-2	3947	406		1 1/2	9	Part carted and part ploughed in ..	3 7 6
23	8-361	7-873	5-84	19-2	3387	542		1 1/2	10	Ploughed in	2 15 0
24	10-615	9-219	12-21	17-4	3633	411		1 1/2	10	Folded	3 15 0
25	9-111	8-388	7-94	18-0	3382	379		1	9	Folded	3 7 6
26	12-433	11-498	7-52	18-0	4637	416			7	Ploughed in	1 18 6
27	11-731	11-049	5-82	17-5	4332	407		1/2	6	Part folded and part ploughed in ..	1 19 0
28	10-712	9-750	8-98	18-2	3976	318			8	Ploughed in	2 4 0
29	10-272	7-459	27-38	17-3	2975	257		1/2	8	Folded	3 0 0
30	12-295	11-425	7-08	17-1	4377	313		1/2	13	Carted off	4 4 6
31	11-162	10-050	9-97	17-9	4030	348		1/2	8	Folded	3 0 0
32	6-006	5-035	16-17	17-8	2008	249		1 1/2	5	Folded	1 17 6
33	11-286	10-185	9-76	16-9	3856	370		1 1/2	9	Folded	2 18 6
34	12-235	11-208	8-39	16-6	4168	392		1 1/2	10	Folded	3 15 0
35	9-086	8-211	9-63	19-8	3642	365		2	8	Part carted and part ploughed in ..	2 16 0
36	11-342	10-389	8-41	18-4	4282	382		2	8	Part carted and part ploughed in ..	2 16 0
37	4-072	3-725	8-53	17-0	1418	135		1 1/2	2 1/2	Ploughed in	13 9
38	10-154	9-465	6-79	19-1	4050	346			8	Part carted and part ploughed in ..	2 12 0
39	7-704	7-079	8-11	18-2	2886	225		3	8	Ploughed in	2 4 0
40	10-493	9-532	9-16	17-3	3694	360		2	8	Carted off	3 0 0
41	11-736	10-475	10-75	18-8	4411	401		2	6	Carted off	2 5 0
42	11-736	10-475	10-75	18-8	4411	362			9	Carted off	3 7 6
43	10-331	9-306	9-92	15-4	3210	354		2	12	Ploughed in	2 14 0
44	6-667	6-108	8-38	19-0	2600	220		1 1/2	5	Folded	1 17 6
45	9-000	8-187	9-03	17-0	3118	382		1/2	10	Folded	3 5 0
46	9-000	8-187	9-03	17-0	3118	320		1/2	10	Carted off	3 5 0
47	9-000	8-187	9-03	17-0	3118	332		1/2	10	Folded	3 5 0
48	9-000	8-187	9-03	17-0	3118	332		1/2	10	Folded	3 5 0
49	9-000	8-187	9-03	17-0	3118	343		1/2	10	Folded	3 5 0
50	7-674	6-652	13-32	17-0	2533	370		1/2	10	Folded	3 5 0
51	8-000	6-850	14-38	17-2	2639	263			7	Ploughed in	1 18 6
52	10-050	8-794	12-50	16-2	3191	283		1	7	Folded	2 5 6
53	7-085	6-137	13-37	17-1	2351	241			7	Folded	2 5 6
54	8-667	8-263	4-66	19-2	3554	484			8	Part carted and part ploughed in ..	2 12 0
56	7-869	7-428	5-60	16-7	2779	224		1	7	Part carted and part ploughed in ..	2 5 6
57	10-386	9-358	9-90	18-3	3838	438		1 1/2	7	Part folded and part ploughed in ..	2 5 6
58	12-438	11-235	9-67	17-4	4379	443			12	Folded	3 18 0
59	12-438	11-235	9-67	17-4	4379	403		1/2	12	Folded	3 18 0
60	6-731	6-048	10-22	17-4	2357	232		1 1/2	7	Folded	2 12 6
61	12-152	11-594	4-59	16-5	4285	496		1 1/2	12	Ploughed in	2 14 0
62	4-446	4-208	5-35	18-3	1414	198			3	Folded	1 2 6
63	14-697	13-196	10-21	17-1	5055	390		1 1/2	6	Part carted and part ploughed in ..	1 16 0
64	15-792	14-307	9-40	17-0	5448	424		1 1/2	10	Part folded and part ploughed in ..	2 11 0
65	13-520	12-181	9-90	17-3	4720	422		1 1/2	6	Folded	1 19 0
66	12-056	10-946	9-19	17-5	4292	308		1 1/2	6	Ploughed in	1 7 0
67	12-493	11-438	8-45	19-4	4970	260		1/2	8	Part carted and part ploughed in ..	2 12 0
68	11-118	10-131	8-38	19-9	4516	364		1/2	8	Part carted and part ploughed in ..	2 12 0
69	?	?	?	?	?	?		?	?	?	?
70	8-161	7-667	6-06	20-3	3486	288		1/2	6	Ploughed in	1 13 0
71	12-152	10-809	11-06	15-7	3801	375			10	Ploughed in	2 15 0
72	7-571	7-168	5-33	16-1	2585	283			10	Ploughed in	2 15 0
73	10-512	9-829	6-50	16-1	3545	307		1/2	10	Ploughed in	2 15 0
74	11-040	9-859	10-78	16-6	3663	281		1/2	10	Ploughed in	2 15 0
75	7-707	6-499	15-67	14-8	2155	186		1/2	10	Ploughed in	2 15 0
76	12-211	11-229	8-04	15-4	3874	299		1/2	10	Ploughed in	2 15 0
77	10-918	9-583	12-23	18-2	3907	461		1 1/2	8	Ploughed in	2 4 0
78	6-578	5-785	12-07	18-4	2384	260		1 1/2	6	Ploughed in	1 13 0
79	16-991	14-186	16-51	17-1	5434	409		1 1/2	9	Ploughed in	2 0 6
80	4-714	3-994	15-29	16-6	1485	163		1 1/2	7	Ploughed in	1 11 6
81	5-850	4-973	14-98	16-7	1860	237		1 1/2	5	Folded	1 17 6

^a Weighted average of individual consignments. † From field to roadside, wharf or rail station.
‡ From roadside, wharf or rail station to factory; where more than one destination data are given in same order as factories in Appendix A.

Field Number	Yield in Tons per Acre.		Effective % of Sugar Content.	lb. Sugar (Su-cro) per Acre.	lb. Sugar (Su-cro) per £ labour.	† Haulage Miles.	‡ Method of Transport.	Estimated Tons.	Tops per Acre.		
	Un-washed.	Washed.							11.93	18.8	Method of Disposal.
82	5.345	4.707	11.93	19.8	2088	320	1	Road	5	Ploughed in	1 7 6
83	9.661	8.887	9.87	18.8	3743	361	6		6	Ploughed in	1 13 0
84	6.012	5.446	9.41	19.0	2318	229	6	Road	6	Ploughed in	1 13 0
85	7.740	7.079	8.54	19.5	3092	303	6		6	Ploughed in	1 13 0
86	12.134	10.686	11.93	18.6	4452	428	1	Road	8	Part folded and part ploughed in ..	2 8 0
87	13.502	11.185	17.31	17.6	4410	363	1	Rail	7	Ploughed in	1 18 6
88	12.029	11.100	7.72	17.8	4426	360	1	Rail	8	Ploughed in	1 16 0
89	12.288	10.415	15.24	18.4	4293	342	8	Road	8	Ploughed in	2 4 0
92	9.707	8.042	17.16	17.2	3098	171	8	Road	8	Part carted and part ploughed in ..	2 5 6
93	10.750	9.747	9.33	18.0	3930	418	10		10	Folded	3 5 0
94	10.750	9.747	9.33	18.0	3930	328	10	Water	10	Ploughed in	2 5 0
95	10.489	9.122	13.04	19.2	3923	379	7	Road	7	Part carted and part ploughed in ..	2 5 6
96A	12.037	11.309	6.95	17.5	4433	473	2	Water	12	Folded	3 18 0
96B	13.948	12.737	8.68	16.9	4823	335	6	Road	6	Part carted and part ploughed in ..	2 5 0
97	14.439	13.005	9.93	16.9	4923	293	6	Rail	6	Part carted and part ploughed in ..	2 5 0
98	6.920	6.404	12.62	18.0	2606	303	1	Rail	6	Ploughed in	1 13 0
99	7.660	5.996	21.73	16.8	2256	132	1	Rail	6	Ploughed in	1 13 0
100	7.660	5.996	21.73	16.8	2256	197	1	Rail	6	Ploughed in	2 4 0
101	8.208	7.180	12.52	17.8	2863	394	8		8	Ploughed in	2 4 0
102	8.208	7.180	12.52	17.8	2863	269	8	Road	8	Ploughed in	2 4 0
103	8.208	7.180	12.52	17.8	2863	299	8		8	Ploughed in	2 4 0
104	8.750	7.692	12.09	19.1	3343	277	1	Road	8	Carted off	3 0 0
105	7.825	6.667	14.79	17.9	2673	364	7		7	Ploughed in	1 18 6
106	7.825	6.667	14.79	17.9	2673	325	7	Road	7	Ploughed in	1 18 6
107	7.825	6.667	14.79	17.9	2673	279	7		7	Ploughed in	1 18 6
108	7.944	7.439	6.36	20.3	3383	285	1	Rail	8	Ploughed in	2 4 0
109	6.162	5.926	3.81	18.8	2496	196	4	Rail	5	Part carted and part ploughed in ..	1 14 0
110	10.354	9.325	9.94	18.3	3823	327	1	Rail	9	Part carted and part ploughed in ..	2 18 6
111	12.081	11.431	5.38	19.2	4916	334	1	Water	8 1/2	Carted off	3 3 9
112	13.937	12.203	12.44	17.5	4784	433	12		12	Folded	4 10 0
113	10.864	9.739	10.36	18.2	3970	438	12	Road	12	Folded	4 10 0
114											
115	?	?	?	?	?	?	1	Road	?	?	?
116											
117											
118	9.489	8.416	11.31	18.4	3469	354	1	Road	8	Part folded, part carted and part ploughed in	2 12 0
119	9.489	8.416	11.31	18.4	3469	336	8		8	Ploughed in	2 12 0
120	15.366	13.862	9.73	18.5	5744	494	12	Road	12	Ploughed in	3 6 0
121	9.197	6.783	26.25	13.8	2401	301	7 1/2		7 1/2	Part carted and part ploughed in ..	2 5 6
122	7.005	5.662	19.16	16.9	2143	257	7 1/2		7 1/2	Part carted and part ploughed in ..	2 5 6
123	8.118	6.867	15.42	19.3	2969	309	7 1/2	Road	7 1/2	Part carted and part ploughed in ..	2 5 6
124	8.118	6.867	15.42	19.3	2969	287	7 1/2		7 1/2	Part carted and part ploughed in ..	2 5 6
125	12.127	9.595	20.88	17.6	3783	416	7 1/2		7 1/2	Part carted and part ploughed in ..	2 12 0
126	7.287	6.535	10.32	16.6	2430	237	7	Road	7	Folded	2 12 6
127	7.287	6.535	10.32	16.6	2430	299	7		7	Folded	2 12 6
128	16.492	14.759	10.51	17.2	5686	382	10	Rail	10	Part carted and part ploughed in ..	2 15 0
129	17.415	14.745	15.33	17.2	5681	444	1	Rail	8	Part folded and part ploughed in ..	2 4 0
130	8.925	7.283	18.40	15.6	2545	249	9	Water	9	Ploughed in	2 0 6
131	8.925	7.283	18.40	15.6	2545	251	9	Water	9	Ploughed in	2 0 6
132	11.673	10.336	11.45	18.2	4214	294	10	Road	10	Ploughed in	2 5 0
133	12.356	10.199	17.46	17.8	4067	317	8		8	Folded	3 0 0
134	11.942	9.412	21.18	16.5	3479	259	8		8	Folded	3 0 0
135	11.212	10.348	7.70	17.6	4080	343	2	Rail	8	Folded	3 0 0
136	12.994	11.012	15.26	17.2	4243	296	8		8	Folded	3 0 0
137	13.398	12.425	7.26	18.1	5038	481	6 1/2		6 1/2	Folded	2 12 6
138	10.061	9.225	8.31	16.7	3451	289	6 1/2	Road	6 1/2	Folded	2 8 9
139	7.092	6.558	7.53	17.6	2585	371	6 1/2		6 1/2	Folded	2 5 0
140	12.358	11.172	9.60	18.2	4555	367	9		9	Carted off	3 7 6
141	10.600	9.696	8.52	19.7	4279	371	1	Rail	9	Carted off	3 7 6
142	14.597	12.942	11.34	18.7	5421	431	10		10	Part folded and part ploughed in ..	3 10 0
143	14.597	12.942	11.34	18.7	5421	478	10	Rail	10	Part folded and part ploughed in ..	3 10 0
144	12.337	11.026	10.98	18.6	4594	548	9	Road	9	Part carted and part ploughed in ..	3 1 6
145	12.754	11.659	8.59	17.5	4570	530	10	Road	10	Ploughed in	2 5 0
146	8.852	8.094	8.56	18.4	3336	330	7	Road	7	Part folded and part ploughed in ..	2 8 6
147	11.522	10.297	10.63	18.0	4152	360	6 1/2	Rail	7	Part folded and part ploughed in ..	2 8 6
148	9.844	8.479	13.66	17.1	3248	328	7		7	Part folded and part ploughed in ..	2 8 6
149	12.873	11.471	10.89	16.3	4188	537	14		14	Part folded and part ploughed in ..	3 15 0
150	11.158	9.386	15.88	15.2	3196	446	14	Road	14	Part folded and part ploughed in ..	3 15 0
151	11.850	10.732	9.43	19.0	4568	354	1 1/2	Rail	9	Part carted and part folded ..	3 7 6
152	10.667	9.361	12.24	18.5	3879	496	1 1/2	Road	6	Carted off	2 5 0
153	10.667	9.361	12.24	18.5	3879	388	3	Rail	8	Part carted and part folded ..	3 0 0
154	13.346	11.481	13.97	18.4	4732	434	9		9	Folded	3 7 6
155	11.773	10.552	10.36	19.7	4656	382	1	Rail	9	Folded	3 7 6
156	15.562	12.591	19.10	18.3	5161	327	9		9	Ploughed in	2 9 6
157	11.729	10.206	12.99	18.8	4298	364	6	Road	6	Carted off	2 5 0
158	8.060	6.773	15.96	17.8	2701	261	5	Rail	8	Folded	3 0 0
159	8.060	6.773	15.96	17.8	2701	302	1	Road	8	Folded	3 0 0
160	8.060	6.773	15.96	17.8	2701	290	1		8	Folded	3 0 0
161	11.037	10.406	5.72	18.9	4405	436	1	Road	8	Carted off	3 0 0
162	11.037	10.406	5.72	18.9	4405	364	1	Road	8	Carted off	3 0 0

* Weighted average of individual consignments. † From field to roadside, wharf or rail station.
‡ From roadside, wharf or rail station to factory: where more than one destination data are given in same order as factories in Appendix A.

Appendix C

YIELD DATA—continued.

Field Number	Yield in Tons per Acre.		% Tare.	Effective % [*] Sugar Content.	lb. Sugar (Su-crose) per Acre.	lb. Sugar (Su-crose) per £ labour.	† Haul-age. Miles.	‡ Method of Transport.	Tops per Acre.		
	Un-washed.	Washed.							Estimated Tons.	Method of Disposal.	Value. £ s. d.
163	8-578	8-086	5-73	19-8	3586	249	} 1½	Rail	9	Part carted and part ploughed in ..	2 18 6
164	8-578	8-086	5-73	19-8	3586	258			9	Part carted and part ploughed in ..	2 18 6
165	9-755	9-239	5-29	20-5	4243	287	} 1	Rail	10	Part carted and part ploughed in ..	3 5 0
166	9-755	9-239	5-29	20-5	4243	271			10	Ploughed in	2 15 0
167	10-040	8-967	10-68	17-2	3455	371	} 1	Rail	8	Ploughed in	2 4 0
168	10-040	8-967	10-68	17-2	3455	382			8	Ploughed in	2 4 0
169	10-139	9-253	8-74	19-4	4021	400	} 1	Rail	9	Part carted and part folded..	3 7 6
170	13-386	11-610	13-37	18-0	4681	405			9	Part carted and part folded..	3 7 6
171	9-083	7-410	18-42	17-8	2955	291	} 1	Rail	9	Part carted and part folded..	3 7 6
172	8-900	8-035	9-71	18-9	3402	291			8	Carted off	3 0 0
173	11-134	10-177	8-59	18-0	4103	331	2½	Rail	10	Ploughed in	2 15 0
174	11-545	10-031	13-11	16-1	3618	393	¼	Water	10	Ploughed in	2 5 0
175	17-204	15-375	10-63	16-9	5820	462	1	Rail	12	Ploughed in	2 14 0
176	7-692	6-470	15-89	17-9	2594	232	5	Rail	5	Part carted and part ploughed in ..	1 7 0

* Weighted average of individual consignments. † From field to roadside, wharf or rail station.

‡ From roadside, wharf or rail station to factory: where more than one destination data are given in same order as factories in Appendix A.



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