

S.1755 ✓ A7
ENS/0609

FIELD EXPERIMENTS 1935

Crop: Sugar Beet

Field: G

Experiment:

Periodic Lifting of Sugar Beet.

Treatments:

- | | |
|----------------------------------|-------------------------------------------------------------------------------------|
| 1. Marsters drilled on April 9th | } Lifted at 14 day intervals throughout the lifting season from the 13th September. |
| 2. Klein E drilled on April 9th | |
| 3. Marsters drilled on May 11th | |
| 4. Klein E drilled on May 11th | |

Layout and size of plots:

4 randomised blocks.

Each plot 8 rows wide x 77 yds. long.

Manuring with dates of:

- | | |
|----------------------------------------|-----------------------------------------------------------------------------------------------------|
| 3 cwts. per acre Nitrate of Soda | } Supers and potash applied to all plots on April 8th. Nitrate of Soda applied at time of drilling. |
| 3 cwts. per acre Superphosphate | |
| 1 1/4 cwts. per acre Muriate of Potash | |

Date of Drilling: April 9th Variety: Klein E Seed rate: 15 lbs/acre
May 11th Marsters.

Date of Germination Count: Early drilled plots - 24th May
Late drilled plots - Not counted.

Date of Harvesting: At fortnightly intervals from 13th September.

Remarks: (previous cropping, cultivations etc.)

1933: Wheat
1934: Barley

F.Y.M. ploughed in during winter.
Heavy harrow x 2: Ring roll: flat roll: light harrow: flat roll:
Seed drilled on rolled surface. Seed immediately harrowed in after drilling.

Beet rolled with flat roll on May 29th.

Owing to severe frosts there was an interval of 1 month between the *last two liftings.*

A sample consisting of 1/2 chain length of 1 coulter row was taken from each plot at each lifting. Sample washed and weighed and 2 lots of 10 beets taken for sugar and purity.

Purity determinations were done on all samples except those obtained at the first and last liftings.

Note Book No.

The number of bolters in each sample was noted. The weight of the bolters as well as the total weight ~~and~~ of the sample was obtained.
SB/1935-36

Box file ①

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Results.

Yield of Washed Beet - Tons per Acre.

Date of Lifting	Marsters Drilled 9th April	Marsters Drilled 11th May	Klein E Drilled 9th April	Klein E Drilled 11th May	Mean	S.E.
13th Sept.	9.38	6.97	8.10	5.60	7.51	
27th Sept.	10.36	7.50	8.38	8.38	8.67	
11th Oct.	10.46	8.79	9.87	8.49	9.40	0.35
25th Oct.	11.39	10.56	10.11	9.92	10.50	
8th Nov.	10.85	10.26	9.28	8.45	9.71	
22nd Nov.	10.85	8.84	8.99	8.69	9.34	
6th Dec.	11.54	9.97	9.97	8.89	10.09	
3rd Jan.	12.03	10.85	10.07	10.21	10.79	
Mean	10.86	9.22	9.35	8.58	-	
S. E.		0.40				

	April 9th	May 11th	Mean	
Marsters	10.86	9.22	10.04)	Sig.
Klein E	9.35	8.58	8.96)	
Mean	10.10	8.90		Sig.

Gradual rise until 25th October. Then fall to 22nd November followed by a rise until the last lifting.

Early Marsters outyielded all the others.

Sugar Contents.

Date of Lifting	Marsters 9th April	Drilled 11th May	Klein E 9th April	Drilled 11th May	Mean	S.E.
13th Sept.	17.8	17.2	17.4	16.6	17.2	
27th Sept.	18.2	16.9	16.2	16.9	17.0	
11th Oct.	18.0	17.5	17.5	17.2	17.5	
25th Oct.	17.7	17.5	17.5	17.2	17.5	0.11
8th Nov.	16.9	16.9	16.0	16.4	16.5	
22nd Nov.	16.8	16.8	16.3	16.1	16.5	
6th Dec.	17.1	17.1	16.5	15.9	16.6	
3rd Jan.	16.4	16.1	15.7	15.8	16.0	
Mean	17.4	17.0	16.6	16.5		
Std. Error			0.15			

Early Marsters greater than Early Klein and Late Klein.

Late Marsters greater than Late Klein

There is a gradual rise up to the 4th lifting and then a sudden drop to the 5th. Remains constant until last lifting when there is another abrupt drop.

Yield of Sugar - Cwts. per Acre.

Date of Lifting	Marsters Drilled		Klein E Drilled		Mean	S.E.
	9th April	11th May	9th April	11th May		
13th Sept.	33.39	23.98	28.19	18.59	26.04	
27th Sept.	37.71	25.35	27.15	28.32	29.63	
11th Oct.	37.66	30.76	34.54	29.21	33.04	
25th Oct.	40.32	36.96	35.38	34.12	36.70	0.72
8th Nov.	36.67	34.68	29.70	27.72	32.19	
22nd Nov.	36.46	29.70	29.31	27.98	30.86	
6th Dec.	39.47	34.10	32.90	28.27	33.68	
3rd Jan.	39.46	34.94	31.62	32.26	34.57	
Mean	37.64	31.31	31.10	28.31		
Std. Error			1.62			

Early Marsters has given the heaviest yield of sugar.

No other differences between varieties.

On the average Marsters gave a higher yield than Klein E. and the yield was heavier with the early drilling.

Significant differences in yield up to 4th Lifting. Then a drop to the 5th and 6th Liftings. A rise to the 7th and 8th Liftings.



Plant Populations.

Date of Lifting.	Early Marsters	Late Marsters	Early Klein	Late Klein	Mean	S.E.
13th Sept.	29,700	23,540	27,280	23,760	26,070	780 plants per acre.
27th Sept.	29,920	20,240	27,940	24,640	25,680	
11th Oct.	29,700	23,980	28,820	24,860	26,840	
25th Oct.	28,380	24,200	28,600	22,880	26,010	
8th Nov.	27,940	23,980	29,920	23,980	26,450	
22nd Nov.	25,300	23,320	27,500	25,740	25,460	
6th Dec.	29,040	25,520	23,600	23,100	26,560	
3rd Jan.	27,280	26,180	28,600	28,160	27,550	
Mean	28,410	23,870	28,410	24,640		
S. E.	1,300 plants per acre.					

