

CONFIDENTIAL*

PERIODIC HARVEST OF SUGAR BEET

EAS 512 ML 83
8th Year

SUMMARY

1983 proved to be an average year for sugar beet yield. The late drilling date was compensated for by good growing conditions in the early summer. The maximum root yield of 61 t/ha was reached on the 6th December. The sugar yield peaked on both this date and also 10 November, with a value of 10.19 t/ha.

OBJECT

To monitor the progress of the beet crop through the beet harvest campaign period.

TREATMENTS

Fortnightly samples of washed roots and sugar percentage were taken, beginning on 13 September and ending on 19 December.

METHOD

The crop of Monoire was drilled on 16 April with a row spacing of 50 cm and a seed spacing of 18 cm. Four 20 m² plots were hand harvested at fortnightly intervals with sub-samples of brei being taken.

RESULTS

The plant population was near optimal, although less than the target of 75,000/ha, ranging from 70,000/ha to 73,000/ha at different lifts, the mean figure being 71,800/ha.

The cold wet conditions in the second half of March and April delayed drilling and resulted in poor early growth. The wet weather continued through May, but a dry June and July produced good growth in the sugar beet crop. The extremely dry conditions of August, leading to a soil moisture deficit of 165 mm, may have retarded continuing beet development, although this was relieved by the return to wetter weather in September.

The root yield increased through the season from 44.6 t/ha on 13 September to a peak of 61 t/ha on 6 December. Sugar yield reached a peak of 10.19 t/ha on both 10 November and 6 December. These yields are average or above for this series of trials.

Sugar content was consistent throughout the duration of the season. The maximum value obtained was 17.32% on the 25th October, and by the end of the season this had declined to 16.40%.

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During the period up until 10 November the mean increase in sugar yield was 46 kg/ha/day. This compared with 60 kg/ha/day in 1982 and 51 kg/ha/day in 1981.

CONCLUSIONS

Despite a late start, 1983 produced an average yield of sugar beet. The dry, warm conditions of June and July enabled the crop to grow well and despite a very dry August, growth continued until well into the autumn. Freedom from major diseases helped in this.

YIELD DATA - PERIODIC HARVEST 1983

Harvest Date	Root Yield (t/ha)	Sugar Content %	Sugar Yield (t/ha)
SE (7 d.f.)	(<u>+2.63</u>)	(<u>+0.336</u>)	(<u>+0.533</u>)
13 September	44.6	16.97	7.59
28 September	52.7	17.14	9.02
11 October	55.8	16.24	9.06
25 October	56.8	17.32	9.84
10 November	59.6	17.09	10.19
22 November	59.3	17.13	10.16
6 December	61.0	16.71	10.19
19 December	58.3	16.40	9.57
S.E. %	4.7%	2.0%	5.6%

1983 WEATHER - 15 YEAR MEAN IN BRACKETS

Month	Rainfall (mm)	Sunshine (hrs)	Mean Temp.(°C)
January	49.9 (55.4)	61.2 (49.2)	6.1 (3.6)
February	44.6 (43.6)	89.5 (69.1)	1.5 (3.2)
March	43.3 (46.4)	93.4 (104.4)	6.2 (5.4)
April	76.6 (43.4)	141.5 (149.8)	6.8 (7.3)
May	74.4 (48.5)	140.7 (197.8)	9.9 (11.0)
June	24.2 (45.7)	191.4 (203.4)	14.1 (14.0)
July	20.7 (47.2)	236.1 (194.1)	18.5 (16.1)
August	7.8 (45.4)	192.0 (184.5)	17.2 (16.2)
September	78.7 (46.8)	105.3 (153.2)	14.0 (13.9)
October	40.6 (51.4)	127.2 (108.9)	10.5 (10.3)
November	54.7 (68.3)	39.6 (68.5)	7.3 (6.4)
December	45.1 (54.7)	61.2 (49.3)	5.0 (4.1)
TOTAL	560.6 (596.8)	1478.7 (1532.2)	

AST & WEB