

FIELD EXPERIMENTS 1967.

Serial No. A.2.

Stat. File 4 IV

CROP: Sugar Beet

Field Grete Gymballs

EXPERIMENT: Plant Distribution (modified)

TREATMENTS AND LAYOUT: 2 randomised blocks

All combinations of:-

- | 1. Plant Population | 2. Regularity | 3. Variety |
|---------------------|--|-------------------------------|
| (i) 8" spacing | (i) Regular - hand singling from 5" spacing | (i) Bush Mono |
| (ii) 7.5" spacing | (ii) Irregular - drilled to a stand with good seed | (ii) Amono |
| (iii) 9.0" spacing | (iii) Very irregular - drilled to a stand | (iii) Sharps's Klein Polybeet |
| (iv) 11.25" spacing | 2/3 good & dead seed | |

Plot Size: Treatment: 20 yds x 5 rows x 20"

Harvest: 18 yds x 1 row x 20"

Manning with dates of: 6 cwt 20:15: 15
 8 cwt Kainit

Date of Drilling	26 April	XXXXXXX Variety:
Herbicide	1 May Overall 2.2lb a.i. Pyrazon/acre	
Hoed	4 June tractor hoed	
Singling	5 June. hand singling regular plots	
Final plant count	30 June.	
Aphicide	30 June 12 oz. Metasystox	
Lifted	3 November	

Remark:
 Previous cropping 1969 Winter Wheat
 1968 Spring barley
 1967 Winter wheat

Plant Stations/acre.

Variety	Regularity		Spacing			Mean
	Regular	Irregular	6.0"	7.5"	9.0" 11.25"	
Bush Mono	26,100	27,800	32,400	27,400	23,200	26,300
Amono	27,200	28,700	37,800	28,200	22,700	27,600
Sharpe's Klein Polybeet	22,100	26,000	28,200	25,200	21,100	23,800
<u>Regularity</u>		(± 1,140)		(± 1,320)		(± 660)
Regular			32,400	26,000	21,300	25,100
Irregular			35,700	29,700	22,900	27,500
Very Irregular			30,300	25,200	22,700	25,100
Mean	25,100	27,500	32,800	26,900	22,300	25,900
		(± 660)		(± 760)		

S.E. per plot (35 d.f.) = ± 3,230 stations/acre or 12.45% of G.M.

Sugar Yield (cwt/acre) and Sugar % (brackets)

Variety	Regular		Irregular		Very Irregular		Plant Spacing				Mean
	6.0"	7.5"	9.0"	11.25"	6.0"	7.5"	9.0"	11.25"	6.0"	7.5"	
Bush Mono	72.4(18.6)	68.3(18.4)	68.1(18.5)	(± 3.27)(± 0.12)*	(± 3.78)(± 0.14)*	70.0(18.7)	70.3(18.4)	67.7(18.4)	70.5(18.6)	69.6(18.5)	(± 1.89)(± 0.07)*
Amono	66.9(19.1)	64.7(18.7)	61.9(18.3)			64.1(18.9)	67.6(18.5)	68.3(18.7)	58.1(18.7)	64.5(18.7)	
Sharpes Klein Polybeet	66.8(19.0)	69.1(19.0)	65.7(18.6)			64.9(18.9)	72.1(18.9)	67.6(18.9)	64.2(18.9)	67.2(18.9)	
<u>Regularity</u>							(± 3.78)(± 0.14)*				(± 1.89)(± 0.07)*
Regular	70.7(19.1)	70.2(18.7)	66.7(18.7)			70.7(19.1)	70.2(18.7)	66.7(18.7)	67.4(19.1)	67.4(18.7)	
Irregular	66.0(19.0)	72.2(18.6)	69.5(18.7)			66.0(19.0)	72.2(18.6)	69.5(18.7)	61.8(18.6)	67.4(18.7)	
Very Irregular	62.3(18.4)	67.5(18.5)	67.5(18.5)			62.3(18.4)	67.5(18.5)	67.5(18.5)	63.7(18.5)	65.3(18.5)	
Mean	66.3(18.8)	70.0(18.6)	67.9(18.7)	(± 1.89)(± 0.07)*	(± 2.18)(± 0.08)*	66.3(18.8)	70.0(18.6)	67.9(18.7)	64.3(18.7)	67.1(18.7)	

S.E. per plot (34 d.f.) = ± 9.25 cwt/acre or 13.79% of G.M.

* S.E. per plot (34 d.f.) = $\pm 0.33\%$ sugar or 1.78% of G.M.

Yield of small roots Ton/acre
and as % of Total yield (in brackets)

Variety	Regularity			Spacing				Mean
	Regular	Irregular	V. Irregular	6.0"	7.5"	9.0"	11.25"	
Bush Mono	0.94 (4.7)	0.96(5.4)	1.14 (6.0)	2.14(11.5)	0.88(4.8)	0.63(3.4)	0.40(2.1)	1.01 (5.4)
Amnono	1.09 (6.4)	1.36(7.8)	1.30 (8.1)	2.70(15.9)	1.14(6.4)	0.47(2.5)	0.70(4.9)	1.25 (7.4)
Sharpe's Klein Polybeet	0.65 (3.7)	1.20(6.4)	1.34 (7.7)	1.46 (8.6)	1.52(7.8)	0.65(3.6)	0.63(3.7)	1.06 (5.9)
<u>Regularity</u>				(± 0.218)	(± 1.18)*			(±0.109) (±0.59)*
Regular				1.87(10.3)	0.78(4.2)	0.36(2.0)	0.57(3.3)	0.90(5.0)
Irregular				2.19(12.5)	1.31(7.0)	0.73(3.9)	0.46(2.8)	1.17(6.5)
Very Irregular				2.24(13.1)	1.45(7.8)	0.66(3.6)	0.70(4.5)	1.26(7.3)
Mean	0.90	1.17	1.26	(± 0.126)	(± 0.68)*			1.11(6.2)

S.E. per plot (35 d.f.) = + 0.534 ton/acre or 48.06% of G.M.
* S.E. per plot (35 d.f.) = + 2.89% or 46.33% of G.M.

Total Yield of Roots ton/acre

Variety	Regularity		Spacing			Mean
	Regular	Irregular V. Irregular	6.0"	7.5"	9.0" 11.25"	
Bush Mono	19.36	18.55	18.73	18.99	18.33	18.76
Amono	17.56	17.30	16.92	18.30	18.29	17.25
Sharpes Klein Polybeet	17.57	18.14	17.16	19.07	17.89	17.78
<u>Regularity</u>						
Irregular			18.53	18.72	17.77	18.16
Very Irregular			17.36	19.43	18.55	18.00
Mean	18.16	18.00	17.60	18.79	18.17	17.93

S.E. per plot (35 d.f.) = ± 2.330 ton/acre or 13.00% of G.M.

Yield of Sugar/Plant Station Grams(brackets)

Yield of Roots/Plant Station Grams

Variety	Regularity			Spacing g			Mean
	Regular	Irregular	VeryIrregular	6.0"	7.5"	9.0"	
Bush Mono	(± 6.35) [*] (143.3)765	(± 32.9) (128.7)700	(141.8)765	(110.5)593	(± 7.34) (132.3)712	(148.0)803	(160.9)866
Amono	(132.5)696	(123.0)658	(118.1)645	(86.8)459	(122.5)664	(153.4)822	(135.5)721
Sharpes Klein Polybeet	(156.9)824	(140.2)738	(146.0)783	(118.6)628	(145.9)772	(164.4)870	(161.9)858
<u>Regularity</u>				(± 7.34) [*] (± 38.0)			(± 3.67) [*] (± 19.0)
Regular				(114.0)598	(138.9)738	(159.5)851	(164.5)861
Irregular				(96.1)507	(124.9)671	(155.4)821	(145.6)785
Very Irregular	(105.8)575	(136.8)738		(105.8)575	(136.8)738	(150.5)812	(148.2)799
Mean	(± 3.67) [*] (± 19.0)	(130.6)699	(135.3)731	(± 4.24) [*] (± 21.9)	(133.6)716	(155.3)832	(152.8)815
		(144.2)762	(135.3)731				(136.7)731

S.E. per plot (34 d.f.) = ± 17.97 grams or 13.14% of G.M.*

S.E. per plot (34 d.f.) = ± 93.0 grams or 12.73% of G.M.

Yield of Normal Size Roots, Ton/acre

Variety	Regularity		Spacing			Mean
	Regular	Irregular V. Irregular	6.0"	7.5"	9.0"	
Bush Mono	18.42	17.59	16.58	18.10	17.70	17.74
Amono	16.47	15.94	14.22	17.16	17.83	16.00
Sharpe's Klein Polybeet	16.91	16.95	15.70	17.55	17.24	16.72
<u>Regularity</u>				(± 0.946)		(± 0.473)
Regular			16.66	17.93	17.41	17.27
Irregular			15.17	18.11	17.82	16.82
V. Irregular			14.67	16.76	17.54	16.57
Mean			15.50	17.60	17.59	16.82
		(± 0.473)		(± 0.546)		

S.E. per plot (35 d.f.) = ± 2.317 ton/acre or 13.78% of G.M.