

SPACE-IRRIGATION TEST, FORT COLLINS, COLORADO, 1936-37-38.
GENERAL SUMMARY - SPACING

Treatment	Tons Beets Per Acre				Percent Sucrose				Gross Pounds Sugar per A.			
	1936	1937	1938	Ave.	1936	1937	1938	Ave.	1936	1937	1938	Ave.
8 inch	13.11	16.25	16.83	15.40	16.64	14.16	14.66	15.15	4378	4609	4940	4642
12 inch	13.66	16.75	17.87	16.09	16.38	13.86	14.35	14.86	4474	4651	5135	4753
16 inch	13.85	16.80	17.57	16.07	16.19	13.82	14.20	14.74	4486	4649	4997	4711
Mean	13.54	16.60	17.42	15.85	16.40	13.95	14.40	14.92	4446	4636	5024	4702
F	9.22**	8.62**	4.72**	39.28**	16.81**	4.17**	24.21**	30.56**	1.87	†	7.21**	6.18**
S.E. of Mean	.127	.102	.096	.063	.055	.090	.048	.029	43.29	35.96	37.30	22.51
Two times S.E. of a Dif.	.36	.29	.27	.18	.16	.26	.14	.08	122	102	105	64

GENERAL SUMMARY - IRRIGATION

2 Irrig.	11.96	14.78	17.08	14.61	16.41	13.55	14.32	14.76	3926	4010	4893	4276
4 Irrig.	13.61	17.38	18.09	16.36	16.42	13.99	14.67	15.02	4476	4852	5312	4880
6 Irrig.	15.04	17.63	17.10	16.59	16.39	14.30	14.22	14.97	4937	5047	4867	4950
Mean	13.54	16.60	17.42	15.85	16.40	13.95	14.40	14.92	4446	4636	5024	4702
F	93.12*	13.88	3.58	35.55**	†	2.61	1.34	1.70	95.84*	8.91	2.51	15.40**
S.E. of Mean	.1595	.4238	.3048	.182	.09	.232	.202	.262	51.69	261.1	157.8	94.39
4.303 Times the S.E. of a Dif.	.97	2.58	1.85		.55	1.41	1.23		315	1124	960	
2.447 Times the S.E. of a Dif.				.63				.91				292

** Exceeds the one percent point.
† Variance for error exceeds variance for treatment.

SPACE-IRRIGATION TEST, FORT COLLINS, COLORADO, 1936-37-38
GENERAL SUMMARY-SPACINGS AND IRRIGATIONS

Treatment	Tons Beets Per Acre				Percent Sucrose				Gross Pounds Per A.			
	1936	1937	1938	Ave.	1936	1937	1938	Ave.	1936	1937	1938	Ave.
8"sp.2 Irrig.	11.28	14.56	16.53	14.12	16.50	14.15	14.65	15.10	3729	4142	4845	4239
4 Irrig.	13.07	16.91	17.36	14.70	16.66	14.10	14.88	15.21	4369	4766	5177	4267
6 Irrig.	14.97	17.28	16.61	14.99	16.78	14.22	14.46	15.15	5038	4918	4797	4323
12"sp.2 Irrig.	11.91	14.85	17.36	15.78	16.50	13.31	14.20	14.67	3929	3945	4928	4771
4 Irrig.	14.00	17.64	18.66	16.76	16.28	14.02	14.70	15.00	4561	4935	5486	4994
6 Irrig.	15.07	17.76	17.61	16.53	16.36	14.26	14.14	14.92	4933	5073	4990	4875
16"sp.2 Irrig.	12.70	14.92	17.35	16.28	16.23	13.19	14.10	14.51	4121	3942	4906	4918
4 Irrig.	13.75	17.99	18.25	16.81	16.32	13.84	14.42	14.86	4497	4855	5273	4999
6 Irrig.	15.09	17.85	17.09	16.68	16.02	14.42	14.07	14.84	4841	5149	4812	4934
Mean	13.54	16.60	17.42	15.85	16.40	13.94	14.40	14.92	4446	4636	5024	4702
F	3.02*	†	1.05	2.80*	5.90**	4.04**	†	1.41	4.19**	4.18**	†	2.21

Discussion of Three Year Summary:

On the basis of actual yields 12 and 16 inch spacings were equal and slightly superior to 8 inch spacing. As an average of the three years two irrigations were insufficient to produce a maximum yield. The increase in yield from six irrigations as compared to four irrigations was statistically insignificant and certainly not great enough to pay the costs of the two extra applications of water. It is probable that at Fort Collins four irrigations are sufficient for the production of a satisfactory crop of beets except in those years of exceptionally low rainfall or in years of unusually poor seasonal distribution of natural moisture. The effect of the interaction of spacings and irrigations for these years appears to have been small or negligible. This lack of effect of the interaction may or may not be principally due to the small range in spacing intervals which was used in the tests.

HYBRIDS TEST

In 1936 seed was produced by 18 different group plantings of 10 or more roots each of two more or less inbred lines for each group. These 18 lots of seed with five others of similar type and a American check variety were planted in six randomized blocks. The plots were eight rows wide and thirty feet long. The six inside rows, 180 feet of row per plot, were harvested. A key to the variety numbers, plot and general summaries follows: