

GENERAL CONSIDERATIONS FOR THE YEAR.

Project Leaders.

G. H. Coons - Principal Pathologist - Division of Sugar Plant Investigations.

G. W. Deming - Assistant Agronomist - Division of Sugar Plant Investigations.

Keith M. Hemphill - Agent - Division of Sugar Plant Investigations.

Cooperators.

Colorado State College and Agricultural Experiment Station.

Dr. I. E. Newsom - Acting Director of the Experiment Station.

Professor Alvin Keser and Staff of the Agronomy Department.

W. P. Kintzley - Manager College Farm.

Great Western Sugar Company.

B. G. D. Bishopp, Virginia Dale, Colorado - Cooperation in seed production.

The many householders, particularly in Greeley, Denver and Pueblo who cooperated in the care of isolation plantings of beet roots for seed production.

Location of the Beet Experiments.

1940 was the first year under the new cooperative agreement with the Colorado Experiment Station and the Beet experiments were transferred from the Mantz tract of the College Farm to the Agronomy Farm adjacent to the southeast city limits of Fort Collins. Soil conditions for experimental work and the supply and availability of irrigation water are better in the present location than on the Mantz tract. Since this change had not been anticipated it was impossible to assign land for the beet work which had been uniformly cropped in 1939. It was possible to put the variety tests on land which was in a uniform crop of spring wheat in 1939 and the non uniformity of the previous treatment on the balance of the 1940 beet land did not seriously interfere with the other beet projects. Now that the beet crop is definitely planned as a part of the work on the Agronomy Farm it will be possible to uniformly crop the tract which will be occupied by beets the following year. Land for the 1941 and 1942 beet crop was broken from alfalfa in the spring of 1940. That portion which will be in beets in 1941 grew a crop of spring wheat. That for the 1942 beets was cropped to oats in 1941 and seeded to winter wheat for the 1941 crop. The cordial cooperation and interest of the Agronomy staff of the Experiment Station under the new agreement is greatly appreciated.

Climatic Conditions for the Crop Year 1940

A dry fall and early winter followed the exceedingly dry summer of 1939. Precipitation by months, as recorded on the Agronomy Farm, for 1940 is given in the following table.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total
1940	0.94	0.56	0.87	1.30	1.87	0.28	1.65	0.29	4.74	1.29	0.78	0.16	14.73
50 yr. ave.	0.32	0.61	1.02	2.00	2.86	1.53	1.66	1.40	1.27	1.10	0.47	0.46	14.70

The above record shows that while 1940 was a normal year in total precipitation the distribution of the rainfall was very abnormal. Due to a fairly heavy snow storm the first week in January and only slightly subnormal precipitation for the remainder of the first three months of the year surface soil moisture conditions were fairly good on April first, but at that time there was little moisture in the subsoil of land to be used for the experimental beet plantings. From April to August inclusive precipitation below the 50 year average, but sufficient irrigation water was available to keep the beets growing normally. The heavy precipitation of September was accompanied by a relatively long period of cool cloudy weather which prevented normal drying of the surface. In addition the beets had been irrigated just prior to the start of this rainy period and even though harvest was delayed till the latter half of October the soil was still very wet; dirt tars on beets delivered to the sugar factory were high and it was necessary to run a night shift on the washing machine to clean enough sample beets for an eight hour run on the laboratory during the day. The first killing frost occurred early in October, two weeks later than normal, and there was no severe freeze till after beet harvest was completed.