

Index card made. MB

UNIVERSITY OF MINNEAPOLIS-GIPE-PUNE-046870
AGRICULTURAL EXPERIMENT STATION
IN CO-OPERATION WITH THE
UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF AGRICULTURAL ECONOMICS

AN ECONOMIC STUDY OF CROP PRODUCTION IN THE RED RIVER VALLEY OF MINNESOTA

BY
GEORGE A. POND AND GEORGE A. SALLEE
DIVISION OF AGRICULTURAL ECONOMICS
AND
C. W. CRICKMAN
BUREAU OF AGRICULTURAL ECONOMICS



UNIVERSITY FARM, ST. PAUL

CONTENTS

	Page
Introduction	5
Nature of study	5
Description of the Red River Valley	8
Topography	8
Drainage	8
Soils	10
Climate	11
Adaptation of crops.....	13
Crop yields	15
Transportation and markets	16
Agricultural development of the Red River Valley	16
History of settlement	17
Change in acreage of the principal crops	18
Present cropping systems	21
Cropping problems in the Red River Valley	39
Weed control	39
Disease control	41
Soil improvement	42
Drainage	43
Adjustment to progress in farming practice.....	44
Adjustment to changing price relations	46
Quantities of labor and materials used for crop production	46
Wheat	47
Oats	56
Barley	61
Flax	66
Potatoes	71
Corn	77
Sugar beets	81
Alfalfa	88
Sweet clover	92
Wild hay	93
Summer fallow	95
Miscellaneous crop labor	96
Relations between crops	99
Proportional demands for the use of labor and equipment	99
Seasonality of demands upon farm resources	103
Proportional returns	104
Additional supplementary and complementary relations	108
Suggestions on cropping systems	108
Crop rotations	110

ILLUSTRATIONS

Fig.		Page
1.	Location of the area studied	7
2.	Map of the surface formations in the Red River Valley and adjoining territories	9
3.	Monthly precipitation at Crookston, 1926-28 and 10 year average	12
4.	Growing season in the Red River Valley by years, 1910-29, inclusive	14
5.	Changes in the choice of crops in the Red River Valley, 1897-1928	19
6.	First choice of seeded crops as shown by acreage in 1927, by townships	23
7.	Second choice of seed crops as shown by acreage in 1927, by townships	24
8.	Third choice of seeded crops as shown by acreage in 1927, by townships	25
9.	Percentage of all farm land in the Red River Valley in wheat, 1927, by townships	26
10.	Percentage of all farm land in the Red River Valley in barley, 1927, by townships	27
11.	Percentage of all farm land in the Red River Valley in oats, 1927, by townships	28
12.	Percentage of all farm land in the Red River Valley in flax, 1927, by townships	29
13.	Percentage of all farm land in the Red River Valley in corn, 1927, by townships	30
14.	Percentage of all farm land in the Red River Valley in potatoes, 1927, by townships	31
15.	Percentage of all farm land in the Red River Valley in rye, 1927, by townships	32
16.	Percentage of all farm land in the Red River Valley in sugar beets, 1927, by townships	33
17.	Percentage of all farm land in the Red River Valley in tame hay, 1927, by townships	34
18.	Percentage of all farm land in the Red River Valley in wild hay, 1927, by townships	35
19.	Percentage of all farm land in the Red River Valley in pasture, 1927, by townships	36
20.	Fall-plowing a stubble field immediately after the crop is removed..	40
21.	A wheat field in the Red River Valley	54
22.	Daily distribution of labor on a 39-acre field of wheat	55
23.	Harvesting with a combine	56
24.	A typical threshing scene in the Valley	59
25.	Daily distribution of labor on a 48-acre field of oats	60
26.	Daily distribution of labor on a 48-acre field of barley	65
27.	Daily distribution of labor on a 38-acre field of flax	70
28.	Planting potatoes in the Red River Valley	72
29.	Daily distribution of labor on a 23-acre field of potatoes	76
30.	Daily distribution of labor on a 20-acre field of corn	82
31.	Contract laborers in a field of sugar beets	83
32.	Daily distribution of man labor on an 18-acre field of sugar beets ..	87
33.	Harvesting alfalfa hay	89
34.	Daily distribution of labor on a 29-acre field of alfalfa	91
35.	A sweet clover pasture in the Red River Valley	93
36.	A wild hay field in the Red River Valley	94
37.	Daily distribution of labor on a 17-acre field of wild hay	95
38.	Summer fallowing with a spring-tooth harrow	96
39.	The periods for the performance of field-crop operations in the Red River Valley	98