



Soil and moisture conservation practices in Montana  
by Phillip T Allen

A THESIS Submitted to the Graduate Committee In partial fulfillment of the requirements for the Degree of Master of Science in Agricultural Economics at Montana State College  
Montana State University  
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Abstract:

The principal purpose of this study were to determine the farmers' opinion of the conservation practices used on his farm, and the changes In farm organisation and management that resulted from the use of the practices. These conservation practices represent an effort to better adapt the agriculture in the Great Plains to the limitations of the region.

The forms studied were located in the Power-Dutton Soil conservation Service Project; and the Soil Conservation Service Project in the Froid area. Schedules were filled out by about 22 farmers in each area. The two projects were different In some respects and emphasized the necessity of careful study before a set of conservation practises should be recommended for an area.

The Power-Dutton area, located In the "Triangle", will continue to be predominately a wheat growing section, since water shortage eliminates livestock development. Since the advent of conservation programs, farmers had more generally adopted a one-half fallow-one-half crop type of rotation. The restriction In wheat acreage caused by the Agricultural Adjustment Administration program was accompanied by superior methods of production—namely, the use of more summer fallowed acres, so that the curtailment in wheat acreage could not be expected to reduce production proportionately. Farmers were using strip fallow and trashy cover to control wind erosion. Although operation costs were somewhat higher because of the stripped fields, farmers believed wind erosion was definitely curbed and crop yields stabilized.

The Froid area, In northeastern Montana, had sufficient water for livestock, and a diversified agriculture was being established. Land retired to grass was providing hay and some pasture, and feed reserves were accumulating. stock dams were elding In livestock production, end over one-half of the forms had Increased livestock because of conservation programs.

Wind erosion, farmers reported, wee controlled by contour stripe with grass buffers, or by straight stripe. There contour strips were used, the retirement of a large acreage to buffers was necessary, which made continuous creeping necessary on many of the forms. Farms cooperating with the SCS and the AAA showed a decrease in wheat acreage and an increase in grass acreage. Both contour end straight stripping required more fuel although this tendency was mere pronounced on the contoured fields, farmers said. Farmers had not generally noticed increased yields from contouring. Desirable adjustments in the area would be the Increase In acreage of cropland on most farms which would allow summer fallow or other rotation; providing summer range appeared necessary for a part of the farms in order that the hay being produced could be utilized by Increased livestock.

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FOREWORD

"Their plight has been stated in this way: east of the Mississippi civilization stood on three legs--land, water, and timber; west of the Mississippi not one but two of these legs were withdrawn--water and timber,--and civilization was left on one leg--land." 1/

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1/ Webb, Walter Prescott. "The Great Plains." Houghton Mifflin Company, New York. 1936. p. 9.

SOIL AND MOISTURE CONSERVATION PRACTICES IN MONTANA

ABSTRACT

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PART I. INTRODUCTION

The Problem

Dust storms of the past several years have focused on public attention a serious problem resulting from misuse of land. A combination of drought years and unadapted farming practices have resulted in large acreages of cropped land being severely damaged by wind erosion. <sup>2/</sup>

It has been suggested that the soils in the Great Plains are of such a nature that growing grain will produce conditions favorable to wind and water erosion. Conservation is possible under a cover of grass, but this means low returns. The two alternatives given are grass and a low return, or grain farming and eventual soil depletion. The soils are considered as similar to a mine, which, if used, will eventually become useless. <sup>3/</sup>

The question which is brought up is this: Are the Great Plains to be ruined by wind erosion until farmers are forced to move out, with the land finally reverting to desert? Such an occurrence would of course have tremendous social costs.

Since the time of settlement of the Great Plains, efforts have been made to adapt the agriculture to the physical limitations of the region. The problem of conservation has become more acute because of the dry years of the past decade. It is because of this fact that there have been developed

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<sup>2/</sup> The term wind erosion refers to the loss of soil by wind action. Conservation is defined as the maintenance or the increasing of the ability of the soil to produce plant life.

<sup>3/</sup> Cf. Wilcox, Walter W. "Economic Aspects of Soil Conservation." *Journal of Political Economy*. Vol. XLVI. No. 5. Oct., 1938, pp. 707-709.





















































































































































































































































































































































