Utah is naturally an arid state with precipitation varying from 3.71 inches at Wendover, located in the vast desert region on the western border, to more than 40 inches on some of the mountain ranges. Desert and mountain areas and other untillable land combined total about 95% of Utah's land area. The remaining 5% constitutes all of the land which will yield to cultivation either by irrigation or by dry farming.

Dry farming, the particular type of agriculture here considered, began in Utah, in Boxelder County, about 1863, and has gradually spread to all parts of the state wherever rainfall is sufficient and where topography, soil, and transportation permit.

During the 76 years that dry farming has been practiced in Utah, many changes in tillage practices, cropping systems, crops, and crop varieties have taken place in keeping with experience and experimental evidence. This progressive improvement has now resulted in a nearly complete standardization of crops and cropping methods.

EXPERIMENTAL DATA

The experimental work of the Nephi Dry-farm Sub-station reported in this paper consists of the following main projects: (1) Tillage tests, (2) seeding experiments, (3) cropping systems, (4) fertility studies, and (5) rotation experiments.

TILLAGE EXPERIMENTS

Tillage tests, or land before plowing.—After harvesting a crop of wheat, often for some particular reason farmers deviate from the general practice of normal fall or spring plowing of the stubble land. In 1916, experiments were begun which include (1) disking of the wheat land immediately after harvest followed by either fall or spring plowing, (2) burning all or part of the straw left by the combine harvester and thresher, and (3) leaving all or part of the stubble to stand to be turned under later by normal fall or spring plowing.

Fall disking.—In the early development of dry farming, disking of the stubble land immediately after harvest was advised, and in some

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2Superintendent, Nephi Dry-farm Sub-station, and Agronomist, respectively.