INTRODUCTION.

Dry farming has now been successfully practiced in some portions of the state of Utah for over fifty years and, contrary to predictions, the yield of wheat has not materially decreased. In most wheat-growing regions such as the Great Plains area the continuous growing of wheat on the same land causes a rapid decrease in the crop-producing power of the soil. This decrease in the producing power of the soil has been associated by Snyder and Ladd with a loss in the nitrogen and humus content of the soil. The summer fallow has been apparently more destructive of the organic matter and nitrogen than has continuous cropping alone. This loss has been brought about, according to these investigators, by favorable conditions for rapid oxidation of the organic matter of the soil with the resultant loss of nitrogen by denitrification. In 1907, an examination of the cultivated and virgin soils of the Cache Valley, Utah, was made to ascertain the effect of continuous cropping and summer fallowing on the nitrogen and humus content of the soil. The results obtained have been published and are indicated in Table 1.

These results are just opposite to those found by earlier investigators. The cropping of the dry farm soil in Utah for great lengths...