THE INJURIOUS AFTER-EFFECTS OF SORGHUM

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INTRODUCTION

The residual, or after-effects of a crop of sorghum, may be considered under two heads: first, the injury of this crop to the plants of some other crop that follows it in a rotation; and second, the effect of sorghum upon the physical condition of the soil.

The first mentioned effect of sorghum is well known and dreaded, and is characteristic of both saccarine and non-saccarine varieties. When sorghum stubble is plowed under and the land planted to small grain, for example, occasionally, but not always, an injurious after-effect is noticed, which is shown in the poor condition of the grain in the early stages of its growth. This effect of sorghum is noticed in nearly every section of the country where this crop is grown, and it has been taught that the effect is due to one or two causes, either the sorghum exhausts the soil of some essential plant food, or it leaves some toxic substance in the soil.

The second named effect, that is the action of the sorghum upon the soil which causes deflocculation, seems to be well known in the semi-arid regions of the West, but it does not seem to be a matter of common knowledge in the more humid sections of the country. This is a point that will be emphasized later on.

The attention of the author was first called to the fact that sorghum would cause a deflocculation of the soil, by an observation of E. F. Chilcott, the superintendent of the dry-land station at Woodward, Oklahoma. In plowing up the plots that had been planted in kaffir, corn and other crops during 1920, Mr. Chilcott noticed that the kaffir

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1 Contribution from the office of Western Irrigation Agriculture, Bureau of Plant Industry, U. S. Department of Agriculture, Washington, D. C. Received for publication September 23, 1924.

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