TO WHAT EXTENT DOES THE SOIL TYPE INDICATE AGRICULTURAL VALUE
AND FERTILIZER REQUIREMENTS?

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As I understand it, the soils of an area are separated into types because it is thought that each type differentiated has certain characters of agricultural significance not common to the other types. Various characters or complex groups of characters determine a soil's agricultural value and its fertilizer requirements. Some of these characters are inherent in the soil itself; others are external to the soil and cannot be taken into consideration in establishing types unless they have acted sufficiently long to make their impress on the soil; that is, as Dr. Marbut insists, types are differentiated on the basis of soil character. To have real agricultural significance, these characters must determine, at least in part, agricultural value and fertilizer requirement. To tell a man that his farm, or the farm he contemplates buying is Tama silt loam or Brown silt loam conveys no real information to him unless at the same time he can be given a pretty clear statement regarding its agricultural value, and if the response of this particular land to various fertilizer treatments can be definitely stated, information of great value is being given.

Illinois has been engaged in the soil survey of the state for about twenty years. In addition to the comparatively large expenditure for soil mapping and publication of soil reports, about thirty-eight fields are now being conducted in various parts of the state, presumably for the purpose of determining the fertilizer requirements of the various soil types as mapped.

It is not my purpose to criticize the Illinois work, but to make this discussion worth while, I must point out very frankly what in my opinion we have accomplished and what we have yet to accomplish before our soil survey and its allied activities can yield the information we need.

First, let us consider the matter of agricultural value. For the purpose of the soil survey, Illinois is divided into 17 great subprovinces, and each subprovince, for the sake of convenience, is given a number. This division is based largely on Frank Leverett's glacial map of Illinois and was made because the soils of each subprovince have certain distinguishing characteristics of agricultural significance. The soils within each subprovince are separated into types, this separation being based largely on the color, texture, and structure of the strata to a depth of forty inches and on topography. I believe that it will be agreed that these characters are exceedingly important in determining agricultural value.

Let me illustrate this point by giving an example. Suppose that information is desired regarding the agricultural value of an upland prairie farm in southern Illinois, and we find that it is mapped as Gray silt loam on tight clay. We can state with confidence that this land has poor natural drainage, that no method has yet been discovered of underdraining it, that it is low in organic matter, and is strongly acid unless lime has been applied. In short, it is of comparatively low agricultural value. Just the price it should bring on the market cannot be stated, for that varies with many conditions entirely aside from the crop-producing power of the land. This is information of great value, particularly to prospective buyers, as is evidenced by the large number of requests.