SUMMARY OF OBSERVATIONS OF FIELD MEN
ON CULTURAL CHANGES IN SOILS

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Certain soils (Superior clay in Wisconsin, Crosby silty clay loam in Ohio) in the virgin condition have a very silty surface ($A_2$) horizon which on cultivation is mixed with the heavy material below and gives a silty clay loam in the case of first soil mentioned, and a heavy silt loam or light silty clay loam in the latter case. A fence line may separate two soils which seem very radically different in texture, so different as to be very confusing at times. The surface soil of the virgin Crosby tends to be very silty, but is underlain by a very heavy subsoil. In places the virgin Superior clay may be very silty for a few inches.

W. O. Veatch

The cultural changes which I have observed in Michigan are due mainly to the mixing of the first two or three horizons of the natural soil, due to clearing away the forest and to subsequent plowing. In most of the well drained clay or loam soils in the southern part of the state, this has resulted in a lighter shade of color than the original top soil, due to the mixing in of the gray, leached $A_2$ horizon, and destruction of the original forest mold and humus layers. In the northern part of the state the superficial forest mold, the gray podzolized horizon and the "brown" or "orterde" horizons are also mixed due to cultivation. The resulting surface layer may be either gray or brown or variegated according to the thickness of the first three horizons and depth of plowing. There are, of course, the obvious changes due to erosion, both water and wind, where any or all of the natural horizons above the parent material on substratum may have been removed.

Regarding chemical changes, we have data only on the plow soil as compared with the original top soil. These show either gain or loss in nitrogen, phosphorous, lime, etc., according to the type of soil; the methods of farming; and the manner in which samples are collected for comparison.