GENERAL PRINCIPLES OF TECHNICAL GROUPING OF SOILS

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The technical grouping of soils is one of the important technics that the soil scientist can use to interpret the soil survey for the layman. It is one of the tools at his disposal to show in a simple way the relationships of the soils to limited, though highly important, practical objectives. As technical groupings are useful and important, and as confusion in regard to such groupings appears to exist among many, we wish to discuss the general principles pertaining to the preparation and the cartographic expression of such groupings.

By the term technical grouping we mean, in general, the placing of soils into groups for immediately practical objectives — objectives that pertain to the use and management of soils, particularly the use and management of soils on farms. This short definition, we recognize, is not entirely accurate, but the subsequent discussion will help to clarify and limit our meaning of the term.

Technical groupings are technical classifications, and they are sometimes called practical or artificial groupings or classifications in contrast to natural or taxonomic groupings or classifications. These two kinds of groupings, or classifications if one prefers to call them that, are frequently confused. They can be readily distinguished, however, by the objectives for which they are made. The objective of any natural grouping is to place the soils into groups so that all their observable characteristics and relationships can be most easily comprehended and remembered. The objective of any technical grouping, on the other hand, is to place the soils into groups so as to bring out their relationship to various factors of use and management, or to bring out one or, at most, just a few selected characteristics or conditions. The grouping of soils to show their relative physical suitability for growing alfalfa (Fig. 1), or their lime requirement, or their stoniness, or their drainage condition are examples of technical objectives. Almost any conceivable map giving cartographic expression to such technical groupings can be derived from a sufficiently detailed fundamental classification; and this fact, incidentally, is one of the strong arguments for first classifying the soils according to a natural classification, even for immediate practical objectives. Likewise, almost any conceivable map giving cartographic expression to technical groupings can be derived from a sufficiently detailed soil map if the soils are classified according to a natural classification. This incidentally, is one of the strong arguments for first placing the soils in detail, even for the preparation of generalized maps. In the discussion that follows, we assume in regard to any up-to-date survey that which technical groupings are to be made, the soils are (1) properly classified into types and phases, and (2) accurately mapped.

The first requisite for any technical grouping, as well as any other grouping, is a clear understanding of the objective for which the grouping is to contribute. This clear understanding of the problem to the solution of which the grouping is to contribute. The purpose must be known and must be clearly understood in the minds of the persons making the grouping. Thus it is not until it is known precisely can the kind of grouping be made in view of limitations of knowledge, time, money, etc., that will best serve the purpose.

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