OBJECTIVES AND CRITERIA OF SOIL CLASSIFICATION

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It is desirable from time to time to re-examine the general principles and practices which we are following in soil classification, and to compare them with new tendencies that have been adopted and which are modifying our whole attitude in soil taxonomy. This paper is not concerned with the broader aspects of soil classification that relate to regional grouping, but is confined to local or unit classification as performed in ordinary field soil surveying. It is intended primarily as a brief review of present trends and attitudes that are of vital interest to every pedologist.

Soil surveying has been in continuous operation for approximately 50 years. During that time it has undergone marked changes in keeping with advancing knowledge of soils. In fact, the soil survey has been the most potent factor in the development of a soil science. Probably the most significant and constructive change in soil classification occurred about 25 years ago, when the principles of soil development were established and a genetic classification came into general use. Under this system there has been steady progress in methods of soil identification, in the interpretation of soil relationships, and in the more systematic correlation of soils. The technic of field mapping has improved. Withal, there has been a greater interest in and appreciation of soil classification than has ever prevailed before.

Certain agricultural and technological developments during the last ten years have had a profound influence on methods and attitudes in soil classification. The almost simultaneous advent of aerial photographs, and the national interest in soil conservation, immediately intensified the demand for soil surveys. The use of large scale aerial photographs as base maps greatly facilitated and encouraged the mapping of soils with more detail. It was possible to detect and to indicate small soil variations that formerly could not be indicated on the map. In general, there developed a tendency to map all soil variations regardless of their pedologic or agronomic significance.

The widespread efforts at soil conservation caused a rapid expansion of soil surveys and the classification of erosion features. Survey personnel was able to integrate the various characteristics that must be considered in a basic and genetic soil classification. There is a tendency to use external features as base maps greatly facilitated and encouraged the establishment of soil units. Soil classification has been confused with land classification. Slope may be an important factor in land use, but it is not a soil feature and cannot be a criterion in basic soil classification.

The catena concept in soil has been valuable and its application can be encouraged. It is a means of indicating relationship in soils, particularly from the standpoint of maturity or development. Unfortunately, the catena concept has caused some attempts to establish soil series merely for the sake of having a catena group. In general, the effect of this consideration has been to establish soil series on minor morphological differences, or on morphographic or assumed drainage differences, instead of the concept of a soil type.