The field methods used by the Illinois soil survey are in no essential different from those used in other states. It is not the purpose of this paper to describe methods which are familiar to all soil survey men, but rather to call attention again to the lack of methods, which limits the efficiency of the survey.

The job of the soil surveyor is to identify soils. Identification is based on observable characters. The characters used, with the exception of texture, cannot as yet be given quantitative statement. The question naturally arises whether the lack of quantitative bases for the statement of the characters used precludes the possibility of placing the classification of soils on a sound scientific basis. Quantitative statement is demanded by science. In studying a soil for the purpose of classifying it, we are dealing with an object which is made up of parts, the characteristics of which must be observed and recorded. Our ability to observe is apparently increasing, but our means of measuring the things seen, and of stating them in terms of quantities, fall short of our absolute requirements.

The difficulty of the situation is apparent, for we realize that many, if not all, of the characters which we wish to measure have been the subject of study for many years. One after another of the methods developed by these studies has been discarded until we seem to be up against a stone wall so far as quantitative methods are concerned. This brief discussion is presented with the hope that, by again calling our attention to the need, it may result in intensifying our thought and work on the problems of method.

To be more specific, certain soil characters essential in classification will be discussed briefly.

Color is one of these characters. The problem in connection with color does not consist simply in identifying colors and designating them by name or by number. While we are as yet unable to do even this, yet it would seem that a practicable method for doing it could be developed. There are apparently more difficult problems in connection with color than that of identification. The soil horizons in humid regions, particularly the lower ones, are variegated in color. That is, the predominant color is spotted, streaked, or marked with areas of varying size and regularity having a different color. The term "mottled" is used to describe at least certain phases