The committee on soil structure and consistency which is a sub-committee of the general committee on correlative laboratory work desire to make the following report.

At the outset the committee, mindful of the suggestion of the general committee at the seventh annual meeting of the Association concerning the high importance of a study of soil consistency, especially its quantitative expression, and realizing that the study of both structure and consistency was probably a larger task than they could handle in a single year, decided to devote its entire attention to soil consistency. The activities of the committee have consisted in a considerable amount of correspondence, one fortuitous conference at which three members were present, and a small amount of correlative laboratory work. As a summary of our mutual study of the subject and exchange of views, the committee's chairman has prepared a general exposition on the topic of soil consistency which he desires to submit at this time. The purpose of this is to clarify our conceptions of the phenomena of consistency, to stress the need for more precise descriptive terms, and to discuss the limitations, also the possibilities of mechanical devices for use in the field, and to present the possibilities of certain laboratory measurements which may be employed in connection with soil survey work.

SOIL CONSISTENCY

Soil consistency is a term used to designate the manifestations of the physical forces of cohesion and adhesion acting within the soil at various moisture contents. These manifestations include the behavior toward gravity, pressure, thrust, and pull, the tendency of the soil mass to adhere to foreign bodies or substances and the sensations which are evidenced as feel by the fingers of the observer. Consistency in soil varies with texture, with structure, with composition in respect to mineral constitution to some degree, but particularly with respect to colloidal character and organic matter, with content of electrolytes affecting colloids, and with moisture content.

It is highly important to recognize at the outset that consistency varies with moisture content; that any one soil has a wide variety of consistency manifestations, indeed almost an infinite