The inclusion of productivity ratings in the Soil Survey report has given rise to considerable concern to the field man and particularly to the prospective writer of a report. It is also true that while considerable discussion has been given by various agencies to soil productivity ratings during recent years, few definite instructions and recommendations have been given directly to the field men. This paper is prepared with the thought of presenting certain aspects of the current concept of productivity ratings and to review in part a method of approach which has been developed in the Soil Survey.

Objectives of Productivity Tables

The productivity ratings in the county soil survey report represent an attempt to summarize in tabular form a certain part of the soil and agronomic information found under the descriptions for the individual soil types in the Soils and Crops section. Such tabular ratings are to be thought of as the crystallized expression of the experiences of the people who have used and are using the land.

Widespread interest in soil productivity ratings is evident within and without the Department of Agriculture and the State Experiment Stations. The adoption of the policy that productivity ratings are to be included in the Soil Survey reports is an example of the recognition by the Soil Survey Division that there is need for the scientific classification of soils to be accompanied by an understanding of the practical aspects of soil productivity and land utilization. Morphological distinctions carry physical and chemical attributes significant to the growth of crop plants, grasses, and trees.

The primary function of productivity ratings in the county report is to bring out more specifically the soil type-crop relationships, or in other words to present in "black and white," as it were, the comparative productivities of individual soil types for specific crops under definite systems of management. This type of information serves also as an added characterization of the individual soil types and, thus, by supplementing existing morphological and chemical data becomes an essential part of current research upon soil properties. This realization is very helpful and simplifies the concept of productivity ratings whenever other ramifications or more intangible objectives are suggested, such as, the determination of the economic returns from individual soils, the total caloric value of foodstuffs produced under varied types of management, or the comparative value of soils producing respectively such diverse crops as oranges and wheat.

Although such objectives have certain merits and may be conceived to warrant investigation in a later stage of the development and scope of productivity ratings, the concern of the Soil Survey is to give comparative ratings for each soil type for specified crops according to:

a. The usual practices of the average to better-than-average farmers.
b. The inherent ability of the soil to produce without amendments.

In the very near future it is hoped that sufficient information will become available to enable the initiation of ratings according to the best practices and other levels of management.

Some Basic Concepts

Before continuing with the discussion of the methods of rating soils according to inherent productivity and current practices, it seems advisable to review, somewhat, the meaning of soil productivity.

Soil productivity, the power of a soil to produce plants, is a result or summation of several influences which may be designated as soil, seed, labor, and capital. Soil is used here in the broad sense to represent all of the factors of the natural landscape, including temperature, precipitation, sunlight, and atmosphere. Actual production of crop plants under the common methods of tillage means also a certain expenditure of labor and capital. These are represented by seed,