SINGLE CHARACTERISTIC MAPS BASED ON SOIL SURVEY DATA

A. P. Bell

SOIL surveys have been conducted in Indiana for roughly 40 years. Publication of the data so accumulated has been in the form of county reports which include detailed technical descriptions of all soil types mapped in a county, with suggestions for the most profitable management of each of the soils mapped. The soil survey report for a county is accompanied by a detailed, colored map, on a scale of one inch per mile, showing the distribution and exact location of all the soil type areas mapped in the county.

Early soil surveys which were made, using the usual methods of surveying then in vogue, were very good for the times but are now considered not to be sufficiently detailed or accurate to provide specific information regarding the soils of a given area. In 1930, however, with the advent of the use of aerial photographs in making soil surveys, the scope and detail of the work was greatly increased. Concurrent with increased accuracy in soil survey methods, have come increasingly pressing demands for more definite information about the soil in particular areas. These demands have focused attention on the value of interpretive maps each depicting a single characteristic of the soils of a given area.

In response to such a need the Indiana Soil Survey, cooperating with the Land Use Planning Project of the Purdue University Agricultural Experiment Station, have produced the maps described in this report.

Soils data for Rush County, Indiana, were the first to be dealt with in this manner—this county having been selected because the soil survey report of the county was published recently and also on account of an active Land Use Planning program being well developed in this county.

Using the generalized map, described above, a series of maps, each depicting the variations of a characteristic of the soils of Rush County, has been prepared. On each map the particular characteristic being shown was subdivided into several gradations, each gradation being assigned a color. For sharp contrast strong colors of blue, green, yellow, red, brown, and black were used. In some cases where more gradations of a particular characteristic were required various types of cross-hatching symbols were used. As an example of this, in the map illustrative of the topography of the major soil associations, the three outstanding physiographic divisions, viz., upland, terrace, and bottom land, were each assigned a definite color and separations within these broader divisions were shown by a variety of cross-hatching symbols.

By means of the "Ditto" duplicator process it is possible to reproduce these maps in color at very moderate cost. Reproduction by this process entails the preparation of a master sheet using "Ditto" duplicating inks. The original small-scale generalized map was drawn on translucent etched lumarith in pencil and the final boundaries drawn in ink. The original map was then placed on a light-table and the boundaries traced from it on to a sheet of "Ditto" master paper. On this master sheet the headings and titles were printed with the LeRoy lettering device. Descriptive material was typed on the master sheet using "Ditto" carbon paper in the typewriter. The various colors (in Ditto inks) were then applied to the soil areas and the master sheet was then ready for printing. It was found that considerable care had to be exercised in applying these colors, their application being made by means of a fine paintbrush.

The master sheet was then applied to the gelatine of the "Ditto" duplicator and from it 300 clear, legible copies were prepared.