Recent Significant Developments in Southeastern Agriculture

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The major agricultural enterprises in any region are determined by a number of interrelated factors, such as climatic conditions, adapted crops, status of soil fertility, preferences of people, supply of agricultural labor, and general and local economic conditions. These factors determine the general patterns of agriculture. The availability and use of scientific information on the production, distribution, and utilization of agricultural products may be the determining factors in the success of many highly specialized agricultural enterprises.

Climate is of special interest to all persons interested in agricultural production. It divides the earth’s surface into zones, regions, and smaller areas, each of which is suited for the growth of certain plants. The climate of an area largely determines the kinds of crops that can be successfully produced.

In addition to total rainfall, it is necessary to know the amount of water available to plants. The great climatic patterns made by moisture and dryness, heat and cold, create a pattern of natural vegetation. These have been the general forces in determining the soil patterns.

Relation of Climate to Vegetative Patterns

The close identification of climate and vegetation is the result of thousands of centuries of plant differentiation, selection, and adaptation. Through the process of elimination of unadapted species many different types of plants have become adapted to widely different types of climatic conditions. Resulting from this adaptation, each major climatic region has a dominant vegetation consisting of the several plant species adjusted to the climate of the particular region. As these groups constitute the major vegetative units, called plant formations, they represent the highest plant development or the climax vegetation for the prevailing conditions. The agricultural significance of the native vegetative patterns has been given comprehensive consideration by C. W. Thornthwait and his coworkers.

In the process of climatic selection, some groups of soils have resulted in the deposition and the accumulation of calcium carbonate, resulting in the accumulation of calcium and other basic nutrient salts in or within the surface of the soil. The composition of the soil have resulted in the deposition and the accumulation of basic salts in the surface of the soil.

Soil Patterns

The relation of climate to soil formation and to the relative productive capacity of groups of soils has been very effectively handled by C. E. Kellogg and his coworkers.

Climate and vegetation play a large part in determining the broad soil patterns of the earth. Differences between soils are due to the climates operating through soil-forming processes, and particularly in drainage conditions or other factors. The vegetative conditions, may outweigh climatic factors in determining soil characteristics. The amount of precipitation as compared with the amount of evaporation, has very great significance in differentiating humid from arid soils. The Pedalser soils in the humid regions are formed under climates in which the precipitation exceeds the evaporation. The predominant downward movement of the water through the soil, plant nutrients from the upper soil horizons, and surface runoff have resulted in the accumulation of calcium and other basic nutrient salts in or within the surface of the soil. The composition of the soil have resulted in the deposition and the accumulation of basic salts in the surface of the soil.

The effective precipitation, which is the precipitation in excess of the evaporation, not only on the amount of leaching of nutrients, also on the acidity, the nitrogen content, the amount of fine clay minerals or colloids. Increased effective precipitation is associated with increased acidity, concentration of clay, and decreased carbonate accumulation.