tion of the compressive strength of layers for different types of peat areas or a description of peat materials and their mechanical properties that would enable one to identify them with those from other locations. It would greatly benefit highway research if field investigations on this vital problem could be supplemented by laboratory tests, because the relation which exists between the strength in tension and compression of different types of peat and the bearing capacity of the same material at critical moisture contents is not yet known.

The stratigraphic classification of peat lands is of advantage also in determining what proportion of the peat-land resources may be devoted particularly to the development of improved varieties in crops or planned with respect to the better combination of crops, including shrubs and forest trees (*5*, *20*). There is no reason why carefully selected regional areas of peat land should not produce cereals, seeds, grasses, clovers, sugar beets, and textile plants as well as truck crops or pasture for beef cattle and wool-growing sheep. In many instances, reforestation of certain types of peat land could be practiced much more extensively than has been done in the past, and industries utilizing peat materials could make marked contribution toward the production of stable litter and composts. Furthermore, knowledge of the structural framework will aid in developing the proper organizations among communities, especially of a cooperative character, for growing crops on a large scale or for advancing the specialization in farming and industry that may be desirable on complex types of peat land.

THE WATER TABLE AND ITS EFFECTS

Water is the outstanding physical condition affecting the origin of different peat materials and the formation of the profile structure of different types of peat land. The predominating surface vegetation generally indicates the effect of water content rather than the character of the peat soil. The thickness, number, and quality of sedimentary layers of peat definitely show correlation with high standing-water levels, while the accumulations of woody or fibrous peat layers correspond to a diminishing or fluctuating supply of moisture. When a wooded or marshy peat-land area is resubmerged or held in a wet condition for an indefinite period it reverts to the formation of a sedimentary layer of peat.

An insufficient knowledge of the effects of the water table has been, apparently, in most cases the reason why many farmers, manufacturers of peat products, and even drainage and highway engineers have met with frequent difficulties. Differences in the structural framework of peat lands have an important bearing upon estimating the drainage capacity of an area. They show very definitely, too, the respective need for a system to irrigate with free water or to control the mode of supply of soil moisture. How stratigraphic features may affect and in turn become affected by drainage or irrigation has not yet been given due attention.

An examination of profiles 2–1–2, 2–1–3, or 3–1–3 in Plate 1 will help to explain why sedimentary layers of peat may become displaced or protrude into drainage channels. On account of the pressure of heavy loads, such as a sand cover, a highway roadbed, or a