That there is a vast difference in the response of the same crops to different soil types in Florida is common knowledge. In fact, if this is not given due consideration, trucking and fruit growing in portions of the state are more or less hazardous. Knowing that this condition does exist and realizing the value of a practical working knowledge of it in connection with successful farm operations, an attempt has been made to collect as much detailed information as possible to bring out the relationship between soil type and potato yields at Penney Farms.

EXPERIMENTAL

Eight of the most prominent soil types occurring at Penney Farms have been used in connection with this work. They are Norfolk fine sand flat phase, Norfolk fine sand, Leon fine sand loamy phase, Blanton fine sand, St. Johns loamy fine sand, Portsmouth loamy fine sand, Portsmouth fine sand, and Portsmouth fine sandy loam. These soils vary widely in their general characteristics and crop-producing power. The surface of the Norfolk fine sand, to a depth of 5 to 6 inches, is a light-gray, incoherent fine sand. The subsoil, to a depth of 36 inches or more, is a yellowish-gray to pale-yellow loose fine sand. It is deficient in humus and is considered to be very poor for general truck crops. The Norfolk fine sand, flat phase, consists of a gray to dark-gray, incoherent fine sand, underlain at about 8 to 10 inches by a yellow, pale-yellow, or grayish-yellow incoherent fine sand, extending to a depth of more than 3 feet. This type is somewhat superior to the Norfolk fine sand. The Leon fine sand, loamy phase, is a gray to dark-gray fine sand, 1 to 5 inches deep, overlying a light-gray to almost white, rather incoherent fine sand which at depths varying from 8 to 30 inches, though usually at about 15 to 22 inches, passes into a dark-brown or rusty-brown and sometimes black, dense hardpan layer. This ranges from 3 inches to 2 feet in thickness, and is underlain by a white fine sand which is always moist and compact, but when disturbed becomes incoherent and has the nature of quicksand. Blanton fine sand consists of 2 to 4 inches of a gray to dark-gray fine sand underlain by a yellowish-gray to grayish-white fine sand 25 to 40 inches thick, resting upon a very light grayish yellow to light-gray fine sand.

1Contribution from the J. C. Penney-Gwinn Corp., Penney Farms, Florida. Received for publication October 26, 1928.
2Head, Agronomy Department.