A reconnaissance soil survey of the sugar cane district of Louisiana recognizes five major soil areas and further studies reveal that sugar cane is now being grown on practically all the dominant soil types. Detailed soil surveys of certain portions of the sugar cane belt have proved that markedly different profiles often occur intricately interlaced. Many of these associated types show differences in growth of cane only to a slight extent while others possess such contrasting physical properties that plant growth is quite often affected. Realizing that such differences may throw some light on soil fertility problems, studies were started to determine the cause and possible remedy for the conditions unfavorable to growth of sugar cane on certain soil types. In the following pages two of the more outstanding examples will be briefly discussed.

Lintonia and Olivier Soils.

The Lintonia silt loam and Olivier silt loam soils are developed throughout the Mississippi Alluvium Terraces (Fig. 1), and occupy positions some 15 to 25 feet above the normal level of the first bottoms. They occur in close association with each other and are used extensively for the production of sugar cane, both types receiving much the same agronomic treatment. While they are intricately interlaced, their profiles are very different as can be seen from the description of cross sections of these two soils made one hundred feet apart.

Lintonia silt loam

0-8” Brown to dark brown, mellow silt loam.
8-11” Very dark brown slightly compact silt loam.
11-48” Yellowish-brown silty clay loam.
48-72” Yellowish-brown, friable silt loam slightly with light gray in the upper part. With depth the texture becomes gray and the gray featherings disappear.

Olivier silt loam

0-7” Gray to grayish-brown mellow silt loam very small iron concretions.
7-10” Dark gray, friable silt loam, mottled with rust brown and light gray, black concretions.
10-24” Mottled light gray and dark gray silty clay loam. Approaches a hardpan. Some soft black concretions.
24-38” Mottled gray, rust brown, orange, gray, friable, compact, tough silt loam with rust brown stains.
38-50” Light gray compact, but not tough, heavy silt loam mottled with rust brown yellowish-brown. Yellow and orange prominent.
50-73” Light gray friable, mellow silt loam of yellowish-brown and dirty white mottlings of white increase with depth.