COTTON wilt is a complex disease causing serious annual losses throughout the southeastern states. The disease may be caused by one or more parasitic microorganisms and aggravated by soil and environmental conditions. Although *Fusarium vasinfectum* Atk. is considered to be the primary cause of cotton wilt, the disease is usually complicated by the presence of root-knot nematodes, *Heterodera marioni* (Cornu) Goodey, which are present in many of the sandy soils of the cotton belt. Furthermore, potash hunger, and drouth, as well as several poorly understood soil-borne pathogens are almost invariably superimposed upon the wilt problem under field conditions.

Methods for the control of cotton wilt have been under investigation in the South for the past half century. This work has resulted in the development of resistant varieties and the use of potassium-bearing fertilizers where need is indicated. These methods of control have failed to prevent the disease in certain fields in Mississippi, and elsewhere. It seemed rather obvious that by combining fusarium wilt resistance with soil amendments a condition might be established in the soil wherein *F. vasinfectum* could be partially held in check by host resistance and the several complicating soil factors and pathogens blocked by the changed soil conditions. It was realized, of course, that success would be relative and dependent upon many unknown factors which could not be investigated at the moment. This empirical approach to the problem was unfortunately unavoidable.

Because several resistant varieties were already available and little was known of the effects of soil amendments upon the wilt problem as a whole, the latter studies have received major consideration, first under the leadership of the late H. C. McNamara and the late L. E. Miles, and more recently by the present writers.

The purpose of this paper is to report further progress of these investigations, some results of which have been announced (8).