

**HETEROGENEITY FOR RENIFORM NEMATODE RESISTANCE
IN SELECTED DAY NEUTRAL PRIMITIVE COTTON ACCESSIONS**

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Abstract

Cotton Texas race stocks TX19, TX1347, and TX1348 have been reported to have some level of resistance to the reniform nematode, *Rotylenchulus reniformis*. Day neutral versions of these stocks have been developed. Seed harvested from 20 to 30 individual plants of each day-neutral stock were grown in soil infested with the nematode in the greenhouse for 30 days. Each selected plant within a stock was replicated six times, and susceptible cotton breeding line MD84-1 was grown as a check. The root system of each plant was removed from the soil and stained with acid fuchsin and stored in acidified glycerin. The number of feeding (swollen) reniform nematode females in each root system was counted with aid of a stereomicroscope. Because three separate trials were used to evaluate all of the selected plants from the three stocks, a female index (number of feeding females in a root system expressed as a percentage of the mean number of feeding females in MD84-1 roots) was used to compare selected plants across trials. There were significant difference among the selected plants within stocks within a trial and across trials. Before these day-neutral stocks are used as sources of reniform nematode resistance, within-stock selection is needed to select the most resistant plants. The 10 most resistant selected plants averaged 23% as many feeding reniform females as did MD84-1. All three stocks were represented among the 10 most resistant plants, however, most of these plants were from TX19.