

**HISTOLOGICAL AND ULTRASTRUCTURAL OBSERVATIONS OF A  
RESISTANT REACTION OF UPLAND COTTON TO RENIFORM NEMATODE**

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The reniform nematode (*Rotylenchulus reniformis* Linford & Oliveira 1940) is considered an important parasite of cotton. Parasitism involves the formation of syncytia to provide nutrition for the female. Events that occur at the feeding site may determine the degree of susceptibility of cotton plants to reniform nematode. The objective of this work was to describe histological and ultrastructural modifications induced by *Rotylenchulus reniformis* in resistant and susceptible upland cotton (*Gossypium hirsutum*) roots. Susceptible upland cotton (cv. 'Deltapine50') and selected progeny of cotton 'Deltapine 50' plants with reduced reproduction of reniform nematode (58% less) were inoculated with reniform nematode in the greenhouse. The roots were collected and prepared for observation 3, 6, 9, 12, and 15 days after inoculation. Both susceptible and resistant plants observed, formed syncytia with cell wall perforations and dense cytoplasm. Syncytia generally involved a single layer of cells in the pericycle, but occasionally involved endodermal tissue. The main difference observed in the resistant plants was the earlier degeneration and collapse of the syncytium cells. Occasionally, the lack of hypertrophy of the pericycle cells was also observed as a resistant reaction, which is apparently related to the reduced fecundity of females.