EARLY-SEASON MORPHOLOGICAL AND PHYSIOLOGICAL RESPONSES OF COTTON GENOTYPES TO RENIFORM NEMATODE AND SOIL NITROGEN

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Abstract

Soil nitrogen (N) and reniform nematode (RN) directly affect early-season growth and physiology of cotton. The growth responses to soil fertility and RN may, however, vary across germplasm. A number of current studies are now looking for sustainable approaches such as altering fertilizer rate in conjunction with effective control practices (like crop rotation, nematicides, resistance, etc.) to manage nematode damage on crop production. The novel, RN-resistant cotton lines (08SS110-NE06.OP and 08SS100) have recently been developed. However, a controlled experiment assessing the early season growth response of these lines to nematode presence or nitrogen fertility has not been conducted previously. In an effort to gain a better understanding of the interactions between RN and soil fertility on the growth and physiology of resistant and susceptible cotton genotypes, we have conducted the study presented herein.