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IMPACT OF K FERTILIZATION ON RENIFORM NEMATODE POPULATIONS IN COTTON

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Abstract

Mid-South cotton lint yield has stagnated in recent years, while reniform nematode levels have grown progressively higher. This coupling of phenomena circumstantially implicates the nematode as a causative agent for the yield stagnation. A diverse group of nine cotton genotypes were grown from 1999-2001 using different K fertilization and nematicide levels to assess the effects of K and reniform nematodes on cotton production. Aldicarb consistently reduced mid-season reniform nematode levels, while elevated reniform nematode densities were detected in the plots that received K fertilization. Although the aldicarb treatment produced a greater leaf area index and lint yield in 2000, neither the aldicarb treatment nor K fertilization consistently improved dry matter production or yield performance throughout the course of the study. None of the genotypes consistently demonstrated any difference in tolerance to nematode parasitism. Results from this research indicate how K fertilization and nematicide usage can impact the density of reniform nematodes in production fields.