

SEED TREATMENTS: A NEW OPTION FOR MANAGING NEMATODES?

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Root-knot (*Meloidogyne incognita* (Kofoid & White) Chitwood) and reniform (*Rotylenchulus reniformis* Linford & Oliveira) nematodes are major pests affecting cotton produced in the Mid-South. In Louisiana, losses were estimated at 8% (87,000 bales) in 2002. Management options include crop rotation and nematicides. Commercially available nematicides are applied prior to planting or in-furrow at planting. In some cases expensive, specialized equipment is needed to make these applications. Therefore, since seed-applied pesticides are easy to use interest in these types of application has increased over the past several years. Seed treatments for disease and insect control are common in cotton, but there are no seed treatments for managing nematodes. Therefore, two trials were conducted to evaluate the efficacy of a seed treatment against root-knot nematode. Cotton was planted in a field with known populations of root-knot nematode at the Northeast Research Station near St. Joseph, Louisiana on May 7. A seed-applied nematicide, Temik 15G applied at 5 or 7 lb/A, and no treatment were compared for efficacy against the root-knot nematode. Experimental plots were four, forty-seven foot rows spaced 40 inches apart. To determine the effect on plant populations, plant densities were recorded 7, 14, and 28 days after planting. Nematode populations were monitored using soil samples taken from each plot at planting, mid-season, and at harvest. Gall ratings (1-6, 1=no galling, 2=1-2 galls, 3=3-10 galls, 4=11-30 galls, 5=31-100 galls, and 6= over 100 galls per root system) were conducted on 10 randomly selected plants from each plot 49 days after planting. To assess treatment effects on plant maturity, height to node ratios and nodes above the uppermost first position white flower were assessed during the growing season. Plots were harvested to determine treatment effects on yield. Even though nematode populations were present at threshold levels, conditions were favorable for cotton development and impacts due to nematodes were minimal. In test A, gall ratings varied from 2.3 to 3.4; however, several seed-treatments were similar to Temik 15G (5 lb/A) (2.3). Similar results were observed in test B. Gall ratings were greatest in the non-treated (3.2) and lowest in plots planted with cotton seed receiving the nematicide seed treatment. While root galling was reduced over the non-treated in some treatments, plant maturity wasn't affected and yields did not differ. The reduction in root galling suggests these treatments may have a place in nematode management, but more research is needed to ascertain their fit.