

**DEVELOPMENT OF ECONOMICALLY  
FEASIBLE APPROACHES TO SELECTIVELY  
SAMPLE AND CONTROL  
COTTON NEMATODES IN GEORGIA**

**Richard Baird  
University of Georgia  
Debbie Waters  
Southern States Inc.  
Tifton, GA**

**Abstract**

In 1998, two field trials were established at the Shiraland Plantation near Camilla, GA, to determine the potential of variable rate nematicide applications for cotton nematode control. Temik 15G (Pivot 1A) and Telone II + Temik 15G (Vada Field) trials were established comparing conventional and variable rate application methods for each nematicide. The variable rates used for both nematicides were based on *Meloidogyne incognita* (root-knot nematode) densities from 1 acre-grid soil samples collected at each trial in November, 1997. The soil sample results showed that threshold levels populations of *M. incognita* represented less than 50% of the total acreage in both trials and variable application rate studies could be successfully conducted. At Pivot 1A, Temik 15G at 5.0 lb/A, applied conventionally, had the greatest yield and provided the highest economic return after input costs compared to the at-planting variable application rates 3.5, 5.0, and 7.0 lb/A placed in-furrow. Variable rates of Temik 15G were applied as sidedress 40-days after planting (DAP), but yield responses and reduced per acre costs did not offset the intensive soil sampling costs. In 1998, results from conventional nematicide field studies showed that early sidedress applications at the 2-4 leaf stage (10-14 DAP) gave the greatest control and maximized yields. Variable rate technology, therefore, could not be accurately accessed using sidedress Temik 15G until post-planting application timing has been refined. At the Vada field trial, Telone II applied at variable rates significantly lowered costs per acre and provided the greatest economic return compared to the conventional Telone II treatment and four Temik 15G treatments. Cost per acre using variable rate application of Telone II was \$26.90 compared to the conventional method which averaged \$43.50 per acre. The savings from the variable rate application was approximately \$1,000 or greater for 100 acres after all variable rate input costs were subtracted.