

COLUMBIA LANCE NEMATODE
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Abstract

The Columbia lance nematode, *Hoplolaimus columbus*, occurs primarily in the Coastal Plains soils of North Carolina, South Carolina and Georgia. Isolated fields infested with Columbia lance nematode have been identified in Florida, Alabama, and Louisiana. The potential exists for it to spread in run-off water or in dirt carried from field to field by equipment or animals. Two other species of lance nematodes, *Hoplolaimus galeatus* and *Hoplolaimus magnistylus*, occur primarily in the mid-South and in general are not as damaging as Columbia lance nematode. The host range of Columbia lance nematode includes Bermuda grass, corn, cotton, soybean, sorghum and wheat. Peanut is the only major crop grown in this area which is not a host. Columbia lance nematode can cause severe stunting, however chlorosis is not easily detected. The taproot may be severely stunted causing proliferation of secondary root growth. Secondary roots may be forked and will be confined to the upper root zone. Therefore water and nutrient uptake are usually reduced. Columbia lance nematodes may also cause subtle yield losses by delaying the onset of fruiting and subsequently delaying harvest maturity. There are no cotton cultivars resistant to Columbia lance nematode. Soybean cultivars tolerant to Columbia lance nematode have been identified but no cotton cultivars have been identified which are consistently tolerant of Columbia lance nematode. Management of Columbia lance nematode begins with the use of deep tillage to allow the taproot to develop fully. Nematicides can be very effective in controlling Columbia lance nematode. The damage threshold for Columbia lance nematode is approximately 75 per 100 ml of soil for predictive samples taken in the fall. This infestation level will cause approximately a 10 to 15% yield loss. Treatment with 5 to 7 lbs per acre of Temik 15G in-furrow at-planting is the most common control measure. When Columbia lance nematode densities approach 200 per 100 ml of soil the use of 3 gal. per acre of Telone II applied 7 to 10 days preplant plus 3 to 4 lbs of Temik 15G in-furrow at-planting can be justified in cotton fields with high yield potentials, especially irrigated fields. Columbia lance nematode prefers slightly sandy soils but can be found in many soil types and in combination with root-knot or reniform nematodes.