

**NO-TILL COTTON PRODUCTION IN VIRGINIA:  
A STUDY OF MOISTURE, NITROGEN  
AND YIELD**

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**Abstract**

Conservation tillage cotton practices have increased with increasing acreage during the last few years in Virginia. This trend is primarily due to the 1990 farm bill conservation requirement, and an effort to reduce operating cost. An experiment was conducted during 1996 at the Southern Piedmont Agricultural Research and Extension Center to evaluate yield benefits of different cover crops under no-till and conventional tillage systems. Cover crops (rye, hairy vetch, hairy vetch + rye, wheat, crimson clover and lupine) were planted early fall of 1995. In the spring of 1996, three weeks prior to planting cotton cover crops were burned down using various herbicides. Soil moisture, cover crop biomass and ground cover estimation and cotton lint yield evaluated for each treatment. All cover crops provided adequate ground cover with the exception of lupine. Cover crops and tillage system did not have any effect on soil moisture. Above average rainfall throughout the growing season provided adequate moisture for cotton growth and eliminated the possible effect of cover crops and tillage practices on soil moisture. Total nitrogen in cover crops varied among treatments. No differences in lint yield were observed due to cover crops or tillage practices. To fully understand yield benefits from the various cover crops, more information is needed, especially under conditions of moisture stress.