## Suffolk, VA

## <u>Abstract</u>

Three large plot strip trials were implemented in 2015 to assess the effects of annual and biennial strip-tillage on plant growth, soil compaction, and lint yield in upland cotton. Soil types at each location were Peawick silt loam, Slagle fine sandy loam and a complex of Slagle, Rumford, Kenansville, and Uchee soil types for locations 1, 2, and 3, respectively. Soil compaction was measured during early season growth and again at harvest looking at soil compaction (down to 12 inches) using a SC-900 soil penetrometer. Depth to root restrictive layer in-row (0 inches), 6, 12, and, 18 inches from the row was measured at matchhead square (MHS) and at harvest using a dial penetrometer. Plant heights and total nodes were measured weekly until bloom, and nodes above white flower (NAWF) were measured beginning at first bloom until cutout. Differences in soil compaction data shows differences between annual and biennial treatments ranged from minimal to as much as 200 psi in heavier textured soil types. In-season depth to a root restrictive layer differed at locations 1 and 3, both of which consisted of loam soils or a complex of textures/soil types. Plant heights were different between tillage treatments at 1 out of 5, 0 out of 5, and 4 out of 6 sampling intervals for locations 1, 2, and 3, respectively. Nodes above white flowers were only different during the 1<sup>st</sup> week of bloom at location 3. Only location 3 had significant differences in lint yield per acre with a difference of 121 lbs. lint ac<sup>-1</sup> between treatments.