Animal and Forest Wastes on Biomass Development, and Water and Fruit Quality of Muscadine. (S06-panicker114207-Poster)

Authors:

- G.K.Panicker* - *Alcorn State University, Alcorn State, MS*
- A.H.Al-Humadi - *Alcorn State University, Alcorn State, MS*
- C.A.Sims - *Alcorn State University, Alcorn State, MS*
- J.L.Silva - *Mississippi State University, Mississippi St., MS*
- F.B.Matta - *Mississippi State University, Mississippi St., MS*

Abstract:

Increased concerns over the last several decades on environmental quality have stimulated farmers to accept organic farming as an alternative to inorganic agriculture. Muscadine(Vitis rotundifolia var. 'Summit') was grown on Memphis Silt Loam soil (Typic Hapludalph, silty, mixed, thermic). Three treatments of organic manures (cow-C; poultry-P; cow poultry-CP) with pine mulch were applied in basins around each plant in a C.R. design. Control treatment received regular inorganic fertilizers and traditional cultural practices. Leaf Area Index (LAI), percent canopy cover, stem diameter, and yield were higher in organic plants. There was no significant difference in diameter, length, and degree brix of the fruit. No pathogenic organism from organic manures was found in fruits. Soil compaction was always higher in control with lower soil moisture content and the compaction was lower in organic treatments due to the higher level of organic matter content. Concentrations of nitrate-N and P were higher in the surface soil, but there was no trend in N or P enrichment in lower layers of the soil. The results suggest that the controlled application of manures in basins of fruit trees can be an agronomically sound practice.

Corresponding Author Information:

Girish Panicker
Alcorn State University
1000 ASU Dr. 1434
Lorman, MS 39096

phone: 601-877-6598
fax: 601-877-6694
e-mail: Panicker@lorman.alcorn.edu

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