

## **The Effects of Nutrient Source and Groundcover Management on Organic Orchard Establishment**

Rom, C.R., McAfee, J., Friedrich, H., Choi, H.S., Garcia, M.E., Johnson, D., & Popp, J.

*Expansion of organic tree fruit production in the southern region of the US is hindered by lack of reliable, regionally appropriate, and scale-neutral technologies. In March 2006, the University of Arkansas planted 'Enterprise' on M26 in a replicated orchard to examine the effects of three organic fertilizer treatments (control, composted poultry litter, and commercial pelletized fertilizer) and four groundcover treatments (shredded paper, wood chips, municipal compost, and mow-blow), with the goal of developing organic management recommendations. The effects of nutrient and ground cover treatment interactions on tree growth, canopy and root development, soil biological, chemical, and physical characteristics, foliar nutrient content and weed density were evaluated during the establishment period of the orchard as a precedent for cropping. Significant differences have been determined among the organic production systems after two seasons of growth. Trees grown with ground cover managed with compost or wood chips were larger than those using shredded paper or mow-blow. Both composted poultry litter and commercial fertilizer resulted in trees larger than trees deriving nutrition solely from the ground cover treatments without additional nutrients.*