
Objectives were to determine the changes in percent occurrence of different understory vegetation as well as litter, bare ground, pine needles and productivity of goats with varying stocking rates under loblolly pine plantation.

A randomized complete block design study was used on an 11 years old loblolly pine plantation in Epes, Alabama from July, 2011 to October, 2011. Thirty-six Kiko crossbred male goat kids of 4 to 5 months of age were assigned to four treatments; 4 goats/acre, 8 goats/acre, and 12 goats/acre and each treatment was replicated three times. Changes in understory vegetation occurrence were determined to a height of 60 inches or less. The understory vegetation category included grasses, forbs, and young trees. The 'others' category included litter, bare ground and pine needles.

Average daily gain (ADG) and blood urea nitrogen (BUN) were monitored for the grazing period. There was a linear decrease ($P < 0.05$) in percent occurrence of grass and forbs with increasing stocking rates as grazing season progressed. In young trees, the control treatment increased by over 36.0% while the other treatments showed a decreasing trend. The effect on the other category was just the opposite of what was observed in young trees. There were no significant differences ($P > 0.05$) on ADG and BUN among treatments. The results indicate that the long-term effects of different stocking rates need to be evaluated before any inferences can be drawn.

The locations serve as demonstration sites for silvopasture and undergrowth vegetation management for both Tuskegee University Cooperative extension agents and students for experiential learning. The locations serve as demonstration sites for silvopasture and undergrowth vegetation management for both Tuskegee University Cooperative extension agents and students for experiential learning.