Title: Soil Carbon and Nitrogen Differences in 8 Plots Due to Fertilization.

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Abstract: Past studies have shown that forest management has an effect on the carbon and nitrogen percentages of the forest soil. The purpose of this research is to determine how those percentages are influenced by fertilization in a managed loblolly pine (*Pinus taeda* L.) forest in comparison to previous studies. Soils from 4 sites (PMRC MRTS-2nd Thin 4, PMRC MRTS-1st Thin_13 MRTS-1st Thin, PMRC MRTS-1st Thin_15 MRTS-1st Thin, and PMRC MRTS-1st Thin_18 MRTS-1st Thin) that were subdivided into 8 plots (each stand containing a fertilized and unfertilized plot). One plot in each stand was thinned, fertilized, and released while the other was thinned, unfertilized, and released. Soil was extracted with cores in increments of 10 cm (0-10cm, 20-20cm, 20-50cm, and 50-100cm) at a diameter of 5.8cm. Soil samples were filtered with a 2mm sieve to separate rocks and roots and were further ground with a roller mill and ball mill. Ground soils were analyzed with a Flash EA 1112 NC Soil Analyzer to establish an average of carbon and nitrogen percentage**.** The results showed that fertilized plots contained lower carbon percentage and higher nitrogen percentage. This is similar to prior studies showing that nitrogen is increased in fertilized stands. However it should be noted that nitrogen and carbon percentages may be affected by past management techniques.

Keywords: Carbon, Nitrogen, Fertilization, *Pinus taeda*, PINEMAP.