

Energy and Resources Group Spring 2008 Colloquium Series (ER295)

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Reforestation of Tropical Pastures: Biodiversity, Species Composition, and Carbon

110 Barrows Hall – 4:00 p.m.

Reforestation provides opportunities for carbon sequestration and for the recovery of forest ecosystem goods and services. While aboveground biomass typically increases with reforestation, we know very little about how soils, which may contain two to three times more carbon than plant biomass, respond to land-use change. In this talk I will present data from a long-term chronosequence of secondary forests regrowing on abandoned pastures. Previous land-use history has led these secondary forests on a different successional trajectory, with significant implications for aboveground carbon storage. Soils appeared to be less responsive to land-use change, but using chemical, isotopic, and molecular techniques I show dynamic changes in the composition and cycling rates of different pools making up the bulk soil carbon stock.