

GROUNDCOVER INFLUENCES HARDWOOD REFORESTATION SUCCESS ON RECLAIMED APPALACHIAN MINED LANDS¹

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Abstract: The desire for cost-effective reclamation strategies that simultaneously provide subsequent ecosystem goods and services has facilitated significant recent interest in reclaiming surface-mined land with native hardwood forests. Here we present the results of two studies in order to assess the effect of competing groundcover on seedling establishment and early forest productivity. Here we synthesize results from two separate trials in southwest VA. One being the 10-year re-measurement of the oldest Forestry Reclamation Approach (FRA) plantings and the other being a reclamation of an otherwise unmanaged forest with native hardwoods following pre-FRA reclamation strategies (e.g., compaction mine spoil, hayland/pasture, etc.). In both cases soil and site properties were measured and correlated with individual tree performance (e.g., height, diameter, volume, etc.). Current and historic vegetative cover was shown to influence tree productivity irrespective of tree species. These results underscore the importance of selecting tree-compatible groundcovers or otherwise managing competing groundcovers to ensure the success of hardwood reforestation efforts on reclaimed Appalachian mined lands.

¹ Paper was presented at the 2012 National Meeting of the American Society of Mining and Reclamation, Tupelo, MS *Sustainable Reclamation* June 8 – 15, 2012. R.I. Barnhisel (Ed.) Published by ASMR, 3134 Montavesta Rd., Lexington, KY 40502

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