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National Water Program
A Partnership of USDA CSREES & Land Grant Colleges and Universities

USDA-CSREES 2007 National Water Quality Conference

Reuse of Residential Construction Wastes as Soil Amendments and for Erosion and Sedimentation Control

As tipping fees have risen, alternative uses for construction wastes are needed. By weight, wood products and scrap wallboard are the largest wastes generated by residential construction. Both these wastes can be reused onsite. Ground wood wastes can be used as mulches in erosion and sediment control program, for delivery pads, heavy use areas, and in landscape beds. Ground scrap wallboard (gypsum) can improve infiltration, reduce aluminum toxicity, and is a calcium source. The University of Georgia Agricultural Pollution Prevention program has conducted research and developed extension bulletins with guidelines for use for both these wastestreams. A study that evaluated the potential effects of ground engineered wood products in the wood wastestream indicated little effect on plant growth, water quality or soil chemistry from a one-time application. No purgeable halocarbons, BTEX, or phenols were detected in the runoff. Nutrient concentrations in the runoff were relatively low. Biochemical oxygen demand (BOD5) was similar for all of the freshly ground wood treatments, ranging from 155 to 273 mg L-1. These concentrations decreased by an order of magnitude after one year. There were no significant impacts on the growth of three common landscaping plants. These results indicate that these wood wastes can be beneficially reused onsite rather than landfilled. Chemical characterization of scrap wallboard and application on bermudagrass plots indicated few problems should be encountered with application on residential sites. The effort to develop technically-based guidelines for use of these wastes has increased onsite reuse of residential construction wastes, provided an impetus for several new businesses for construction waste recycling, and supplied new alternatives for reducing construction impacts on water resources.

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