

Extent of CCA-Treated Wood in Consumer Mulches

Gary Jacobi¹, Helena Solo-Gabriele¹, Timothy Townsend², Brajesh Dubey²,
and Laura Lugo¹

¹*University of Miami, Department of Civil, Architectural, and Environmental Engineering, P.O. Box 248294, Coral Gables, Florida, 33124-0630 USA*

²*University of Florida, Department of Environmental Engineering Sciences, 333 New Engineering Building, Gainesville, Florida, 32611-6450 USA*

Preliminary studies have shown that some commercially available mulches leach excessive amounts of arsenic. The objective of this ongoing study is to determine the extent to which the consumer purchases mulch that is contaminated with CCA-treated wood in Florida. The study also focuses on determining the effectiveness of visually inspecting the mulch for CCA. Once collected, samples are analyzed two different ways. First, the wood is visually inspected for the presence of engineered, and/or dimensional wood. Second, two sub-samples are processed for chemical analyses. One of those sub-samples is ashed, digested and analyzed for total recoverable metals, to determine the fraction of CCA-treated wood within each mulch sample. The second sub-sample is subjected to a SPLP test to determine the amount of leachable arsenic, chromium, and copper. To date 35 samples have been subjected to the SPLP test and 22 samples have been ashed, digested, and analyzed for metal content. Results to date show that some of the samples are positive for arsenic. Of the 35 samples subjected to the SPLP test, 15 tested positive for arsenic. The concentrations range from 13 to 167 µg/L. Nine samples exceeded the 50 µg/L Florida's groundwater cleanup target level for arsenic. Of the 22 samples ashed, digested and analyzed, 8 tested positive for arsenic. The arsenic concentrations ranged from 4 to 196 mg/kg. These concentrations exceed Florida's soil cleanup target levels which are 0.8 mg/kg for residential areas and 3.7 mg/kg for industrial areas. Of the 8 positive samples, 7 were red colored. Two of the positive red mulches were collected from playgrounds. All of the red mulches had plywood mixed in which indicates that the mulch was made up of recycled dimensional wood. More results are pending and a final report will be released during the Fall of 2004.