

Enhancing the Remediation of an Oil Contaminated Wetland Using Ammoniated Bagasse

Wayne Hudnall and Dean Goodin
Louisiana State University Agricultural Center, Baton Rouge, LA
C-K Associates, Inc., Baton Rouge, LA

In August 1997, an oil and brine spill severely impacted a wetland adjacent to a blown-out oil well in Cravens, LA. In order to remove the oil from the wetland, the oil was ignited and allowed to burn. To estimate the amount of residual salt after the burn and the type of clean-up necessary for the wetland soil, 23 sample points were randomly chosen within the wetland. Each of these points was sampled at depths of 0-10, 10-20, and 20-30 cm and analyzed for electrical conductivity (EC) and pH. Electrical conductivity was measured to determine the amount of residual salts due to brine contamination. Results of the analysis show that brine concentration decreased with increasing soil depth. The highest concentrations of brine were found in the 0-10 cm layer and the lowest concentrations in the 20-30 cm layer. Recommendations to remove the residual oil and brine include applications of ammoniated bagasse, gypsum, topsoil additions, and/or a combination of these.