

# Effect of Surfactant Application on Pulping Characteristics of Mill Chips and Reduction in Pollution Load

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Mill chips comprising of 55% bamboo and 45% mixed hard woods were treated with DCA-100 (AQ + non-ionic surfactant), IGSURF-1206 (blend of non-ionic surfactant) and R-DCA-1000 (non-ionic surfactant) separately along with optimum dosage of alkali as Na<sub>2</sub>O under normal cooking conditions. There was reduction in D.C.M. extractives, pulp kappa, reject% and improvement in unbleached pulp brightness by applying DCA-100 and IGSURF-1206 surfactants compared to blank experiment. It was observed that improvement in unbleached and bleached pulp yield and physical strength properties were maximum with IGSURF-1206 non-ionic surfactant followed by DCA-100 (AQ + nonionic surfactant) while RDCA-1000 has not given encouraging results compared to blank experiment. Moreover considerable reduction was observed in COD mg/l, suspended solids mg/l, dissolved solids mg/l and chloride mg/l when DCA-100 and IGSURF-1206 applied unbleached pulps were bleached under C-Ep-H-D bleaching sequence compared to blank experiment. Here also RDCA-1000 has not observed to have reduced pollution load to the extent as compared to other non-ionic surfactants as compared with blank experiment.