INFLUENCE OF ACTIVE ALKALI CHARGE ON DELIGNIFICATION DEGREES AND DEPOLYMERIZATION IN COOKING PROCESS USING KRAFT PULPING METHOD

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Abstract

Delignification and depolymerization are the great concerns in the cooking process. This research used manihot esculenta crants, eucalyptus and acacia mangium with active alkali charge of 16\% to 20\% and 1\% variation. Active alkali charge influences degree of delignification and degree of polymerization. Every 1\% AA charge increase could increase the degree of delignification in manihot esculenta crants, eucalyptus and acacia mangium of 1.15\%, 0.40\% and 0.85\% respectively. Every 1\% AA charge increase could decrease degree of polymerization in manihot esculenta crants, eucalyptus and acacia mangium of 4.14\%, 3.32\% and 7.04\% respectively. The correlations between the degree of delignification and the degree of polymerization in the manihot esculenta crants, eucalyptus and acacia mangium were $y_{(m)} = -58,284x + 6392,8$, $y_{(e)} = -119,74x + 12135$ and $y_{(a)} = -149.63x + 14716$ respectively.

Keywords: Cooking process, active alkali charge, delignification, degree of delignification, degree of polymerization.