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Cleaner Production of Wheat Straw Pulp

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摘要 A pulping method using NH4OH with less amount of KOH as cooking liquor on wheat straw was developed. KOH could reduce consumption of NH3 and cooking time for its strong alkalinity. The effects of various pulping conditions such as composition of cooking liquor, liquid-to-solid ratio, maximum temperature, cooking time to the maximum temperature and cooking time at the maximum temperature were studied. Experimental results indicated that the rate of delignification was 85.12% and the pulp yield was 49.65% under suitable pulping conditions. It looks promising to use black liquor containing nitrogen, phosphorus, potassium and organic substance as fertilizer resources for agricultural production. A new pattern of ecological cycling may be set up between paper industry and farming.

关键词 cleaner production pulping with NH4OH and KOH wheat straw delignification

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