

The elaboration organosolvent methods of obtaining and using the pulp from the agricultural plants in pulp and paper industry

State registration: 0109U001238

Head prof Barbash V.A.

Results.

Fractional and chemical composition, microscopic structure of various representatives of non-wood plant Ukrainian material was investigated. The necessity of using new crops for obtaining fibrous semi-finished products for needs of pulp and paper industry was well-founded. The influence of main technological factors (temperature, duration, consumption of basic chemicals) of obtaining fibrous semi-finished products to their physical and mechanical performance was investigated. With using mathematical methods of experiment planning was calculated adequate regression equation of organosolvent processes. It was used for calculating the optimal values of technological parameters of the processes of delignification of various agricultural plants.

The schemes to bleaching of non-wood organosolvent cellulose without chlorine and its compounds was work out. The optimal consumption of hydrogen peroxide, which provide necessary whiteness without a significant reduction in mechanical strength of cellulose, was determinate. Technological instruction of bleaching of straw organosolvent pulp was elaborated.

Selectivity of lignin dissolution and kinetic characteristics for the investigated organosolvent methods of obtaining pulp was calculated. Ecology clean chemical regeneration schemes after organosolvent pulping was elaborated.

Established that the use of alternative methods of organosolvent delignification of agricultural plants can get semi-fibrous high quality and greatly reduce consumption more expensive and scarce wood, and reduce the harmful materials, which burden on the environment. Technological solution to modify of organosolvent method of obtaining of non-wood pulp from plant material was proprietary. Technology production schedules to get to the pulp from crops, which was approved by OJSC "Zhydachiv PPM", was elaborated.

Experimentally proved of composition for pulp and paper production with using non-wood organosolvent pulp. Quality satisfying the requirements of applicable standards. Project technical specifications for the production of paper for corrugating with using of pulp from stalks of crops that are approved for production was elaborated.