An optimum mixture of virgin rice straw pulp and recycled old newsprint pulp and their antimicrobial activity

Mona A. Nassar, author

Abstrak

Recycled fibres are important sources for paperboard industry. There are various approaches to enhance the strength of recycled fibres. These approaches include mechanical treatment, chemical addition, and physical fractionation as well as blending with virgin fibres. In this study, two types of deinked old newsprint (ONP) pulp were subjected to blending with virgin fibres of rice straw. The ONP pulp was blended with rice straw pulp at 4 intervals ranging from 0 to 100% addition. It was observed that blending ONP with rice straw pulp had enhanced the strength of the virgin fibre and vise versa. The modification of rice straw fibres was visually evaluated by scanning electron microscopy (SEM). It was observed that the addition of the flexible ONP pulp type2 seemed to fill up the voids in the paper sheet and created more bonding with rice straw fibres. Shrimps exoskeletons poweder, borax and cactus peel extract were added to paper board made from 50% rice straw+50% ONP type2 pulp at percent of 2% based on oven dry weight pulp. The antimicrobial activity of each of these three additives was studied.