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(57) Abstract :

7. ABSTRACT The present invention relates to a preparation of handmade paper using agricultural wastes like sugar cane bagasse, banana peel and orange peel by simple process. The stable green silver nanoparticles (AgNPs) were synthesized using microbial dextran produced from mutant strain of Weissella confusa. The produced green AgNPs were coated onto the prepared handmade paper and checked for their antibacterial activity and antifungal activity. The calcium chloride was obtained from egg shells along with microbial dextran isolated from mutant strain of Weissella confuse were used in paper pulp preparation to increase the strength of the handmade paper. The coating of AgNPs on to the prepared paper offers additional features with regard to enhanced antimicrobial activity against various pathogens. The value added green AgNPs coated handmade paper can be used as an alternative biodegradable packaging material for one-time use or short-duration packaging requirement for low shelf-life products like fresh fruits and vegetables. Fig. 1A and 1B

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