ABSTRACT

The Collaborative Project **Genetic manipulation of "Coirret" for the application on coir for quality improvement** was initiated on March 2011.

The aim of the project was to improve the performance of COIRRET (a formulation developed in CCRI for reducing the retting period of coconut husks and quality improvement of coir fibre) and to formulate a novel eco-friendly microbial consortium for field use on coir fibre/yarn. The Research work carried out for development of an eco-friendly biological package for retting coconut husk/coir fibre tanks by the application of biotechnology and produce superior quality fibre for the coir industry by improving the performance of Coirret on coconut husk and coir fibre by genetic manipulation.The research activities carried out under the project aimed to improve the performance of phenol degradation through genetic manipulation of the bacterial cultures in COIRRET. The genetically modified bacterial formulation with Mb, S6 and S9 were treated on coir fibre. The treated fibre were studied in the ASTM lab in CCRI for evaluating the physical tests (Brightness index and Flexural Rigidity) to check the efficiency of the strains in softening. Studies show that Mb, S6 and S9 give more brightness and softness to coir fibre. The strains S6 and S9 were found to be Laccase positive and therefore proved suitable for improving the quality of coir fibre by modifying the surface properties of the same.