

Project Title-12	Study on chromium in gin lint due to chrome composite leather clad rollers in ginneries
Principal Investigator	K.P. Chellamani
Cost	Rs.32.90 lakhs
Date of Commencement	January 2002
Duration	24 Months
Date of Completion	Dec - 2003
Abstract	Chromium composite leather clad (CCLC) rollers are generally used in roller ginning machines to separate cotton from kapas. These chrome composite leather clads are likely to contaminate the ginned lint as well as seeds. This report deals with a survey conducted in ginning factories in order to evaluate the extent of chromium contamination in ginned lint and in atmospheric air surrounding the gin. The chromium content was found to be between 5,000 and 25,000 mg / kg in ginning rollers where CCLC are used. This chromium contaminates the ginned lint as well as atmospheric air surrounding the gin. Also , the presence of chromium was observed in processing wastes that are collected from blow room and carding machine. To avoid the problem of chromium contamination SITRA has developed an alternative leather roller, which is free from chromium. The performance of the new roller on parameters like ginning output, ginning percentage and power consumption are at par with the conventional CCLC ginning rollers.
Highlights	<ul style="list-style-type: none"> ▪ Chrome Composite Leather Clad (CCLC) is used for covering the ginning rollers in roller ginning factories. This leather clad has total chromium in the range of 5,000 to 25,000 mg / kg. due to this, the ginned lint as well as the atmospheric air surrounding the gin is polluted with chromium. The process wastes that are collected from blow room and carding while processing the lint (that are ginned using CCLC ginning rollers) are also chrome – contaminated. ▪ SITRA has developed, jointly with a leather roller manufacturer, a new type of leather clad free from chromium. This leather clad can be used in any type of roller gin in a ginning factory. The newly developed leather clad, being chromium – free, helps to produce cotton lint without any traces of chromium. ▪ While using SITRA’s new type of leather clad in ginning machine, ginning output is nearly the same as that obtained while using conventional leather clad. The ginning percentage for the new leather clad is also equal to that of conventional leather clad commonly used in ginning factories. In addition, there is no difference in power consumption while using the newly developed and the conventional leather clads in ginning rollers.
Area of applicability	Spinners
Target beneficiaries	Spinning Industries
Status	Completed