CHAPTER 5

SUMMARY AND CONCLUSIONS

The major findings and the conclusions of the present investigations are outlined in this chapter. The results of the present investigations are very significant. The technology of Keratin Hydrolysate (KH) has been sold (licence-knowledge) to one party (M/s. Protchem Industry - Pondicherry) for commercialization. Regarding unhairing composition, using nickel carbonate as depilating agent instead of sodium sulphide some more work has to be carried out. Particularly, unhairing trials on larger lots of skins are to be carried out and also the efficacy of the unhairing process on hides is to be seen. The commercial exploitation efforts are required to be made to look for the cheaper source of availability of nickel salts waste. The nickel is extensively used in industries like vanaspathi ghee manufacturers and electroplating units. These industries let out nickel waste as solid effluents. Further work has to be carried out to use this waste for developing new unhairing compositions suitable for the leather industry.

The efficacy of KH as the filler cum retaining material is proved beyond doubt and penetration studies of KH, clearly indicated the uniform distribution of the material without impairment of properties of the crust leather.

Similarly the efficacy of KH in the removal of chromium from the tanning bath and fixation of higher chrome into the leather matrix has been well established in our studies. The use of KH in chrome exhaustion during leather processing would reduce pollution at two levels in a tannery. Firstly utilisation of pollution causing burnt off hair and secondly removal of
chromium salts from the waste liquors. This is very significant advantage when KH is employed in leather processing.

For the proper recovery of keratinous waste like animal hair we studied the action of nickel salts on unhairing of goat skins and the findings could be quite useful for the future understanding of the unhairing process and recovery of keratinous waste.