Conclusion

According to the research recycling of soak water and sodium sulphide – lime solution for unhairing, It has been found that the results are very encouraging. The water for soaking and sulphide- lime liquor recycled 13 time successfully. There is a save in chemicals used as well as fresh water in addition the spent liquor was recycled 13times.

The quality of leather processed through recycling is satisfactory. The results of physical and chemical analysis show that quality is acceptable.

Before each recycling, removal of solids, hair debris and other floating materials are carried out by filtering through a filter. The solution is replenished with 4% sodium sulphide, 4% lime and 25% water on the soaked skins weight.

The equipment necessary for recycling process is a filter, pump, pipe to remove the liquor from drums or paddles and put it back after filtering.

To day extensive researches are going on in industrial countries to introduce the process of recycling liquors to overcome the high cost of handling tannery effluents.

The savings in fresh water and chemicals as follows:

75% water, 33.3% sodium sulphide and 28.5% lime. In addition the handling cost of the effluent will be reduced to a great extent because the soak water and sulphide- lime solutions will be recycled several times.

Recommendations:

1- On the basis of this research, it has been found that the recycling of soak water and sodium sulphide – lime solution for unharing is feasible several time and perhaps indefinites.

2- There is a save in water and chemicals used in the beame house operations hence there is a reduction in the cost of handing the tannery effluents as well as reduction of pollution hazards.

3- I strongly recommend that this system of recycling in the beam – house liquors as well as used chrome liquors and retanning liquors to be introduced in Sudanese tanneries.

4- More researches should be carried out in the universities and institutes to establish this system of recycling.

5- Introduction of recycling systems in the tanneries will reduce the cost of production which will improve the competation position of finished in the selling leather prices in the local and export market. Hence will improve the financial performance of the tanneries.

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