SUMMARY AND CONCLUSION

Cheese manufacture is now a capital intensive industry which benefits from a high rate of turnover and the running costs and interest changes involved in cheese storage represent a significant proportion of the total cost of converting milk into cheese. Many researches have directed their work to accelerate the ripening of cheese to achieve a great economic profite. This include the use of proteolytic and lipolytic enzymes. This investigation was carried out to asses information on the possibility of preparing a cheap commercial preparation from the cattle pancreas and using this pancreatic extract in acceleration of Domiati cheese ripening.

The investigation was carried out in two parts:

Part I: In the first part the Extraction of pancreatic enzymes and the effect of storage on the pancreatic preparations was studied.

The results can be summarized as follows:

1. The proteolytic and lipolytic activity of pancreactic extract showed the maximum units by using an extract solution of 0.5% sodium benzoate + 2% boric acid after shaking interval of 3 h.

2. The optimum pH was found to be 7-7.5 at 37°C during the extraction of pancreas enzymes.

3. The concentration of 1% sodium chloride was found as the most suitable for extraction and activation of the pancreatic enzymes.

4. The effect of adding preservatives on the enzyme activities and on the bacteriological quality of pancreatic extract during storage was studied. The preservatives used were benzoic, propoinic acid, potassium sorbate and nitrite.

5. Some methods for preparing pancreatic powder were suggested e.g. salt drying, precipitation drying, acetone drying and lyophilization drying.

6. The salting method for powder preparation achieved the highest total proteolytic and lipolytic activities when expressed as specific activity; followed by the lyophilized drying; aceteone powder; and the last one was the precipitated drying.

7. The proteolytic and lipolytic activities of the different forms of powder showed variable percentages of decrease during storage at room

temperature, but the salted dried form showed the least percentage in decrease.

8. The bacteriological quality of the different forms of powder revealed that the lyophilized powder had the highest count of bacteria while the salt dried powder showed the least counts of bacteria.

Part II: In the second part, the pancreatic extract was used as an agent for accelerating Domiati cheese ripening. Different concentrations of the extract 0, 2.5, 5.0, 7.5 and 10 ml/10 Kg milk) were added to the cheese milk.

The results of this part were as follows:

1. Addition of pancreatic extract had an insignificant effect on moisture and salt content while it decreased fat content and pH value and total nitrogen.

2. All the ripening indices of the cheese pointed that the addition of pancreatic extract accelerated the cheese ripening as the differences between treatments were significant.

3. The electrophoretic pattern showed that the breakdown of protein during ripening was higher in the treated milk cheese than untreated cheese.

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4. Quantitative changes in free fatty acids and free amino acids occurred during the ripening were discussed.

5. Scoring of cheese indicates that cheese made from treated milk proceeds more rapid ripening than that made without additives as it had a smooth, creamy body with a best flavour.

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