Buffalo meat could be successfully used for development of fresh and fermented sausages. In fresh sausages, the colour of the product was not excellent particularly the colour of SHMP treated fresh sausage was a little dark. However, the aroma, texture, taste and juiciness were found to be in the rage of ‘like very much’ to ‘like extremely’. Other properties like pH, moisture content, TBA number and microbiological characteristics (total plate count and yeast and mold count) were also found to be with in safe limit for 28 days during refrigerated storage (0°C).

Semi dry fermented sausage was found to be in cherry red colour after fermentation, smoking and drying. Especially colour of sodium ascorbate treated sausage was more attractive and was liked by the panelist. Buffalo meat semi dry fermented sausage were highly acceptable as reported by panelist during sensory evaluation. The score values of all attributes (colour, aroma, texture, taste and juiciness) were found in the range of 8-9, which represented either like very much or like extremely conditions.

Different levels of heart incorporation in lean meat (both for fresh and fermented sausages development) were studied to explore the utilization of edible by-product but without impairing the quality of final products. Incorporation of heart up to 20% (of the quantity of lean meat) level could be incorporated. Treatment of SHMP in fresh sausage increased water binding capacity and therefore moisture loss rate during storage, was less as compared to control sample. In fermented sausage, heart incorporation had important role in providing carbohydrate to culture micro flora. Heart muscle has carbohydrate (1.3%) while the lean meat has no carbohydrate. It was ascertained in one of the trial when carbohydrate source (dextrose+sucrose) was not used in the mix for development of fermented sausage. The sample without heart could not carry out fermentation, which was detected by negligible change of pH. However, in case of heart incorporated, there was a
Conclusion

drop in pH by 0.7 units during fermentation, smoking and drying. Sodium ascorbate treatment improved colour and reduced metmyoglobin content.

In fresh sausage, different levels of heart incorporation did neither decrease quality nor shelf life. It also did not significantly (p<0.05) affect the total plate count or yeast mol count. Heart incorporation decreased hardness (as measured by instrumental texture) and increased tenderness. Increasing levels of fat from 15% to 25% improved aroma, texture, taste and juiciness of fresh sausage. Quality of fermented sausages was also not affected significantly (p<0.05) by incorporation of different levels of heart. Heart incorporation decreased hardness (as measured by instrumental texture) and increased tenderness. Aroma, texture, taste and juiciness were improved by increasing the level of fat.

Shelf life of fresh sausage was found to be 28 days at 0°C while the shelf life of semi dry fermented sausage samples were found to be 60 days at 4°C. Fermented sausages were found to be more stable as compared to fresh sausages because of low moisture and reduced pH.