Meat Preservation by Natural Extracts

Salient features

- Treatment of fresh chicken meat with extracts of clove and cinnamon individually and in combination (3% w/w) along with MAP (30% CO_2, 70% N_2 and 10% O_2, 30% CO_2, 60% N_2) to increase the shelf life at 4ºC.
- Reduction in microbial population by 2.5 to 5 log cfu/g, with the greater impact of the blend of clove and cinnamon extract with MAP 30% CO_2, 70% N_2.
- Acceptable sensory attributes for the combined clove and cinnamon extract of 3% to the samples on day 24 of storage.

Advantages

- ✓ Spice extracts are very effective against microbial growth and lipid oxidation
- ✓ Spice extracts have the potential as a natural antioxidant in raw chicken meat.
- ✓ Extended shelf life of chicken meat from 4 days to 24 days
- ✓ Acceptable sensory attributes

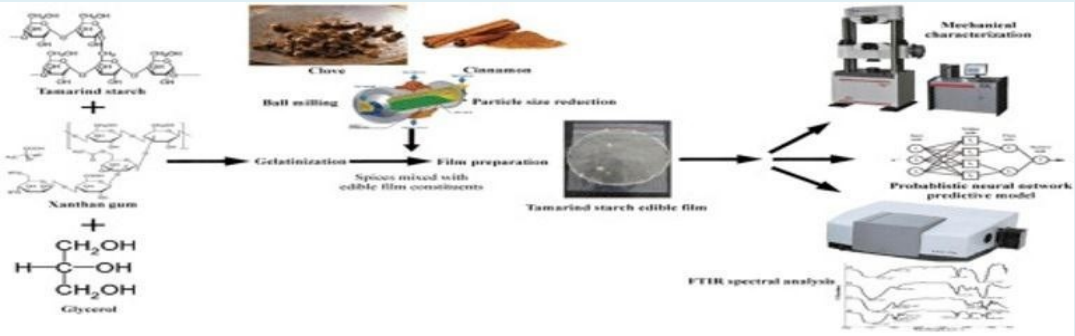
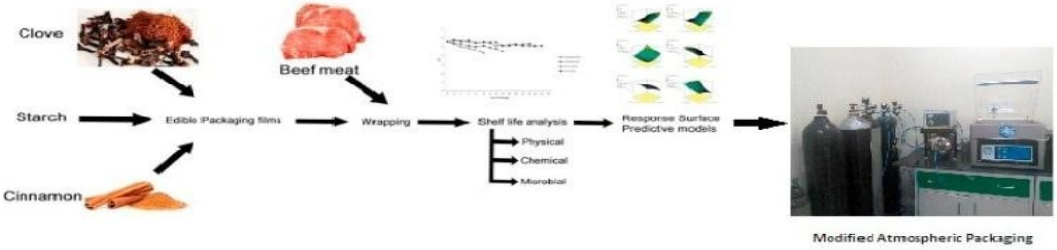


Figure 1 a



Process Technology / Product developed by

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More information	**Status of commercialization / Patent / Publication** Chandra Mohan, C., Rakhavan, K.R., Sudharsan, K., Radhakrishnan, K., Babuskin, S. and Sukumar, M. 2016. Design and characterization of spice fused tamarind starch edible packaging films. LWT - Food Science and Technology, 68: 642-652. Chandra Mohan, C., Rakhavan, K.R., Radhakrishnan, K., Babuskin, S. Sudharsan, K., Babu, P.A.S. and Sukumar, M. 2016. Development of predictive preservative model for shelf life parameters of beef using response surface methodology, LWT-Food Science and Technology, 72: 239-250 Chandra Mohan, C., Rakhavan, K.R., Radhakrishnan, K., Babuskin, S., Sudharsan, K., Babu, P.A.S. and Sukumar, M. 2016. Impact of S. aromaticum and C. cassia incorporated edible films on shelf life of Seer Fish (*Scomberomorus guttatus*) stored at different temperature conditions. Journal of Food Processing and Preservation, 41: 1-11. Sivarajan M., Chandra Mohan, C., Udayasoorian, L.P., Rakhavan, K.R., Babuskin, S. and Sukumar, M. 2016. Effect of spice-incorporated starch edible film wrapping on shelf life of white shrimps stored at different temperature. Journal of the Science of Food and Agriculture, 96: 4268-75. Lalithapriya, U., Mariajenita, P., Sabina, K., Indumathi, C. and Sukumar, M. 2017. Comparative evaluation on shelf life extension of MAP packed Litopenaeusvannamei shrimp treated with natural extracts. LWT-Food Science and Technology, 77: 217-224. Sivarajan, M., Lalithapriya, U., Mariajenita, P., Aafrin, B.V., Harini, K., Madhushalini, D. and Sukumar, M. 2017. Synergistic effect of spice extracts and modified atmospheric packaging towards non-thermal preservation of chicken meat under refrigerated storage. Poultry Science, 96: 2839-2844. Chandra Mohan, C., Radhakrishnan, K., Babuskin, S., Sudharsan, K., Vajiha, A., Lalithapriya, U., Mariyajenita, P., Harini, K., Madhushalini, D., Sukumar, M. 2017. Active compound diffusivity of particle size reduced S. aromaticum and C. cassia fused starch edible films and the shelf life of mutton (*Capra aegagrus hircus*) meat. Meat Science, 128: 47-59. **Patent** Applied