

Studies on the Effect of Dehydration Techniques, Treatments, Packaging Material and Methods on the Quality of Buffalo Meat during Ambient Temperature Storage

Authors : Tariq Ahmad Safapuri, Saghir Ahmad, Farhana Allai

Abstract : The present study was conducted to evaluate the effect dehydration techniques (polyhouse and tray drying), different treatment (SHMP, SHMP+ salt, salt + turmeric), different packaging material (HDPE, combination film), and different packaging methods (air, vacuum, CO2 Flush) on quality of dehydrated buffalo meat during ambient temperature storage. The quality measuring parameters included physico-chemical characteristics i.e. pH, rehydration ratio, moisture content and microbiological characteristics viz total plate content. It was found that the treatment of (SHMP, SHMP + salt, salt + turmeric) increased the pH. Moisture Content of dehydrated meat samples were found in between 7.20% and 5.54%.the rehydration ratio of salt+ turmeric treated sample was found to be highest and lowest for controlled meat sample. the bacterial count log TPC/g of salt + turmeric and tray dried was lowest i.e. 1.80. During ambient temperature storage ,there was no considerable change in pH of dehydrated sample till 150 days. however the moisture content of samples increased in different packaging system in different manner. The highest moisture rise was found in case of controlled meat sample HDPE/air packed while the lowest increase was reported for SHMP+ Salt treated Packed by vacuum in combination film packed sample. Rehydration ratio was found considerably affected in case of HDPE and air packed sample dehydrated in polyhouse after 150 days of ambient storage. While there was a very little change in the rehydration ratio of meat samples packed in combination film CO2 flush system. The TPC was found under safe limit even after 150 days of storage. The microbial count was found to be lowest for salt+ turmeric treated samples after 150 days of storage.

Keywords : ambient temperature, dehydration technique, rehydration ratio, SHMP (sodium hexa meta phosphate), HDPE (high density polyethelene)

Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development

Conference Location : Chicago, United States

Conference Dates : December 12-13, 2020