

EFFECT OF DIFFERANT PROCESSING AND PACKAGING METHODS ON QUALITY AND STORAGE LIFE OF DRY FISH

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Dry fish is widely consumed by the people in Sri Lanka. Sun drying is a common method to produce dry fish. High percentage of post-harvest loss can occur when processing is done under this traditional system due to reabsorption of moisture, fungal bacterial and insects attacks. If the processed dry fish is not packed properly, it can lead to storage losses and poor quality end product.

The objectives of this study were to improve the quality of the dry fish by using oven dry method and adding spices and to study the effect of packaging on keeping quality. Five treatments, salted and sun dried, salted and oven dried, salted with 3% pepper and oven dried, salted with 1.5% pepper + 1.5% garlic and oven dried and salted with 1.5% pepper + 1.5% mustard and oven dried were prepared. Salted dried fish were cut into small cubes (1m³) and were packed in polypropylene packages under vacuum and ambient condition. They were stored at room temperature at 27 °C. Colour, pH, rancidity and moisture content were measured in all treatments and results were statistically analyzed by SAS(2000 version). A taste panel was conducted to evaluate attributes, appearance, taste, colour, texture and juiciness on a seven point hedonic scale to select best one. The data was analyzed by Firdman non-parametric test.

According to Firdman test, salted sun dried sample had the highest sensory values. pH value of all the samples were decreased during the storage time. pH values of salted sun dried sample (6.04) was lowest than that of all other treatments. TBA value (rancidity) was increased with the storage time. TBA values of salted sun dried sample and salted oven dried sample were significantly higher than that of oven dried spice added samples. Moisture content was not changed considerably with the storage time but it was higher in salted sun dried sample (26.17%) and lower in salted oven dried sample (18.67%). Colour indexes, lightness (L*), redness (a*) and yellowness (b*) of the dry fish samples were fluctuated with the storage time. pH changes, rancidity development and moisture changes were significantly lower in vacuum packed products than normal packed products.

The rancidity development, pH changes can be controlled by adding spices. Moisture content of the product can be reduced by oven dried method. Vacuum packaging of dry fish improved the keeping quality.