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Effect of spray application of liquid smoke on physiochemical and microbiological changes of Catla (*Catla catla*) fillets

Nithin C.T, Ananthanarayanan T.R, Yathavamoorthi R, Bindu J, Toms C Joseph and Srinivasa Gopal T.K
Central Institute of Fisheries Technology, India

The effect of spray application of commercial liquid smoke on the microbial, textural, biochemical and sensory properties of Catla fillets was evaluated. Catla fillets were soaked in 5% brine solution for 30 min and then divided into three lots. One quantity was packed in pouches of size 15 x 22 cm made of 12 µ polyester laminated with 300 gauge Low-density polyethylene and kept as control. Remaining fillets were sprayed with a pre-diluted commercial liquid smoke (Red Arrow International) for 2 h in a smoker (Kerres CS700EL) with a flow rate of 1.5 l/ hr. The samples were then surface dried to remove the excess liquid smoke residue which had condensed on the surface. Half of the samples were vacuum packed and rest were air sealed. The untreated samples were kept as control. All the three lots were stored at 2±1°C. The fillets were subjected to biochemical, textural, microbiological and sensory evaluation at regular intervals. Results showed that the application of liquid smoke resulted in lowering the total microbial count and improved the textural properties. Biochemical parameters such as Total volatile base-nitrogen (TVB-N), Trimethylamines (TMA-N), Thiobarbituric acid (TBA) value were found to be lower in liquid smoke treated samples during the storage period. Liquid smoke treated samples showed superior shelf life than control samples.

Biography

Nithin C.T. has completed his M.Sc. in Industrial Fisheries from Cochin University of Science and Technology. Presently working as Senior Research Fellow and pursuing Ph.D. in Applications of liquid smoke under the guidance of Dr. T.K. Srinivasa Gopal, Director, Central Institute of Fisheries Technology, Cochin 29.

nithz2020@gmail.com

Functional beverages: New ingredients and technologies

Narveer Singh
University Institute of Chemical Engineering and Technology, Panjab University, India

Beverages form a refreshing way for consumers to get an increasing range of health promoting ingredients. The stability and efficaciousness of todays in demand ingredients is the key. Protein progress by maintaining solubility, stability and transparency while working with acidic pH levels and varying temperatures is being improvised. These include introduction of ClearProtein, VolactiveHydrapro, Hilmar9420, and SolbarQ735 by various beverage companies. Undetectable forms of 'clear' vitamins have been developed e.g. TocoBev15% and CapsuDar D3 CWD. Mineral ingredients are also pushing forward. Demand of soluble calcium phosphate and esp. chelated minerals is being met. Growing fibre demand has led to the introduction of Baozdene-Brand baobab fibre which also adds nutrients such as Vitamin C, potassium, calcium, iron and magnesium. Several companies have unveiled new solubility solutions by the recent Water-Soluble technologies creating water-soluble versions of a range of ingredients, such as vitamin D, omega fatty acids DHA and EPA, and CoQ10. SoluBlend reduces the rate of oxidation, allowing the converted ingredients to dissolve completely in the end- product, thus ensuring stability, clarity and flavour. When it comes to using Natural colours, the frequent complaint in lack of stability is overcome by introduction of FISclear (a highly stable natural colour). Beverage companies are making the move towards zero-calorie natural sweeteners like Stevia. Stevia-Sugar blends naturally achieve acceptable level of calories. Today the key to create better-tasting, reduced calorie products is to formulate with ingredients the balances all three i.e. Sweetness, Flavour and mouth feel. The allure of new ingredients and technologies will continue to beckon beverages marketers. However, as always, there are a few rules to keep in mind.

narvattitude16@gmail.com