

## ABSTRAK

Permenkes RI No: 722/ Menkes/ Per/ IX/ 1988 melarang formalin sebagai bahan tambahan pangan, namun hal ini masih terjadi termasuk pada ikan tongkol (*Auxis thazard*). Saponin diketahui memiliki potensi menurunkan kadar formalin dalam bahan pangan. Teh hitam banyak digunakan oleh masyarakat Indonesia dan diketahui memiliki kandungan saponin  $86,1 \pm 3,69$  g/kg bahan kering. Penelitian ini merupakan penelitian eksperimental, *post test only with control group*, rancangan acak lengkap faktorial  $5 \times 3$  (2 kali ulangan) dengan konsentrasi teh hitam 0%; 1,5%; 3%; 4,5%; dan 6%, lama perendaman 30 menit, 60 menit, 90 menit. Variabel yang diteliti kadar formalin, kadar protein terlarut dan nilai organoleptik (kenampakan mata, kenampakan insang, kenampakan warna, bau dan tekstur). Kadar formalin diteliti menggunakan pereaksi Nash dengan metode spektrofotometri, kadar protein terlarut diteliti menggunakan pereaksi Lowry dengan spektrofotometri dan nilai organoleptik menggunakan kuesioner diamati oleh 16 panelis. Hasil penelitian menunjukkan adanya perbedaan signifikan antara kadar formalin kontrol dengan sampel yang diberi perlakuan, namun tidak berbeda signifikan antara kadar formalin yang direndam dalam air dan larutan teh hitam. Kadar protein terlarut menunjukkan tidak ada perbedaan yang signifikan antarsampel. Perbedaan signifikan terdapat pada kenampakan mata dan warna, sedangkan kenampakan insang, bau dan tekstur tidak ada perbedaan. Perlakuan terbaik yaitu sampel yang direndam dalam teh hitam 1,5% selama 90 menit dengan rerata kadar formalin 55,76  $\mu\text{g/g}$ , kadar protein terlarut 0,042 mg/g, kenampakan mata 1,59 (jingga keputihan), kenampakan insang 2,41 (kurang merah bata), kenampakan warna tubuh 2,78 (putih kejinggaaan), bau 2,63 (menyengat), tekstur 1,69 (agak lunak).

*Kata kunci:* formalin, saponin, teh hitam.

## ABSTRACT

Permenkes RI No. 722 / Menkes / Per / IX / 1988 prohibits formaldehyde as food additive, but it still occur, including tuna (*Auxis thazard*). Saponin known to have the potential to reduce levels of formaldehyde in foodstuffs. Black tea is widely used by Indonesian and known contain saponins  $86.1 \pm 3.69$  g / kg of dry matter. This is an experimental research, post-test only control group, completely randomized design factorial 5x3 (2 replicates) with concentrations of black tea 0%; 1.5%; 3%; 4.5%; and 6%, soaking time 30 minutes, 60 minutes, 90 minutes. Variables examined levels of formaldehyde, soluble protein content and organoleptic value (the appearance of the eyes, gills appearance, appearance of color, smell and texture). Levels of formaldehyde investigated using Nash reagent by spectrophotometric method, the levels of soluble protein using reagent Lowry studied by spectrophotometry and organoleptic value using questionnaire was observed by 16 panelists. Results showed significant difference between the levels of formaldehyde with control and sample treated, but did not differ significantly between the levels of formaldehyde that was soaked in solution of water and black tea. Levels of soluble protein showed no significant difference between samples. Significant differences in the appearance and color of the eyes, while the gills appearance, smell and texture there was no difference. The best treatment was samples immersed in black tea 1.5% for 90 minutes with average levels of formaldehyde 55.76 ug/g, soluble protein content of 0.042 mg/g, the appearance of the eye 1.59 (slightly white orange), the appearance of gills 2.41 (less crimson), 2,78 body color appearance (slightly orange white), the smell of 2.63 (pungent), the texture of 1.69 (slightly soft).

Keywords: formaldehyde, saponins, black tea.