



**PENGARUH PENGGUNAAN KITOSAN DALAM
MEMPERTAHANKAN KUALITAS IKAN TONGKOL
(*Euthynnus affinis*) ASAP SELAMA PENYIMPANAN SUHU RUANG**

SKRIPSI

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RINGKASAN

Yos Indra Pratama. K2F 004 359. Pengaruh Penggunaan Kitosan dalam Mempertahankan Kualitas Ikan Tongkol (*Euthynnus affinis*) Asap selama Penyimpanan Suhu Ruang (Fronthea Swastawati dan Sumardianto)

Industri pengasapan tradisional sampai saat ini belum mencapai taraf yang baik, dimana pada akhirnya akan mempengaruhi mutu dan daya awet dari produk akhir yang dihasilkan. Kitosan dari limbah cangkang rajungan dapat digunakan sebagai pengawet pada produk perikanan.

Penelitian ini bertujuan untuk mengetahui penggunaan kitosan sebagai pengawet ikan tongkol asap tradisional dengan konsentrasi yang berbeda dan pengaruhnya terhadap mutu ikan tongkol asap tradisional selama penyimpanan suhu ruang.

Materi yang digunakan adalah ikan tongkol dengan panjang kurang lebih $25 \pm 1,45$ cm dan berat berkisar $212 \pm 15,63$ g, kitosan, tempurung kelapa dan larutan garam 10%. Metode penelitian bersifat *eksperimental laboratories* dan rancangan percobaan yang digunakan adalah *Split Plot In Time* dengan rancangan dasar acak kelompok. Perbedaan konsentrasi (0% dan 1%) dan waktu penyimpanan pada suhu ruang (0, 2, 4 hari) serta pengulangan sebanyak 2 kali. Pengujian berupa TPC, PV, Aw dan organoleptik. Data organoleptik dianalisis dengan uji non parametrik menggunakan Kruskal-Wallis. Data TPC, PV dan Aw dianalisis dengan analisis sidik ragam (ANOVA) dan uji Beda Nyata Jujur.

Hasil penelitian menunjukkan bahwa nilai organoleptik ikan tongkol asap yang dilapisi kitosan 1% lebih tinggi daripada ikan tongkol asap yang tanpa dilapisi kitosan selama penyimpanan suhu ruang (K0H0: 8,69; K1H0: 8,61; K0H2: 5,72; K1H2: 7,53; K0H4: 2,65; K1H4: 3,48). Perbedaan konsentrasi kitosan berpengaruh nyata terhadap nilai TPC dan PV, tetapi tidak berpengaruh nyata pada nilai Aw ikan tongkol asap. Lama penyimpanan berpengaruh sangat nyata terhadap nilai TPC, nilai PV, dan nilai Aw ikan tongkol asap. Nilai TPC (cfu/gr) ikan tongkol asap konsentrasi 1% lebih rendah dibanding konsentrasi 0% selama penyimpanan (K0H0: $2,6 \times 10^4$; K1H0: $1,9 \times 10^4$; K0H2: $3,9 \times 10^4$; K1H2: $2,8 \times 10^4$; K0H4: $1,1 \times 10^5$; K1H4: $3,5 \times 10^4$). Nilai PV (mEq/Kg lipid) ikan tongkol asap konsentrasi 1% lebih rendah dibanding konsentrasi 0% selama penyimpanan (K0H0: 0,944; K1H0: 0,804; K0H2: 1,834; K1H2: 1,729; K0H4: 3,905; K1H4: 3,307). Nilai Aw ikan tongkol asap konsentrasi 1% lebih rendah dibandingkan konsentrasi 0% selama penyimpanan (K0H0: 0,953; K1H0: 0,941; K0H2: 0,944; K1H2: 0,940; K0H4: 0,976; K1H4: 0,957). Berdasarkan hasil penelitian dapat disimpulkan bahwa penambahan konsentrasi kitosan 1% dapat mempertahankan daya awet ikan tongkol asap selama 3 hari dibandingkan tanpa penambahan kitosan yang hanya 2 hari.

Kata Kunci : Ikan Tongkol Asap, Kitosan, Penyimpanan, TPC, PV, Aw, Organoleptik



SUMMARY

Yos Indra Pratama. K2F 004 359. The Effect of Chitosan to Preserve Quality Smoked Baby Tuna (*Euthynnus affinis*) During Storage at Ambient Temperature (**Fronthea Swastawati and Sumardianto**).

Traditional smoked fishery industry has not obtained an optimum result. Accordingly, it resulted in unsatisfactory and low quality products. Chitosan derived from crab carapaces can be used as preservation in industry.

This study was aimed to find out the effect of chitosan with different concentration as natural preservatives for traditional smoked little tuna on its quality during storage at ambient temperature.

The materials used in this study were little tuna species ($25 \pm 1,45$ cm length and $212 \pm 15,63$ g weight), chitosan, coconut trunks, and 10% salt solution. Method used during the research was an experimental laboratory and the design applied *Split Plot In Time* with the basic design of randomized block. The study consisted of two treatments (0% and 1%) and two replications, in which the subjects were stored for different time at ambient temperature (0, 2, and 4 days). This study performed TPC, PV, Aw and organoleptic test. The organoleptic data obtained were subject to non-parametric test using Kruskal-Wallis, where analyzing the TPC, PV, and Aw data were analysed using an ANOVA and Honestly Significant Different test.

The results showed that the organoleptic of the traditional smoked little tuna covered by 1% chitosan was higher than no chitosan. Treatment during storage at ambient temperature (K0H0; 8.69; K1H0: 8.61; K0H2: 5.72; K1H2: 7.53; K0H4: 2.65; K1H4: 3.48). The different in chitosan concentration had a significant effect on the little tuna TPC and PV rate, but not for Aw. Length of storage at ambient temperature had significant effect on TPC, PV, and Aw. TPC rates (cfu/gr) obtained by each smoked little tuna with 1% chitosan were lower than that of 0% chitosan during storage (K0H0; 2.6×10^4 ; K1H0: 1.9×10^4 ; K0H2: 3.9×10^4 ; K1H2: 2.8×10^4 ; K0H4: 1.1×10^5 ; K1H4: 3.5×10^4). PV rates (mEq/Kg lipid) obtained by each smoked little tuna with 1% chitosan were lower than that of with 0% chitosan during storage (K0H0; 0.944; K1H0: 0.804; K0H2: 1.834; K1H2: 1.729; K0H4: 3.905; K1H4: 3.307). Aw rates obtained by each of the smoked little tuna storage with 1% chitosan were lower than that of with 0% chitosan (K0H0; 0.953; K1H0: 0.941; K0H2: 0.944; K1H2: 0.940; K0H4: 0.976; K1H4: 0.957). Based on the results of this study, it can be concluded that concentration of chitosan 1% can preserve smoked little tuna longer 3 days than chitosan 0% where it can only preserve for 2 days.

Keywords : Smoked Little Tuna, Chitosan, Storage, TPC, PV, Aw, Organoleptic Value