

魚肉の化学発光

[目的] 魚肉の化学発光を測定することにより、シェルフライフとの関連を調べた。

[サンプル] sardine, red sea bream, tuna, kichiji, mackerel, blue sprat

[使用装置] Chemiluminescence Analyzer OX-3A (現行モデル: CLA-ID4)

[結果] 保存日数が長いほど発光の増加が見られ、また発光が多いものほどシェルフライフは短かった。

TABLE 1

Relationship Between Chemiluminescence Intensity, Lipid, Eicosapentaenoic (EPA) and Docosahexaenoic Acid (DHA) Contents and Shelf Life of Fish Meats

	Sardine	Red sea bream	Tuna	Kichiji	Mackerel	Blue sprat
Chemiluminescence intensity ^a (100 counts/30 sec)						
After 30 min	478	47	24	57	196	526
Total amounts (0-30 min)	22779	2180	1060	2958	9197	31081
Lipid content (%)	16.1	1.7	1.6	17.8	12.1	1.5
Fatty acid content (%)						
EPA (20:5)	12.0	2.6	4.3	8.6	8.6	11.1
DHA (22:6)	13.0	12.0	18.2	5.1	19.1	21.4
Shelf Life ^b (days)	4.4	13.0	13.2	10.0	5.5	1.8

^aChemiluminescence was measured for 60 min at 35°C.

^bShelf life was the storage period until the day when half of the panelists judged the fish meat inedible.

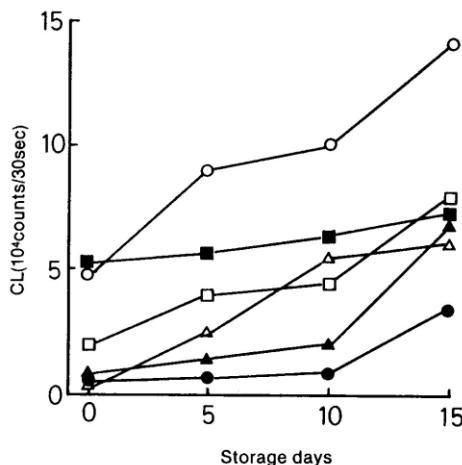


FIG. 6. Changes in chemiluminescence (CL) of minced fish meats during storage at 0°C. CL intensity of six fish species was estimated after incubating the sample meats at 35°C for 30 min, after minced meats had been stored at 0°C for 0 to 15 days. ○, sardine; ●, red sea bream; △, tuna; ▲, kichiji; □, mackerel; and ■, blue sprat.

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