NOTES

Prediction of Drained Weight in Canned Prawn under Commercial Conditions

A general formula for the prediction of drained weight of canned prawn processed under laboratory condition has been worked out earlier (Chaudhuri, *et. al.*, 1978). Attempts were made in this communication to modify the general formula to predict the drained weight under commercial conditions of processing particularly blanching, as the moisture content of meat depends on the quantum of heat received during blanching (Govindan, 1975). Except blanching all other variable are same as before.

We know the relation

$$W = B\,(3.8–1.44\,M) \quad \ldots\ldots(1)$$

where,

W = fluctuation of drained weight of processed can over the standard pack

B = concentration of salt in the blanching brine

M = moisture content of meat expressed as g of water/g of dry solid

The change in moisture content of steam blanched meat (Ms) at different concentrations of salt in blanching brine (B) and time of blanching (T) follows a hyperbolic relation which may be represented by the general equation of the form (2) and graphically as in Fig. 1.

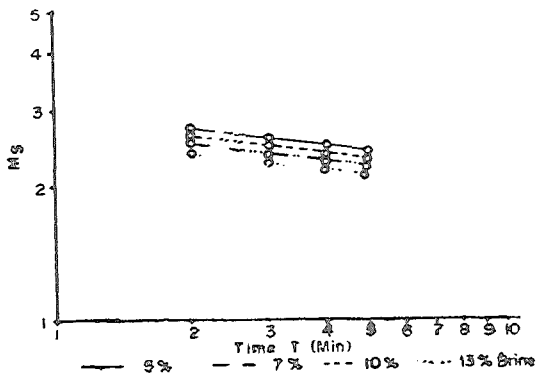

Fig. 1. Change in moisture of blanched meat with time. (Log 'Ms' Vs Log 'T')

$$Ms = aT^b \quad \ldots\ldots(2)$$

where a and b are constants.

'Ms' and 'T' values being known, a and b values were determined by simultaneously solving the equation. The mean values of a and b are given in Table 1.

Table 1. *Mean values of a and b*

Brine concentration % B	Mean values of a	b
5	2.93	–0.125
7	2.88	–0.125
10	2.76	–0.125
15	2.60	–0.125

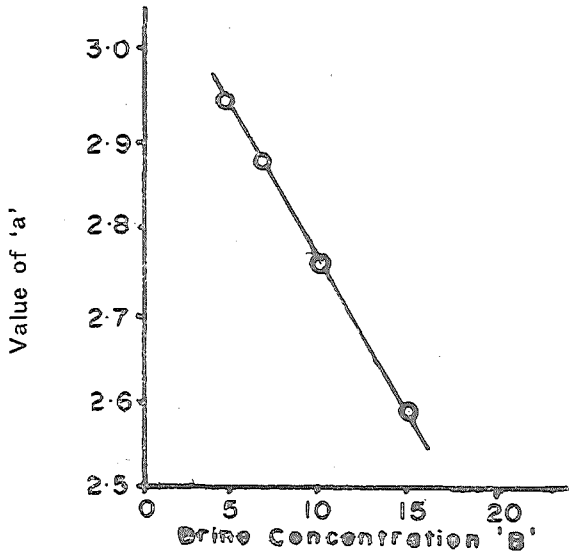

Fig. 2. Plot of 'a' Vs 'B'.

The relation between 'a' and 'B' was obtained by plotting 'a' Vs B (Fig. 2) where

$$a = -0.037B + 3.13 \quad \ldots\ldots(3)$$

Now the equation (2) takes the form

$Ms = (3.13 - 0.037\ B)\ T^{-0.125}$ ..... (4)

Since M = Ms by substituting the value of Ms in equation (1) the following modified form of equation was obtained

$= (3.8 - [4.507 - 0.0533\ B)\ T^{-0.125}]\ B$..... (5)

The prediction of drained weight from the equation was found to be accurate within ±5%.

References

Chaudhuri, D. R., Bhattacharya, S. K. & Bose, A. N. (1978) *Fish. Technol.* 15, 105

Govindan, T. K. (1975) *Proc. Symp. Fish Processing Industry in India.* Assoc. Fd Scientists Technologists (India), Mysore

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