

APPENDIX I

The equations of the general form $(W + R)/C = a - bF/C$ which are given in Table 1 (p. 2) are presented in more detail below:

Lambs, group 1:	$(W + R)/C = 78.4 - 0.732 F/C \pm 0.6$	$(r = -0.9877)$, (1)
Lambs, group 2:	$(W + R)/C = 78.3 - 0.733 F/C \pm 1.1$	$(r = -0.9796)$, (2)
Lambs, group 3:	$(W + R)/C = 78.1 - 0.737 F/C \pm 0.4$	$(r = -0.9985)$, (3)
Lambs, group 4:	$(W + R)/C = 75.2 - 0.646 F/C \pm 0.8$	$(r = -0.9847)$, (4)
Cows:	$(W + R)/C = 73.6 - 0.547 F/C \pm 0.6$	$(r = -0.9913)$, (5)
Heifers:	$(W + R)/C = 77.8 - 0.674 F/C \pm 1.0$	$(r = -0.9746)$, (6)
Old steers:	$(W + R)/C = 81.6 - 0.841 F/C \pm 0.8$	$(r = -0.9815)$, (7)
Young steers:	$(W + R)/C = 76.4 - 0.661 F/C \pm 1.1$	$(r = -0.9740)$, (8)
All (49) carcasses:	$(W + R)/C = 77.2 - 0.699 F/C \pm 1.1$	$(r = -0.9795)$, (9)

It is worth noting that in no case is the standard error of prediction greater for any subgroup of carcasses than it is for the whole forty-nine carcasses considered together. In fact, in all but two cases it is less.

It can be shown that the equation for cows, equation (5), is significantly different from the equation for old steers, equation (7). The method of calculation is given in Appendix I, Part III (Callow, 1949). This calculation gives the following values for t .

$$t \text{ for } a_7 - a_5 = 17.80,$$

$$t \text{ for } b_7 - b_5 = 3.21.$$

These values of t are significant because where $n = 9$ the values for t and the probability p are related to one another in the following manner:

t	p
2.82	0.02
3.25	0.01
4.78	0.001

The value of t for $a_7 - a_5$ is thus significant at considerably less than the 0.001 level of probability, and the value of t for $b_7 - b_5$ at about the 0.01 level of probability. Equations 5 and 7 thus represent two straight-line regression equations which are significantly different.

From equations 1-9, equations for the yield of protein P/C can be calculated by multiplying each equation by 0.207.

Lambs, group 1:	$P/C = 16.23 - 0.1515 F/C \pm 0.12$, (10)
Lambs, group 2:	$P/C = 16.21 - 0.1517 F/C \pm 0.23$, (11)
Lambs, group 3:	$P/C = 16.17 - 0.1526 F/C \pm 0.08$, (12)
Lambs, group 4:	$P/C = 15.57 - 0.1337 F/C \pm 0.17$, (13)
Cows:	$P/C = 15.24 - 0.1132 F/C \pm 0.12$, (14)
Heifers:	$P/C = 16.10 - 0.1395 F/C \pm 0.21$, (15)
Old steers:	$P/C = 16.89 - 0.1741 F/C \pm 0.17$, (16)
Young steers:	$P/C = 15.81 - 0.1368 F/C \pm 0.23$, (17)
All carcasses:	$P/C = 15.98 - 0.1447 F/C \pm 0.23$, (18)

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ERRATUM

In Appendix I, Part II, of this series (Callow, 1948) some of the sheep dissected by Dr Wallace were referred to as Suffolk \times Border Cheviot Crosses. This should have been Suffolk \times Border Leicester-Cheviot Crosses.