

$$\bar{X} = \frac{\sum X_i}{n}$$

$$\sigma = k \sqrt{\frac{R}{T}}$$

$$\sigma = \sqrt{\frac{\sum (X_i - \bar{X})^2}{n-1}}$$

$$R_S = R_{S+B} - R_B$$

$$R_B = \frac{N_B}{T_B}$$

$$\chi^2 = \frac{\sum (X_i - \bar{X})^2}{\bar{X}}$$

$$k\sigma_S = k \sqrt{\frac{R_{S+B}}{T_S} + \frac{R_B}{T_B}}$$

$$\epsilon = \frac{\text{cpm}}{\text{dpm}} \quad CF = \frac{1}{\epsilon}$$

$$\sigma_{\text{rate}} = \sqrt{\frac{R_{S+B}}{T_S} + \frac{R_B}{T_B}}$$

$$X.xx \pm yy (k\sigma)$$

$$L_C = 1.645 \sqrt{\frac{R_B}{T_B} + \frac{R_B}{T_S}}$$

$$L_D = \frac{3}{T_S} + 3.29 \sqrt{\frac{R_B}{T_B} + \frac{R_B}{T_S}}$$

$$\sigma = 1 \times \sigma = 68\% \text{ CL}$$

$$1.64\sigma = 1.64 \times \sigma = 90\% \text{ CL}$$

$$2\sigma = 1.96 \times \sigma = 95\% \text{ CL}$$

$$3\sigma = 2.575 \times \sigma = 99\% \text{ CL}$$