**FORMULAE FOR THE STANDARD ERRORS(SPLIT PLOT DESIGN)**

MSE denotes the Mean Sum of Square,

r- denotes the number of replication

MSE(a) and MSE(b) denotes the main-plot error and sub-plot error respectively in split plot experiment.

S.E.(d) denotes the Estimate of Standard Error of the difference between the means of two treatments.

**NOTE:** In case of split/strip plot designs, there are more than one MSE corresponding to different splits/strips and S.E./plot of each split/strip is found by taking the square root of MSE corresponding to that split/strip.

Where p is the number of main-plot treatments and q is the number of sub-plot treatments.

(a) S.E.(d) between two main plot treatment means $= \sqrt{\frac{2\times MSE(a)}{r\times q}}$

(b) S.E.(d) between two sub-plot treatment means $= \sqrt{\frac{2\times MSE(b)}{r\times p}}$

(c) S.E.(d) between two main plot treatments means at the same or different levels of sub-plot treatment means $= \sqrt{\frac{2\{(q-1)MSE(b)+MSE(a)\}}{r\times q}}$

(d) S.E.(d) between two sub-plot treatment means at the same level of main plot treatment $= \sqrt{\frac{2\times MSE(b)}{r}}$

C.D. = S.E.(d)×t at 5% for error degree of freedom(d.f.).

In case (c), above formula for calculating C.D. cannot be used , we use the following formula

$$t^* = \frac{(q-1)\mathrm{MSE(b)}t_b+\mathrm{MSE(a)}t_b}{(q-1)\mathrm{MSE(b)}+\mathrm{MSE(a)}}$$

where $t_a$ and $t_b$ are the t-values at main-plot error and sub-plot error degree of freedom (d.f.) respectively at 5%.

C.D. for (c) = S.E.(d)×t*