

Credits D. C. Montgomery, Design and Analysis of Experiments, McGraw-Hill.

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Statistical planning of experiments

Replication
Randomization
Blocking
Balancing



Objective Obtaining <u>variance</u> as small as due.

Solution

$\sigma_y^2 = \sigma^2/n$

Variance decreases inversely to the size of replication.

Replicating is not the same than repeating measures.





Objective

Improve precision by reducing the impact of predictable [measurable] noises.

Solution

Use homogeneous experimental conditions (i.e. one block) for each factor of noise.

