

CY-603 Design of Experiments

Controllable and Uncontrollable Factors, Single Factor Experiment, ANOVA, Randomized Blocks, Latin Squares, Introduction to Factorial Designs, 2k Factorial Design, Two-Level and Three-Level Full Factorial Experiments, Blocking, Confounding, Two-Level and Three-Level Fractional Factorial Designs, Mixed-Level Factorial and Fractional Factorial Designs, Fitting Regression Models, Experiments with Random Factors. Plackett-Burman designs, Design efficiency, design resolution, statistical power of a design, Design augmentation; practical strategies for cost-effective screening, Using DoE to set raw material specifications. Case studies from related publications.