

MODIFIED DUNNETT'S TEST FOR A RANDOMIZED COMPLETE BLOCK DESIGN

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- **ABSTRACT:** *Dunnnett's test is, in general, preferred to test the paired differences between treatment means and a control mean of a considered variable after analysis of variance (ANOVA). In this paper, we present a modified Dunnnett's test and evaluate its performance in relation to the original Dunnnett's test and to other ten tests, considering experiments in a randomized complete block design (RCBD). Monte Carlo method was used to simulate data from a normal distribution for 540 experiments in a RCBD, varying number of treatments (two groups, GI: with nine treatments and GII: with 14 treatments), number of replications (360 experiments with four blocks and 180 experiments with eight blocks) and size of the error (three coefficients of variation: 5%, 10% and 15%), giving 12 combinations. As the difference between the treatments and the control decreases there is a clear differentiation in power among the tests, and the modified tests are more efficient than their original ones. The modified Dunnnett's test, in the region of small differences, is the most efficient among the tests of maximum experimentwise error rate (MEER) in comparison with all error rate type tests.*
- **KEYWORDS:** *Multiple comparison tests; Monte Carlo method; simulation; modified tests.*

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