An efficient Youden square design against the interchange of treatments

Dilip Kumar Ghosh

Saurashtra University, Rajkot, Gujarat, India

Abstract

Youden(1940) introduced Youden Square Design which now we called as binary Youden Square design. In this investigation we have extended the concept of Youden square and introduced the non binary Youden square design. Further, in this article we studied the A efficiency of the Youden square design against the interchange of two treatments when (i) both the treatments belong to different rows but from the same column and (ii) both the treatments belong to different rows and different columns.

Here we found that Youden square designs are fairly robust against the interchange of two treatments for both the case (i) and (ii) with v (treatment) ≥ 5. We also concluded that as λ (a pair of treatments occur together) increases, overall A efficiency of the residual design decreases.

Keywords

Binary design, Non binary design, Youden square design, A efficiency.