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MR1944630 (2003k:62059) 62F07 (62L10 62N01) Gupta, Shanti S. (1-PURD-S); He, Shuyuan (PRC-BJ-PS); Li, Jianjun [Li, Jian Jun¹] (1-PURD-S)

On selection procedures for positive exponential family distributions based on type-I censored data. (English summary)

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Consider designing and analyzing an experiment for comparing k populations. Suppose that m items are taken from each population and observations can be obtained from those items in time order, as for example, in a life-testing experiment. It is often desirable to terminate the test from a population as soon as there is enough statistical evidence that it is not the best population, and then this population is eliminated from further consideration. The problem of selecting the best population from positive exponential family distributions based on type-I censored data is investigated in this paper. A Bayes rule is derived and a monotone property of the Bayes selection rule is obtained. Following that property, an early selection rule is proposed. Through this early selection rule, the experiment can be terminated early on a few populations and the final decision can possibly be made before the censoring time. An example is provided in the final part of the paper to illustrate the use of the early selection rule.

Reviewed by *P. Rochus* (Liège)

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Citations

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