Ratio estimators in median ranked set and neoteric ranked set sampling

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1   General Information

Ranked set sampling, introduced by **?** is one of the most effective sampling design when the characteristic of interest is expensive or time consuming to measure but a few units in a set are easily ranked without full measurement. This sampling design is especially applied in agricultural, biological, ecological, engineering, medical, physical, and social sciences. To get improvement many researchers have developed and modified ranked set sampling design. Recently **?** have proposed neoteric ranked set sampling. **?** and **?** have defined ratio type estimators in various ranked set sampling design. In this paper, following **?** and **?** we have defined ratio type estimators in median and neoteric ranked set sampling. To compare the performance of suggested estimators in each sampling design we have conducted a simulation study. In the simulation study, we have used a real data set. In this data set, we have examined a rare endemic annual plant species which is grown in Ankara-Turkey. 900 seeds of endemic plant's weight and height are measured. Using this data set as a population by setting height as study variable and weight as an auxiliary variable we selected samples under median ranked set and neoteric ranked set sampling desing. From each sample we have estimate the height of plant with suggested estimators and calculated mean square error. According to mean square error value we have decided that which sampling plan is suitable for this data set.

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