

Sample allocation for multiple response variables

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We propose a sample allocation scheme by adapting Cochran method for a stratified survey design involving multiple characteristics, using maximum instead of mean of variable-specific optimal number of sampling units. We present two examples where the response variables of interest are crop area occupied with sugarcane, soybean or corn, in two Brazilian states, namely São Paulo and Rio Grande do Sul. Some comparisons are given with alternative methods of allocation showing huge differences between required sampling size. The best way to decide the allocation that results in lower coefficients of variation changes whenever the correlation between the characteristics changes.