

Improved Estimation for June Area Survey Incorporating Several Information

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In this talk we present a general methodology to improve the estimate of crop acreage by combining information from June Area Survey (JAS), administrative data from Farm Service Agency (FSA), and satellite imagery data summarized in Cropland Data Layer (CDL). Both a structural model and a measurement model are specified for the FSA and CDL data. The measurement error model is used to quantify the uncertain in the estimate from each source, and the structural model is used to model the survey population. A parametric fractional imputation method is developed to estimate the parameters of the structural models, and a generalized method of moment is used to produce the final estimate of the crop acreage. The methodology is applied to produce improved estimate of crop acreages.

Keywords: Parametric fractional imputation; generalized method of moment; crop acreage; structural model