



SOUVENIR



**74th Annual Conference
of
Indian Society of Agricultural Statistics
on**

**Harnessing Statistics and Artificial Intelligence for
Sustainable and Smart Agriculture**

February 02-04, 2024

Organized by

**Department of Agricultural Statistics
N.M. College of Agriculture**

Navsari Agricultural University, Navsari, Gujarat



74th ISAS National Annual Conference on
Harnessing Statistics and Artificial Intelligence for
Sustainable and Smart Agriculture
February 02-04, 2024



Department of Agricultural Statistics, NMCA, NAU, Navsari

44.	An efficient Exponential-type Family of Estimators for the Population Variance in Simple Random Sampling <i>Deepak Singh, Raju Kumar, Ankur Biswas, Kaustav Aditya and Tauqueer Ahmad</i>	58
45.	Resampling Techniques of Variance Estimation in Two-Stage Sampling under Dual-Frame Surveys at the PSU Level <i>Moumita Baishya, Tauqueer Ahmad and Ankur Biswas</i>	59
46.	Abiotic Stress Mapping using Spatially Integrated AHP-RF Approach Coupled with CLHS-based Validation <i>Nobin Chandra Paul, G. P. Obi Reddy, Nirmal Kumar, Dhananjay D. Nangare, K. Sammi Reddy, N. G. Patil and D. S. Mohekar</i>	60
47.	Assessing Precision in Dairy Research: A Case Study of Systematic Sampling Methods for Surati Buffalo Milk Yield <i>R. S. Patel, Y. A. Garde, H. E. Patil, Nitin Varsney, V. S. Thorat, Jay B. Delvadiya, Alok Shrivastava, J. B. Dobariya, and A.M. Rudani</i>	61
48.	An insight of agricultural accidents in Indore District of MP <i>V Bhushana Babul¹, RR Potdar¹, Kishan Kumar Patel³, Deepak Tiwari³, KN Agrawal⁴ and MB Tamhankar²</i>	62
49.	Yardstick of CV% for mango crop experiments <i>A. P. Chaudhary, Y. A. Garde, K. L. Chaudhary and D. J. Chaudhari</i>	63
50.	Yield estimation of Sapota using different sampling techniques <i>Heena Rabari, Nitin Varshney, Alok Shrivastava, Yogesh Garde</i>	63
51.	Sustainable Carbon Storage Potential in Trees for Mitigating Climate Change <i>Malaya Kumar Dash, Dinesh S, Rajesh P. Gunaga</i>	64
52.	Population Dynamics of Sapota Seed Borer (<i>Trymalitis Margarias Meyrick</i>) and Their Correlation Matrix With Weather Variables <i>A. R. Prajapati, Jay Delvadiya, A. S. Dhane and Dr. V. N. Jalgaonkar</i>	65
53.	Population Dynamics of Spotted Pod-Borer, <i>Maruca vitrata</i> (Fabricius) in Relation to Weather Parameter in Greengram <i>Krishna J. Bhuva, S. D. Patel, U. R. Dobariya, Prajapati A. R., Vishwa Gohil, Hemali Pandya</i>	66
54.	Rescaling bootstrap variance estimation of the prediction-based estimator under two-phase sampling <i>Nitin Varshney, Tauqueer Ahmad, Anil Rai, Ankur Biswas and Prachi Misra Sahoo</i>	66
55.	A Novel Survey-Weighted Propensity Score Methodology to Enhance Impact Assessment <i>Raju Kumar, Deepak Singh, Ankur Biswas and Tauqueer Ahmad</i>	67
56.	Application of Sampling Techniques in Agriculture <i>Raundal R M</i>	68
	TS 4: Forewarning and Forecasting Modelling for Crop Production and Health Monitoring	
57.	Evaluating small scale fisheries: models, dimensions and data requirements <i>Dr. V. Geethalakshmi</i>	69



NAVSARI AGRICULTURAL UNIVERSITY

74th ISAS National Annual Conference on
Harnessing Statistics and Artificial Intelligence for
Sustainable and Smart Agriculture
February 02-04, 2024



Department of Agricultural Statistics, NMCA, NAU, Navsari

Application of Sampling Techniques in Agriculture

Raundal R M

MSc. (Agril. Statistics), Assistant professor; K.K. Wagh College of agriculture, Nashik

Abstract

In order to answer the research questions, it is doubtful that researcher should be able to collect data from all cases. Thus, there is a need to select a sample. Furthermore, as there are different types of sampling techniques/methods, researcher needs to understand the differences to select the proper sampling method for the research. Researchers donot study the entire population for two reasons the cost is too high, more time require to draw the conclusions and the population is dynamic in that the individuals making up the population may change over time. The three main advantages of sampling are that the cost is lower, data collection is faster, and since the data set is smaller it is possible to ensure homogeneity and to improve the accuracy and quality of the data. Sampling is an important aspect of data collection. To an observer of developments in sampling over the last 25 years the most striking feature is the rapid increase in the number and types of surveys taken by sampling. The Statistical Office of the United Nations publishes reports from time to time on "Sample Surveys of Current Interest" conducted by member countries. The 1968 report lists surveys from 46 countries. Many of these surveys seek information of obvious importance to national planning on topics such as agricul- tural production and land use, unemployment and the size of the labor force, industrial production, wholesale and retail prices, health status of the people, and family incomes and expenditures.

Keywords: *Sampling techniques, Survey methodology, Data collection*