ACHIVEMENTS

DEPARTMENT OF AGRICULTURAL STATISTICS AND COMPUTER CENTRE

N. M. COLLEGE OF AGRICULTURE

Navsari Agricultural University, Navsari (Gujarat)

A. Awards (Faculties)

Sr. No	Name of faculty	Award/Appreciation	Year	Place
1.	Dr. Alok Shrivastava	"Young Scientist Award" for outstanding contribution in the field of Agricultural Statistics	2016	On the occasion of national Conference on Agricultural and rural Innovations for sustainable Empowerment (ARISE-2016) during 21-22 May, 2016 at Kkaitya University & Bala Vikasa, Warangal, Telangana
2.	Dr. Alok Shrivastava	Appreciation certificate for developing a web-based Management Information System (MIS) Software for internal and effective use.	2021	College of Agriculture, NAU, Campus Bharuch
3	Dr. Yogesh A. Garde	"Best Poster" presentation on the topic entitle Pre-harvest forecast modelling….	2019	National symposium on sustainable management of pests and diseases in augmenting food and nutritional security during 22-24, January, 2019 at NAU, Navsari
4	Dr. Yogesh A. Garde	"Young Scientist Award" for outstanding contribution in the field of Agricultural Statistics	2021	On the occasion of International Web Conference on Innovative and Current Advances in Agriculture & Allied Sciences (GRISAAS-2021) during 13-15 December, 2021 at Meerut, UP
5	Dr. Yogesh A. Garde	Best Oral Presentation paper presented on "Forecasting area, productivity and prices of mango in Valsad..."	2022	24th National conference of Maharashtra Society of Agril. Economics, organized by Dept. of Agril. Economics, Dr. BSKKV, Dapoli and Maharashtra Society of Agricultural Economics
6	Dr. Yogesh A. Garde	Best Oral Presentation paper presented on "Sugarcane acreage estimation using Sentinel 2A satellite data and GIS in Navsari district of Gujarat"	2022	ISPP West Zone Seminar on Innovative Approaches for Sustainable agriculture under changing climates organized by Dept. of Plant Physiology, NMCA, NAU, Navsari in collaboration with Indian Society for plant Physiology, New Delhi
7	Dr. Yogesh A. Garde	Best Oral Presentation paper presented on "Ragi (Hill Millet) Forecast using weather and biometrical attributes for …"	2023	International Conference on Strategies and challenges in Agricultural and Life Sciences for Food Security and Sustainable Environment organized by Dept. of Environmental Science, HP University, Shimla

8	Dr. Yogesh A. Garde	Young Scientist Award for ooutstanding contribution in the field of Agricultural Statistics	2024	On the occasion of international conference "Current Innovations and Technological Advances in Agriculture and Allied Sciences" during 29-31 August, 2024 Just Agriculture Education Group & ISASTR, Noida at GKU, Talwandi Sabo
9	Dr. B. L. Radadiya	"Best article award" (3rd position) for the topic entitle "*Krishi Upajana yogya bhav melavava* eNAM *madhyamano upyog*"	2019	The magazine "*Krushi-go-vidya*" published by Anand Agricultural University, Anand

B. Awards (Students)

Sr. No	Name of Student	Award/Appreciation	Year	Place
1.	Nithin Mohanan (2010119063)	M.Sc. (Agricultural Statistics) student received "Best Thesis" award for M.Sc. research work on "Assessment of Export Instability and Forecasting of Price and Export of Total Pulses in India"	2021	On the occasion of International Web Conference on Innovative and Current Advances in Agriculture & Allied Sciences during 13-15 December, 2021
2.	Swaroop D B (2010119120)	M.Sc. (Agricultural Statistics) student received "Gulabbhai Mehta Gold plated silver Medal sponsored by Shahakari khand Udhyog mandal Ltd. Gandevi"	2023	18th Annual Convocation of Navsari Agricultural University, Navsari held on 03-03-2023 for the academic year 2021-22

C. Post graduate/Ph.D. thesis

Sr. No.	Year	No. of M.Sc. (Agri.)	No. of Ph.D.	Total
1	1983	01	00	01
2	1984	02	00	02
3	1986	02	00	02
4	1996	00	01	01
5	1997	00	01	01
6	1999	00	01	01
7	2004	01	00	01
8	2011	01	00	01
9	2013	01	00	01
10	2016	01	00	01
11	2017	02	01	03
12	2018	02	00	02
13	2019	03	01	04
14	2020	03	00	03
15	2021	03	00	03
			Total	24

D. Seminar/training organized:

Sr. No	Type	Detail	Date
1	Webinar	A Webinar on "Diagnostics and Remedial Measures for common error in application of Statistics" organised by Department of Statistics, College of Agriculture, NAU, Campus Bharuch and Department of Agril. Statistics, NM College of Agriculture, NAU, Navsari	20-21 October, 2020
2	Webinar	A National webinar on "Statistics for Food Security and Promoting Sustainable Agriculture" organised by Department of Agril. Statistics, NM College of Agriculture, NAU, Navsari	29 June, 2021
3	National Seminar	National Seminar cum Workshop on "Food for Thought: Applied Statistics and its Implications" organised by Dept. of Agricultural Statistics, NMCA and Centre for Advanced Agricultural Science and Technology, NAHEP, NAU, Navsari on the eve of National Statistics Day	29-30 June, 2022
4	Quiz competition	Organised Quiz competition and awareness programme in collaboration Ministry of Statistics and Programme Implementation	28 February, 2023
5	National Seminar	Organised National seminar cum awareness quiz and celebrated National Statistical day programme in collaboration Ministry of Statistics and Programme Implementation on the eve of 16th National Statistics Day	29 June, 2023
6	National Conference	74th Annual conference of ISAS on Harnessing Statistics and Artificial Intelligence for sustainable and smart Agriculture in collaboration with ICAR-IASRI, New Delhi	2-4 February, 2024
7	Short course	Conducted ICAR sponsored 10 days short course on Recent Trend in Statistical Techniques for Agricultural Research (RT-STAR)	2-11 January, 2025

E. Research recommendations (2016-17 to 2020-21)

Sr. No	Title and Recommendation	Approval year
1	**Forecasting of rice (Oriza sativa) yield using ordinal logistic regression** The discriminant function model choosing maximum temperature, minimum temperature, rain fall, relative humidity-1 and relative humidity -2 is more effective model for pre-harvest forecasting of rice yield as compared to Multiple linear regression (MLR) technique and Ordinal logistic regression for Navsari district.	2018
2	**Construction of selection indices to select optimum selection index in *Mungbean vignaradiata* (L.) R. Wilczek** Broad sense heritability, genotypic coefficient of variation weight and phenotypic Coefficient of variation weight methods manifested more or less same results. Selection index (I2346) depicted higher per cent relative efficiency among all the selection indices excluding grain yield per plant. Therefore, selection index (I2346) with combinations of plant height, number of primary branches, days to flowering and clusters per plant is suggested for selection of mungbean genotypes for breeding improvement programme where one of the parents is Meha or GM-4 or Pusa Vishal.	2019
3	**Construction of selection indices using different economic coefficients to select optimum selection index in Indian bean (*Lablab purpureus* L. sweet)** The genetic gain of selected Indian bean progenies was observed higher with equal weight method as compared to genotypic correlation coefficients and genotypic path coefficients (Direct effect) weight method. It is recommended to select progeny	2021

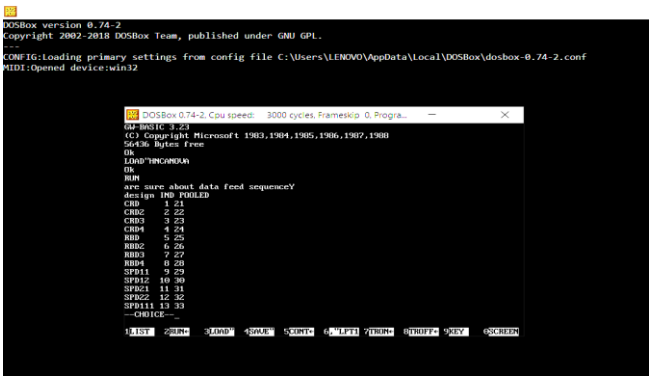
	based on plant height, pod width and days to maturity that provides higher genetic gain in Indian bean seed yield improvement program. It is suggested that progeny F3B 144 2 can be used in breeding for getting higher yield.	
4	**Stability of sorghum genotype through AMMI model in Gujarat** The scientist involves in this crop are advised to use SR-2957(G5) sorghum germplasm for grain yield and dry fodder in their breeding programme to explore other breeding parameters aggressively. For green fodder sorghum SRF-322 (G1) is highest yielder and has stable performance across locations hence advice for further utilization in different breeding programme.	2021
5	**Population growth study of sheath mites in different rice cultivars using statistical models** The maximum temperature and minimum relative humidity were both positively and significantly associated with the sheath mite population indicating that the weather characteristics are primarily responsible for vulnerability of the rice crop, particularly in the 42nd and 43rd SMW. Accordingly, the scientists are advised to suggest farmers take preventative steps prior to the 42nd and 43rd SMW. The Sinusoidal model accurately describes the growth pattern in almost all years. As a result, it is recommended that the Sinusoidal nonlinear model can be used to forecast Sheath mite population growth dynamics in Navsari, Gujarat	2022
6	**Estimation of Cotton Yield using Two Phase sampling approach** It is advised to adopt two phase sampling regression procedure under stratified two stage sampling design framework for more reliable and cost-effective estimates of average cotton yield than general crop estimation survey procedure.	2023
7	**Evaluation and development of yardstick of CV% for mango crop experiments for south Gujrat region** The yard stick of CV % for accepting the results of tobacco crop experiments is 14.76, i.e., 15 per cent for yield character.	2023

F. Publications

Sr. No.	Publications	Total
1	Practical manuals	4
3	Research papers	35
4	Books/booklets	5
5	Folders	1

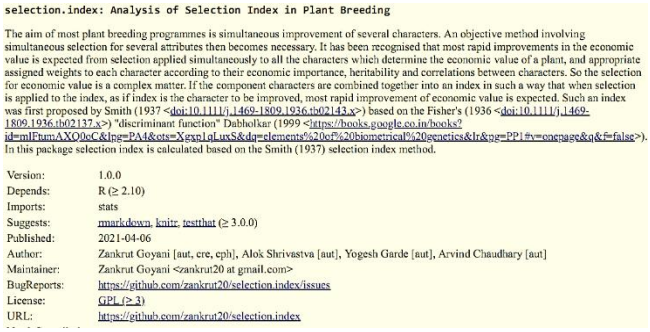
➢ Distinguishable contribution by faculties

Prof. H. N. Chhatrola made efforts in developing *'HNCANOVA'* software packages under Q-base environment for analysis of design of experiments. It is running in DOS mode. The most important feature of the software is that it takes care of the pooled data analysis over the period and location.



- **Distinguishable contribution by Students**

One of the PG student Mr. Goyani Zankrut (Regi. No. 2010119033) made a remarkable effort for developing CRAN package (***selection.index***) in R software. The concerned package is released globally on CRAN platform of R-software (Open source) and now it is available in CRAN package directory. It will be benefited to all PG students and researcher Plant/Animal breeding, Agril. Statistics for analysis of Selection Index. He has made this under the guidance & support of Dr. Alok Shrivastava, Associate Professor, Dr. Yogesh A. Garde, Assistant Professor, and Prof. Arvind Chaudhary, Assistant Professor.



selection.index: Analysis of Selection Index in Plant Breeding

The aim of most plant breeding programmes is simultaneous improvement of several characters. An objective method involving simultaneous selection for several attributes then becomes necessary. It has been recognised that most rapid improvements in the economic value is expected from selection applied simultaneously to all the characters which determine the economic value of a plant, and appropriate assigned weights to each character according to their economic importance, heritability and correlations between characters. So the selection for economic value is a complex matter. If the component characters are combined together into an index in such a way that when selection is applied to the index, as if index is the character to be improved, most rapid improvement of economic value is expected. Such an index was first proposed by Smith (1937 <doi:10.1111/j.1469-1809.1936.tb02143.x>) based on the Fisher's (1936 <doi:10.1111/j.1469-1809.1936.tb02137.x>) "discriminant function" Dabholkar (1999 <https://books.google.co.in/books?id=mJFtumAXQ0cC&lpg=PA4&ots=XgxpLqLuxS&dq=elements%20of%20biometrical%20genetics&lr&pg=PP1#v=onepage&q&f=false>). In this package selection index is calculated based on the Smith (1937) selection index method.

Version:	1.0.0
Depends:	R (≥ 2.10)
Imports:	stats
Suggests:	rmarkdown, knitr, testthat (≥ 3.0.0)
Published:	2021-04-06
Author:	Zankrut Goyani [aut, cre, cph], Alok Shrivastva [aut], Yogesh Garde [aut], Arvind Chaudhary [aut]
Maintainer:	Zankrut Goyani <zankrut20 at gmail.com>
BugReports:	https://github.com/zankrut20/selection.index/issues
License:	GPL (≥ 3)
URL:	https://github.com/zankrut20/selection.index