4

Education and Training

The Institute conducts post graduate teaching and in-service courses in Agricultural Statistics, Computer Application and Bioinformatics for human resource development. Institute is conducting M.Sc. and Ph.D. programmes in Agricultural Statistics since 1964, M.Sc. in Computer Application since 1985-86 and M.Sc. in Bioinformatics since 2011-12. A brief description of human resource development during the year is given in the sequel.

DEGREE COURSES

The Institute continued to conduct the following degree courses in collaboration with the Post Graduate School, IARI, New Delhi which has the status of a Deemed University

(i) Ph.D. (Agricultural Statistics)

(ii) M.Sc. (Agricultural Statistics)

(iii) M.Sc. (Computer Application)

(iv) M.Sc. (Bioinformatics)

Both Ph.D. and M.Sc. students are required to study courses not only in Agricultural Statistics but also in Agricultural Sciences like Genetics, Agronomy, Agricultural Economics, etc. The courses in Mathematics, Agricultural Statistics and Computer Application are offered at this Institute while the courses in Agricultural Sciences are offered at IARI.

Number of students admitted/completed various courses during the period under report are:

Courses	Number of Students	
	Admitted	Completed
Ph.D. (Agricultural Statistics)	10	03
M.Sc. (Agricultural Statistics)	07	09
M.Sc. (Computer Application)	06	05
M.Sc. (Bioinformatics)	04	-

The research work carried out by students who had completed their degrees during 2012-13 is summarized as follows:

Ph.D. (Agricultural Statistics)

i) Bishal Gurung

A Study of Some Parametric Nonlinear Time-series Models in Agriculture

Linear time-series model, like Autoregressive integrated moving average (ARIMA), and nonlinear time-series models, like Exponential autoregressive (EXPAR) and Self exciting threshold autoregressive (SETAR) are generally used for modelling and forecasting of cyclical time-series data. In linear time series models, coefficients are fixed and therefore, may not be able to capture non-linearity in cyclical time-series data. Methodologies for combining these by using the constant coefficient regression method as well as the time-varying coefficient regression method through Kalman filter (KF) technique are developed and illustrated to describe annual Mackerel catch time-series data of Karnataka. It is shown that the latter method has performed better than the former one for the data under consideration.

The methodology for efficiently estimating the parameters of EXPAR model using Extended Kalman filter, which addresses the nonlinearity problem by linearizing the original nonlinear filter dynamics around the previous state estimates, is developed. For selected model, optimal out-of-sample forecasts for selected EXPAR model have been analytically derived by recursive use of conditional expectation. As an illustration, the methodology is successfully demonstrated for modelling and forecasting Oil sardine time-series landings data of Kerala.

As volatility seems to be the norm rather than an exception for agricultural commodities, an important parametric nonlinear time-series model called the Stochastic volatility (SV) model is studied to describe time-varying volatility. Lagrange multiplier test for testing presence of ARCH effects is also discussed. Estimation procedure for fitting of SV models to volatile data is developed by maximizing the Quasi-maximum likelihood using Kalman filter. Finally, the procedure for estimation of parameters of SV using sophisticated technique of Particle Filter (PF), a powerful Monte-Carlo technique, is also studied and illustrated on real data.

Guide: Dr. Prajneshu

ii) Sukanta Dash

Statistical Designs for Microarray Experiments

Microarray experiments are conducted to study the expression levels of thousands of genes simultaneously. In these experiments, the treatments are different types of tissues, drug treatments or time points of a biological process, which may be unstructured or have a factorial structure. For single factor microarray experiments, a general method of construction of efficient row-column designs for any number of treatments (v), number of columns satisfying the inequality $v \leq b \leq v(v-1)/2$ with two rows has been developed. A software module has been developed for online generation of most efficient row-column designs in the parametric range $3 \leq v \leq 10$, $v \leq b \leq v(v-1)/2$, $11 \leq v \leq 35$, $b=v$ and (v, b) = (11,12), (11,13), (12,13), (12,14), (13,14), (13,15), (13,16), along with their efficiencies. These designs have been made available at www.iasri.res.in/drs. In designs for multi-factor experiments, a method of construction of row-column designs in minimum number of replications for estimation of main effects and two factor interactions for 2^n factorial experiments has been developed. A catalogue of designs for $2 \leq n \leq 9$ has been prepared along with list of main effects and two factor interactions confounded in different replications. A procedure of construction of row-column designs for estimation of all factorial effects with odd number of factors has also been given. For multi-factor microarray experiments, a procedure of obtaining efficient block designs for 3-factor mixed level factorial microarray experiments based on baseline parameterization has been given. A software module has been developed using C# programming language with ASP.NET platform for generation of efficient block designs for mixed factorial experiments in number of arrays equal to one less than the number of treatment combinations.

Guide: Dr. Rajender Parsad

iii) Kaustav Aditya

Some Contributions to Finite Population Mean Estimation in the Presence of Nonresponse

Sample surveys are generally planned to obtain reliable estimates of parameters of population as well as different sub-groups of the population called as domains. The presence of non-response in the survey not only introduces an element of bias in the survey results but the estimators also become less precise. Most of the work in survey sampling in the presence of nonresponse is dedicated to single stage and two phase sampling designs whereas in large scale surveys a multi-stage sampling design is commonly used. In view of the above, the problem of estimation of population parameter (population mean) as well as domain parameters (mean/total) in the presence of nonresponse when the sampling design under consideration is two-stage random sampling has been investigated. Accordingly, estimators were developed along with their variances and in some cases unbiased variance estimators for population/domain parameters. Both deterministic and random response mechanisms were considered. Through empirical study, it was found that all the three estimators were efficient for estimation of population and domain parameters over an estimator in which extra cost was incurred to obtain full response.

Guide: Dr. UC Sud

M.Sc. (Agricultural Statistics)

i) Sumit Chouwdhury

A Study of Fuzzy Time-series Models in Agriculture

Fuzzy time series analysis is useful when the values of the response variable are not 'crisp' or 'precise' and are fuzzy. Forecasting of out-of-sample data using fizzy time-series models is a challenging task. Methodology for fuzzy time-series modelling using non-convex membership functions has been developed. The

methodology developed removes the difficulty for out-of-sample forecast by difference operator based methodology by obtaining fuzzy forecast of future time point in intermediate step. Relevant computer programs required to compute the forecast values are developed in MATLAB. The methodology has been shown to be better than other existing methodologies for time-series modelling and forecasting with respect to mean square error, mean absolute error, and mean absolute prediction error.

Guide: Dr. Himadri Ghosh

ii) Pratyush Dasgupta

Robustness of Block Designs in Multi-response Experiments against Missing Data

Experiments in which data on several responses are measured from an experimental unit corresponding to the application of a treatment are known as multi-response experiments. Due to some unforeseen causes, some observations may become unavailable. It is well known that missing observations may lead to some serious loss to the original design. The property of an original design may change due to presence of missing observations. A connected design may become disconnected and even its efficiency may be small as compared to the original design. A design which can absorb such shocks is termed as robust design. Robustness of a design can be examined by two ways, through connectedness criterion and/or efficiency criterion. The robustness of block designs in multi-response experiments as per connectedness criterion as well as efficiency criterion against missing data has been studied. General expressions for studying robustness as per both the criteria are obtained for the loss of any *t* observations. These are then applied to Balanced Incomplete Block Designs by considering two cases. In the first case, when all the observations are lost from a plot is considered. Loss of any two plots has been considered in the second case. The designs that are robust as per connectedness criterion have been catalogued. The efficiencies of the connected designs are also worked out and provided in tables.

Guide: Dr. LM Bhar

iii) Chiranjit Mazumder

Application of Fuzzy C-Means Clustering Algorithm in Agriculture

Cluster analysis is one of the unsupervised pattern recognition techniques that can be used to organize data into groups based on similarities among the individual data items. A non-linear principal component based fuzzy c-means clustering algorithms has been proposed in classifying 518 lentil genotypes based on their numeric agronomic and morphological traits. The principal component analysis was used for dimensionality reduction or feature extraction which also avoided the ill-effects of collinear variables. Results of the study revealed that genetic divergence is not highly related to geographical origins as exotic and indigenous lentil genotypes were distributed in all the four clusters. Further, the set of descriptors for the germplasm accessions consists of both numerical and categorical descriptors. This poses a problem for standard principal component analysis which deals with only numeric variables. Hence, nonlinear principal component analysis was used to analyze the descriptors of lentil accessions which can handle mixture of measurement types. The accessions plot based on nonlinear component showed that most of the indigenous genotypes/land races overlapped indicating their narrow genetic base. Most of the outlying accessions belonged to exotic origin or breeding lines derived from crosses with exotic lines. An effort was also made to use first two nonlinear principal components as input to fuzzy c-means algorithm in classifying lentil germplasm collections. The optimum number of clusters was obtained using validity measures. The study showed that principal component based fuzzy clustering has a promising potential in agriculture as a tool to evaluate, understand, predict and manage crop production.

Guide: Dr. GK Jha

iv) Anindita Datta

Row-Column Designs with Multiple Units per Cell

Row–column designs with multiple units per cell are useful for two-way elimination of heterogeneity settings, having more than one experimental units in each row-column intersection and are common in organoleptic evaluation studies, residual effect experiments, sugar beet trials, food industry etc. Most of the work on row-column designs with multiple units per cell is on designs with complete rows, complete columns and equal cell sizes. Some methods of constructing row-column designs with multiple units per cell have been developed that are structurally complete, i.e. all the cells corresponding to the intersection of row and column receive treatments. Some series of structurally complete row-column designs with multiple units per cell with unequal cell sizes and unequal replications of treatments have also been developed. In all these methods, either rows or columns are incomplete. All the methods

developed result in designs in which the elementary contrasts of treatment effects are estimated with same variance. Further, sometimes there may be situations when some units may not be available for experimentation or some of the treatments may be scarce. In such situations, it may not be possible for the experimenter to have the treatments in one or more cells of the row-column intersections i.e. there may be empty cells. Some methods of constructing structurally incomplete row-column designs with multiple units per cell with equal/ unequal cell sizes and equal/ unequal replications have been developed. These designs are found to be quite efficient as compared to an orthogonal design.

Guide: Dr. Seema Jaggi

v) Prakash Kumar

Block Designs with Nested Rows and Columns for Factorial Experiments

Sometimes experiments have to be conducted to study the effect of two or more factors simultaneously and the heterogeneity in the experimental material is in two directions then the appropriate design is factorial row-column (RC) design. In these designs some of the treatment effects are confounded in rows and some treatment effects are confounded in columns. These effects cannot be estimated if the experiment is conducted in a single row-column design. For estimating the effects that are confounded in a single row-column design, more number of row-column designs are required. Thus, there is a need to construct block design with nested row-column setup for factorial experiments so that the effects that are confounded in one row-column design can be estimated from other row-column designs. Designs for symmetric factorial experiments under nested row-column setting and for asymmetric factorial experiments under row-column settings have been constructed. For the construction these designs three methods (i) general confounding / equation method (ii) use of lattice squares designs (iii) use of extended group divisible designs, have been used. The block designs with nested row-column symmetric factorial experiments are balanced for treatment effects confounded. The effects that have been confounded for each of the row-column designs have been listed out. The efficiency factor the confounded effects has also been worked out. SAS code for C-matrix (information matrix) has been developed using PROC IML to check the estimability of the treatment effects.

Guide: Dr. Krishan Lal

vi) Manju Mary Paul

Functional Classification of Cereal Proteins using Support Vector Machine

Abiotic stress factors severely limit plant growth and development as well as crop yield. Various proteins of the plants are responsible for regulation of these abiotic stresses. Predicting the function of an unknown protein is an essential goal in bioinformatics. A highly accurate prediction method capable of identifying protein function, based on physicochemical properties of protein has been described. On the basis of 34 features extracted solely from the protein sequence, which are responsible for the regulation of different abiotic stresses *ie* heat, cold, drought and ABA, models were built to predict the functions of different proteins of Poaceae family. In this study, classification of cereal proteins has also been done using the secondary structure values such as Alpha-helix, â sheet, coil, and turn. Models for classification of cereal proteins have been developed using Support Vector Machine (SVM). Feature selection was performed by stepwise Logistic Regression by taking presence of abiotic stress as the response variable. This method analyses and identifies specific features of the protein sequence that are highly correlated with certain protein functions of these abiotic stresses. SVM was trained using different kernel functions such as radial, polynomial and sigmoid. Different measures such as sensitivity, specificity and accuracy has been calculated. Prediction error was also estimated using 10 fold and bootstrap cross validation technique. The accuracy of protein function prediction using SVM with different kernel functions ranged from 60% to 100% when classification was performed using physicochemical properties. Prediction accuracy of different models developed using structural composition with different kernel functions was also validated using bootstrap and 10 fold cross validation. Accuracy of prediction of these models ranges from 77% to 100% when classification was done based on structural composition.

Guide: Dr. Anil Rai

vii) Vandita Kumari

Crop Yield Forecast Model Using Ordinal Logistic Regression

The use of ordinal logistic model has been explored for forecasting wheat yield in Kanpur district of Uttar Pradesh. Weekly weather data (1971-72 to 2009-10) on five weather variables namely maximum

temperature, minimum temperature, morning relative humidity, evening relative humidity and rainfall for 16 weeks of the crop cultivation which include 40th standard meteorological week (SMW) to 52nd SMW of a year and 1st SMW to 3rd SMW of next year have been used in the study. Data from 1971-72 to 2006-07 have been utilized for model fitting and subsequent three years (2007-08 to 2009-10) were used for the validation of the model. Crop years were divided into two or three groups based on the detrended yield. Crop yield forecast models have been developed using probabilities obtained through ordinal logistic regression along with year as regressors for different weeks starting from 52nd SMW. Suitable strategy has been used to solve the problem of number of variables more than number of data points. This approach has been compared with that of discriminant function analysis. In discriminant function approach two types of models were developed, one using scores and another using posterior probabilities. Performance of the models obtained at different weeks was compared using Adjusted R^2, PRESS (Predicted error sum of square) and forecasts were compared using RMSE (Root mean square error) of forecast and MAPE (Mean absolute percentage error) of forecast. Using these criteria the model which came out to be most suitable for forecasting was based on ordinal logistic regression using two groups. Appropriate time of forecast was found to be 52nd standard meteorological week (11 weeks after sowing).

Guide: Dr. Ranjana Agrawal

viii) Ranganath HK

A Study of Linear Regression Models for Interval-valued Data

Classical statistical methodologies are not capable of analyzing data in intervals, which occur in many real situations. Therefore, methodology for analysis of data in intervals is considered. Specifically, computation of descriptive statistics, such as empirical frequency function, sample mean, sample variance, univariate and bivariate histograms for interval-valued data are discussed. Four different methods of fitting linear regression models for interval-valued data, viz. Centre method, Centre and range method, Constrained centre and range method, and Least absolute shrinkage and selection operator (LASSO) technique are described. Relevant computer programs are developed in SAS/IML and MATLAB software packages for fitting of the model. A comparative study of various methods is carried out on weekly meteorological data in intervals pertaining to Temperature and Relative humidity as explanatory variables and Pan evaporation as response variable. It is concluded that for fitting linear regression models for interval-valued data, LASSO technique has performed the best for the data under consideration.

Guide: Dr. Prajneshu

ix) Raju Kumar

An Application of Calibration Approach for Estimation of Population Ratio

The calibration approach is frequently used to develop precise estimators of important population parameters like finite population ratio depending upon the extent of availability of auxiliary information. A calibration estimator uses calibrated weights, which are as close as possible, according to a given distance measure, to the original sampling design weights while also respecting a set of constraints, the calibration equations. The literature on estimation of complex parameters like population ratio, population variance/covariance etc. is very limited. Further, the chi-square type distance is generally used for determination of revised/calibrated weights. A higher level calibration approach has also been proposed for improving the variance estimator. If the calibrated weights take negative values, the use of negative weights in the variance estimator expression will provide negative variance estimator. In view of these problems, the proposed research has been taken with the specific objectives of non-negative calibrated weight using quadratic programming technique for variance estimation. For this purpose, the data given in Horvitz-Thompson (1952) has been taken for application of quadratic programming approach. From a population of 20 units, all possible equal probability without replacement samples of size 5 were drawn and calibrated weights were determined using the chi-square type distance function. In about 4.48 percent cases, negative weights were obtained. The quadratic programming approach was used for determining calibrated weights. For the application of quadratic approach, a program using proc optmodel procedure was written in SAS. The weights were recomputed using the quadratic programming approach. All the weights obtained through the quadratic programming approach were found to be non-negative.

The calibration approach was used to estimate the parameter of finite population ratio. Different calibrated weights were obtained for different situations of available auxiliary information as well as for different system of weights. The two situations of auxiliary information considered were 1) The population totals of auxiliary variables pertaining to numerator and denominator is

available separately and 2) Only the ratio of the population totals of auxiliary variable is available. The expression for variance and estimated variance of the estimators were developed. The performance of different calibrated weights was studied through a simulation study. The study revealed that the calibrated estimators perform better than an estimator of population ratio which does not make use of auxiliary information. Further, the calibrated estimator based on two systems of weights was found to perform better than the other calibrated estimators based on single weights in majority of cases.

Guide: Sh. SD Wahi

M.Sc. (Computer Application)

i) Inderjeet Singh Walia

Software for the Online Analysis of Row-Column Design

Experimentation is an integral part of any research endeavour. Designing an experiment is therefore very important so as to draw valid inferences from the data generated from the experiment keeping in view the objectives of the study and hypothesis to be tested. Block designs are used when the heterogeneity present in the experimental material is in one-direction. However, when the heterogeneity present in the experimental material is in two directions i.e. rows and columns, then double grouping is done which eliminates from the errors all differences among rows and equally all differences among columns. Designs used for the above situations are termed as Row-Column Designs (RCD) or designs for two-way elimination of heterogeneity. Due to their wide use in agricultural experimentation, a web based software for analysis of the data generated for RCD has been developed. It has been developed on. Net framework using C#. A statistical engine has been developed in the form of an object oriented C# library for analysis as per the statistical methodology. It also provides the analysis of several character simultaneously. The software has five modules namely ANALYSIS, SAMPLE DATA, CONTACT US, FEEDBACK and HELP accessible to the user through the Home page. Data input is from an Excel file on client side which is analyzed to give the analysis for RCD, p-values, R-square, coefficient of variation, root mean square error and mean of character. It also provides a framework which is easy to use, extend and integrate with other .Net compatible software tools.

Guide: Dr. PK Malhotra

ii) Sahi Ram

Expert System for Rapeseed-Mustard Crop

Rapeseed-mustard crop is grown in India in diverse agro climatic conditions. Most of the farmers do not know which variety is appropriate for a particular season and also for a particular area. They generally use the same variety over a long period of time. Besides this, pests and diseases are the major causes for the damages in the crops and result in economic loss to the farmers. Use of over dosages of pesticides and fungicides by farmers to save their crop also causes environmental hazards. This Ontologies based Expert System for Rapeseed-Mustard is designed to disseminate need based research findings to the farmers at a time so that they can take appropriate decisions. In conventional architecture of expert system, knowledge engineers along with domain experts build the knowledgebase manually and these expert systems are known to be working within a narrow domain of knowledge. But for building the expert system in agriculture for a vast and diverse country like India, the conventional approaches fail to meet the need of the farmers. Ontology is the latest knowledge representation technique that allows the domain experts to code their knowledge in a specific domain. It has the potential to be used in a distributed environment like Internet and provide dynamic and reusable capability to the knowledgebase. The system currently has been developed with robust JAVA technology and uses MS SQL Server as database. The system currently consists of knowledgebase of 10 diseases, 8 insects and 110 varieties of rapeseed-mustard. The system works in question-answer mode and allows the farmers to choose options for each of the question asked. At each level, the text is supported by pictures. The system has a dynamic knowledgebase and acts as a tool for transferring the site and crop specific knowledge of various domain experts to the farmers.

Guide: Dr. Sudeep

iii) Rakesh Kumar Ranjan

Development of Software for Back Propagation Neural Network with Weight Decay Algorithm

The rapid advancements in the internet technology front have expanded the potentiality for web based software packages which allow quick and convenient sharing of methodology among researchers. Artificial Neural Networks (ANNs) are non-linear structures used for prediction and classification problems. ANNs can identify

and learn correlated patterns between input data sets and corresponding target values. Trained ANN can be used to predict the outcomes of independent variables. Over fitting and under fitting are two major problems that may arise in ANNs. Multi-collinearity is a statistical phenomenon in which two or more predictor variables in a model are highly correlated and provide redundant information about the response. The problem of multi-collinearity leads to overtraining. This problem is handled by using ANNs with weight decay algorithm. Most of the software available for analyzing the data using ANN are either very costly or difficult to use. In this study, a web based software for back propagation neural networks with weight decay algorithm has been developed. Waterfall model has been used for software development process. This software is useful for statistician and researchers working in the area of agriculture.

Guide: Ms. Anu Sharma

iv) Sreekumar Biswas

Building and Querying Ontology for Agriculturally Important Microbes

Traditional knowledge representation techniques generate unstructured knowledge. The need of converting the unstructured knowledge into structured knowledge is highly felt. Ontologies are the new form of knowledge representation technique that acts in synergy with agents and Semantic Web architecture. Building ontologies in different domains of agriculture are helpful to convert unstructured knowledge into structured knowledge, which can be shared across different applications. The microorganisms represent a crucial role in the world of agriculture. In this work, an attempt has been made to develop a web based software for the microorganisms, important from agricultural point of view. There are many classification systems for microbes, but the Three Domain System of Microbial Taxonomy is most accepted worldwide. Microbial ontology has been designed and created for Three Domain System of Microbial Taxonomy through Protégé 3.4.6 OWL editor from Domain to Genus level for those bacteria which are important in agriculture. Using this microbial ontology, a web based application, Microbial Taxonomy Ontology has been developed. This application has N-tier architecture, application development environment as NetBeans IDE 7.0.1, Protégé 3.4.6, Web development technology as Java Server Pages (JSP) and SPARQL. Semantic Web Framework layer is implemented using JENA. The search facility provides Three Domain System of microbial taxonomy for agriculturally important bacteria in details up to Genus level of the twenty domains. Domain experts can see and edit the knowledge base (i.e. Microbial Ontology) or can suggest anything related to the creation of Microbial Taxonomy Ontology through a user friendly web interface. By using Advance Search navigation key, one can easily classify an unknown microbe up to Genus level. This software also facilitates name based search for all microbial taxonomic terms. Other applications can use its knowledgebase as it is in the form of Ontology.

Guide: Dr. Sudeep

v) Chandan Kumar Deb

Building Soil Ontology up to Soil Series

Web based software which use ontology as their knowledge base are gaining importance as they act in synergy with agents and Semantic Web Architecture. Ontologies define domain concepts and the relationships between them, and thus provide a domain language that is meaningful to both humans and machines. For the web, ontology is about the exact description of web information and relationships between web information. Taxonomies describe real world concepts in well-defined hierarchy and exist in standardized form for numerous domains of knowledge. It is imperative that ontologies are built in different domains of agriculture that help to convert unstructured knowledge into structured one which can be shared across applications. Soil Ontology developed for USDA soil taxonomy by Das (2010) and Das *et al.* (2012) for Soil Orders available in India only up to Sub group level has been used to develop a web based application that now covers all the twelve orders worldwide. The developed soil ontology now is available up to Family and Series level. The developed web based application is having N-tier architecture, developed using NetBeans 6.9 editor, Protégé, Java Server Pages (JSP) and SPARQL. Semantic Web Framework layer is implemented using JENA. Information related to soil taxonomy and newly found soils can be easily classified according to USDA soil taxonomy by mentioning their properties. Domain experts can edit or add any new information about the soil taxonomy. By using Advance Search navigation key one can easily classify a newly found soil up to series level. This software also facilitates name based search for all soil taxonomic terms. By using the series navigation key, one can easily get the

detailed information of state wise series description. Other applications can use its knowledgebase as it is in the form of Ontology.

Guide: Dr. PK Malhotra

Research Fellowship

During 2012-13, 15 Ph.D. and 33 M.Sc. students received research fellowship. 15 Ph.D. students received IASRI fellowship at the rate of Rs. 10,500/- p.m. in addition to Rs. 10,000/- per annum as the contingent grant. 12 M.Sc. students received ICAR Junior Research Fellowship at the rate of Rs. 8640/- p.m. besides Rs. 6000/- per annum as the contingent grant and 21 M.Sc. students received IASRI fellowship at the rate of Rs. 7560/- p.m. besides Rs. 6000/- per annum as the contingent grant.

Strengthening of Post Graduate Programme

On the basis of funds received from P.G. School, IARI, the teaching program in the discipline of Agricultural Statistics, Computer Application and Bioinformatics have been strengthened with modernization of class-rooms, upgrading of computers /servers/software and related equipments for the students and faculty keeping in pace with developments.

P.G. School Management System

PG School, IARI Management System is developed under the IASRI Institute funded project "Intranet Solutions for PG School, IARI" by Division of Computer Applications, IASRI. The system helps in achieving the PG School objectives by giving online access to various resources. The system is available to students, faculty members, scientists and administrative staff of PG School, IARI. It has following sub modules:

- Course Management
- Student Management
- Faculty Management
- Administration Management
- E-Learning

CERTIFICATE COURSE

Senior Certificate Course in Agricultural Statistics and Computing: 5 participants

The Institute continued to conduct Senior Certificate Course in Agricultural Statistics and Computing for the benefit of research workers engaged in handling statistical data collection, processing, interpretation and employed in research Institutes of the Council, State Agricultural Universities and State Government Departments, etc. and foreign countries including SAARC countries. The main aim is to train the participants in the use of latest statistical techniques as well as use of computers and software packages. The course comprise of two independent modules of three months duration each.

The course was organized during the period 18 June 2012 to 24 November 2012 (Module-I: 18 June - 18 August 2012 and Module-II: 03 September - 24 November 2012). The main topics covered under the course included Statistical Methods, Official Agricultural Statistics, Use of Computers in Agricultural Research, Sampling Techniques, Econometrics, Forecasting Techniques, Design of Experiments and Statistical Genetics.

NATIONAL / INTERNATIONAL TRAINING PROGRAMMES

Summary of Training Programmes Organised

Category	Training Programmes	No. of Participants
International	**02**	**13**
National	**19**	**361**
CAFT	04	86
Summer / Winter School	02	50
NAIP	06	103
Resource Generation	04	70
Others	03	52
Total	**21**	**374**

Details of Training Programmes Organised

S.No.	Title	Venue	Duration	Sponsored by	No. of Participants
	International (2: 13 Participants)				
1.	Techniques of Estimation and Forecasting of Crop Production in India Course Director: UC Sud Course Co-Director: Hukum Chandra	IASRI, New Delhi	23 May to 02 June 2012	Food & Agriculture Organization (FAO)	07
2.	Applications of Remote Sensing and GIS in Agricultural Surveys Course Director: Prachi Misra Sahoo Course Co-Director: Tauqueer Ahmad	IASRI, New Delhi	24 January to 13 February 2013	Afro-Asian Rural Development Organization (AARDO)	06
	National (19: 361 Participants)				
	Centre of Advanced Faculty Training (4: 86 Participants)				
3.	Statistical Models for Forecasting in Agriculture Course Director: Ramasubramanian V. Course Co-Director: Mir Asif Iquebal	IASRI, New Delhi	11 September to 01 October 2012	Education Division, ICAR	25
4.	Recent Advances in Sample Survey and Analysis of Survey Data using Statistical Software Course Director: Hukum Chandra Course Co-Director: Kaustav Aditya	IASRI, New Delhi	03-23 October 2012	Education Division, ICAR	18
5.	Recent Advances in Designing and Analysis of Agricultural Experiments Course Director: Krishan Lal Course Co-Directors: Anil Kumar Eldho Varghese	IASRI, New Delhi	08-28 January 2013	Education Division, ICAR	22
6.	Development of Expert System through AGRIdaksh Course Director: Sudeep Course Co-Directors: Alka Arora Pal Singh	IASRI, New Delhi	14 February to 06 March 2013	Education Division, ICAR	21
	Summer/Winter School (2: 50 Participants)				
7.	Summer School on Forecast Modelling in Crops Course Director: KN Singh Course Co-Directors: N. Okendro Singh DR Singh	IASRI, New Delhi	17 July to 06 August 2012	Education Division, ICAR	25
8.	Winter School on Recent Advances on Quantitative Genetics and Statistical Genomics Course Director: AR Rao	IASRI, New Delhi	06-26 November 2012	Education Division, ICAR	25
	National Agricultural Innovation Project (6: 103 Participants)				
9.	Dissemination cum Training Workshop on Technology Forecasting Methods with Application in Agriculture	IASRI, New Delhi	06-15 June 2012	V-Page sub program II: Technology Forecasting & Policy Analysis	11

10.	Forecast Modelling in Crops Using Weather and Geo-informatics Course Director: KN Singh Course Co-Directors: Anshu Bhardwaj Amrender Kumar	IASRI, New Delhi	22 August to 04 September 2012	NAIP	15
11.	Sensitization programme under the project Strengthening Statistical Computing for NARS Course Co-ordinators: Samir Farooqi Dwijesh Mishra	NBAIM, Mau	22-24 November 2012	NAIP	14
12.	Statistical Approaches for Genomic Data Analysis Course Director: Seema Jaggi Course Co-Director: Sarika	IASRI, New Delhi	07-19 January 2013	NAIP	19
13.	Data Analysis using SAS Course Director: Rajender Parsad Course Co-ordinators: Seema Jaggi VB Singh (RVSKVV, Gwalior)	RVSKVV, Gwalior	18-23 February 2013	NAIP	21
14.	Data Analysis using SAS Course Director: Ramasubramanaian V. Course Co-ordinators: Samir Farooqi Rajesh Sharma and Vipin Ladha (SKRAU, Bikaner)	SKRAU, Bikaner	04-09 March 2013	NAIP	23
	Resource Generation (5: 78 Participants)				
15.	Data Analysis and Interpretation: Use of Statistical Software Course Director: Rajender Parsad Course Co-Directors: Krishan Lal Susheel Kumar Sarkar	IASRI, New Delhi	14 May to 01 June 2012	Central Statistical Organization Ministry of Statistics & Programme Implementation	38
16.	Agricultural Statistics Course Director: KK Tyagi Course Co-Director: Tauqueer Ahmad	IASRI, New Delhi	30 October to 02 November 2012	Department of Agriculture, Govt. of Andhra Pradesh	15
17.	Small Area Estimation Course Director: UC Sud Course Co-Director: Hukum Chandra	IASRI, New Delhi	03-08 December 2012	Central Statistical Organization Ministry of Statistics & Programme Implementation	11
18.	Study tour on Agricultural Statistics System and Food Security Policy Analysis in India for DPR Korea Course Director: UC Sud Course Co-ordinator: Tauqueer Ahmad	IASRI, New Delhi	04-08 February 2013	Food and Agriculture Organization (FAO)	06
	Others (3: 52 Participants)				
19.	Functions and Activities of IASRI Organizer: Seema Jaggi	IASRI, New Delhi	07 December 2012	National Academy of Statistical Administration (NASA)	08
20.	Elementary Data Analysis for Technical Personnel of ICAR Course Director: Cini Varghese Course Co-Director: Susheel Sarkar	IASRI, New Delhi	11-15 March 2013	ICAR	20
21.	Website Development and Hosting for Technical Personnel of ICAR Course Director: Pal Singh Course Co-Director: Sudeep	IASRI, New Delhi	18-22 March 2013	ICAR	24

FACULTY MEMBERS OF P.G. SCHOOL, IARI IN AGRICULTURAL STATISTICS

S. No.	Name	Year of induction
1.	Dr. UC Sud, Director (A) (w.e.f. 01.03.2013) & Head (SS)	1995
2.	Dr. VK Bhatia, Director (superannuated on 28.02.2013)	1987
3.	Dr. VK Gupta, National Professor	1984
4.	Dr. Prajneshu, Principal Scientist and Head (Statistical Genetics)	1984
5.	Dr. Rajender Parsad, Principal Scientist, Head (Design of Experiments) & Professor (Agricultural Statistics)	1995
6.	Dr. Anil Rai, Principal Scientist & Head (Centre for Agricultural Bioinformatics)	1995
7.	Dr. KN Singh, Principal Scientist & Head (Forecasting & Agricultural System Modeling)	2011
8.	Dr. Ranjana Agrawal, Principal Scientist	1988
9.	Sh. SD Wahi, Principal Scientist	1987
10.	Dr. KK Tyagi, Principal Scientist	1995
11.	Dr. Krishan Lal, Principal Scientist	2003
12.	Dr. RL Sapra, Principal Scientist (at IARI)	2002
13.	Dr. Seema Jaggi, Principal Scientist	1995
14.	Dr. Lalmohan Bhar, Principal Scientist	1998
15.	Dr. Amrit Kumar Paul, Senior Scientist	1998
16.	Dr. Tauqueer Ahmad, Senior Scientist	1998
17.	Dr. AR Rao, Senior Scientist	1998
18.	Dr. Ramasubramanian V., Senior Scientist	1999
19.	Dr. Girish Kumar Jha, Senior Scientist (at IARI)	1999
20.	Dr. Cini Varghese, Senior Scientist	2000
21.	Dr. Himadri Ghosh, Senior Scientist	2004
22.	Dr. Prachi Misra Sahoo, Senior Scientist	2002
23.	Dr. Hukum Chandra, Senior Scientist	2003
24.	Dr. Amrender Kumar, Scientist	2003
25.	Md. Wasi Alam, Scientist	2003
26.	Dr. Prawin Arya, Senior Scientist	2003
27.	Dr. Anil Kumar, Senior Scientist	2010
28.	Dr. Sanjeev Panwar, Scientist	2011
29.	Dr. Ranjit Kumar Paul, Scientist	2011
30.	Dr. Mir Asif Iqubal, Scientist	2011
31.	Dr. BN Mandal, Scientist	2011
32.	Dr. Susheel Kumar Sarkar, Scientist	2011
33.	Dr. N Okendro Singh, Scientist (Relieved on 28.02.2013)	2011
34.	Dr. Eldho Varghese, Scientist	2011
35.	Dr. Kaustav Aditya, Scientist	2012

FACULTY MEMBERS OF P.G. SCHOOL, IARI IN COMPUTER APPLICATION

S. No.	Name	Year of induction
1.	Dr. PK Malhotra, Principal Scientist & Professor (Computer Application)	1991
2.	Dr. RC Goyal, Principal Scientist	1995
3.	Dr. Sudeep, Senior Scientist	2002
4.	Dr. Alka Arora, Senior Scientist	2001
5.	Ms. Anu Sharma, Scientist	2004
6.	Ms. Shashi Dahiya, Scientist	2001
7.	Md. Samir Farooqi, Scientist	2001
8.	Sh. KK Chaturvedi, Scientist (on study leave)	2002
9.	Sh. SN Islam, Scientist	2004
10.	Sh. SB Lal, Scientist	2004
11.	Ms. Anshu Bhardwaj, Scientist	2004
12.	Ms. Sangeeta Ahuja, Scientist	2002
13.	Dr. Rajni Jain, Principal Scientist (at NCAP)	2007
14.	Sh. Pal Singh, Scientist	2010
15.	Sh. Yogesh Gautam, Scientist	2012

FACULTY MEMBERS OF P.G. SCHOOL, IARI IN BIOINFORMATICS

S. No.	Name	Year of induction
1.	Dr. VK Bhatia, Director (superannuated on 28.02.2013)	2010
2.	Dr. Prajneshu, Principal Scientist, Head (Statistical Genetics) & Professor (Bioinformatics)	2010
3.	Dr. KC Bansal, Director, NBPGR	2010
4.	Dr. Rajender Parsad, Principal Scientist, Head (Design of Experiments)	2010
5.	Dr. Anil Rai, Principal Scientist & Head (CABin)	2010
6.	Dr. Seema Jaggi, Principal Scientist	2010
7.	Dr. AR Rao, Senior Scientist	2010
8.	Dr. Sudeep, Senior Scientist	2010
9.	Sh. SB Lal, Scientist	2010
10.	Mohd. Samir Farooqi, Scientist	2010
11.	Ms. Anu Sharma, Scientist	2010
12.	Dr. TR Sharma, Principal Scientist (at NRCPB)	2010
13.	Dr. T Mahapatra, Principal Scientist (at NRCPB)	2010
14.	Dr. Kishore Gaikwad, Senior Scientist (at NRCPB)	2010
15.	Dr. RL Sapra, Principal Scientist (at IARI)	2010
16.	Dr. T Napolean, Senior Scientist (at IARI)	2010
17.	Dr. PK Singh, Senior Scientist (at IARI)	2010
18.	Dr. PS Pandey, Principal Scientist (at IARI)	2010
19.	Dr. KV Bhat, Principal Scientist (at IARI)	2010
20.	Dr. SS Marla, Principal Scientist (at NBPGR)	2010
21.	Dr. Sunil Archak, Scientist (at NBPGR)	2010
22.	Dr. DC Mishra, Scientist	2010
23.	Dr. Sarika, Scientist	2010
24.	Sh. Sanjeev Kumar, Scientist	2010

COURSES TAUGHT DURING THE ACADEMIC YEAR 2011–12

Code	Title	Course Instructors
	AGRICULTURAL STATISTICS	
	Trimester – III	
PGS-504	Basic Statistical Methods in Agriculture (2+1)	Ramasubramanian, V & Susheel Kumar Sarkar
AS-503	Basic Sampling and Non-parametric Methods (2+1)	Hukum Chandra, UC Sud, Sanjeev Panwar & LM Bhar
AS-563	Statistical Inference (4+1)	Rajender Parsad, LM Bhar & GK Jha
AS-564	Design of Experiments (3+1)	Seema Jaggi, VK Gupta & BN Mandal
AS-566	Statistical Genetics (3+1)	VK Bhatia
AS-662	Advanced Designs for Multi-factor Experiments (2+1)	Krishan Lal, Rajender Parsad & Eldho Varghese
AS-664	Inferential Aspects of Survey Sampling and Analysis of Survey Data (2+1)	UC Sud, Anil Rai & Hukum Chandra
AS-667	Forecasting Techniques (1+1)	Amrender Kumar & N Okendro Singh
AS-691	Seminar (1+0)	BN Mandal
	COMPUTER APPLICATION	
	Trimester – III	
CA 503	Statistical Computing in Agriculture (1+2)	Krishnal Lal, Amrit Kumar Paul & Rajender Parsad
CA 563	Operating System (2+1)	Soumen Pal
CA 567	Computer Networks (2+1)	SN Islam & Alka Arora
CA 571	Modeling and Simulation (2+1)	PK Malhotra & Anshu Bharadwaj
CA 691	Seminar (1+0)	Alka Arora
	BIOINFORMATICS	
	Trimester – III	
BI 510	Biological Databases and Data Analysis (2+1)	SB Lal, Sanjeev Kumar & Samir Farooqi
BI 511	RNA / Protein Structure Prediction & Molecular Modeling (1+2)	SS Marla & Sarika
BI 512/ AS 608	Advanced Bioinformatics (2+1)	AR Rao, M Grover & DC Mishra
BI 691	Seminar (1+0)	Sanjeev Kumar

COURSES TAUGHT DURING THE ACADEMIC YEAR 2012–13

Code	Title	Course Instructors
	AGRICULTURAL STATISTICS	
	Trimester – I	
PGS-504	Basic Statistical Methods in Agriculture (2+1)	KK Tyagi, AK Gupta & Anil Kumar
AS-501	Basic Statistical Methods (2+1)	Mir Asif Iquebal & Kaustav Aditya
AS-550	Mathematical Methods (4+0)	Cini Varghese & Himadri Ghosh
AS-560	Probability Theory (2+0)	KN Singh
AS-561	Statistical Methods (2+1)	Ranjit Kumar Paul & Eldho Varghese
AS-567	Applied Multivariate Analysis (2+1)	Ranjana Agrawal & AR Rao
AS-568	Econometrics (2+1)	GK Jha & Prawin Arya
AS-569	Planning of Surveys / Experiments (2+1)	UC Sud, KK Tyagi & Krishan Lal
AS-572	Statistical Quality Control (2+0)	Wasi Alam
AS-600	Advanced Design of Experiments (1+1)	Rajender Parsad & Cini Varghese
AS-601	Advanced Sampling Techniques (1+1)	Prachi Misra Sahoo & Hukum Chandra
AS-602	Advanced Statistical Genetics (1+1)	SD Wahi & AK Paul
AS-603	Regression Analysis (1+1)	LM Bhar & N Okendro Singh
AS-604	Linear Models (2+0)	Krishan Lal & VK Gupta
AS-606	Optimization Techniques (1+1)	UC Sud & Prajneshu
AS-691	Seminar (1+0)	BN Mandal
	Trimester – II	
PGS-504	Basic Statistical Methods in Agriculture (2+1)	KK Tyagi, BN Mandal & Amrender Kumar
AS-502	Basic Design of Experiments (2+1)	Susheel Kumar Sarkar, Anil Kumar & Sukanta Dash
AS-551	Mathematical Methods in Statistics (4+0)	Cini Varghese, NK Sharma & Sukanta Dash
AS-562	Advanced Statistical Methods (2+1)	Seema Jaggi & Ramasubramanian V
AS-565	Sampling Techniques (3+1)	Tauqueer Ahmad, Prachi Misra Sahoo & Kaustav Aditya
AS-570	Statistical Modeling (2+1)	Prajneshu & Mir Asif Iquebal
AS-571	Bioinformatics (3+1)	TR Sharma, Sunil Archak, AR Rao & Rajender Parsad
AS-575	Demography (2+0)	Bishal Gurung & AK Gupta
AS-605	Advanced Statistical Inference (1+1)	KN Singh, Anil Rai & Ranjit Kumar Paul
AS-607	Stochastic Processes (3+0)	Himadri Ghosh & Sanjeev Kumar
AS-661	Advanced Designs for Single Factor Experiments (2+1)	LM Bhar & VK Gupta
AS-663	Advanced Theory of Sample Surveys (2+1)	Hukum Chandra & Tauqueer Ahmad
AS-691	Seminar (1+0)	Bishal Gurung
	COMPUTER APPLICATION	
	Trimester – I	
CA-502/BI-502	Introduction to Computer Application (1+1)	Samir Farooqi & SN Islam
CA-551	Mathematical Foundations in Computer Application (4+0)	NK Sharma & DC Mishra
CA-552	Computer Oriented Numerical Methods (2+1)	Pal Singh & KP Singh
CA-560	Computer Organization and Architecture (3+1)	Shashi Dahiya & Yogesh Gautam
CA-561/BI-505	Principles of Computer Programming (2+1)	Anu Sharma & Sudeep
CA-565	Compiler Construction (2+1)	Sangeeta Ahuja & Soumen Pal
CA-569	Web Technologies & Applications (2+1)	Alka Arora & SB Lal
CA-575	Artificial Intelligence (2+1)	Sudeep & Rajni Jain
CA-691	Seminar (1+0)	Anshu Bhardwaj

	Trimester – II	
CA-501	Computer Fundamentals and Programming (3+1)	Pal Singh & KP Singh
CA-562	Object Oriented Analysis and Design (2+1)	Sudeep & Sangeeta Ahuja
CA-564	Data Structures and Algorithms (2+1)	Shashi Dahiya & AP Ruhil
CA-566/BI-506	Database Management System (2+2)	OP Khanduri, Anu Sharma & SB Lal
CA-568	Software Engineering (2+0)	Rajni Jain & RC Goyal
CA-572	GIS & Remote Sensing Techniques (2+1)	Prachi Misra Sahoo & Anshu Bharadwaj
CA-573	Data Warehousing (2+1)	Anil Rai & Samir Farooqi
CA-577	Data Mining & Soft Computing (2+1)	Anshu Bharadwaj, Alka Arora & Rajni Jain
CA-691	Seminar (1+0)	Pal Singh
	BIOINFORMATICS	
	Trimester – I	
BI-501	Molecular Cell Biology (3+0)	Sarvjeet Kaur, Monika Dalal & Rekha Kansal
BI-502/CA-502	Introduction to Computer Application (1+1)	Samir Farooqi & SN Islam
BI-504	Principles of Biotechnology (3+0)	RC Bhattacharya, D Patanayak, Amole Kumar & U Solanki
BI-505/CA-561	Principles of Computer Programming (2+1)	Anu Sharma & Sudeep Marwah
BI-524	Tools and Techniques for Biological Data Mining (2+1)	Sanjeev Kumar & AK Mishra
BI-525	Advanced Programming in Bioinformatics (2+1)	SB Lal & Anu Sharma
BI-691	Seminar (1+0)	Sarika
	Trimester – II	
BI-506	Database Management System (2+2)	OP Khanduri, Anu Sharma & SB Lal
BI-507	Bioinformatics (1+1)	TR Sharma, Sunil Archak, AR Rao & Rajender Parsad
BI-508	Protein Biosynthesis (3+0)	Archna Sachdev, IM Santha, Vnutha T & Veda Krishnan
BI-509	Genomics & Proteomics ()	NK Singh, TR Sharma, Kishor Gaikwad & Subodh Kumar Sinha
BI-691	Seminar (1+0)	Sudhir Srivastava

Note: Figures in the parentheses indicate the number of credits (Lectures + Practicals)

BOARD OF STUDIES FOR ACADEMIC YEAR 2012-13

Agricultural Statistics

1. Dr. Rajender Parsad, Professor (Agricultural Statistics) — Chairman
2. Dr. VK Bhatia, Director — Ex-officio Member (superannuated on 28.02.2013)
3. Dr. UC Sud, Director (A) — Ex-officio Member (w.e.f. 01.03.2013)
4. Sh. SD Wahi, Principal Scientist — Member
5. Dr. Hukum Chandra, Senior Scientist — Member
6. Dr. BN Mandal, Scientist — Member Secretary
7. Sh. Rohan Kumar Raman — Student Representative

Computer Application

1. Dr. PK Malhotra, Professor (CA) — Chairman
2. Dr. VK Bhatia, Director — Ex-officio Member (superannuated on 28.02.2013)
3. Dr. UC Sud, Director (Acting) — Ex-officio Member (w.e.f. 01.03.2013)
4. Dr. Rajini Jain, Senior Scientist — Member
5. Dr. Alka Arora, Senior Scientist — Member
6. Sh. SN Islam, Scientist — Member
7. Ms. Anshu Bhardwaj, Scientist — Member Secretary
8. Sh. Kamilka Nath — Student Representative

Bioinformatics

1. Dr. Prajneshu, Professor (Bioinformatics) — Chairman
2. Dr. VK Bhatia, Director — Ex-officio Member (superannuated on 28.02.2013)
3. Dr. UC Sud, Director (Acting) — Ex-officio Member (w.e.f. 01.03.2013)
4. Dr. SS Malra, Principal Scientist — Member
5. Dr. Kishore Gaikwad, Senior Scientist — Member
6. Dr. Anil Rai, Principal Scientist — Member
7. Dr. PK Singh, Senior Scientist — Member
8. Dr. AR Rao, Senior Scientist — Member
9. Dr. Sarika, Scientist — Member Secretary
10. Km. Priya Prabhakar — Student Representative

CENTRAL EXAMINATION COMMITTEE FOR ACADEMIC YEAR 2012-13

Agricultural Statistics

1. Dr. VK Bhatia, Director (superannuated on 28.02.2013)
2. Dr. VK Gupta, National Professor
3. Dr. Rajender Parsad, Head (DE) & Professor (Agricultural Statistics)
4. Dr. Prajneshu, Head (SG) & Professor (Bioinformatics)
5. Dr. UC Sud, Principal Scientist & Head (SS)
6. Dr. Himadri Ghosh, Senior Scientist

Computer Application

1. Dr. VK Bhatia, Director (superannuated on 28.02.2013)
2. Dr. PK Malhotra, Professor (CA)
3. Dr. RC Goyal, Principal Scientist
4. Dr. Seema Jaggi, Principal Scientist
5. Dr. Sudeep, Senior Scientist
6. Dr. Alka Arora, Senior Scientist
7. Dr. Rajini Jain, Senior Scientist (NCAP)
8. Ms. Shashi Dahiya, Scientist (Sr. Scale)

Bioinformatics

1. Dr. VK Bhatia, Director (superannuated on 28.02.2013)
2. Dr. Prajneshu, Head (SG) & Professor (Bioinformatics)
3. Dr. Anil Rai, Head (CABin)
4. Dr. AR Rao, Senior Scientist
5. Dr. T Napolean, Senior Scientist
6. Dr. Sunil Archak, Senior Scientist

IMPLEMENTATION OF MIS & FMS IN ICAR

HOME | ABOUT PROJECT | FEED BACK | CONTACT US | HELP

Welcome

An ERP solution for ICAR is being developed at IASRI under NAIP sub-project **"Implementation of Management Information System (MIS) including Financial Management System (FMS) in ICAR"**. This system includes solutions for Financial Management, Project Management, Material Management, Human Resource Management & Payroll at ICAR.

a) **Financial Management:** Solutions for General ledger, Account Payable, Account Receivable, Cash Management, Fixed Assets Management, Budget Management and grants.

b) **Project Management:** Scope for Project Information, Costing, Project Documents, Contract Management and Collaboration of Project documents.

c) **Material Management:** Solutions for Purchase and Inventory Management.

d) **Human Resource:** Employee information, HR policies, Leave Management, Performance and Appraisal System.

e) **Payroll System:** Salary, GPF, Pension Payment, Retirement Benefit Calculation and Income tax calculation Solutions for all the ICAR employees.

The implementation of ERP Solution would be for ICAR Head Quarter and its Institutes. Oracle R12 solution, which is a global enterprise system with high level of inbuilt security features, has been identified for implementation of this system. IBM India Ltd. company has been identified as system integrator for studying the requirement of ICAR institutions and customization of Oracle solutions as per ICAR needs and implementation of the same at all the ICAR institutions in two phases.

Slide Show

AsIs Session

Held on 30/04/2012

Announcements

14 September, 2012

Website for the NAIP funded project MIS/FMS has been developed and hosted at IASRI server at the address (http://iasri.res.in/misfms/). All necessary documents will be accessible from this site. You are requested to register yourself in the system so as you will have access to all those documents and relavant information. Please register and give your valuable

Half-Yearly Progress Monitoring System of Scientists

HYPM

HOME | RESOURCES | CONTACT US | PROPOSED ICAR EMAIL ID | PROPOSED UNIQUE ID

To implement Dr. P.L. Gautam's Committee recommendations on DG Half-Yearly Progress Monitoring (HYPM) of the Scientists in ICAR, a web based software has been designed and developed at IASRI, New Delhi with a view to ensure more objective evaluation of the half-yearly performance of Scientists in ICAR.

The HYPM is being maintained at the Central Server of IASRI, New Delhi and is accessible at http://hypm.iasri.res.in/. Authenticated access has been given to all concerned scientists, reporting officers, reviewing officers and research managers.

ARS (ICAR) scientist posted at any one of the ICAR Institutes has access to HYPM software through a unique UserId & Password. Facility has been provided to enter proposed targets for the coming half-year and achievements of the completed half-year independently with respect to Research, Teaching, Training, Extension and Other Prioritized Activities.

The Reporting Officer (Head of Division/Regional Station) has access to the Proposed Targets & Achievements details submitted by all concerned scientists. He/She may add his/her remarks and give recommendations on the basis of the progress reports/inputs submitted by the concerned scientists.

Reviewing Officer has dual facilities as he/she may be the Reporting Officer and as well as Reviewing Officer for some scientists like Head of Divisions and Reviewing Officer for other scientists. The Reviewing Officer is able to add his/her own Assessment Remarks and Final Overall Grading on the Proposed Targets and Achievements of all scientists. Finally, Institute/SMD/ICAR Level Monitoring Reports are generated.

Date Extended : For submission of target and achievement in HYPM, date has been extended upto 20th April 2013 for Scientists and simultaneously upto 25th April 2013 for Reporting and Reviewing Officers.

Member's Login

User Name

Password

Submit

Forgot Password

Announcements

15th October, 2012

The last date for submission of targets achievements is extended upto 12nd October 2012.