11

Consultancy and Advisory Services

Consultancy/Advisory Services Provided

Sh. Nishant Kumar Sinha, M.Sc. (Agricultural Physics) student of P.G. School of IARI, New Delhi was advised on the development of soil index using the data on pH, electrical conductivity, bulk density, porosity, organic carbon, hydraulic conductivity, microbial biomass, dehydrogenase activity (active population of microbes), Nitrate 'N' (nitrogen in nitrate form), NH_4 'N' (nitrogen in ammonia form), aggregate stability (mean weight diameter of soil particle which is important for plant growth), available water (difference between field capacity water and wilting point water) from soil in rice-wheat and maize-wheat cropping systems using principal component analysis. In most of the cases first principal component explained more than 75% of the variation and first principal component score was used as soil quality index for different management practices. He was also advised on the identification of treatment with highest soil quality index and testing the significance of differences in treatment effects. The experiment was conducted during 2006-07.

Sh. Narendra Panwar from National Bureau of Plant Genetic Resources, New Delhi was advised on the combined analysis of data pertaining to the experiment conducted to study the genetic variability and stability analysis in *Ocium species* at four locations using a randomized complete block design in 30 cultivars each replicated thrice. There were 16 characters on which data were collected.

Dr. Dharam Singh, Senior Scientist from NBSS& LUP, Delhi Centre was advised on the combined analysis of data pertaining to the experiment conducted to evaluate 4 cropping systems viz., Rice-Fallow, Rice-Pea, Rice-Potato and Rice-Mustard conducted in 2004 and 2005. The data were analyzed as rice equivalent yield and potato equivalent yield.

Dr. Yashbir Shivay, Senior Scientist from Division of Agronomy, IARI, New Delhi was advised on the analysis of data pertaining to the experiments 'Effect of zinc-

enriched urea on productivity, zinc uptake and efficiency of aromatic rice-wheat cropping system' conducted to study the effect of various concentrations of zinc-enriched urea on productivity of aromatic rice-wheat cropping system and on zinc concentrations of aromatic rice and wheat grain and straw and their uptake by the rice-wheat cropping system. He was advised on the use of Tukey's Honest Significant Difference and Duncan's Multiple Range Tests.

Sh. W Rungsung from Nagaland was advised on the analysis of data pertaining to an experiment conducted on 50 varieties of rice bean using a randomized complete block design with 3 replications conducted for 2004 and 2005 at three locations Patkai, SASRD and Kohima. He was advised on the analysis of data (both individual environment and combined over 6 environments) pertaining to 13 characters viz. flowering, maturity, plant height, pods per cluster, cluster per plant, pods per plant, pod length, seeds per pod, biomass per plant, protein content, carbohydrate content, 100-seed weight and seed yield per plant.

Dr. Jagmail Singh, Principal Scientist, Division of Genetics, IARI, New Delhi was advised on the analysis of data from complete diallel cross experiment pertaining to cotton (*Gossypium hirsutum* L.) conducted using randomized complete block designs. Three different sets of diallels were made to study genetics of fibre quality, especially fibre strength and its association, if any, with other characters. At Delhi, diallels were made involving 6 genotypes with medium staple (medium fibre length); at Dharwad, crosses were made involving 6 genotypes with long fibre length and at Nagpur, the crosses were made with 8 genotypes for seed oil contents as there is good scope for genetic improvement of seed oil content in cotton. The complete diallel crosses system (p parents, $p(p$-1)/2 crosses and $p(p$-1)/2 reciprocals) were tried at all the three locations to understand the influence of environment and cytoplasm on expression of these characters. Two traits selected for the study are at present very important in the context of suitability for high speed spinning by textile industry and for increasing oil content in our cultivars. The data was analyzed for individual location separately and combined over all the three locations for all the 3 sets of crosses.

Provided statistical consultancy to Directorate of Wheat Research, Karnal for analysis of varietal trials (IVT-I, IVT-II) and resource management trials planned under All India Coordinated Research Project on Wheat and Barley during 2006-07. Besides, analysis of nearly 1000 trials was carried out location-wise and agro-climatic zone-wise as per the design adopted. The pooled analysis was also carried out at national level. The results were prepared in suitable format for inclusion in their reports.

Provided consultancy to sweet-potato scientist of International Potato Center (CIP), South West and Central Asia for combined analysis of the data of three locations, two seasons with four replications of six varieties of sweet-potato and interpretation of results.

Two collaborative studies namely; (1) Survey of Agricultural Accidents for the year 2004-05 in a large sample of villages selected on the basis of statistical consideration with AICRP on ESA (Ergonomics & Safety in Agriculture), (2) Assessment of post harvest losses of crops/commodities with AICRP on PHT were initiated.

Manual preparation on "Fishery Statistics" as a consultancy project funded by CSO, MOS&PI, GOI, New Delhi.

Three M.Sc. students of P.G. School of IARI from Agriculture Engineering, Agriculture Physics and Genetics Division were provided consultancy services for their thesis analysis and interpretation of results.

Statistical analysis of research work of M.Sc. student Bhupender Kumar, Division of Genetics, IARI, New Delhi was done and helped for proper inference.

Provided consultancy services for Methodological Development of India Protection Quotient, NCAER, New Delhi.

Provided consultancies on sampling design of survey related to women empowerment and development of data base on women in agriculture.

Library of the Institute provided consultation to Library, IGFRI, Jhansi to computerize the house keeping activities of library including specification of hardware, library management software and designing (Layout) for library with the help of Division of Computer Applications and assisted ICAR H.Q. in revamping of its Library in step wise procedure, proposals, cost estimation etc. in the form of report.