Technology Assessed and Transferred

National Research Centre on Rapeseed and Mustard

In 2007-08, 18 Initial varietal trials were conducted using α-designs. The parameters of these designs are:

    (i)   v = 30, b = 9,   r = 3, k = 10,
            A-efficiency = 0.9683, D-efficiency = 0.9857

    (ii)   v = 30, b = 15, r = 3, k = 6,
            A-efficiency = 0.9536, D-efficiency = 0.9778

    (iii)   v = 30, b = 18, r = 3, k = 5
            A-efficiency = 0.9478, D-efficiency = 0.9745

14 trials were conducted using design (i), 3 using design (ii) and one using design (iii). The data were analyzed. In 6 trials blocks within replication differences were found to be significant and in other 9 of the trials, CV% reduced in comparison to a RCB design. Since, the use of α-designs has helped in reducing the CV%, therefore, it is recommended that α-designs should be used in IVTs.

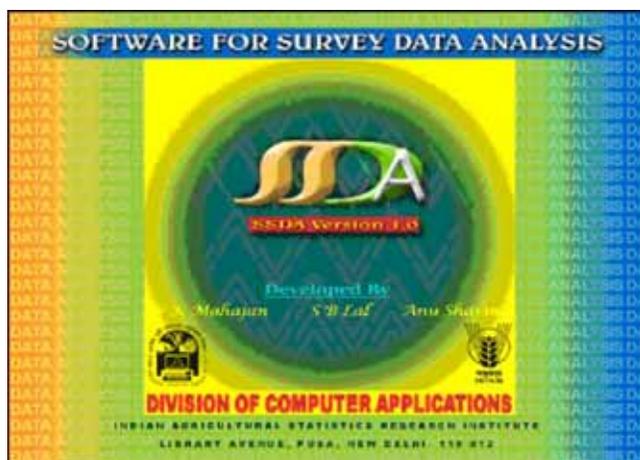A total of 82 initial varietal trials (18 using α-designs and 64 using RCB designs) were conducted. Plant stand data were provided for 61 trials (12 using α-designs and 49 using RCB designs). The analysis of covariance was performed using plant stand as covariate. The plant stand as covariate was found to be significant in 8 trials and in 19 other trials CV% reduced by taking plant stand as covariate. Therefore, it was recommended that the issue of plant stand as covariate needs to be further investigated.

The combined analysis of data from initial varietal trials conducted using α-designs and RCB designs by National Research Centre on Rapeseed and Mustard, Bharatpur during 2007-08 was performed over locations within a given zone. It has been seen that in all the trials location $\times$ genotype interactions were highly significant. Therefore, a single strain cannot be promoted for all the locations in a given zone. Hence, the strains promoted may be different for different subset of locations. Further, the entries giving 10% higher yields than the best performing check may not be significantly different from the best performing check.

Therefore, it was suggested that an entry should be promoted only when it is statistically significant from the best performing check. A procedure based on site regression biplots was suggested for identification of varieties to be promoted for a subset of locations within a given zone.

Software Released

Software for Survey Data Analysis SSDA 1.0 was released by Professor Alok Dubey, INSA Senior Scientist on September 05, 2008. The software is completely menu driven and guides users step-by-step through data analysis process. The software is capable of providing estimates of the population mean based on the sampling data collected using simple random sampling, stratified sampling, systematic sampling, cluster sampling, two stage and stratified two stage sampling.

SPRMD-Statistical Package on Repeated Measurements Designs' was released in the 47th meeting of the Programme Advisory Committee on Mathematical Sciences of Department of Science and Technology. A screen shot for functioning of the back page is

A screen shot of Software for Survey Data Analysis (SSDA1.0)
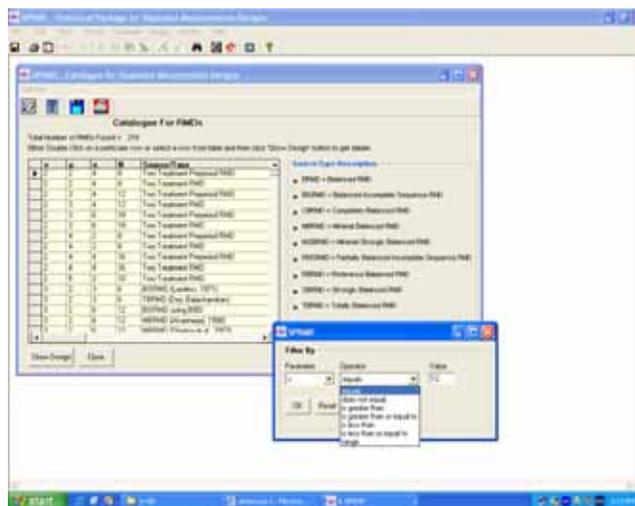
A screen shot of Statistical Package on Repeated Measurements Designs