

## **C-08: A better approach for data analysis in agricultural research using software packages**

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Though there are many software packages for data analysis, so far no single package has been developed to handle all the data types collected in agricultural research. Two major reasons for this are: (a) methods of data analysis required for agricultural research depend on the types of the crop (b) statistical packages provide methods only for standard statistical analyses. Therefore many agricultural research organisations in the world have developed their own computer systems for their data analysis requirements. Some of them include facilities for answering user queries about the data which is also an important requirement of agricultural research.

Writing a specific package considering all requirements may perhaps be the ideal solution for these data processing tasks. Reliability of such a system is low, as it needs a long time of usage to be guaranteed as free of bugs. It needs a long time of usage to be guaranteed as free of bugs. Writing specific packages for data analysis is an expensive and time consuming process. It requires regular reviews because functional requirements of a system vary from time to time. The quality of such systems depends on how much is spent on such a system. Specific computer systems are too expensive for small research institutes which have financial and environment constraints. As an alternative such Institutes can use already available software facilities (built by vendors) together with specially written relatively small programs for their specific data analysis.

The most sensible approach to process data accumulated in research institutes in meaningful ways, is to use available suitable software packages together with new programs which are written for specific functions, not yet available in these packages such as plant breeding data analysis which is unique to the crop and experimental design. This approach is most appropriate, so that additional facilities introduced by the vendors could also be used without major changes to the system.