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Computers have been applied to a wide variety of tasks in forestry. One of the traditional uses for computers in forestry, and in many other fields as well, is to perform statistical analyses. These analyses have generally been performed with the aid of statistical packages. The purpose of this brief note is to affirm the usefulness of statistical packages for data analyses and to appeal for the careful and prudent application of these powerful tools.

Packages of computer programs for statistical analyses have proliferated in recent years and are now widely used, but not always completely understood or properly employed. A package may be either a library of self-contained computer programs or a collection of subroutines or procedures which users can link together to form their own programs. Most users of statistical packages are not statisticians but scientists from various disciplines.

Packages have been, and continue to be, of great assistance to analysts. They provide an efficient means of performing tedious computations and offer a flexibility and versatility which can lead to more complete and searching analyses. When standard analyses are to be performed, statistical packages help to avoid inefficient use of human and machine time.

While it is true that the availability of statistical packages has greatly increased the use of statistical tools in data analysis and that much progress has resulted from the relative ease of performing rigorous statistical analyses through the use of package programs, there are dangers of possible misuse. Problems occur when the users are not well versed in the concepts, principles, and assumptions involved in the particular programs at their disposal. When data are analyzed by most programs from computer packages, numbers--or "answers" if you wish--will be produced, no matter how inappropriate the analysis may be for the given problem. As the users' statistical tool kit is often limited, the classic statement, "If the only tool you have is a hammer, it is tempting to treat every problem as if it were a nail," is too often true. Many of the statistical tools which constitute packages of computer programs will fall into this category, although--like the hammer--if used appropriately, these tools can be extremely effective.

Development of computer packages is a time-consuming arduous task. It is inevitable that only a limited area of current statistical theory is covered by presently available packages and statistical theory is continually being expanded. Because of the complexity of nature, no single analytical technique or collection of computer programs can be a panacea for all problems. Extreme care must be taken to fit the method of analysis to the problem.

Fortunately, users need not be statisticians or computer specialists in order to perform analyses with the aid of statistical packages. However, more education and understanding of the principles, concepts and underlying assumptions involved in the application of these powerful tools are often needed. Knowledge of statistical techniques must advance along with the computational technology associated with these techniques if true progress is to be made.