SPAB2.0: Statistical Package for Animal Breeding (SPAB2.0) has been developed keeping in view, the computing requirements of scientists/students, mainly working in Animal Breeding and Animal Genetics research. The package is Window based, Menu driven and works in a User friendly manner. In the present version of the package, 37 useful programs of maximum utility are included. These programs have been grouped into ten modules. It has provisions for Analysis of Mixed Model Data as provided in LSML Package developed by Walter R. Harvey, Best linear unbiased prediction (BLUP) for Single traits, Best linear unbiased prediction (BLUP) for multiple traits, Adjustment for different non-genetic effects, Sire evaluation using SRLS and Sire evaluation using REML. Computation of Mean and SE for different classifications, Genetic parameters for half sib data, Genetic parameters for Full sib data, Coefficient of Repeatability and Producing Ability. It provides computation of Selection Index (Hazel’s Method) Restricted Selection Index, Sire Indices for different models, Osborne's index, Cunningham’s Selection Index. Diallel analysis can be performed for data with unequal classifications, for different modeling situations viz., Analysis of complete 3 x 3 non-orthogonal Diallel crosses data, Analysis of complete 4 X 4 or above non-orthogonal Diallel cross data with or without pure breeds, Analysis of 4 X 4 or above non-orthogonal Diallel cross data without reciprocals and pure breeds. One can calculate Inbreeding coefficient, Genetic Gain and Genetic trend. Multivariate Analysis has programs for D Square analysis, Multiple Regression Analysis (Step-up / Step-down methods, all possible combinations) and Principal Component Analysis. Most of the Non-Parametric tests can also provided in the package. Help is provided and it is having a User Manual which one can study and use. This package can aid in teaching the subject of statistical genetic to the post-graduate students and helpful for the researchers in statistics with interest in animal sciences.