FACTOR ANALYSIS OF YIELD AND RELATED TRAITS IN BREAD WHEAT

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ABSTRACT

Fourteen wheat genotypes were grown at two locations, Bornova and Menemen in 1992 and 1993 in order to determine the relationships between yield and yield components among commercially grown wheat cultivars in the western Turkey. Simple correlation and factor analysis were applied to the data belongs to 19 traits measured in the study. Correlation analysis indicated that yield and the spike length had the highest positive correlation coefficient (r=0.76), while the emergence date and the heading date had the lowest negative (r=-0.82).

The factor analysis reduced the 19 traits into five factors. Factor 1 which consisted of the time of flowering date, heading date, total period of staying green and plant height explained the 26.6 percent of the total variability. Factor 2 which included the thousand kernel weight, harvest index, spike length and emergence of first leaf explained 19.36 percent of the total variation. Factor 3 explained 14.8 percent of the total variability and consisted of culming date, tillering flag leaf width. Factor 4 explained 14.0k percent of the total variability and consisted of flag leaf length, flag leaf area and grain filling date. Factor 5 explained only 7.6 percent of the variation and included the number of spikes in a square meter, the numuber of plants in a square meter and plot yield.