Abstract

The objectives of this study were to evaluate dry matter (DM) yield and seed yield of six leafed and semi-leafless pea (*Pisum sativum* L.) genotypes, and to compare them for these traits. Evaluation of genotype $\times$ environment (G $\times$ E) interaction, stability and cluster analysis were also carried out at eight diverse locations with typical Mediterranean and Mediterranean-type climate during the 2001–2002 and 2002–2003 growing seasons. Significant differences were found among the pea genotypes for DM and seed yield on individual years and combined over years, and in all locations. All interactions which related to G $\times$ E interaction showed significance (P>0.001) for DM and seed yield. The highest yield (4789 kg ha-1) was obtained from the leafed genotype 'Urunlu'. However, stability analysis indicated that for DM yield, the leafed genotypes 'Golyazi' and 'Urunlu' should be grown in low yielding and high yielding environments, respectively. Cluster analysis, based on grouping locations, showed that P101 was the preferred variety in low yielding environments, and P98, in high yielding ones. It was suggested that the use of both stability and cluster analyses might give better results. Comparison of cluster and stability analyses showed that the stability analysis fails to recommend cultivars to different regions where yield potential showed significant differences. It seems, however, that cluster analysis could be a powerful tool to examine G $\times$ E interaction. If the number of environments was sufficient, a separate stability analysis could be run in each cluster.