

Abstract

In order to perform multivariate analysis of variables related to the quantity and quality of forage barley under normal and drought stress conditions, A total of 148 common commercial varieties of spring barley cultivars Europe in alpha lattice design with two Reps 1393 were evaluated. Each plot consisted of four rows of 20 cm to over 2 meters and the distance between the rows of the forage samples were harvested at dough stage. Weighing samples after 48 hours were dried at 72 ° C, Dried samples were weighed and then ground. And to measure traits related to forage quality (DMD, CP, WSC, ADF, CF, NDF, ADL, ASH) Were scanning, Other characteristics (number of tillers per plant, plant height, seed of fodder, leaf to stem ratio) on five plants that were selected at random from each plot, Were measured. The obtained results show that there is an inverse relationship between forage quality and quantity And factors that are improving forage quality decreases its quantity and vice versa, Factor analysis in normal conditions for 14 variables in five factors were defined The first five of a total of 81/80 percent of the justified and Drought in the first five factors were a total of 35/79% of the total variation. According to the results of a regression in both normal and drought conditions, acid detergent fiber alone was the largest (28/92 and 21/92 respectively for natural conditions and drought) in justification of dry matter digestibility was and share other traits in justification of digestible dry matter was insignificant. Through cluster analysis to normal conditions, 148 are 04/7 barley cultivars studied were divided into six separate clusters, And for drought stress are 77/6 split into five separate clusters. Cluster analysis showed that the figures (Hydrogen, Christian, Lysiba, Cathrine, PF11011-52) For all traits stable in normal conditions, drought, so the cultivation of these varieties were recommended in Zabul province.

Key words: Alpha lattice, Drought Tolerance Index, Similarity coefficient, Cluster analysis, The correlation coefficient



University of Zabol
Graduate School
Faculty of Agriculture
Department of Plant Breeding and Biotechnology

**The Multivariate analysis of quantity and quality-related
traits of barley forage under normal and drought stress
conditions**

Supervisor:

Dr. Barat Ali Fakheri

Advisors:

Dr. Nafise Mahdi Nezhad

By:

Davood Khammari

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