Abstract

In order to analyze multi-variables features related to quantity and quality of grain forage under normal conditions and solution-splashing with manganese ،they were evaluated ۱۴۸varieties of spring barley from current commercial figures in Europe in the form of Alpha Latis plan with ۲repetition in ۲۰۱۴. Solution-splashing was performed in three stages: tillering, steming and flowering, with one kg per hectare density in each stage. Plant samples were harvested in dough stage so as to measure the quantity and quality of forage. And after weighing, they were dried at °۷۲C for ۴۸hours. The dried samples were weighed and then, were grind and were scanned by NIR in order to measure the features related to quality of forage (ASH, ADL, NDF, CF, ADF, WSC, CP, DMD). Other features (number of tiller in bush, height, seed to forage rstio, leaf to stem ratio) were measured on five bushes which they had been selected from each plot randomly. The results of correlation analysis represented that there's an inverse relationship between quality and quantity of forage, thereupon the factors which increases the quality of forage, decrease its quality and vice versa. The results of analysis to factor were defined in normal conditions for ۱۴variables in five factors that the first five factors justified ۸۰٫۸۱%of changes totally and in solution-splashing stage, in total, the first four factors justified ۷۵٫۸۳%of total variance. According to regression results in both normal and solution-splashing conditions, acid detergent fiber had the most share (۹۲٫۲۸and ۷۸٫۴۹for normal and solution-splashing conditions, respectively) in justifying digestible changes of dried substance. and other features had little share in justifying digestible changes of dried substance. By cluster analysis for normal condition, ۱۴۸ varieties of studied grain were divided in six separate clusters in ۷٫۰۴distance, and they were divided in five separate clusters for solution-splashing in ۷٫۸۰distance. The cluster analysis results represented that figures of Delita, Christian, Lysiba, Catherine, PF ۵۲-۱۱۰۱۱included stability in normal and solution-splashing conditions for all features.

Key words: Alpha lattice, Cluster analysis, Similarity coefficient, The correlation coefficient.

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The Multivariate analysis of quantity and quality-related barley forage traits under normal conditions and spraying of manganese

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