

Evaluation of Yield and Yield Components of Forage in Barley and Broad Leaf Vetch (*Vicia narbonensis*) Mixture in Ahvaz Climatic Conditions

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Abstract

In order to investigate the yield and yield components of forage in barley and broad leaf vetch mixture, this experiment was conducted during 1386-1387 cropping season in Experimental Farm of Agricultural College of Shahid Chamran University of Ahvaz by using split plots based on Randomized Complete Block Design with three replications. Methods of planting with three levels (row, mixed and mixed on row planting) as the main factor and proportions of planting with four levels (pure stand of barley, pure stand of vetch, proportion of 2 to 1 barley to vetch and 1 to 2 barley to vetch) as the sub factor. In order to make the mixtures, the replacement series technique was used. The results indicated that there were significant differences between planting methods, planting proportions and their interactions for dry forage yield. The highest dry forage yield was obtained for proportion 1 to 2 barley to vetch in mixed on row intercropping (18.35 t.ha^{-1}), while the lowest yield was observed in sole cropping of vetch in row intercropping (7.73 t.ha^{-1}). Interactions of planting method and planting proportion particular characters like, the number of tiller in barley, the number of stem in vetch and the height of vetch became significant at the 5% level probability. But as for as the height of burley concerns, the statistical analyses has been shown that there was no significant differences among the crops under investigation. Calculated land equivalent ratio (LER) as dry forage yield indicated that proportion of 1 to 2 barley to vetch in mixed on row intercropping had the highest land equivalent ratio (LER=1.63), thus the proportion of 1 to 2 barley to vetch in mixed on row intercropping as forage yield and better use from sources showed it's a dvantage in comparison to the other treatments.

Keywords: *Barley, Vetch Broad Leaf, Intercropping, Planting Method, Proportion of planting, Land Equivalent Ratio (LER).*