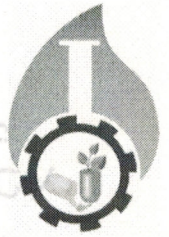


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**BENEFIT OF ALFALFA AND FENNEL INTERCROPPING IN  
DIFFERENT LEVELS OF PLANTING PATTERN AND  
BIOFERTILIZER**

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In order to evaluate the effect of biofertilizer on Alfalfa (*Medicago sativa* L.) and Fennel (*Foeniculum vulgare* L.) on different intercropping, an experiment was conducted at College of Agriculture, Shahed University of Tehran, Iran, in year 2011. The experiment design was split plot on the basis of randomized complete block with three replications. Two levels of fertilizer: control (no fertilizer), biofertilizer (*Azospirillum/Azotobacter*, bio phosphorous fertilizer) was allocated to the main plots and different intercropping of Alfalfa and Fennel at 4 levels in subplots: sole alfalfa (100% alfalfa), sole fennel (100% fennel), 100% alfalfa + 50% fennel, 100% alfalfa + 100% fennel. Results showed that the highest alfalfa and fennel yield were obtained by applying biofertilizer. Maximum yield of alfalfa and fennel and highest total yield were observed in sole cropping and 100% alfalfa + 100% fennel treatments, respectively. Interactions of two treatments of biofertilizer and intercropping were significant. Results showed that the maximum yield of alfalfa and total yield was obtained from biofertilizer and 100% alfalfa + 100% fennel. The highest Land Equivalent Ratio (LER) was obtained in 100% alfalfa + 100% fennel intercropping and no fertilizer. The lowest LER was in 100% alfalfa + 50% fennel intercropping and biofertilizer.