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Evaluation of the performance of seventeen varieties of alfalfa (*Medicago sativa* L)

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Key word: *Medicago sativa* L, cultivars, herbage yield, production performance

Introduction Alfalfa plays an more important role on the rapid development of animal husbandry in China. Choosing suitable alfalfa varieties is one of the important factors for increasing yield. The field experiments were conducted to evaluate the performance of selected alfalfa varieties from foreign countries and domestic regions in China, and consequently to identify their biological traits associated with high yield, account for genotype and environment interaction. The result will provide a reference for selecting suitable alfalfa varieties and extending their use in Beijing, China.

Materials and methods Experiments were conducted at the experimental field established in March 20, 2001 of Institute of Animal Science, CAAS, Beijing (550mm-660mm average annual rainfall). A randomized complete block design with three replicates was made. Seventeen alfalfa varieties tested included Algonquin, Germany, Bland, Vector, Sanditi, Sital, WL232, Empress, Farm Treasure, Vernal, CW300, CW323, 4RR, CW400, Zhongmu No. 1, Baoding, AoHan. The first fourteen varieties come from foreign and the rest are from domestic.

Results and discussion All of the tested varieties had the highest dry matter herbage yield at the first cut, and the lowest harvest at the last cut. However, there was a significant difference in the dry matter yield among the different cutting times and varieties. All varieties had the highest dry herbage yield at the second year after planting, and had the lowest yield at the sixth year. There were significantly and positively relation between annual dry hay yield and plant height. The varieties are divided into three groups based on product performance by Cluster Analysis.

Conclusions Variety Zhongmu No. 1, Baoding, German, CW300 had high herbage yield, high renewable rate, persistent. They are the suitable varieties to be recommended for planting in Beijing area.

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