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## Analysis on yield ,persistence of alfalfa varieties with different fall dormancy

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**Introduction** Lucerne is currently grown on more than 1 .5 million ha across 14 provinces of the northern part of China . The area under lucerne is rapidly expanding due to both government ecological rehabilitation policy and the rapidly developing livestock industries in northern China . Therefore , selecting well-adapted cultivars is urgently needed for Chinese lucerne growers . It is reported that fall dormancy has close relationship with forage yield , in north latitude areas (Lu ,1992) . But recently , fall dormancy as a criteria for selecting alfalfa varieties was argued . The relationship between fall dormancy and yield and persistence needs to be clarified (Li ,2003)

**Materials and methods** Fifty eight alfalfa varieties (lines) including 56 Australian lines and 2 Chinese varieties were evaluated . The persistence was determined by measuring changes in plant gaps , the protocol for persistence from SARDI

**Results** In this paper , 58 varieties (lines) with different fall dormancy were classified into dormant-group , semi-dormant group , and non-dormant group . The result showed alfalfa forage yields were negatively correlated with fall dormancy level for all entries ; in the dormant group , forage yields were positively correlated with fall dormancy but differences were not significant ; in semi-dormant group and non-dormant group , the forage yield was negatively correlated with fall dormancy . As for persistence , for all entries in the semi-dormant group , persistence of alfalfa was negatively correlated with fall dormancy ; in the dormant group , there was little relationship between fall dormancy level and persistence .

**Conclusion** It is concluded that in the Hohhot area , we should mainly grow fall dormant alfalfa varieties , with part of the alfalfa varieties with fall dormancy level from 4 to 5 .

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