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**The Thesis Submitted for the Degree of M.Sc (in the field of  
Agronomy Science)**

**Comparison of Litter Quality and aerial  
Organ of Two Range Species (*Aellenia  
subaphylla* and *Haloxylon persicum*)in  
Stepic Rangelands Sarchah Ammari  
Khosf**

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## **Abstract**

Rangeland ecosystems of arid and semi-arid regions are strongly influenced by their constituent factors due to the specific physical and environmental conditions, so understanding the relationships between these factors has a great impact on management and planning. By examining the relationships between plant species and the factors affecting their establishment will not be obtained. One of the components of rangeland ecosystems is the litter produced in them. Considering that the precondition for the stability of forage production in rangelands is soil stability, in order to achieve this goal, it is necessary to study soil quality indicators. Therefore, the study of elements in the shoots and litter of rangeland species has an important role in introducing suitable plant species for rangeland improvement. The aim of this study was to investigate the relationship between litter quality and aerial parts of two species of hawthorn and hawthorn rangelands in the pastures of Khosf city. Sampling was done by systematic-random method and samples were taken on each transect randomly (five transects and on each transect two samples of each plant including shoots and litter under the attic). In the samples taken, chemical compounds including carbon (C), potassium (K), phosphorus (P), nitrogen (N) and carbon to nitrogen ratio (C / N) were measured in the laboratory by standard methods and in data analysis for Comparison Student independent t-test was used. The results show that numerically the amounts of soil, carbon, organic matter, dry matter phosphorus and potassium of the shoots of Ajwa species were higher than hawthorn species. The research showed that Ajwa species is more suitable than hawthorn species in terms of its effect on soil quality indicators. The use of this species in breeding projects is recommended.

**Keywords: Aerial organs, Leaf carcass , Chemical properties, diversity Ecological**