

## Ecological characteristics of 3 salt grasses of saline and alkaline habitats of northern Gorgan , Iran

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**Key words :** ecological characteristics , salt grasses , *Puccinellia distans* , *aeuropus littoralis* , *Aleuopus logopoides*

**Introduction** saltiness and alkaline phenomenon are the main problems of the arid and semi-arid regions . The extent of such lands are high in Iran and they been increasing under various factors day by day . One of the methods can be using of appropriate plants for such areas . Using of natural flour of the saline areas is one of the main ways to combat against the saline problem so that we use of maximum utilization of these regions by the least interference in the environment . In this direction , three perennial salt grasses as names *Puccinellia distans* (Jacq .) Parl . , *Aeluropus littoralis* , *Aleuopus logopoides* have been chosen for this study in saline and alkaline habitats Northern Gorgan .

**Materials and methods** This investigation was carried out in eastern coast of the Caspian Sea . The extent of the rangelands in this area is 100 000 hectares . In order to study of ecological characteristic , soil type , forage production , plant cover has been considered . In these habitats forage production measured by clipping and weighting method and to use quadrate 1 square meter , Soil analysis were done by below methods in laboratory : texture by hydrometric , electrical conductivity in saturation extract with electrical conductivity meter .

**Results** Results obtained from present investigation showed that there have been distributed on the saline and alkaline rangelands of Golestan province . These three species have complete adaptability to the rainfall condition between 250 to 321mm and mean temperature 17°C , also the climate of the region is semi-arid and on the basis of Gussan method . Forage production *pu . distans* has been between 187 to 800 kg /ha , *Ae . Lagopoides* and *Ae . littoralis* have 50 and 20 kg/ha respectively . The results obtained from soil chemical analysis show that Ec *Ae . Lagopoides* (L .) Trin . ex Thwaites is between 17 .5 to 60 ds/m at the area which are distributed these species but the main distribution of *Ae . Lagopoides* is with the mean salinity 39 ds/m and *Ae . littoralis* (Gouan)Parl . is 31ds/m , also Ec *Pu . distans* is between 39 to 52 ds/m .

**Conclusions** *Pu . distans* is most suitable for the agricultural areas with 321 mm or more annual rainfall . It Good stands have been grown with lower rainfall but establishment is more risky . To combat the salinity problem , *Ae . Lagopoides* and *Ae . littoralis* send out the salt as salty grains from their various organs (leave and stem) and for this reason they have a considerable resistance to salinity .

### References

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