Effects of *Atriplex canescens* on Planted Areas in Iran

M. A. Zare Chahouki
University of Tehran, Iran

M. Jafari
University of Tehran, Iran

H. Azarnivand
University of Tehran, Iran

M. Shafı Zadeh
University of Tehran, Iran

The 21st International Grassland Congress / 8th International Rangeland Congress took place in Hohhot, China from June 29 through July 5, 2008.

Proceedings edited by Organizing Committee of 2008 IGC/IRC Conference

Published by Guangdong People's Publishing House

Effects of *Atriplex canescens* on planted areas in Iran

M .A . Zare Chahouki[1] *, M . Jafari*[2] *, H . Azarnivand*[3] *, M . Shafi Zadeh*
[1 3] *, Assistant Professors , Department of Rehabilitation of Arid and Mountainous Regions , University of Tehran . E-mail : mazare@ut .ac .ir* [2] *Professor , Department of Rehabilitation of Arid and Mountainous Regions , University of Tehran .*
[3] *MSc . of De-desertification , Natural Department of Rehabilitation of Arid and Mountainous Regions , University of Tehran .*

Key words : *Atriplex canescens* , Iran rangelands , planting , soil characteristics , vegetation

Introduction Plantation of favorable species is one of essential achievements for mentioned aims . Before plantation of exotic species in vast areas , they must be tested in small regions . In this research , it was surveyed ecological effects of *Atriplex canescens* . Other researches were done on *Atriplex canescence* by other Iranian researchers (Table 1) . Present study surveys some ecological effects in *Atriplex canescens* in land reclamation . There are different opinions about *A . canescens* positive and negative effects on the planted areas environment and vegetation . Some studies dedicate that *A . canescens* planting has lead to positive results in the degraded rangelands , while , others refer to its negative results . Table 1 shows desirable and undesirable results of *A . canescens* planting in Iranian rangelands .

Table 1 *Effects of* A . canescens *planting on soil and vegetation properties .*

Source of data	Study area	Summary of results
Khalkhali (1997)	Shahryar and Gonbad-e-Kavoos	Cover percentage has decreased in planted area compared to control area ; Higher diversity in planted area ; Low nutrition levels in planted area
Naseri (1996)	Jupar-Kerman	Great number of brushes in control area ; More production in control area ; Smaller cover percentage in planted area There was no difference between pH and EC in two areas ; OM decreases in planted area
Naseri (1998)	Kabutarkhan-Rafsanjan	Relatively equal number of brushes per area unit in both areas ; More production in control area ; Larger cover percentage in control area ; The same diversity on both areas No different between N , P . , K , Na , pH , EC , OM , clay and sand two areas
	Abbarik-Gonabad	Smaller density and cover percentage in planted area No difference between PH and EC in two areas ; OM decreases in control area
	Abbas-Abad Mashhad	A decrease was observed in mentioned species density and cover percentage in planted area ; Increase of *Hultemia persica* was considerable in planted area
	Chah Norooz-Neishabour	Decrease of *Stipa lassiginana* density in planted area
Chalak Haghighi (2000)	Kazeroon-e-Fars	Presence of class I species has decreased in planted area due to favor created microclimate ; Increase of% OM in planted area
Henteh (2002)	Aghzi Gang Zarand	Vegetation properties showed better condition in planted area ; N , P , K , pH , EC % OM , pH , EC and K have higher levels in planted area compared to control area

Results and discussion Regarding Table 1 results , it is clear that *A . canescens* and *A . lentiformis* planting contain both positive and negative effects on soil and vegetation characteristics of the planted areas . The kind of effects (positive and negative) is mainly influenced by planted area conditions and management . Cutting the aerial tissues (sources of salinity in *Atriplex*) as livestock forage and animal grazing in a season with the least leave and seed falling (which increase soil salinity) are the two favor practices that management should apply in order to prevent soil salinity due to *Atriplex* planting .

To reduce animals illness due to *Atriplex* grazing , suitable grazing season observance using supplementaries and intercropping is necessary . Chisci *et al* (2001) states that cultivating *Atriplex* with legumes produces high quality forage . Totally , a good management is needed to cultivate *A . canescens* in degraded rangelands in arid and semi arid environment in order to get ideal results . This species can be referred as a pioneer species which approves the condition of planted area , sequently can be used in reclamation of degraded ranges or arid environments .

Reference

Chalak Haghighi S .M . , (2000) . Investigation on some effects of *Atriplex lentiformis* on soil and plant properties in Fars province . MSC thesis in Natural Resources College of Tehran University .