

A survey about understorey covering in areas (lands) under the cultivation of *Haloxylon* in Ardestan area

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Introduction From 1985 in Iran *Haloxylon* plantation was used in order to wind erosion control and sand dune fixation. At first the seed of this plant was imported from USSR. The impacts of *Haloxylon* plantation were protection of roads, farms, waterways and quadrates from sand dunes coverage and wind erosion control. The total area of sand dune fixation methods such as seedling, forestation and mulch application for plantation increased from 100 hectares in 1985 to 6200000 hectares in 1997 (Bakhshi, 2005).

Materials and method For researching in to the effect of *Haloxylon* plantation on plant cover of this region, at first we determined its geomorphology maps, for this reason we collected statistical data about climate, soil, plant cover, geology, geomorphology and prepared topography plan at the scale of 1/50000 and also a plan on gradient, direction and height. Then by going over, *Haloxylon* region from 10-15 and 20-25 years of age and also over the ages of 26 were determined in a geomorphologic maps. At lost area that its maps is like to *Haloxylon* area and without any plant was determined as reference area. These areas have been similarity climatology. By going over, a field observation was selected in each of the area. Via statistical Methodology, the number of plates calculated in each pile (Mesdaghi 2004).

Results According to received results from variance analysis, the significant difference between the percent of crown and density of the whole species under and between the *Haloxylon* trees in *Haloxylon* area and reference areas is about 1 percent level. On the basis of accomplished compression, the overage data of the percent of compression crown of the whole species between treatments, there is significant variance between 3 category, group A (between the trees over the age of 26 years), group B (the treatment under the trees over the age of 26 years, between the trees from 20-25 years of age) and group C, reference area (under trees from 10-15 years of age) and also there is no significant difference between the treatments among trees from 10-15 years of age and under the trees from 20-25 years of age.

According to accomplished compression between the coverage data of compression of the whole species among the treatments, there is no significant difference between the treatments from 20-25 years of age under and between the *Haloxylon* trees in *Haloxylon* plantation over the age 26 years with reference area, and also there is significant variance between the treatments over the age of 26 years (group A) and the treatment between the trees from 10-15 years of age (group C) with other treatments (group B).

Conclusions On the basis of shown result in this text, we can say the cultivating of the *Haloxylon* change the accumulation and the percent of crown and density on species understories between the *Haloxylon* trees.

In the area over the age 26 years, there are the most percent of the crown and density species compression. The most important reasons consist of the decrease in the intensity of wind and also Evapotranspiration, the distance of special microclimate and agreeable species to *Haloxylon* in this area. On the basis of Saeid Afkham Shoara (1996) research at the south of Khorasan province, *Haloxylon* plantation is more compressed than distances which are without any *Haloxylon*.

According to received results, the most percent of crown and density of the whole species is between the trees over the age of 26 years, and the least percent is on the *Haloxylon* area from 10-15 years of age. The principle reason of the drop in the percent of crown and density of the whole species is destruction factors, in the other land, with the passing time and overcoming of annual species the percent of the crown and density of the whole species in understories of the *Haloxylon* plantation increase.

And also the percent of crown and density of the whole species between the *Haloxylon* trees that its principle reason is the effect of upper level on understories cover.

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