

Abstract:

Desert Teak (*Tecomella undulate*) is an evergreen tree from Bignoniaceae family, which has an average height of 8 m and its dbh reaches up to 80 cm. This delicious plant, has also has medicinal properties. This tree is one of the important and rare species of desert and dryland areas in southern Iran that it is used to afforestation, desertification and construction of green space. Sexual propagation of this plant is very hard. So, the aim of this research was the possibility of improving vegetative propagation of the plant in Kerman province. To determine the most suitable site for taking of cutting, along with the best level of hormonal treatments of NAA for rooting of cuttings, an experiment was conducted as factorial in completely randomized design with three replications. The taking cutting regions are included three levels (Dalfard, Esfandaqe and Mardahak regions located in the southern province of Kerman) and NAA hormone treatments were considered in four levels (zero, 2000, 4000 and 6000 mg per liter). In total, this research is included 12 treatments and 3 replications, altogether 36 experimental plots. The results showed that the interaction effects between cutting's site and NAA hormone were significant on the all of evaluated vegetative traits of teak' cuttings. So that the highest percentage of rooted cuttings (15.43 percent), average root weight (19.08 grams), root dry weight (9.48 g) with an average of 2.53 mm diameter calculated in the cuttings from Dalfard region and NAA hormonal treatments at a concentration of 6000 mg per liter that even at a higher level than the Esfandaqe and Mardahakregion. Cuttings taken from Esfandaqe region with 6000 mg/lit of NAA hormonal treatments and with an average of 4.66 roots in each cutting had the most length of roots (32.32 cm) and buds (7.28 cm). So, it can be recommended that Dalfard region's trees along with NAA hormone treatment at level of 600 mg/lit can be used to reproduce the teak's cuttings for reforestation of southern Kerman.

Keywords: Desert Teak, NAA hormone, Dalfard, Esfandaqe, mardahak

The Effects of Different Concentrations of Naphthalene Acetic Acid (NAA) Hormone on Rooting of *Tecomella undulate* 's Cuttings in Three Different Regions (Case Study: South Kerman Province)



University of Zabol
Graduate School
Faculty of Water and Soil
Department of Range and Watershed Management

**The Thesis Submitted for the Degree of Master of Science
In the field of Range Management**

**The Effects of Different Concentrations of Naphthalene Acetic Acid
(NAA) Hormone on Rooting of *Tecomella undulate* 's Cuttings in
Three Different Regions (Case Study: South Kerman Province)**

Supervisor:

Dr. Einollah Rouhi Moghaddam

Advisors:

Ms. Ahmad Ahmadpoor

By:

Fatemeh Zaboli Sharaki

2017