

Some Features and Important of Forage kochia (*Kochia prostrata* (L.) Schrad.) in Natural Areas of Konya

Ramazan Acar^{a,*}, Sukru Dursun^b

^a Selcuk University, Agriculture Faculty, Agronomy Department, Campus, 42003 Konya - TURKEY

^b Selcuk University, Engineering Faculty, Environmental Engineering Department, Campus, Konya - TURKEY

Abstract

Forage kochia is a plants of the more arid, hot and cold regions. Forage kochia naturally growth or is being grown in unsuitable areas (deserts and rocky areas, such as clay and salty soil) that other plants can not compete with it. This plant has grown up easily and adapted to different temperatures and habitat in many regions of the world. There are very few plants which have these adaptation characters. When is Forage kochia grown in a wide range, different ecotypes were formed. Some morphological differences can be seen in Forage kochia when is grown in the steppe, sandy areas, clayey areas and mountainous (rocky) places. Forage kochia can be found a peculiarity at the natural pasture in many places of Turkey. It is better for evaluation of the disrupted natural balance with increases global warming, water resources reducing with improper usage and is important to gain marginal areas and rangelands by creating the locations of the economy direction. At the same time Forage kochia is a plant that can be used for erosion prevention work.

Keywords: Forage Kochia, Animal Feed, Erosion Prevent, Drought

1. Introduction

As a result of global warming could create a lot of negative effects of drought as well as the plants in our pastures and livestock operations also will be affected thereby. This cause expansion of the arid and semi arid areas, increasing the severity of summer drought, desertification and erosion may cause the salination. It may be important against to negative existing pasture areas in the plant between the solution of the problem for selection some plants, water cycle, a significant contribution to the water and soil retention, animals feeding (1). Forage kochia is very resistant to drought and heat; it may grow even easily in the region 160-200 mm rainfall. It endure up to -2, -4 °C during the germination period. It can live comfortably between -40 oC and +40 oC in later years (2). The Forage kochia found in many parts of the world, and is located in the cities Kastamonu, Sivas, Erzurum, Kars, Konya, Kayseri, Erzincan, Van, Agri in Turkey (3). It is available around Karapinar- Konya City that surrounding areas annual rainfall of 270-280 mm, the temperature minus 20 °C in the winter months, exceed 35 °C in summer and the wind erosion (4, 5). It is very difficult find enough to feed the animals for herbaceous plants at adversely artificial pasture areas places arid soil and climate conditions as Karapinar. The plant should be given priority form the alternative methods in these areas especially the drought-resistant shrubs and plants. Forage kochia accepted erosion prevention of a plant as well as by animals like the beat and well developing in dry Central Anatolia and nutrient material poor soil, keeping long green image to retain the soil. Growing Forage kochia will have been specified a chance to

take necessary measures against erosion in rangelands of arid Central Anatolia in nutrient poor material and animal nutrition breedi (6). *Atriplex canescens* and two native species (*Artemisia herba alba* and *Kochia prostrata*) are brought to Iran associated with each other throughout the year to determine the beneficial clauses feeding sheep. Feeding useful order of the three species is *Kochia*, *Atriplex* and *Artemisia* respectively, it has been reported that the average yield of *Kochia prostrata* is 1690 kg/ha in Kazakhstan and comparing with *Agropyron cristatum* as 957 kg / ha yield productivity (7). A study in the United States *Elytrigia elongate* and *Kochia prostrata* were used mixture in different proportions for animal nutrition and *Kochia prostrata* increased availability of digest low-quality feed, and indicated to be usable for livestock feed in winter period. Nevertheless, in this study, dry matter ratio of *Elytrigia elongata* and *Kochia prostrata* were found as 91.4% and 93.6% respectively, the resulting dry material into the CP, NDF and ADF rates for *Elytrigia elongata* are 3.6%, 77.7% and 50.6% whereas 9.6%, 53.8% and 32.2% for *Kochia prostrata* respectively (8). A survey in two different places (Ghrain (rainfall 110 mm) and Tal Rimah (precipitation 58 mm) in Jordan, the six *Kochia prostrata* (L.) varieties, three native shrubs, two *Atriplex* species and drought-tolerant perennial grasses were cultivated in 2007. The measurement at Ghrain in 2008, while average length of *Kochia prostrata* (L.) varieties was 14.7 cm and 0.9 cm for Tal Rimah. Despite lack of the low rainfall in the arid rangelands in Jordan, according to the results obtained, *Kochia prostrata* (L.) may be used as pasture land plant (9). Özmen & Tan (10) have been indicated that *Kochia prostrata* with annual and deep rooted and feature of spreading on soil surface is usefulness erosion control and

* Corresponding author. Tel.: +903322057

Fax: +903322410635; E-mail: racar@selcuk.edu.tr