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Chemical and Mechanical Control of *Prosopis* sp. in Sudan

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Abstract

Prosopis sp. is a perennial woody plant, characterised by a strong root system, and with the ability to grow under a wide range of environmental conditions. It was introduced into Sudan in 1917 and it plays a major role in stopping the desertification process. However, as its growth is difficult to control, *Prosopis* negatively affects Sudan's agricultural productivity. Therefore, Sudan has to spent a huge amount of money in order to control its fast and wide spreading into agricultural lands and irrigation canals.

This study was carried out to control *Prosopis* sp. by using chemical (touch-down herbicides) and mechanical methods (burning of trees). The experiments were conducted in Shambat, Khartoum North. A complete randomized block design was applicated with three treatments. Each treatment was repeated five times. In the first treatment, touch-down herbicide was injected between the stem and the root of each plant. In the second treatment the plant was completely burnt, and in the third one the plant was left as control. Records were taken every two weeks up to six months.

The results revealed that *Prosopis* sp. was highly affected by touch-down herbicides, the shoot system was completely destroyed, the stem became brown and there was no sign of plant growth. In the second treatment (burning), the shoot system and the stem were compeletly destroyed, however, after two months a new shoot system developed. These *Prosopis* trees doubled in size every two weeks.

It therefore can be concluded that touch-down herbicide must be used as a control method. However, given in mind the importance of organic control methods, research must be conducted to find biological control possibilities.

Keywords: Burning, *Prosopis* sp., touch-down herbicides