

The effect of fire on *Balanites aegyptiaca*.



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Aim

The objectives of this study were to explore how fires affect *Balanites aegyptiaca* and if fire had any connection to why there is no visible re-growth.

Conclusions

Obviously, but still, plants and grass are negatively affected by fire and a higher fuel load gives a higher degree of damages.

Method

The study was divided into three seasons and three treatments (early fire, late fire and control). 24 transects, 1000 meter long, were used and trees were selected in an area around it.

Grass was cut within a quadrat (25*50 cm) next to the saplings for estimating the burnable biomass and fire intensity. All tops longer than two cm were counted and divided in to three categories, green undamaged, green damage and brown.

Results

Before fire, 100 % of the saplings had some green parts, compared to only 37.9 % in season two. The proportion of brown tops was highest during late fire treatment, season two, one week after the fire.

A week after the fire, the first green newly emerged tops could be observed on the burnt saplings, 11.5 % of all the saplings burnt in areas of late fire treatment had five or more tops a week after burning. (Fig. 1)

Most biomass was found in areas that had not been burned for longer time, late fire season one and in control areas. After fire the biomass is accumulated with time and during season three there was no longer any difference in amount of biomass. (Fig. 2)

Discussion

The negative effect of fire on grass became obvious when burnable grass biomass were compared before and after fire. More fuel e.g. burnable biomass, leads to higher fire intensity and with repeated hot fire the damages becomes more severe than with cold fire treatments. Due to fire there were almost exclusively brown tops on the saplings during season two.

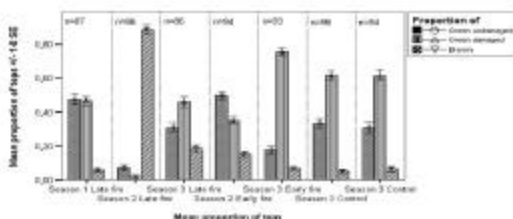


Fig. 1 Diagram show mean proportion of top categories during different seasons and treatments.

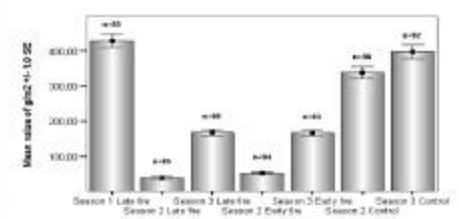


Fig. 2 Diagram show mean value of dry burnable biomass cut close to saplings.