

Effect of two grazing systems on veld in the Marikana Thornveld

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Objective

- **Effect of high utilization grazing and controlled selective grazing systems on veld in the Marikana Thornveld**

Materials and Methods

- The experimental herd consisting of 120 Bonsmara and Bonsmara type cows divided in four groups consisting of 30 cows each
- Each cow group had the same age and weight structure
- Two groups subjected to high utilization grazing
- Two groups subjected to controlled selective grazing
- Animals were moved from one camp to another as stipulated in the project according to:
 - stocking rate
 - camp size
 - group size



Materials and Methods (cont.)

- Veld evaluation:
 - three 200 point surveys per group
 - three 200 m² quadrat surveys per group

Thus a total of 12 points as well as 12 quadrat surveys were done at the beginning and end of the consecutive growing seasons

- Veld evaluation between the two grazing strategies included:
 - Difference of basal cover (200 point line transect recording: nearest plant and hits)
 - Difference in botanical composition (PHYTOTAB)
 - Veld condition (PHYTOTAB and 200 point line transect)
- Data analysed by PHYTOTAB-PC Program Package

Results

- The following plant communities were identified in the study area:
 - *Acacia tortilis* subsp. *heterocantha* – *Brachiaria nigropedata* low open woodland
 - *Acacia tortilis* subsp. *heterocantha* – *Digitaria argyrograpta* short thicket
 - *Acacia tortilis* subsp. *heterocantha* – *Bothriochloa bladhii* low open woodland
- Basal cover 2009
 - 21% Controlled selective grazing and high utilization grazing
- Basal cover 2012
 - 19% Controlled selective grazing
 - 18% High utilization grazing
- Controlled selective grazing groups showed a decrease in basal cover with a increase in standing biomass in relation to the high utilization grazing groups from 2009 to 2012
- ↑ carrying capacity for both treatments (2009-2012).



Results (cont.)

- Average standing biomass of 2458 kg/ha and 6.7 ha/LSU 2009 both treatments
- 2012 Average standing biomass:
 - 2525 kg/ha high utilization grazing
 - 2623 kg/ha controlled selective grazing

Table 1 Average standing biomass (kg/ha) 2012

Grazing Strategy	High utilization grazing (HUG)		Controlled selective grazing (CSG)	
	Group HUG 1	Group HUG 2	Group CSG 1	Group CSG 2
2008/2009	2458	2458	2458	2458
Jan 2012	2428	2623	3057	2424
Oct 2012	2327	2544	2656	2416

Conclusion

- Preliminary results of the first 3 years show no significant difference between animal production results from cow groups on either high utilization grazing or controlled selective grazing.
- The controlled selective grazing treatment showed a non significant decrease in basal cover with an increase in standing biomass in relation to high utilized grazing.
- Preliminary results also indicate a slight increase in carrying capacity for both treatments over the 3 year period.
- However, it must be noted that this is preliminary results and final conclusions will be drawn at the end of the 5 year trial period.

THANK YOU

