

Creating “grazing lawns” as possible management tool for commercial cattle farming.

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Introduction

Natural resources such as water and arable land are valuable assets that should be managed to obtain optimum productivity. Wild herbivores have developed various ways to effectively use the environment to their best advantage. These strategies may be employed in a farming context to increase productivity. It is thus not farfetched to look at nature to reveal the most efficient ways to conserve the planet's resources. The challenge is to identify the principles that support the sustainable and effective use of resources and apply these in a farming context to optimise commercial production in a sustainable manner.



Background

Wild herbivore distribution is influenced by various factors.

These factors include: 1) soil,
2) water
3) forage quality.

Certain specialized areas in the environment are key resource areas that play a vital role in the condition and survival of several of these herbivores. These areas can be described as nutrient hotspots, and include “grazing lawns” that can be defined as intensely grazed patches of stoloniferous grass species (photo below). Herbivores concentrate on these grazing lawns, utilizing them more heavily than the surrounding areas. If key areas such as these could be created on a commercial farm, increasing the productivity and availability of nutrients for the animals, it could drastically alter current grazing strategies. In commercial farming the existing, widely used rotational grazing system is currently being promoted as the only feasible strategy. However, an extensive literature review on publications from the past 60 years revealed that rotational grazing is not superior to continuous grazing strategies.



Aim

- 1) To determine whether grazing lawns in a wildlife area have higher nutritive value than the surrounding grass
- 2) The second objective is to investigate if grazing lawns can be created and maintained by cattle on a commercial cattle farm. The nutritive value and cattle production will be investigated simultaneously.

Hypothesis

- 1) Grazing lawns will have higher nutritive value than the surrounding grasses.
- 2) An artificially created grazing lawn will be maintained by commercial cattle, that it will show higher nutritive value and increase the production of the animals.

Method

The first hypothesis will be tested in the Kruger National Park. Ten grazing lawns will be identified, grass samples of *Urochloa Mosambicensis* will be taken on the sites, as well as away from the sites as controls. Samples will be gathered in the warm wet season, warm dry season and cold dry season. In total 60 samples will be analysed for N, P and Na.

The second hypothesis will be tested on a commercial cattle farm on the eastern Highveld. Grazing lawns will be created in ten camps. Grass samples will be taken on the artificial grazing lawn and away from it before the cattle enter the camp. Samples will again be gathered in the warm wet season, warm dry season and cold dry season. Samples will be analysed for N, P and Na. The cattle will be divided into four groups of approximately 40 cows per group. Three groups will have access to the grazing lawns, while the other will act as a control group. When the control group enters a camp, the grazing lawn will be isolated with an electric wire. The groups will be weighed each time they are moved to a new camp. Routine management such as inoculations will be given to all the groups, as in a normal production situation.



Example of a grazing lawn



References

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