

## CHAPTER 6: Grazing system guidelines

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### INTRODUCTION

In order to ensure the sustainability of pasture on a farm, it is important that the farmer knows the major indicator / key fodder plants of his/her environment. Just as the Bonsmara farmer should continuously assess and select his/her animals, and strive for increased reproduction and production values, so it should be second nature to him/her to pay attention to changes in vegetation. The pasture ecosystem can only be sustainable in the long term if the farm's veld condition improves or is in an optimum state. No matter how good the farmer's calving percentage or inter-calving periods may be, if his/her pasture tends to weaken, it is an early warning that the farm is on the downhill. The implementation of a sustainable grazing system without expert input is usually not possible. A few guidelines for sustainable grazing utilisation will now be discussed.

### **1. Stocking rate**

The first principle is to determine how many animals the farm unit can carry without weakening the veld condition. In the long term no system can be successful if the veld potential is overestimated. Departmental grazing capacity norms are available for the whole of South Africa. It is very important to realise that these values serve only as guidelines for veld in good condition and that grazing capacity differs from farm to farm. It is very important to take veld conditions into consideration when stocking rate is calculated. This is an indication of the health of the veld, its ability to deliver animal production and its ability to deal with risks, such as droughts. Veld condition is determined by looking at the ratio of palatable/highly desirable plants to less palatable ones, as well as the appearance of pioneer plants. Without proper pasture evaluation, it is impossible to determine the actual state of the pastures.

#### **Warning to cattle farmers**

- Increase in livestock numbers: The stocking rate should be as close to the grazing capacity of the farm as possible. If the stocking rate is too high, it will lead to overgrazing, that will influence biological and financial factors as follows: weakening the veld condition; reducing the available grazing material; reducing the quality of pasture; increasing drought risks and prolonging the period of drought; reducing animal performance; reduction in gross income; and a decrease in the farm stability.
- Grazing systems where stocking rate is heavier than the grazing capacity of the farm, are usually under more pressure in the spring months because reserves in the veld are then at their lowest.

### **2. Effective rest of veld**

Besides stocking rate, effective rest of the veld is the second most important principle for sustainable animal production. Rotational grazing, where camps are rested properly, should be applied in order for the growth vigour of palatable, highly desirable plants to recover sufficiently. The length of rest periods are, of course, linked to rainfall, season and veld type. During the growing season, it is possible to graze a camp again after six weeks, while a rest period of six months should be applied during the late autumn, winter and spring months. Scientists and farmers increasingly emphasize the incorporation of long rest periods (about every third or fourth year). The length of this long dormant period naturally differs among different veld types, while the reliability of rainfall also plays a major role. With beef cattle in sour veld regions, an eight-month rest period, from the beginning of October to the end of May, every three years, is sufficient, while longer rest periods are recommended for sweet veld types. The severe defoliation of camps just before a long period of rest is just as important to ensure vigour of growth.

#### **Warning to cattle farmers**

- The growth vigour of palatable plants should be higher than that of unpalatable plants. It serves as an early warning of changes in veld condition and can easily be observed during the long rest periods. Thus, for example, the vigour of plants, such as Red Grass, Common Finger Grass and Spear Grass should be higher than that of Turpentine Grass, Wire Grass and Three-awn.

### **3. Effective utilisation of pastures**

The more often pastures are grazed in a growing season, the more harmful the effect is on growth vigour. However, no grazing for a few years can equally be detrimental because tufts that are not grazed, tend to collect a lot of dry matter, which will harm vigour and seed production. These tufts will later die and be replaced by annual plants or less desirable grasses. The ideal number of times that a camp should be used in a growing season varies from 1 to 3 defoliations. The grazing intensity refers to the amount of material removed during grazing. Intensity of grazing is largely determined by the amount of old dry material. It is much easier to have camps grazed cleanly in the spring months than in the winter months. From a quality point of view, it is good practise to have camps grazed fairly clean every three years. If, however, it is done annually or every second year, the veld condition will weaken in the long run. What is very important is that the more intensively the veld is utilised, the longer its dormant phase should be (particularly in terms of root growth). An effective grazing management system should be prepared by experts; it should also be reviewed regularly to ensure optimal utilisation of the pastures.

### **Warning to cattle farmers**

- Unplanned use of camps, where the frequency or intensity of use is too high, will lead to a reduction in the production and growth vigour of tasty perennials, while less palatable, unwanted plants will increase. Consequently, animal production will steadily decrease, while input costs can dramatically increase in terms of licks.

## **4. Farm planning**

This refers to the development and maintenance of infrastructure on the farm and includes the size and number of camps per herd, as well as adequate water supply. The effective integration of cultivated pastures and crop residues is, of course, part of farm planning. For effective veld management, it is important to have sufficient camps available for each herd of cattle. Although good veld management is possible with only three camps per herd, more than three camps are normally recommended. For effective use, it is important that different veld types (apron area, plains, hills and marshland) are separated. Camps that are too large (>100 ha), are also difficult to utilise effectively and should, ideally, be shared.

### **SUMMARY**

South Africa's grazing veld consists of different veld types, each with its own unique circumstances and requirements; therefore it would be wrong to generalise by only propagating one grazing system. The correct utilisation (stocking rate, intensity, frequency and season) is the most important challenge for successful veld management. This should also be joined with long-term veld improvement or maintenance in order to be sustainable. Although the proper stocking rate should be the main component, decisions such as when animals will be transferred from one camp to another are also important for the effective utilisation of the grazing ecosystem. As all these factors are closely related to each other, the success of an applied grazing system may be drastically affected by any combination of these factors. Successful grazing management is only possible if the above factors are addressed holistically by the farmer.

The implementation of a sustainable grazing system is not recommended without the help of experts in grazing. The following steps are important:

- A farm map, that indicates camp sizes, cultivated pastures and cash crops, is essential.
- Determine grazing capacity by using departmental standards as a starting point. Evaluate camps in terms of veld condition and grazing capacity, and be on the lookout for indications of deterioration of the veld.
- Decide on a livestock production system and determine the number of animals for the farming unit.
- Use principles, as discussed in this document, to develop a grazing system.
- Identify sensitive camps (erosion or poor veld condition) and give them special treatment.
- Identify infrastructure problems and plan how to correct them in the medium and long term (e.g. divide camps that are too large, re-establish pastures, etc.).
- Improve knowledge of the veld and indicators for improvement (red grass, crabgrass, brush grass, etc.), as well as deterioration (curly leaf, Wire Grass, Three-awn, common Couch Grass, etc.).
- Evaluate the veld condition at least once every second to third year to determine the trend of change.
- Reconsider veld management according to these changes.