



agriculture & rural development

Department:
agriculture
& rural development
PROVINCE OF KWAZULU-NATAL

PASTURES IN KWAZULU-NATAL

Pasture Utilisation

PROBLEMS ON PASTURES: PITFALLS AND POINTERS

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INTRODUCTION

This leaflet is a synopsis of some of the most important aspects relating to pasture production and pasture utilisation.

ASPECTS RELATING TO SITE, SPECIES, SEED AND ESTABLISHMENT

Site and aspect

It is important to grow the correct grass species on the most suitable aspect and soils. Northern aspects are warm and thus should be used mainly for growing temperate species under irrigation (for use during the cooler months of the year, especially winter), or tropical grasses under dryland conditions. Cooler southern slopes should be used for temperate species under dryland conditions, or, in the hotter, drier areas, for temperate species under irrigation.

Grass species

Grow the grass species best adapted to the specific situation, bearing in mind aspect, soils, the animal system, the class of animal, the feed value of the pasture and the fodder flow requirements of the farm.

Annual and Perennial ryegrass

For most bioclimates in Natal, perennial ryegrass is not recommended as a perennial pasture. This is as a result of slow winter growth and low dry matter production, especially from the third season onwards.

Pure clover stands

Pure clover pastures may be planted or pure clover stands may evolve from a well managed Italian ryegrass/clover pasture. In irrigated ryegrass/clover pastures the grass component goes to seed in summer,

thus leaving a predominantly clover sward. Clover does not grow vigorously during winter.

Thus clover pastures, whether planted as pure swards or whether "evolved" from Italian ryegrass pastures produce poorly during winter. Winter is the time when irrigated pastures should yield well. Thus Italian ryegrass is the best pasture grass for winter. Unfortunately, it is best to plough or rip the clover pasture out and to plant Italian ryegrass/clover from "scratch" during February (*i.e.* if a high dry matter yield is required over the winter period).

Lack of clover in the sward

Clover should be planted with all temperate and most tropical grass species. Clover has a very high protein and energy level, is highly digestible and adds additional dry matter to the sward.

Seed quality and quantity

It is recommended that only Government certified seed be used. Such seed has been officially tested for purity, weed percentage and germination percentage, and conforms to the standards of the Division of Seed Control. The Department of Agricultural Development recommendations on seeding rates per hectare should be adhered to.

Seedbed preparation

A fine, well-prepared seedbed, free of weeds, is necessary for planting pastures.

Planting methods

Fertiliser distributor implements can be used for planting pasture seeds, but seed drills are more reliable. Recommended quantities of "runners" of creeping grasses should be planted per hectare (the establishment of pastures with vegetative material is covered in the leaflet "Establishment with vegetative material", Natal Pastures Leaflet 1.3).

"Burning off" of seedlings following early planting of ryegrass

When ryegrass is planted early, care should be taken to prevent the "burning off", or death, of seedlings, caused by the intense soil surface heat as a result of a hot sunny days. When planting early, only an area of land that can be irrigated for a period of 1,5 hours per day should be planted at one time. Once the previous planting is past the "burning off" stage the next area can be planted. As autumn approaches there is less chance of "burning-off".

Weeds in pastures

It is preferable that there should be as few weeds as possible in a pasture. Weeds compete for moisture and fertiliser and thus retard pasture growth. If mechanical operations, prior to planting, did not reduce the weed population successfully, then the pasture should be sprayed, whilst young, with a herbicide. Alternatively, the pasture may be grazed since some weeds are palatable. Good seedbed preparation, coupled with correct seeding rates and correct fertilisation, reduces weed invasion.

FERTILISATION

Soil sampling

Pastures should be soil sampled annually. The soil sample must be representative of the land as a whole. It is unwise to skimp on soil sampling.

Fertilisation

Once a soil sample analysis is received, the fertilisation recommendations should be followed. It is unwise to reduce the recommended amounts of fertiliser.

Application of slurry

The application of slurry to pastures is not generally recommended. The injudicious application of slurry will lead to P, K, Mg and Ca imbalances in the herbage and could result in micronutrient problems.

ANIMAL REQUIREMENTS AND FEED VALUE

Feed value of forage

It is important to have an idea of the protein and energy levels of all types of forages grown on each farm. In this way the farmer is in a position to balance rations and is also able to work out his fodder flow, total fodder requirements and total forage costs.

Animal feed requirements

Different classes of animals have specific daily protein and energy requirements. The farmer should ensure that he uses only scientifically formulated stock rations that conform to these standards.

Areas of pastures

It is important that the farmer knows the exact area of forage or pasture lands. It is essential to apply the correct quantities of fertiliser, do accurate budget feeding or fertiliser costings, or irrigation planning. These cannot be done without knowing the exact areas of lands, paddocks and camps on the farm.

"Autumn slump"

The "autumn slump" (or the drop in milk yield during the autumn period) can be prevented by:

- planting and irrigating ryegrass/clover early, thus ensuring availability of a nutritious pasture;
- grazing pure clover during autumn;
- growing and grazing nutritious kikuyu/clover;
- grazing young, non-fibrous kikuyu;

- grazing tall fescue/clover;
- grazing sorghum (this latter method is costly as sorghum becomes fibrous after two or three grazings, resulting in a low energy pasture).

Dry matter content of pastures

Lush kikuyu or ryegrass/clover pastures have a high moisture: low dry matter content. This high moisture content can lead to reduced dry matter intake by the animal, often resulting in a drop in milk production or daily gain of animals. One can safeguard against these phenomena by having some more mature pasture available for grazing at those times of the year when the pastures are exceptionally lush.

ANIMAL DISORDERS, PASTURE DISEASE AND WEEDS

Bloat on pastures

The possibility of bloat is a major deterrent to the growing of legumes, especially clovers. Bloat can be prevented by dosing stressed animals daily with a mineral oil. Dosing, to prevent bloat, should be a daily function **and is not time consuming**. Clover, because of its high protein and energy levels, is a necessary component of an "economic" grass sward.

"Yellows" and rust on pastures

As yet there is no economic control for kikuyu "yellows" or rust in kikuyu and ryegrass. While it is thought that these diseases do not play a major role in inhibiting animal production, it is recognised that either disease can affect palatability of the pasture. By keeping pastures short, well fertilised and well managed, the incidence of "yellows" and rust is minimized.

***Eragrostis plana* invasion into kikuyu**

Eragrostis plana should not be a problem in kikuyu pastures that are well fertilised and well utilised. Well managed kikuyu will oust the *Eragrostis plana* by competition.

IMPLEMENTS

- **Use economic tractors.**

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- Implements recommended for pasture production include the following:
 - plough;
 - ripper;
 - disc;
 - tiller;
 - drag harrow;
 - seed drill;
 - roller;
 - fertiliser distributor;
 - rotary harrow;
 - slasher;
 - pasture rejuvenator.

RATIONS ON PASTURES

Simple rations on pastures

Keep animal rations simple on a farm. There are too many variable facets to the practical running of a farm and the introduction of complicated or "time-consuming" rations for dairy cows is not generally recommended.

ECONOMICS AND RECORD KEEPING

Economic analysis

The precise costing of an animal enterprise on pastures is rarely done by the farmer. No farming operation should be undertaken without accurate economic costing.

Records/Bookkeeping

Every pasture land and every activity on that land, and where possible, animal performance on a per land basis, should be recorded in a book or on computer. Information and past history are necessary for evaluations, budgets and future policy-making by both the farmer and his adviser.