



agriculture & rural development

Department:
agriculture
& rural development
PROVINCE OF KWAZULU-NATAL

PASTURES FOR COWS AND CALVES

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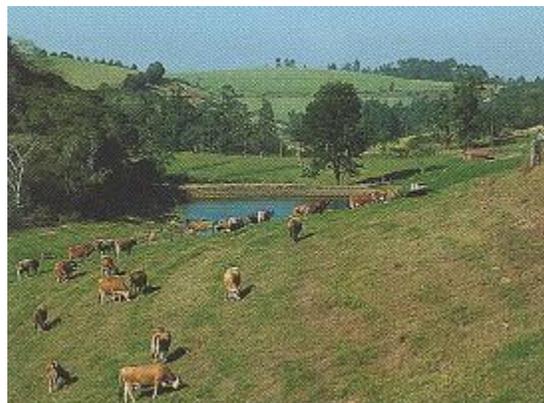
What are pastures?

Pastures are forage species that are cultivated for livestock feed. The species usually belong to either the grass or legume family. They are carefully chosen for their adaption to an area and for their quality as an animal feed. Residues from grain crops, such as maize, are also useful as a form of forage for animals.

Why use pastures?

Pastures provide a means of intensifying feed production for livestock. They can be used to supplement the diet of livestock, or as the sole feed source. The following are some benefits that accrue from using pastures:

- improved fertility and conception
- improved milk production
- provide a cheaper source of feed for stock than bought feeds
- improved performance per animal
- allow for the animals to be kept near the homestead for better security
- provide feed for winter



Cattle on kikuyu pastures

How to get started

Before planting pastures, the goals and objectives of the enterprise should be carefully defined. What type of animal needs to be fed? What products are to be derived from the animals - meat or milk? Are the animals going to stay in the camp all day or will

they only be given supplementary feed?

Is there a need to conserve feed for times of shortage? Once these questions have been answered and the objectives defined, one is in a position to select the most suitable pasture species to plant.

Selecting the pasture species

The pasture species should be carefully chosen, with the following points in mind:

- climate (rainfall, temperature)
- soil type (depth, drainage)
- area of land available for planting
- potential uses
- perennial or annual species
- type of stock to feed
- costs involved
- equipment available

The following are examples of pasture species that can be grown successfully in different areas of KwaZulu-Natal:

- **Species for frost-free areas:**

- | | |
|----------------|----------------------|
| * napier grass | * panicum |
| * stargrass | * leucaena |
| * desmodiums | * Nile grass |
| * kikuyu | * Smuts finger grass |

- **Species for frost areas**

- | | |
|----------------------|-----------------|
| * kikuyu | * lucerne |
| * red clover | * tall fescue |
| * oats | * ryegrass |
| * Smuts finger grass | * fodder radish |

There are many other species that can be used. To obtain more information with respect to the above and additional species contacts are given at the end of this Agri Update.

Preparing the land

Land preparation is extremely important to ensure successful establishment of the pasture and high yields. Whatever implements are used, the end result of land preparation must be a fine, firm, weed free seed bed.

Existing grass and weeds must be cleared from areas to be planted. The soil must then be well cultivated, using a plough, hoe, fork or spade. At this stage a soil sample should be taken and sent for analysis. This will provide vital information on fertilizer and lime requirements. Your extension officer will be able to assist you with this exercise. Fertilizers and lime that need to be applied can be broadcast over the area at this stage. The land is then cultivated a second time to work in the fertilizer and lime and also to kill any weed seedlings that may have emerged. If kraal manure is available it should also be added to the soil before the second cultivation (see Agri-Update on kraal manure).

Depending on the pasture species, planting will be done with seed or vegetative planting material. Seed should be bought from a seed company to ensure that it is of top quality. Vegetative material can be collected from areas where the grass is already growing. Vegetative planting is especially useful to improve veld that has been damaged. Sods of kikuyu or stargrass can be "spot planted" straight into the veld, with minimum fertilizer. This method allows the planted grass to take over from degraded vegetation and thereby provide improved grazing.

Using the pastures

There are a number of different systems which can be used for feeding forage to livestock. The system used depends on the amount of land available for planting, the type of livestock, the amount of labour or time available, and on the objectives of the enterprise. Some examples of using pastures follow. These are, however, only examples and can be adapted to suit individual needs.

1. **Complete pasture system**

Where there is enough land available, livestock can remain on the pasture for 24 hours a day.

2. **Zero grazing**

With zero grazing the animals are kept in stalls or a kraal at all times. The pastures grown for them are harvested and carted to their stall. This system is very labour intensive. However, very little feed is wasted with zero grazing systems. A particular advantage of zero grazing is that there is no danger of stock damaging field crops.

3. **Supplementary pasture systems**

Supplementary systems are used where there is less land available than for the complete zero grazing systems. Here the animals graze veld during the day. The animals are then given access to the pasture for a certain number of hours in the evening or they can remain on an allocated area of the pasture for the night. In trials conducted at the Owen Sitole College of Agriculture (near Empangeni), the supplementary pasture system has provided for marked improvement of calf performance.

4. **Semi-zero grazing**

Animals are allowed to graze the veld during the day. At night they are brought back to the kraals or pens. Forage, which is grown near the homestead, is harvested and fed to them to supplement their diet.

Care of the pastures

Like any crop, pastures need careful attention to maintain production. Applying kraal manure at planting will help to minimise soil nutrient deficiencies. Annual soil tests will indicate what fertilizers need to be applied.

Non-legume pastures need nitrogen fertilizer. The nitrogen fertilizer should be split up into at least four applications during the growing season and applied after harvesting or grazing. If irrigation is available it should be applied after the fertilizer. Pasture plants should be given adequate time for regrowth after utilisation and before harvesting or grazing again.

Pastures offer a cheap source of good quality feed to improve the condition and performance of livestock



Nguni cows and calves used in the trial at OSCA (near Empangeni)