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Buffel Grass

(A pasture grass for sandy soils)

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DESCRIPTION

Buffel grasses (*Cenchrus ciliaris*) are deep-rooted perennials, with a range of plant forms, from tall with rhizomes, to short and tussocky.

The recommended cultivars for sowing in the monsoonal areas of the Northern Territory (NT) are Gayndah and American. Both are tussocky and of medium height, and do not develop rhizomes. They are leafier, more prostrate and have more tillers (stems) than other cultivars. They grow to a height of 90 cm.

Gayndah cultivar stems have 11 to 18 nodes and their spikelets (flowers) are pallid to red in colour.
American cultivar stems have 6 to 10 nodes.

The seeds, numbering 440 000 per kilogram, are enclosed in a cluster of bristles, which gives them a "fluffy" appearance.

Figure 1. Gayndah buffel grass pasture

CLIMATE AND SOILS

Buffel grasses are native to tropical and sub-tropical Africa, India and Indonesia.

They are suitable for areas with an annual rainfall of 300 to1200 mm.

Buffel grasses have become naturalised in the NT in areas near Alice Springs and in western Queensland.

Buffel grasses are drought-resistant but do not tolerate flooding or water-logging.

Although they will grow on a range of soil types, they prefer sandier soils. In wetter areas, they will grow only on the sandier soils, while they can adapt to soils with more clay (heavier texture) in drier areas.

SOWING

Buffel grasses establish well on soils with a loose, soft surface.

In drier areas, seed can be broadcast or aerially sown onto burnt areas or on water courses and flooded areas. In areas receiving 600 mm or more of rain, the seed should be sown on prepared seedbeds.

The "fluffy" nature of the seed makes it difficult to sow using conventional machinery because seed will not flow very well and will tend to clog seeders. Drum seeders are more suitable. Seed can be sown into a lightly scarified seedbed and then rolled.

Seed is now available in pellets, which makes it easier to handle and spread. The pellets are made by combining seed with mono-ammonium phosphate (MAP), which makes them more expensive than normal seed. The success rate of plant establishment when using seed pellets has been variable in the Top End. A number of sowings have been complete failures. Sowing normal seed has generally been more successful.

The recommended sowing rate is 2 to 5 kg of seed/ha. This can be reduced to 1 to 2 kg/ha if pellets are used.

Figure 2. Gayndah buffel grass seed head

MANAGEMENT

Fertiliser Requirements

Buffel grass seedlings require phosphorus for establishment. So, if available phosphate is low, apply MAP at sowing, either as fertiliser or as part of preparing seed pellets.

Sow seed with 50 to 150 kg/ha superphosphate, depending on soil type and rainfall. Maintenance dressings of 25 to 50 kg/ha superphosphate should be applied annually.

Nitrogen should be supplied to the pasture by sowing a legume with the buffel grass.

Yield
Dry matter yields of 4 to 6 t/ha have been achieved from swards with no nitrogen fertiliser. In experiments, seed harvests have ranged from 30 to 760 kg/ha, but most were in the range 100-180 kg/ha.

First Year Grazing
Allow only light grazing during the first wet season to enable buffel grass seedlings to establish.

Long Term Grazing Potential
Once established, buffel grass can withstand relatively heavy continuous grazing. The commercial producer may expect a carrying capacity of one animal per 1 to 2 ha on a well-established stand of buffel grass on good soils.

Grazing trials conducted by this Department indicate that the nutritive value of buffel grass is not high compared with some other improved pasture grasses. It is certainly not the lowest in quality and very satisfactory levels of animal production can be achieved.

Mixtures
Amiga, Verano, Seca, Siran, Cavalcade and Wynn legumes can be included in mixtures.

Fire
Buffel grass will survive and produce new growth after burning.

Spread
Buffel grass does not spread, or spreads only slowly, from areas where it has been sown in the Top End of the NT. This is not the case in some other areas of Australia, such as Central Australia and Western Queensland where it spreads readily. This is related to the nature of the soil surface. Top End soils form a surface crust following rain, which prevents the seedlings from establishing. In areas where buffel grass spreads readily, the soils have a crumbly or loose, soft surface.

PESTS AND DISEASES

Leaf spot (*Pyricularia grisea*) has been reported in buffel grass in the NT. The symptoms include purplish-brown elliptical spots, generally on older leaves. There is no evidence that leaf spot affects production in buffel grass.

GRAZING HAZARDS

Grazing pure stands of buffel grass may lead to 'Big Head' in horses. This is an induced calcium deficiency caused by oxalates in the grass. The condition may not appear in mixed swards where legumes, or other grasses, are available for grazing.

WARNING

Pasture plants have the potential to become weeds in certain situations. To prevent that, ensure that pasture seeds and/or vegetative material is not inadvertently transferred to adjacent properties or road sides.

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