

SUMMER FORAGE WITH THE FEED QUALITY OF OATS

Key features

Nutrifeed is a high quality forage that can provide livestock productivity in summer similar to that of oats in winter.

It has digestibility and protein levels similar to oats, ryegrass and Lab lab and unlike forage sorghum, contains no prussic acid. Nutrifeed has a valuable role to play in Australia's grazing industry, especially in the more reliable rainfall areas of eastern Australia.

Grazing management

Nutrifeed poses no risk of prussic acid poisoning, therefore it can be grazed at a much earlier stage than forage sorghum. For best results graze early - as soon as the plants are not easily pulled out of the ground. There may not appear to be a lot of feed at this stage, but due to quick regrowth and high tillering capacity, feed supply is good. Early grazing will maximise protein and energy content, boosting animal productivity.

High stocking rates

Nutrifeed's quick regrowth and lack of prussic acid means it can be grazed heavily for long periods.

Soil and paddock selection

Although Nutrifeed can produce exceptional livestock productivity, it does require suitable soil and management conditions to achieve this. Being a forage pennisetum, a good well drained soil is required. The rule of thumb "If it's not good farming country, it's not good for Nutrifeed" is an excellent one to start with. Because Nutrifeed has small seed (60,000 to 80,000 seeds/kg) it is important to plant into a well prepared seed bed where good soil to seed contact can be achieved.

Top quality feed

Figures 1 & 2 show the protein and digestibility of Nutrifeed as plants grow taller. From these graphs it is easy to compare the feed quality as the forage matures. Looking just at the graph lines the benefits of early grazing are clearly evident, i.e. using the crop before seven weeks of age or before 80cm in height. As similar patterns would apply to subsequent growth, frequent grazings of regrowth will also result in feed of the highest quality throughout the season. When grazing is delayed beyond the

ideal stage, Nutrifeed still provides better feed quality than forage sorghum.

This extended period of feed quality is a factor of the species but is also due to the late flowering nature of Nutrifeed. Nutrifeed amply provides the feed quality required for fattening or lactating animals at the ideal grazing stage (when crop is approximately 0.5m high) however it also maintains good feed quality even if grazing is temporarily delayed.

High protein

Based on data in Fig 1 & 2, the protein is adequate for cattle growth and fattening over an extended period and the feed only becomes marginal for milk production when the protein level falls below 15%.

High energy

Similarly the energy requirements for both lactating and fattening livestock can be met even if the crop is not grazed until eight weeks after planting. If grazing is delayed longer than this, the feed may be marginal for top productivity but still more than covers the needs of other classes of livestock. Maximum plant and animal productivity are obtained if grazing commences early and the feed is kept short and actively growing.

In summary, as many graziers have already discovered, Nutrifeed provides excellent milk production and cattle liveweight gains often in excess of 1kg/head/day.

Moisture stress induced unpalatability

Forage pennisetum is generally regarded as being very drought tolerant once the crop is established.

Even under severe moisture stress, Nutrifeed may not show many outward signs of stress apart from a slowing in growth rate. Plants may remain relatively green and fresh looking even when soil moisture is depleted and the crop is, in fact, under severe stress. By comparison, a forage sorghum crop under similar stress may show many outward signs such as leaf curling, leaf death and a blue-green plant colour. Despite the lack of visible stress symptoms in forage

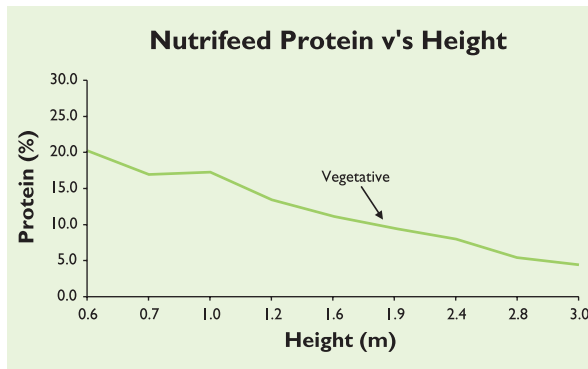


pennisetums, they do suffer from severe moisture stress. Subsequently some unseen changes may occur which can affect the palatability of the forage.

Soil factors

If Nitrate N levels are higher than Phosphorus (as determined by a Bicarb P test) unpalatability is more likely. Conversely, if P levels are higher than N levels then unpalatability is less likely.

Fig 1

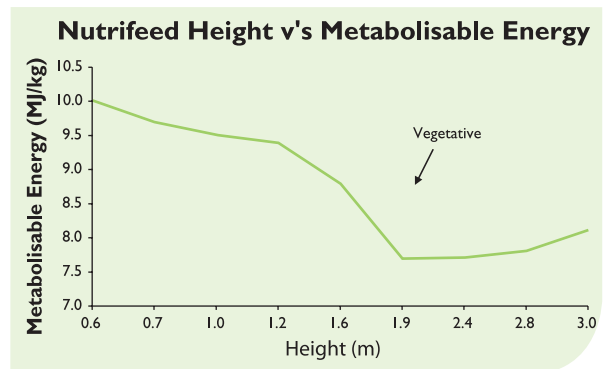


What restores palatability?

In the event of a crop becoming unpalatable, the only proven cure is a significant fall of rain (i.e. a drought breaking rain) or irrigation. The crop should become palatable within ten days after such rain provided it falls in the growing season and plants are able to resume growing.

Unfortunately no other attempted method of reversing the situation has provided consistent results.

Fig 2



Results from a trial conducted by Pacific Seeds' Forage Research Team showing the effect of growth stage on crude protein and metabolisable energy of Nurtrifed. Sampling started when the crop was 1.0m and continued at regular intervals for eight weeks until plants had flowered.

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