

KAG - Nitrogen to Change Pasture Species Project

Results from May to November 2008

What were we trying to do?

Determine whether using a late autumn/early winter application of nitrogen encouraged earlier growth of temperate grasses and if this means better late winter/early spring pasture growth rates?

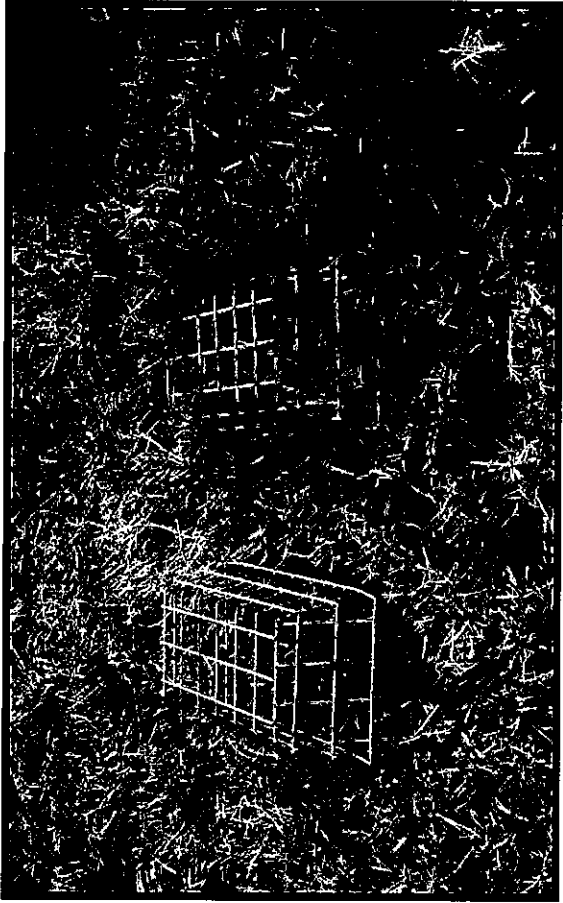
How did we do it?

A kikuyu dominant area of the farm was identified and a series of plots allocated to the following treatments:

- Easy Country
 1. No Nitrogen (Control)
 2. Early Winter Nitrogen (50 KgN/ha applied on 1st May 2008, soil at 18°C and 36% soil moisture)
- Steep Country
 1. No Nitrogen (Control)
 2. Early Winter Nitrogen (50 KgN/ha applied on 1st May 2008, soil at 18°C and 36% soil moisture)

Grazing was manipulated to simulate moderately lax kikuyu management (50 day grazing rotation). Apart from lax grazing during autumn, each plot was grazed as part of the normal farm rotation, with cages moved around the grids following each cut.

Pasture growth rate was assessed regularly through pasture cage cuts, pasture samples were analysed for species and feed quality and soil samples taken to assess soil nitrogen and carbon status. A survey of pasture species (point analysis) was undertaken twice during the study.



What Did We Find?

Pasture Growth Rate:

- Areas receiving nitrogen fertiliser grew more pasture in the 80 days (11 weeks) following nitrogen application
 1. 123% increase in pasture production on Easy Country
 2. 138% increase in pasture production on Steep Country
- The nitrogen response over 80 days averaged 20 Kg DM/Kg N applied
 1. 22 KgDM/KgN on Easy
 2. 18 KgDM/KgN on Steep
- 20:1 response the response equated to 13 c/KgDM grown (including application)
- Feed Quality
 - No difference in Easy treatments (10.2 ME average)
 - Slight advantage to N treatment on Steep Areas (10.5 vs 9.3 MJME/Kg DM)

Pasture Growth Rates (PGR) are outlined in the following two graphs:

