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00/R/CS/499 Panicum Virgatum and Nitrogen - Grass

Rothamsted Research

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00/R/CS/499

PANICUM VIRGATUM AND NITROGEN

Object: To test cultivars of *Panicum* with and without nitrogen for biomass production - Road Piece West.

Sponsors: D.G. Christian.

The third year, grass.

Design: 3 randomised blocks of 5 x 2 + 3 + 1.

Whole plot dimensions: 5.0 x 8.0.

Treatments: All combinations of:-

1. CULTIVAR

B	Blackwell
CT	Carthage
CR	Cave-in-Rock
P	Pangburn
S	Summer

2. NITROGEN

N-	None
N3	75

EXTRA Cultivar Cave-in-Rock, nitrogen kg N:

N1	25
N2	50
N4	150

Plus an extra plot per block for destructive sampling, no yields

Experimental diary:

01-Apr-00 : T : : Alpha Glyphogan at 4.0 l in 220 l, spot sprayed canary grass.
: T : : Duplosan at 2.0 l in 220 l, spot sprayed nettles.
08-May-00 : T : : Spannit at 1.5 l in 200 l, spot sprayed phalaris volunteers.
12-May-00 : B : : tm)Gesaprim at 3.0 l in 200 l.
: B : : tm)Toil at 5.0 l in 200 l.
19-May-00 : B : : Muriate of potash at 262 kg.
25-May-00 : T : N1 : 34.5% N at 72.5 kg.
: T : N2 : 34.5% N at 144.9 kg.
: T : N3 : 34.5% N at 217 kg.
: T : N4 : 34.5% N at 434.8 kg.
23-Jun-00 : B : : Dow Shield at 1.0 l in 220 l, spot sprayed thistles.
13-Feb-01 : B : : Cut.

NOTE: Soil water was sampled during the winter for nitrate and ammonium content.
Harvest samples were analysed for chemical content.

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TOTAL DRY WEIGHT TONNES/HECTARE

**** Tables of means ****

NITROGEN CULTIVAR	N-	N3	Mean
B	16.35	10.79	13.57
CT	17.20	12.03	14.61
CR	14.94	12.79	13.86
P	11.39	11.15	11.27
S	12.64	13.39	13.02
Mean	14.50	12.03	13.27

EXTRA	N1	N2	N4	Mean
	12.10	11.06	9.80	10.99

Grand mean 12.74

*** Standard errors of differences of means ***

CULTIVAR	NITROGEN	CULTIVAR NITROGEN & EXTRA
1.824	1.154	2.580

***** Stratum standard errors and coefficients of variation *****

Stratum	d.f.	s.e.	cv%
BLOCK.WP	24	3.160	24.8
GRAIN MEAN DM%	74.3		
PLOT AREA HARVESTED	0.00108		