ROTHAMSTED RESEARCH

Yields of the Field Experiments 1985

Full Table of Content

85/R/WW/11 N and Dcd- W. Wheat

Rothamsted Research

Rothamsted Research (1986) *85/R/WW/11 N and Dcd- W. Wheat ;* Yields Of The Field Experiments 1985, pp 221 - 223 **- DOI: https://doi.org/10.23637/ERADOC-1-19**

85/R/WW/11

WINTER WHEAT

N AND DCD

Object: To study the effects of a nitrification inhibitor in combination with different rates and timings of N on yield - Summerdells I.

Sponsors: G.A. Rodgers, F.V. Widdowson.

Design: 2 randomised blocks of 18 plots.

Whole plot dimensions: 3.0 x 11.0.

Treatments: All combinations of:-

1. N INHIB	Nitrification inhibitor added to nitrogen fertilizer:	
	NONE	None
	DICYANDI	Dicyandiamide at 16 kg, divided equally between applications
2. N TIME	Time and division of nitrogen fertilizer:	
	1111	Quarter of N on each of 28 Feb 1985, 20 Mar, 18 Apr, 16 May
	22--	Half of N on each of 28 Feb, 20 Mar
	2-2-	Half of N on each of 28 Feb, 18 Apr
	-22-	Half of N on each of 20 Mar, 18 Apr
3. N RATE	Amount of nitrogen fertilizer applied (kg N):	
	160	160
	240	240

plus one extra treatment

EXTRA	
NONE	No nitrogen fertilizer or inhibitor (duplicated)

NOTE: Nitrogen was applied as a mixture of urea and ammonium nitrate (28% N).

Basal applications: Weedkillers: Paraquat at 0.60 kg ion in 500 l. Isoproturon at 2.0 kg with mecoprop at 2.0 kg, ioxynil at 0.25 kg and bromoxynil at 0.25 kg in 200 l. Fungicides: Propiconazole at 0.25 kg in 200 l. Propiconazole at 0.12 kg with carbendazim and maneb (as 'Septal' at 2.5 kg) in 200 l. Insecticide: Pirimicarb at 0.14 kg in 200 l.

Seed: Avalon, sown at 170 kg.

Cultivations, etc.:- Disced: 14 Aug, 1984. Paraquat applied, heavy spring-tine cultivated: 19 Sept. Rotary harrowed, seed sown: 27 Sept. Remaining weedkillers applied: 12 Mar, 1985. Propiconazole applied: 3 June. Propiconazole with 'Septal' applied: 2 July. Insecticide applied: 10 July. Combine harvested: 29 Aug. Previous crops: S. barley 1983, w. oats 1984.

https://doi.org/10.23637/ERADOC-1-19

85/R/WW/11

NOTE: Soil cores were taken in February and April for nitrate and ammonium analyses. Plant samples were taken at anthesis for measurements of dry weight, percentage N, N uptake and number of stems per square metre.

GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

N TIME / N INHIB	1111	22--	2-2-	-22-	MEAN
NONE	9.01	8.41	8.69	8.19	8.58
DICYANDI	8.81	9.14	9.03	8.72	8.93
MEAN	8.91	8.77	8.86	8.45	8.75

N RATE / N INHIB	160	240	MEAN
NONE	7.90	9.25	8.58
DICYANDI	8.32	9.53	8.93
MEAN	8.11	9.39	8.75

N RATE / N TIME	160	240	MEAN
1111	8.36	9.46	8.91
22--	8.10	9.44	8.77
2-2-	8.29	9.44	8.86
-22-	7.68	9.23	8.45
MEAN	8.11	9.39	8.75

N INHIB	N RATE / N TIME	160	240
NONE	1111	8.59	9.43
	22--	7.69	9.13
	2-2-	8.04	9.35
	-22-	7.27	9.11
DICYANDI	1111	8.13	9.49
	22--	8.52	9.76
	2-2-	8.54	9.53
	-22-	8.09	9.34

NONE 2.68

GRAND MEAN 8.08

https://doi.org/10.23637/ERADOC-1-19

85/R/WW/11

GRAIN TONNES/HECTARE

***** STANDARD ERRORS OF DIFFERENCES OF MEANS *****

TABLE	N INHIB	N TIME	N RATE	N INHIB N TIME
SED	0.128	0.181	0.128	0.257

TABLE	N INHIB N RATE	N TIME N RATE	N INHIB N TIME N RATE
SED	0.181	0.257	0.363

SED FOR COMPARING EXTRA NONE WITH ANY ITEM IN
N INHIB.N TIME.N RATE TABLE IS 0.314

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

STRATUM	DF	SE	CV%
BLOCK.WP	18	0.363	4.5

GRAIN MEAN DM% 84.9

PLOT AREA HARVESTED 0.00254

https://doi.org/10.23637/ERADOC-1-19