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# Yields of the Field Experiments 1980

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## 80/R/WW/3 Winter Wheat Factors Limiting Yield

### Rothamsted Research

Rothamsted Research (1981) *80/R/WW/3 Winter Wheat Factors Limiting Yield* ; Yields Of The Field Experiments 1980, pp 210 - 223 - DOI: <https://doi.org/10.23637/ERADOC-1-31>

80/R/WW/3

WINTER WHEAT

FACTORS LIMITING YIELD

Object: To study the effects of a range of factors on the incidence of pests and diseases and on the growth and yield of w. wheat - Great Knott I.

Sponsors: B. M. Church, A. Dewar, J. Lacey, A. Penny, R.T. Plumb, R. D. Prew, G.N. Thorne, A. D. Todd, T.D. Williams.

Associate sponsors: P.J. Welbank, F.V. Widdowson, D.S. Jenkinson.

Design: Half replicate of  $2^8$  + 26 extra plots, arranged in four blocks, two of 38 plots, 2 of 39 plots.

Whole plot dimensions: 3.3 x 15.2.

Treatments: Combinations of:-

1. SOWDATE            Dates of sowing:  
    20 SEPT            20 September, 1979  
    19 OCT             19 October
2. TOTAL N            Total amount of nitrogen fertiliser (kg N) applied:  
    105  
    175
3. N DIVIS            Division of total nitrogen fertiliser:  
    SINGLE             Single dressing  
    DIVIDED           40 kg of the total before single dressing, 25 kg of the total after single dressing, remainder on single dressing date
4. N TIME             Time of applying single dressing of nitrogen fertiliser:  
    EARLY             At ear initiation of SOW DATE 20 SEP  
    LATE              At ear initiation of SOW DATE 19 OCT
5. AUT PEST            Autumn pesticide:  
    NONE              None  
    ALDICARB          Aldicarb at 5 kg worked in to seedbed
6. APHICIDE          Aphicide:  
    NONE              None  
    PIRIMICA          Pirimicarb at 0.14 kg on 18 June, 1980
7. FUNGCIDE          Fungicides:  
    NONE              None  
    CA+MA+TR         Carbendazim + maneb + tridemorph (as 'Cosmic' at 4.0 kg) + captafol at 1.0 kg applied on 9 May and on 18 June

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8. IRRIGATN            Irrigation:  
     NONE                None  
     FULL                Full (150 mm) to lessen a deficit of 25 mm to 12.5 mm

plus all combinations of the following (all given single N dressing, aldicarb, pirimicarb, carbendazim + maneb + tridemorph and captafol, no irrigation):

1. SOWDATEX            Dates of sowing:  
     20 SEPT            20 September, 1979  
     19 OCT             19 October

2. TOTAL NX            Total amount of nitrogen fertiliser (kg N):  
     35  
     70  
     105  
     140  
     175  
     210

3. N TIMEX             Time of applying nitrogen fertiliser:  
     EARLY              At ear initiation of SOWDATE 20 SEP  
     LATE                At ear initiation of SOWDATE 19 OCT

plus two extra plots (both given aldicarb, pirimicarb, carbendazim + maneb + tridemorph and captafol, no irrigation):

NO 20 SEPT            Sown 20 September, given no nitrogen  
 NO 19 OCT            Sown 19 October, given no nitrogen

NOTES: (1) Irrigation treatments were as follows:-

	mm
13 May	50
22 May	25
29 May	25
5 June	13
13 June	25
26 June	12

150

(2) Nitrogen applications were as follows:-

	N DIVIS	
	SINGLE	DIVIDED
SOWDATE 20 SEP	4 Mar	30 Jan, 4 Mar, 6 May
SOWDATE 19 OCT	15 Apr	4 Mar, 15 Apr, 20 May

(3) All treatment sprays were applied in 340 l.

Basal applications: Manures: (0:14:28) at 360 kg. Weedkillers: Methabenzthiazuron at 1.6 kg in 220 l. Mecoprop with bromoxynil and ioxynil (as 'Brittox' at 3.5 l) in 340 l. Growth regulator: Chlormequat

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at 1.4 kg applied at Zadoks growth stage 30, with the 'Brittox'.

Seed: Hustler, sown at 380 seeds per square metre, with stanhay precision drill.

Cultivations, etc.:- PK applied, heavy spring-tine cultivated twice: 13 Sept, 1979. Aldicarb applied for the first sowing and these plots rotary harrowed: 18 Sept. Aldicarb applied for the second sowing and these plots rotary harrowed: 16 Oct. Methabenzthiazuron applied: 25 Oct. 'Brittox' and growth regulator applied to first sowing: 2 April, 1980. 'Brittox' and growth regulator applied to second sowing: 24 Apr. Combine harvested: 22 and 24 Aug. Previous crops: S. beans 1978, potatoes 1979.

NOTE: Soil was sampled for nematodes, and mineral N. Plants were sampled for foot and root rots. The above-ground crop was examined for growth stage, aphids, foliar diseases and general microflora. Light interception, dry weight, leaf area, and N and K content of the above-ground crop and stem nitrate were measured on several occasions.

GRAIN TONNES/HECTARE

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

TOTAL N	105	175	MEAN
SOWDATE			
20 SEPT	9.97	10.28	10.12
19 OCT	8.90	9.31	9.10
MEAN	9.43	9.80	9.61
N DIVIS	SINGLE	DIVIDED	MEAN
SOWDATE			
20 SEPT	10.11	10.14	10.12
19 OCT	9.04	9.17	9.10
MEAN	9.57	9.66	9.61
N DIVIS	SINGLE	DIVIDED	MEAN
TOTAL N			
105	9.39	9.48	9.43
175	9.76	9.83	9.80
MEAN	9.57	9.66	9.61
N TIME	EARLY	LATE	MEAN
SOWDATE			
20 SEPT	9.69	10.56	10.12
19 OCT	9.07	9.13	9.10
MEAN	9.38	9.85	9.61

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GRAIN TONNES/HECTARE

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

N TIME	EARLY	LATE	MEAN
TOTAL N			
105	9.21	9.66	9.43
175	9.55	10.04	9.80
MEAN	9.38	9.85	9.61
N TIME	EARLY	LATE	MEAN
N DIVIS			
SINGLE	9.28	9.87	9.57
DIVIDED	9.48	9.83	9.66
MEAN	9.38	9.85	9.61
AUT PEST	NONE	ALDICARB	MEAN
SOWDATE			
20 SEPT	10.16	10.09	10.12
19 OCT	9.08	9.12	9.10
MEAN	9.62	9.61	9.61
AUT PEST	NONE	ALDICARB	MEAN
TOTAL N			
105	9.43	9.44	9.43
175	9.81	9.78	9.80
MEAN	9.62	9.61	9.61
AUT PEST	NONE	ALDICARB	MEAN
N DIVIS			
SINGLE	9.58	9.57	9.57
DIVIDED	9.66	9.65	9.66
MEAN	9.62	9.61	9.61
AUT PEST	NONE	ALDICARB	MEAN
N TIME			
EARLY	9.39	9.37	9.38
LATE	9.85	9.85	9.85
MEAN	9.62	9.61	9.61
APHICIDE	NONE	PIRIMICA	MEAN
SOWDATE			
20 SEPT	10.02	10.23	10.12
19 OCT	9.08	9.13	9.10
MEAN	9.55	9.68	9.61

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GRAIN TONNES/HECTARE

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

APHICIDE	NONE	PIRIMICA	MEAN
TOTAL N			
105	9.37	9.49	9.43
175	9.72	9.87	9.80
MEAN	9.55	9.68	9.61
APHICIDE	NONE	PIRIMICA	MEAN
N DIVIS			
SINGLE	9.51	9.63	9.57
DIVIDED	9.58	9.73	9.66
MEAN	9.55	9.68	9.61
APHICIDE	NONE	PIRIMICA	MEAN
N TIME			
EARLY	9.34	9.42	9.38
LATE	9.75	9.94	9.85
MEAN	9.55	9.68	9.61
APHICIDE	NONE	PIRIMICA	MEAN
AUT PEST			
NONE	9.59	9.65	9.62
ALDICARB	9.50	9.71	9.61
MEAN	9.55	9.68	9.61
FUNGCIDE	NONE	CA+MA+TR	MEAN
SOWDATE			
20 SEPT	9.73	10.52	10.12
19 OCT	8.72	9.49	9.10
MEAN	9.22	10.01	9.61
FUNGCIDE	NONE	CA+MA+TR	MEAN
TOTAL N			
105	9.15	9.71	9.43
175	9.29	10.30	9.80
MEAN	9.22	10.01	9.61
FUNGCIDE	NONE	CA+MA+TR	MEAN
N DIVIS			
SINGLE	9.17	9.97	9.57
DIVIDED	9.27	10.04	9.66
MEAN	9.22	10.01	9.61

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GRAIN TONNES/HECTARE

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

FUNGCIDE	NONE	CA+MA+TR	MEAN
N TIME			
EARLY	8.99	9.77	9.38
LATE	9.46	10.24	9.85
MEAN	9.22	10.01	9.61

FUNGCIDE	NONE	CA+MA+TR	MEAN
AUT PEST			
NONE	9.29	9.95	9.62
ALDICARB	9.16	10.06	9.61
MEAN	9.22	10.01	9.61

FUNGCIDE	NONE	CA+MA+TR	MEAN
APHICIDE			
NONE	9.12	9.97	9.55
PIRIMICA	9.32	10.04	9.68
MEAN	9.22	10.01	9.61

IRRIGATN	NONE	FULL	MEAN
SOWDATE			
20 SEPT	10.27	9.98	10.12
19 OCT	9.08	9.12	9.10
MEAN	9.68	9.55	9.61

IRRIGATN	NONE	FULL	MEAN
TOTAL N			
105	9.43	9.43	9.43
175	9.92	9.67	9.80
MEAN	9.68	9.55	9.61

IRRIGATN	NONE	FULL	MEAN
N DIVIS			
SINGLE	9.68	9.47	9.57
DIVIDED	9.67	9.64	9.66
MEAN	9.68	9.55	9.61

IRRIGATN	NONE	FULL	MEAN
N TIME			
EARLY	9.36	9.40	9.38
LATE	9.99	9.71	9.85
MEAN	9.68	9.55	9.61

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GRAIN TONNES/HECTARE

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

IRRIGATN	NONE	FULL	MEAN	
AUT PEST				
NONE	9.65	9.59	9.62	
ALDICARB	9.70	9.52	9.61	
MEAN	9.68	9.55	9.61	
IRRIGATN	NONE	FULL	MEAN	
APHICIDE				
NONE	9.59	9.51	9.55	
PIRIMICA	9.76	9.60	9.68	
MEAN	9.68	9.55	9.61	
IRRIGATN	NONE	FULL	MEAN	
FUNGCIDE				
NONE	9.40	9.04	9.22	
CA+MA+TR	9.95	10.06	10.01	
MEAN	9.68	9.55	9.61	
TOTAL N	105		175	
N DIVIS	SINGLE	DIVIDED	SINGLE	DIVIDED
SOWDATE				
20 SEPT	9.95	9.99	10.27	10.29
19 OCT	8.83	8.97	9.25	9.37
TOTAL N	105		175	
N TIME	EARLY	LATE	EARLY	LATE
SOWDATE				
20 SEPT	9.62	10.32	9.76	10.80
19 OCT	8.80	8.99	9.35	9.27
N DIVIS	SINGLE		DIVIDED	
N TIME	EARLY	LATE	EARLY	LATE
SOWDATE				
20 SEPT	9.65	10.57	9.73	10.56
19 OCT	8.90	9.17	9.24	9.10
N DIVIS	SINGLE		DIVIDED	
N TIME	EARLY	LATE	EARLY	LATE
TOTAL N				
105	9.09	9.69	9.33	9.63
175	9.47	10.05	9.64	10.03
TOTAL N	105		175	
AUT PEST	NONE	ALDICARB	NONE	ALDICARB
SOWDATE				
20 SEPT	10.01	9.93	10.30	10.26
19 OCT	8.84	8.95	9.33	9.29



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GRAIN TONNES/HECTARE

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

N DIVIS AUT PEST SOWDATE	SINGLE		DIVIDED	
	NONE	ALDICARB	NONE	ALDICARB
20 SEPT	10.13	10.08	10.18	10.10
19 OCT	9.03	9.05	9.14	9.20
N DIVIS AUT PEST TOTAL N	SINGLE		DIVIDED	
	NONE	ALDICARB	NONE	ALDICARB
105	9.37	9.40	9.48	9.48
175	9.79	9.73	9.84	9.82
N TIME AUT PEST SOWDATE	EARLY		LATE	
	NONE	ALDICARB	NONE	ALDICARB
20 SEPT	9.74	9.64	10.57	10.55
19 OCT	9.04	9.10	9.12	9.15
N TIME AUT PEST TOTAL N	EARLY		LATE	
	NONE	ALDICARB	NONE	ALDICARB
105	9.20	9.21	9.65	9.67
175	9.58	9.53	10.05	10.03
N TIME AUT PEST N DIVIS	EARLY		LATE	
	NONE	ALDICARB	NONE	ALDICARB
SINGLE	9.22	9.34	9.94	9.79
DIVIDED	9.57	9.40	9.75	9.90
TOTAL N	105		175	
APHICIDE	NONE PIRIMICA		NONE PIRIMICA	
SOWDATE				
20 SEPT	9.86	10.08	10.18	10.39
19 OCT	8.88	8.91	9.27	9.35
N DIVIS APHICIDE SOWDATE	SINGLE		DIVIDED	
	NONE	PIRIMICA	NONE	PIRIMICA
20 SEPT	10.07	10.15	9.97	10.31
19 OCT	8.96	9.11	9.19	9.15
N DIVIS APHICIDE TOTAL N	SINGLE		DIVIDED	
	NONE	PIRIMICA	NONE	PIRIMICA
105	9.31	9.47	9.44	9.52
175	9.72	9.80	9.73	9.94
N TIME APHICIDE SOWDATE	EARLY		LATE	
	NONE	PIRIMICA	NONE	PIRIMICA
20 SEPT	9.66	9.71	10.37	10.75
19 OCT	9.02	9.12	9.13	9.14

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GRAIN TONNES/HECTARE

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

N TIME APHICIDE TOTAL N	EARLY		LATE	
	NONE	PIRIMICA	NONE	PIRIMICA
105	9.14	9.27	9.60	9.71
175	9.54	9.56	9.90	10.18
N TIME APHICIDE N DIVIS	EARLY		LATE	
	NONE	PIRIMICA	NONE	PIRIMICA
SINGLE	9.28	9.27	9.75	9.99
DIVIDED	9.41	9.56	9.76	9.90
AUT PEST APHICIDE SOWDATE	NONE		ALDICARB	
	NONE	PIRIMICA	NONE	PIRIMICA
20 SEPT	10.12	10.19	9.91	10.28
19 OCT	9.06	9.11	9.10	9.15
AUT PEST APHICIDE TOTAL N	NONE		ALDICARB	
	NONE	PIRIMICA	NONE	PIRIMICA
105	9.35	9.50	9.39	9.49
175	9.83	9.80	9.61	9.94
AUT PEST APHICIDE N DIVIS	NONE		ALDICARB	
	NONE	PIRIMICA	NONE	PIRIMICA
SINGLE	9.60	9.56	9.43	9.70
DIVIDED	9.58	9.74	9.58	9.72
AUT PEST APHICIDE N TIME	NONE		ALDICARB	
	NONE	PIRIMICA	NONE	PIRIMICA
EARLY	9.37	9.41	9.32	9.42
LATE	9.81	9.88	9.69	10.01
TOTAL N FUNGICIDE SOWDATE	105		175	
	NONE	CA+MA+TR	NONE	CA+MA+TR
20 SEPT	9.71	10.23	9.75	10.81
19 OCT	8.60	9.20	8.84	9.78
N DIVIS FUNGICIDE SOWDATE	SINGLE		DIVIDED	
	NONE	CA+MA+TR	NONE	CA+MA+TR
20 SEPT	9.68	10.54	9.78	10.50
19 OCT	8.66	9.41	8.77	9.57
N DIVIS FUNGICIDE TOTAL N	SINGLE		DIVIDED	
	NONE	CA+MA+TR	NONE	CA+MA+TR
105	9.07	9.70	9.23	9.73
175	9.27	10.25	9.32	10.35

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GRAIN TONNES/HECTARE

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

N TIME FUNGICIDE SOWDATE	EARLY		LATE	
	NONE	CA+MA+TR	NONE	CA+MA+TR
20 SEPT	9.26	10.12	10.20	10.92
19 OCT	8.72	9.42	8.71	9.56

N TIME FUNGICIDE TOTAL N	EARLY		LATE	
	NONE	CA+MA+TR	NONE	CA+MA+TR
105	9.00	9.41	9.30	10.01
175	8.98	10.13	9.61	10.47

N TIME FUNGICIDE N DIVIS	EARLY		LATE	
	NONE	CA+MA+TR	NONE	CA+MA+TR
SINGLE	8.85	9.71	9.50	10.24
DIVIDED	9.13	9.84	9.42	10.24

AUT PEST FUNGICIDE SOWDATE	NONE		ALDICARB	
	NONE	CA+MA+TR	NONE	CA+MA+TR
20 SEPT	9.85	10.46	9.61	10.58
19 OCT	8.73	9.44	8.70	9.54

AUT PEST FUNGICIDE TOTAL N	NONE		ALDICARB	
	NONE	CA+MA+TR	NONE	CA+MA+TR
105	9.18	9.67	9.12	9.76
175	9.40	10.23	9.19	10.37

AUT PEST FUNGICIDE N DIVIS	NONE		ALDICARB	
	NONE	CA+MA+TR	NONE	CA+MA+TR
SINGLE	9.26	9.90	9.08	10.05
DIVIDED	9.32	10.00	9.23	10.08

AUT PEST FUNGICIDE N TIME	NONE		ALDICARB	
	NONE	CA+MA+TR	NONE	CA+MA+TR
EARLY	9.09	9.70	8.89	9.85
LATE	9.50	10.20	9.42	10.28

APHICIDE FUNGICIDE SOWDATE	NONE		PIRIMICA	
	NONE	CA+MA+TR	NONE	CA+MA+TR
20 SEPT	9.56	10.48	9.90	10.56
19 OCT	8.69	9.47	8.75	9.51

APHICIDE FUNGICIDE TOTAL N	NONE		PIRIMICA	
	NONE	CA+MA+TR	NONE	CA+MA+TR
105	9.06	9.69	9.25	9.74
175	9.19	10.25	9.40	10.34

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

APHICIDE FUNGICIDE N DIVIS	NONE		PIRIMICA	
	NONE	CA+MA+TR	NONE	CA+MA+TR
SINGLE	9.06	9.97	9.29	9.98
DIVIDED	9.19	9.97	9.36	10.10
APHICIDE FUNGICIDE N TIME	NONE		PIRIMICA	
	NONE	CA+MA+TR	NONE	CA+MA+TR
EARLY	8.95	9.73	9.02	9.81
LATE	9.29	10.21	9.62	10.27
APHICIDE FUNGICIDE AUT PEST	NONE		PIRIMICA	
	NONE	CA+MA+TR	NONE	CA+MA+TR
NONE	9.25	9.93	9.33	9.97
ALDICARB	9.00	10.01	9.31	10.11
TOTAL N IRRIGATN	105		175	
	NONE	FULL	NONE	FULL
SOWDATE				
20 SEPT	10.01	9.92	10.52	10.04
19 OCT	8.85	8.94	9.32	9.30
N DIVIS IRRIGATN	SINGLE		DIVIDED	
	NONE	FULL	NONE	FULL
SOWDATE				
20 SEPT	10.30	9.92	10.24	10.05
19 OCT	9.06	9.02	9.11	9.23
N DIVIS IRRIGATN	SINGLE		DIVIDED	
	NONE	FULL	NONE	FULL
TOTAL N				
105	9.44	9.34	9.43	9.53
175	9.92	9.60	9.92	9.74
N TIME IRRIGATN	EARLY		LATE	
	NONE	FULL	NONE	FULL
SOWDATE				
20 SEPT	9.79	9.59	10.75	10.37
19 OCT	8.94	9.21	9.23	9.04
N TIME IRRIGATN	EARLY		LATE	
	NONE	FULL	NONE	FULL
TOTAL N				
105	9.12	9.29	9.74	9.57
175	9.60	9.50	10.24	9.84
N TIME IRRIGATN N DIVIS	EARLY		LATE	
	NONE	FULL	NONE	FULL
SINGLE	9.30	9.26	10.06	9.68
DIVIDED	9.43	9.53	9.91	9.74

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

AUT PEST	NONE		ALDICARB	
IRRIGATN	NONE	FULL	NONE	FULL
SOWDATE				
20 SEPT	10.23	10.09	10.31	9.88
19 OCT	9.08	9.09	9.09	9.16
AUT PEST	NONE		ALDICARB	
IRRIGATN	NONE	FULL	NONE	FULL
TOTAL N				
105	9.39	9.46	9.47	9.41
175	9.91	9.71	9.93	9.63
AUT PEST	NONE		ALDICARB	
IRRIGATN	NONE	FULL	NONE	FULL
N DIVIS				
SINGLE	9.68	9.48	9.67	9.46
DIVIDED	9.62	9.70	9.73	9.58
AUT PEST	NONE		ALDICARB	
IRRIGATN	NONE	FULL	NONE	FULL
N TIME				
EARLY	9.37	9.41	9.36	9.38
LATE	9.94	9.76	10.04	9.66
APHICIDE	NONE		PIRIMICA	
IRRIGATN	NONE	FULL	NONE	FULL
SOWDATE				
20 SEPT	10.20	9.84	10.34	10.12
19 OCT	8.98	9.17	9.19	9.07
APHICIDE	NONE		PIRIMICA	
IRRIGATN	NONE	FULL	NONE	FULL
TOTAL N				
105	9.37	9.37	9.49	9.49
175	9.81	9.64	10.03	9.70
APHICIDE	NONE		PIRIMICA	
IRRIGATN	NONE	FULL	NONE	FULL
N DIVIS				
SINGLE	9.60	9.43	9.76	9.51
DIVIDED	9.58	9.59	9.77	9.69
APHICIDE	NONE		PIRIMICA	
IRRIGATN	NONE	FULL	NONE	FULL
N TIME				
EARLY	9.35	9.33	9.38	9.46
LATE	9.83	9.68	10.15	9.74
APHICIDE	NONE		PIRIMICA	
IRRIGATN	NONE	FULL	NONE	FULL
AUT PEST				
NONE	9.56	9.62	9.74	9.56
ALDICARB	9.61	9.39	9.78	9.64

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GRAIN TONNES/HECTARE

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

FUNGCIDE	NONE		CA+MA+TR				
IRRIGATN	NONE	FULL	NONE	FULL			
SOWDATE							
20 SEPT	10.00	9.46	10.54	10.51			
19 OCT	8.81	8.63	9.36	9.62			
FUNGCIDE	NONE		CA+MA+TR				
IRRIGATN	NONE	FULL	NONE	FULL			
TOTAL N							
105	9.27	9.03	9.59	9.83			
175	9.54	9.05	10.31	10.29			
FUNGCIDE	NONE		CA+MA+TR				
IRRIGATN	NONE	FULL	NONE	FULL			
N DIVIS							
SINGLE	9.40	8.94	9.96	9.99			
DIVIDED	9.41	9.14	9.94	10.13			
FUNGCIDE	NONE		CA+MA+TR				
IRRIGATN	NONE	FULL	NONE	FULL			
N TIME							
EARLY	9.09	8.89	9.64	9.91			
LATE	9.72	9.20	10.26	10.22			
FUNGCIDE	NONE		CA+MA+TR				
IRRIGATN	NONE	FULL	NONE	FULL			
AUT PEST							
NONE	9.41	9.17	9.89	10.00			
ALDICARB	9.40	8.92	10.00	10.12			
FUNGCIDE	NONE		CA+MA+TR				
IRRIGATN	NONE	FULL	NONE	FULL			
APHICIDE							
NONE	9.25	9.00	9.93	10.01			
PIRIMICA	9.56	9.09	9.97	10.11			
TOTAL NX	35	70	105	140	175	210	MEAN
SOWDATEX							
20 SEPT	8.39	9.68	10.33	10.99	10.85	11.13	10.23
19 OCT	7.62	8.09	9.86	10.22	9.57	9.82	9.20
MEAN	8.00	8.88	10.09	10.60	10.21	10.48	9.71
N TIMEX	EARLY	LATE	MEAN				
SOWDATEX							
20 SEPT	9.92	10.53	10.23				
19 OCT	8.81	9.58	9.20				
MEAN	9.37	10.06	9.71				

80/R/WW/3

GRAIN TONNES/HECTARE

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

N TIMEX TOTAL NX	EARLY	LATE	MEAN
35	8.04	7.97	8.00
70	8.80	8.97	8.88
105	9.48	10.71	10.09
140	10.25	10.96	10.60
175	9.68	10.74	10.21
210	9.97	10.99	10.48
MEAN	9.37	10.06	9.71

SOWDATEX	N TIMEX TOTAL NX	EARLY	LATE
20 SEPT	35	8.74	8.04
	70	9.66	9.69
	105	9.57	11.09
	140	10.78	11.20
	175	10.24	11.47
	210	10.55	11.71
19 OCT	35	7.34	7.90
	70	7.93	8.26
	105	9.39	10.33
	140	9.71	10.72
	175	9.13	10.02
	210	9.39	10.26

NO 20 SEPT 7.09  
NO 19 OCT 6.58

GRAND MEAN 9.59

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

SED FOR ALL TABLES EXCEPT THOSE INVOLVING FACTORS SOWDATEX, N TIMEX OR TOTAL NX

ONE FACTOR TABLES	0.058
TWO FACTOR TABLES	0.083
THREE FACTOR TABLES	0.117

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

STRATUM	DF	SE	CV%
BLOCK.WP	32	0.331	3.4

GRAIN MEAN DM% 83.9

PLOT AREA HARVESTED 0.00189