

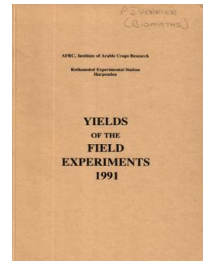
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91/R/WW/2 Control of Volunteers - W. Wheat

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91/R/WW/2

WINTER WHEAT

CONTROL OF VOLUNTEERS

Object: To compare methods of volunteer control in winter wheat after w. and s. barley - Great Knott I, Long Hoos I/II.

Sponsor: D.G. Christian.

Design: 3 replicates of 8 x 3 criss-cross.

Column plot dimensions: 6.0 x 20.0.

Treatments: All combinations of:-

Column plots

- | | |
|-------------|--|
| 1. PRIMCULT | Primary cultivations: |
| NONE | None until just before sowing |
| DYNDRIVE | 'Bomford Dynadrive' |
| PLOUGH | Plough |
| TINE | Tine |
| 2. CULTDATE | Date of cultivations: |
| EARLY | 25 July, 1990 (Great Knott I)
15 Aug (Long Hoos I/II) |
| LATER | 15 Aug (Great Knott I)
5 Sept (Long Hoos I/II) |

Row plots

- | | |
|-------------|---|
| 3. PRSOWCON | Pre-sowing volunteer control using weedkillers: |
| GLYPHOS | Glyphosate at 0.27 kg in 200 l on 8 Oct, 1990 |
| PARAQUAT | Paraquat at 0.60 kg ion in 200 l on 8 Oct |
| NONE | None |

- NOTES:** (1) The 'Bomford Dynadrive' has a frame similar to a rotary cultivator but it has two rotating shafts containing flat, slightly twisted, spade-shaped tines. The front shaft drives the rear, it is fitted with twice the number of blades and rotates at about one third the speed of the rear shaft.
- (2) PRIMCULT TINE was heavy spring-tine cultivated twice.
- (3) All plots were heavy spring-tine cultivated on 9 Oct, 1990 then rotary harrowed and the seed sown on 10 Oct.

Basal applications: Manures: (0:16:36) at 980 kg (Great Knott I only). 'Nitram' at 120 kg and later at 580 kg. Weedkillers: Isoproturon at 1.3 kg and pendimethalin at 1.3 kg in 200 l. Glyphosate (Long Hoos I/II only) at 1.4 kg in 200 l. Fungicides: Fenpropimorph at 0.38 kg in 200 l and on a second occasion with chlorothalonil at 0.49 kg and flutriafol at 78 g in 200 l.

Seed: Mercia, sown at 170 kg.

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Cultivations, etc.:- PK applied (Great Knott I only): 20 Aug, 1990.

Isoproturon and pendimethalin applied: 14 Nov (Great Knott I), 23 Nov (Long Hoos I/II). First N applied: 13 Mar, 1991. Second N applied: 3 Apr (Great Knott I), 8 Apr (Long Hoos I/II). Fenpropimorph alone applied: 27 Apr. Fenpropimorph with chlorothalonil and flutriafol applied: 20 June. Glyphosate applied (Long Hoos I/II only): 12 Aug. Combine harvested: 20 Aug (Great Knott I), 25 Aug (Long Hoos I/II). Previous crops: W. barley 1989 and 1990 (Great Knott I), sunflowers 1989, s. barley 1990 (Long Hoos I/II)

NOTES: (1) Ears of volunteer plants were counted at anthesis of the sown crop.
(2) Percentage contamination of harvested grain by volunteer grain was measured.

91/R/WW/2 GREAT KNOTT I W. WHEAT AFTER W. BARLEY

GRAIN TONNES/HECTARE

***** Tables of means *****

CULTDATE	EARLY	LATER	Mean			
PRIMCULT						
NONE	6.43	7.39	6.91			
DYNDRIIVE	6.89	6.72	6.81			
PLOUGH	7.46	7.45	7.46			
TINE	7.10	7.09	7.10			
Mean	6.97	7.16	7.07			
PRSOWCON	GLYPHOS	PARAQUAT	NONE	Mean		
PRIMCULT						
NONE	7.14	6.88	6.70	6.91		
DYNDRIIVE	7.09	6.75	6.59	6.81		
PLOUGH	7.49	7.42	7.46	7.46		
TINE	7.17	7.25	6.87	7.10		
Mean	7.22	7.08	6.91	7.07		
PRSOWCON	GLYPHOS	PARAQUAT	NONE	Mean		
CULTDATE						
EARLY	7.11	6.98	6.82	6.97		
LATER	7.33	7.18	6.99	7.16		
Mean	7.22	7.08	6.91	7.07		
CULTDATE	EARLY	LATER				
PRIMCULT PRSOWCON	GLYPHOS	PARAQUAT	NONE	GLYPHOS	PARAQUAT	NONE
NONE	6.61	6.54	6.12	7.67	7.22	7.27
DYNDRIIVE	7.13	6.75	6.80	7.04	6.75	6.38
PLOUGH	7.51	7.28	7.60	7.46	7.56	7.33
TINE	7.19	7.34	6.78	7.15	7.17	6.96

91/R/WW/2 GREAT KNOTT I W. WHEAT AFTER W. BARLEY

GRAIN TONNES/HECTARE

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

	PRIMCULT	CULTDATE	PRSOWCON	PRIMCULT CULTDATE
	0.269	0.190	0.238	0.381
	PRIMCULT PRSOWCON	CULTDATE PRSOWCON	PRIMCULT CULTDATE PRSOWCON	
	0.375	0.309	0.482	
Except when comparing means with the same level(s) of				
PRIMCULT	0.279			
CULTDATE		0.252		
PRSOWCON	0.302	0.214	0.427	
PRIMCULT.CULTDATE			0.325	

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP1	14	0.466	6.6
BLOCK.WP2	4	0.292	4.1
BLOCK.WP1.WP2	28	0.290	4.1

GRAIN MEAN DM% 87.5

SUB PLOT AREA HARVESTED 0.00094

91/R/WW/2 LONG HOOS I/II W. WHEAT AFTER S. BARLEY

GRAIN TONNES/HECTARE

***** Tables of means *****

CULTDATE	EARLY	LATER	Mean	
PRIMCULT				
NONE	9.10	9.22	9.16	
DYNDRIIVE	9.12	9.43	9.28	
PLOUGH	9.25	9.03	9.14	
TINE	9.26	9.26	9.26	
Mean	9.18	9.24	9.21	
PRSOWCON	GLYPHOS	PARAQUAT	NONE	Mean
PRIMCULT				
NONE	9.09	9.02	9.38	9.16
DYNDRIIVE	9.27	9.00	9.56	9.28
PLOUGH	9.32	8.88	9.22	9.14
TINE	9.21	9.15	9.43	9.26
Mean	9.22	9.01	9.40	9.21

91/R/WW/2 LONG HOOS I/II W. WHEAT AFTER S. BARLEY

GRAIN TONNES/HECTARE

***** Tables of means *****

PRISOWCON	GLYPHOS	PARAQUAT	NONE	Mean
CULTDATE				
EARLY	9.28	8.93	9.34	9.18
LATER	9.16	9.09	9.46	9.24
Mean	9.22	9.01	9.40	9.21

	CULTDATE	EARLY			LATER		
PRIMCULT	PRISOWCON	GLYPHOS	PARAQUAT	NONE	GLYPHOS	PARAQUAT	NONE
NONE		9.13	9.03	9.15	9.05	9.01	9.61
DYNDRIE		9.16	8.80	9.41	9.38	9.20	9.70
PLOUGH		9.69	8.86	9.20	8.95	8.91	9.25
TINE		9.14	9.05	9.59	9.28	9.25	9.27

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

	PRIMCULT	CULTDATE	PRISOWCON	PRIMCULT CULTDATE
	0.171	0.121	0.119	0.241

	PRIMCULT PRISOWCON	CULTDATE PRISOWCON	PRIMCULT CULTDATE PRISOWCON
	0.232	0.176	0.316

Except when comparing means with the same level(s) of

PRIMCULT	0.181		
CULTDATE		0.143	
PRISOWCON	0.214	0.151	0.303
PRIMCULT.CULTDATE			0.241

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP1	14	0.296	3.2
BLOCK.WP2	4	0.146	1.6
BLOCK.WP1.WP2	28	0.274	3.0

GRAIN MEAN DM% 84.0

SUB PLOT AREA HARVESTED 0.00090