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Sunflowers

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91/R/SU/1

SUNFLOWERS

VARIETIES AND BOTRYTIS

Object: To study the incidence of *Botrytis cinerea* on two varieties of sunflower and to compare their yields in the absence of fungicide treatment - Great Harpenden I.

Sponsors: V.J. Church, B.D.L. Fitt.

Design: 8 randomised blocks of 2 plots.

Whole plot dimensions: 3.5 x 10.0.

Treatments:

VARIETY Varieties:

S 47

ALLEGRO

Basal applications: Manures: (0:16:36) at 980 kg. (12:20:20) at 380 kg.
Weedkillers: Trifluralin at 1.1 kg in 200 l. Linuron at 0.48 kg in 200 l.

Seed: Varieties, sown at 12 seeds per square metre.

Cultivations, etc.:- First PK applied: 3 Sept, 1990. Ploughed: 11 Dec.
NPK applied: 11 Apr, 1991. Heavy spring-tine cultivated: 24 Apr.
Rotary harrowed, trifluralin applied, rotary harrowed, seed sown, rolled: 29 Apr. Linuron applied: 9 May. Hand harvested: 9 Sept.
Previous crops: W. barley 1989 and 1990.

NOTE: Selected plants were monitored daily for growth stage and for disease from flowering to harvest. Numbers of *Botrytis* spores were recorded daily using a Burkard spore trap. Seed moisture content was measured at intervals after flowering.

91/R/SU/1

GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

VARIETY	
S 47	2.48
ALLEGRO	2.43
Mean	2.45

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

VARIETY
0.071

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	7	0.143	5.8
GRAIN MEAN DM%	71.2		
PLOT AREA HARVESTED	0.00150		

91/R/SU/2

SUNFLOWERS

BIRD REPELLANT

Object: To study the effects of applying two rates of a saponin, at two times, on damage by birds to and yields of sunflowers - Great Harpenden I.

Sponsor: V.J. Church.

Design: 5 x 5 quasi-complete Latin square.

Whole plot dimensions: 3.5 x 10.0.

Treatments:

SAP R T Rates and times of applying a saponin (as weight of quinoa husk):

NONE	None
S1 E	51 kg applied 8 Aug, 1991
S1 L	51 kg applied 28 Aug
S2 E	57 kg applied 8 Aug
S2 L	57 kg applied 28 Aug

NOTES: (1) On S1 plots saponin was applied as ground quinoa husk in 860 l/ha.
(2) On S2 plots saponin was applied as ground quinoa husk as a dry dust.

Basal applications: Manures: (0:16:36) at 980 kg. (12:20:20) at 380 kg.
Weedkillers: Trifluralin at 1.1 kg in 200 l. Linuron at 0.50 kg, in 400 l.

Seed: Allegro, sown at 9 seeds per square metre.

Cultivations, etc.:- First PK applied: 3 Sept, 1990. Ploughed: 11 Dec.
NPK applied: 11 Apr, 1991. Heavy spring-tine cultivated: 24 Apr.
Rotary harrowed, trifluralin applied, rotary harrowed, seed sown, rolled: 26 Apr. Linuron applied: 3 May. Hand harvested: 10 Sept..
Previous crops: W. barley 1989 and 1990.

NOTE: Growth stage and bird damage was monitored twice weekly. Rainfall was recorded after repellent application. Disease was assessed before harvest and seed moisture measured on three occasions before harvest.

91/R/SU/2

GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

SAP R T	
NONE	1.91
S1 E	2.08
S1 L	1.84
S2 E	1.80
S2 L	2.03
Mean	1.93

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

SAP R T	
	0.115

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

Stratum	d.f.	s.e.	cv%
ROW.COL	12	0.182	9.4
GRAIN MEAN DM%	62.4		
PLOT AREA HARVESTED	0.00150		