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(NIAB sponsored)

MORLEY RESEARCH CENTRE**Winter oilseed rape****Supplementary variety comparison, 1993***G M Palmer and D B Stevens***Summary**

Twenty five varieties of oilseed rape were compared under a regime of intensive fungicide use. At crop maturity there was considerable lodging in some varieties, notably the high erucic acid variety Askari, but Rocket and Capricorn were stiffest. Apex and Bristol which had intermediate lodging scores produced the highest yields.

Object

To evaluate the relative performance of a range of winter oilseed rape varieties grown under "best local practice" on a heavy soil.

Method

The comparison comprised a total of 25 varieties including 5 standards (=control varieties) and one high erucic acid variety as listed in Table 1.

Table 1. *Varieties*

(C)Cobra	Alaska	Citrol	Inca	RC/A90
(C)Envol	Apache	Cobol	Lineker	Shogun
(C)Falcon	Apex	Eurol	Mandarin	Zeus
(C)Libravo	Bristol	Express	Metrol	29021
(C)Samourai	Capricorn	Idol	Rocket	Askari*

(C=control)

*High erucic acid variety

The varieties were sown on 8 September 1992 in plots arranged in randomised incomplete blocks with 4 replicates. All plots received normal crop husbandry inputs applied overall by farm equipment operated from wheelings established between adjacent replicates. The inputs included fertilizers, herbicide, insecticides and a full fungicide programme, details of which are listed in the Appendix.

Plant emergence was scored on 12 and 22 October and plant populations were assessed on 16 October. Crop lodging was scored on 23 June and the trial was harvested by combining directly from the standing crop on 28 July following desiccation by Roundup (glyphosate, 360 g ai/l) applied at 3 l/ha on 8 July.

*Not for publication without the Director's consent. This report deals primarily with only one year's work, so any conclusions given are provisional.

Results and discussion

In general plant establishment and early growth was satisfactory for all varieties. Samourai showed the least vigour early but at harvest it was one of the highest yielding varieties. There was considerable lodging in some varieties, notably the high erucic acid variety Askari, but Rocket and Capricorn were stiffest.

Apex and Bristol produced the highest yields.

Table 1. *Establishment, early vigour, lodging and yield (t/ha at 91% dm)*

Variety	Plant popn. /m ²	Vigour score 22 Oct	Lodging score 23 June	Seed yield	Yield of oil t/ha
(C)Cobra	109	9	2.9	4.69	1.98
(C)Envol	88	8	3.1	5.06	2.28
(C)Falcon	89	8	4.2	4.72	2.05
(C)Libravo	91	8	3.8	4.23	1.83
(C)Samourai	85	6	8.5	4.93	2.26
Alaska	97	9	1.8	4.58	2.02
Apache	79	8	8.2	4.57	2.07
Apex	113	9	6.8	5.28	2.41
Bristol	90	8	4.0	5.21	2.31
Capricorn	102	8	8.8	4.46	1.96
Citrol	129	9	3.2	4.36	1.86
Cobol	91	8	5.0	4.30	1.84
Eurol	104	8	5.6	4.99	2.24
Express	102	8	8.7	4.62	2.12
Idol	102	8	3.2	4.86	2.11
Inca	93	9	4.9	4.74	2.12
Lineker	110	9	6.4	4.31	1.90
Mandarin	102	8	3.0	5.13	2.20
Metrol	105	8	4.6	4.68	2.03
Rocket	94	8	8.9	4.99	2.25
RC/A90	100	8	8.1	4.58	2.07
Shogun	111	9	2.7	4.65	2.07
Zeus	122	9	6.9	4.87	2.14
29021	99	7	3.0	4.45	1.89
Askari	70	8	1.8	4.27	1.95
LSD(P=0.05)	18.2		1.46	0.190	0.108
SE per plot(56 df)	±6.4		±0.51	±0.087	±0.038
SE as % GM	12.6		19.2	3.6	3.5

Acknowledgements

The help provided by the host farmer, W.Hamilton, ensuring the experiment received the necessary husbandry inputs and by colleagues at Morley for assistance in carrying out the experiment, especially at harvest, is gratefully acknowledged.

Appendix

The following information is presented as an appendix which is available on request:

- Field details
- Method
- Experiment diary

Field details

Site: Stonham
Field reference: TM 121619
Crop: Winter oilseed rape
Previous crop: 1992 Wheat
 1991 Wheat
Soil type and series: Sandy clay loam (Beccles series)
Seed: As supplied **Seedrate:** Approx. 140/m²
Date sown: 8 September 1992
Nutrients applied:

date	nutrient	rate (kg/ha)
16 Sept.1992	K ₂ O	150
6 Nov.	N	46
10 & 16 Feb.1993	N	30 + 30 (as sulphate of amm.)
19 & 30 March	N	70 + 70
Total N		246

Cultivations: Ploughed and pressed - late August 1992
 Rolled
 Roterra and pressed (1 pass) 7 September
 Drilled 8 September
 Rolled

Applications to crop

14 Sept.1992	Tristar (trifluralin, 480 g/l) at 1.8 l/ha
10 Oct.	Cypermethrin (cypermethrin, 100 g/l) + Butisan S (metazachlor, 500 g/l) at 0.25 + 1.1 l/ha
5 Nov.	Pilot (quizalofop, 500 g/l) at 0.15 l/ha
19 Jan.1993	Sportak 45 (prochloraz, 450 g/l) at 1.1 l/ha
24 March	Sportak Alpha at 1.25 l/ha (prochloraz + carbendazim, 267+100 l/ha)
16 April	Ambush C (cypermethrin, 100 g/l) at 0.25 l/ha
11 May	Fastac (alpha-cypermethrin, 100 g/l) at 0.17 l/ha
11 May	Ronilan (vinclozolin, 500 g/l) + Bravo (chlorothalonil, 500 g/l) at 0.8 + 0.6 l/ha
8 June	Rovral (iprodione, 255 g/l) at 2.0 l/ha

Method

Plot layout

Plots were sown with oilseed rape at 140 seeds/m² using an Oyjord drill. The drilled plots were 12 m long and 1.79 m wide from outside row to outside row (14 rows at 12.8 cm spacing). Plots were separated by a buffer of the same size with a 51 cm gap between successive plots and buffers.

Common treatments such as fertiliser, insecticides, herbicides, fungicides or growth regulators were applied across all plots with farm machinery using wheelings, 12 m apart. For harvest purposes, plot length was reduced to 9.0 m.

Harvest details

Plots were separated by hand prior to being desiccated by Roundup at the brown seed stage and were later harvested using a Claas Compact combine which was modified for plot work and used electronic weighing (Novatech M864 Loadmeter). Trials were harvested by replicate.

Post harvest determinations

Moisture content was determined (at NIAB) by taking a 200 g subsample, oven drying for 40 hours at 100-102°C and weighing at an ambient temperature. Oil content was determined on a further sub-sample also by NIAB laboratory using an approved method.

Experiment diary

8 September 1992	Oilseed rape drilled
16 October	Crop population counts
10 October	Vigour assessed (2 leaf stage)
22 October	Vigour score (3-leaves)
26 March 1993	Spring growth score
23 June	Lodging score
8 July	Roundup (glyphosate, 360 g ai/l) at 3 l/ha
28 July	Trial harvested
29 July	Moisture & oil determinations