



Department of
Agriculture and Food



Research Library

Experimental Summaries - Plant Research

1972

Trial results 1972 rapeseed, barley, lupins, frost

M W. Perry

Follow this and additional works at: <https://researchlibrary.agric.wa.gov.au/rqmsplant>



Part of the [Agronomy and Crop Sciences Commons](#), and the [Weed Science Commons](#)

Recommended Citation

Perry, M W. (1972), *Trial results 1972 rapeseed, barley, lupins, frost*. Department of Agriculture and Food, Western Australia, Perth. Article.

This article is brought to you for free and open access by Research Library. It has been accepted for inclusion in Experimental Summaries - Plant Research by an authorized administrator of Research Library. For more information, please contact jennifer.heathcote@agric.wa.gov.au, sandra.papenfus@agric.wa.gov.au.

IMPORTANT DISCLAIMER

This document has been obtained from DAFWA's research library website (researchlibrary.agric.wa.gov.au) which hosts DAFWA's archival research publications. Although reasonable care was taken to make the information in the document accurate at the time it was first published, DAFWA does not make any representations or warranties about its accuracy, reliability, currency, completeness or suitability for any particular purpose. It may be out of date, inaccurate or misleading or conflict with current laws, policies or practices. DAFWA has not reviewed or revised the information before making the document available from its research library website. Before using the information, you should carefully evaluate its accuracy, currency, completeness and relevance for your purposes. We recommend you also search for more recent information on DAFWA's research library website, DAFWA's main website (<https://www.agric.wa.gov.au>) and other appropriate websites and sources.

Information in, or referred to in, documents on DAFWA's research library website is not tailored to the circumstances of individual farms, people or businesses, and does not constitute legal, business, scientific, agricultural or farm management advice. We recommend before making any significant decisions, you obtain advice from appropriate professionals who have taken into account your individual circumstances and objectives.

The Chief Executive Officer of the Department of Agriculture and Food and the State of Western Australia and their employees and agents (collectively and individually referred to below as DAFWA) accept no liability whatsoever, by reason of negligence or otherwise, arising from any use or release of information in, or referred to in, this document, or any error, inaccuracy or omission in the information.

DEPARTMENT OF AGRICULTURE

WESTERN AUSTRALIA

TRIAL RESULTS - 1972

M. W. PERRY

PLANT RESEARCH DIVISION

1. Competition of Rapeseed and Wimmera Rye Grass.
2. Effects of Time of Planting and Cultivation in Barley.
3. Frost Trials
4. Time of Planting/Weed Control in Lupins

1. Competition of Rapeseed and Wimmera Ryegrass at two Nitrogen levels

Location: 'Monte Bello' (E. Schaeffer) Katanning

Soil Type & History: Grey gravelly sand over gravelly clay.
Superphosphate in excess of 2000 lb.
Previous crop Barley. Initial soil Nitrogen 0.069%.

Treatments: 2 x 3 x 4 factorial, 3 reps, all combinations of 100 and 213 kg/ha Urea, 1.1, 6.7 and 13.4 kg/ha rapeseed and 0, 4.5, 11.2 and 22.4 kg/ha W.R.G.

Sown 24/6/72. Superphosphate 200 kg/ha. No pests or diseases.

Results:

Rapeseed kg/ha	W.R.G. plants/m ²			
	20	84	452	661
1.1	294	231	151	143
6.7	236	199	197	140
13.4	209	185	173	145

Seed yield in kg/ha averaged for the two nitrogen levels

L.S.D. $P < 0.05 = 46$ kg/ha

- Comments:
- (i) Yields low due to dry finish. (Probability of a wetter May - October period 0.86 at Katanning).
 - (ii) A.O.V. demonstrated a significant ryegrass effect ($P < 0.001$) and a significant ($P < 0.05$) ryegrass x rapeseed interaction i.e. there is a relatively greater yield decrease due to increasing W.R.G. on the 1.1 kg/ha compared to the 6.7 and 13.4 kg/ha plots.
 - (iii) Average yields 205 and 179 kg/ha at the low and high nitrogen levels respectively. Yield reduction was uniform across all plots and cannot be attributed to a stimulation of ryegrass growth relative to rapeseed.
 - (iv) Low seeding rates appear beneficial in the dry finish especially where weed populations are moderate to low.

72MT17 - 2480/EX

2. Effects of Time of Planting and Cultivation in Barley

Location: Mt. Barker Research Station - Paddock S5

Procedures: Superphosphate 200 kg/ha, Urea 67 kg/ha top-dressed prior to planting. Dampier barley sown 49 kg/ha. Spray Seed 1.4 litre/ha in 90 litres water (1 pt. per acre in 20 gal.)

Results: Break of Season - 4th May

Yields are the average of three replications.

Ploughed	Seeded	kg/ha	Bu/ac
18 May (2 weeks)	25 May (3 weeks)	3065	56
	8 June (5 weeks)	2765	50
	15 June (6 weeks)	2850	51
	22 June (7 weeks)	2445	44
25 May (3 weeks)	8 June (5 weeks)	2850	51
	15 June (6 weeks)	2895	52
	22 June (7 weeks)	2510	45
	29 June (8 weeks)	2640	47
8 June (5 weeks)	15 June (6 weeks)	2850	51
	22 June (7 weeks)	2720	49
	29 June (8 weeks)	2615	50
	6 July (9 weeks)	2510	45
Sprayed - 18 May (2 weeks)	25 May (3 weeks)	2680	48
	8 June (5 weeks)	2805	50
Sprayed - 25 May (3 weeks)	8 June (5 weeks)	2640	47
	15 June (6 weeks)	2595	46
Sprayed - 8 June (5 weeks)	15 June (6 weeks)	2595	46
	22 June (7 weeks)	2255	40

- Comments:
- (i) All treatments gave excellent weed control.
 - (ii) No significant yield trends evident between planting times from 25 May to 6 July.
 - (iii) Average yields were:-
 - (a) All cultivation treatments - 2760 kg/ha (49.3 bu/ac)
 - (b) All spray seed treatments - 2570 kg/ha (46.0 bu/ac)

3. Frost Trials

Preliminary trials to assess the nature and extent of late frost damage to wheat were performed at Merredin, Bodallin and Avondale.

Temperature profile measurements at two sites indicated that within crops temperatures were lower than above bare ground and that the zone of low temperatures extended to a greater height. No head frosting was observed despite temperatures of just below 0°C.

Continuous measurements of soil temperatures at Bodallin indicated that surface temperatures may fall to -4°C during winter. On a frost susceptible site eleven sub-zero minima were recorded, including an August spell of four days with minima of -2 to -4°C.

In northern N.S.W. economically significant stem frost damage is associated with temperatures of -6°C or lower. No stem damage was recorded for the Bodallin site.

4. Time of Planting/Weed Control in Lupins (3080/EX)

72WH5, 72BA6, 72MT10

The aim was to compare weed control and lupin growth over a variety of time of planting and cultivation treatments.

Treatments included:

- (i) Dry sown.
- (ii) Sown on the Break.
- (iii) A range of scarification and spray seed treatments 1 - 3 weeks after weed emergence.
- (iv) Ploughed and scarified blocks.

Results:

Wongan Hills (Unicrop)

- (i) Trial droughted, no seed yields.
- (ii) Dry seeded plots sown just prior to the break gave markedly superior vegetative growth.

Badgingarra, Mt. Barker (Uniharvest)

- (i) Results of doubtful value due to poor germination and a late season break.
- (ii) At both sites yields were best from late sown ploughed treatments followed by the early sown, minimal cultivation treatments.
- (iii) Spray seed was inferior to scarification.

Experiments in 1973 will:-

- (a) Examine the effects of time of planting on lupin growth and seed yield in the absence of weed and insect damage.
- (b) Investigate the apparent sensitivity of lupin growth to low temperatures noted in 1972 trials.
- (c) Investigate the general climate-growth relationships of potential crop lupin species

March 8, 1973
MP:WM