

CONFIDENTIAL*

MORLEY RESEARCH CENTRE

Linseed

Seedrates for cvs Antares and Barbara

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Summary

After sustained attack by flea beetles had caused early plant losses a range of plant populations averaging from 94 to 381 plants/m² was established at a light land site in Norfolk. Within the range established, yields appeared to increase with increasing plant density.

Object

To determine the optimum plant density for linseed grown on light land.

Method

Treatments

All combinations of:

	<i>Seedrate</i>	<i>Variety</i>
S1	214 seeds/m ² (target population = 150 plants/m ²)	Antares
S2	357 seeds/m ² (target population = 250 plants/m ²)	Barbara
S3	500 seeds/m ² (target population = 350 plants/m ²)	
S4	643 seeds/m ² (target population = 450 plants/m ²)	
S5	857 seeds/m ² (target population = 600 plants/m ²)	
S6	1143 seeds/m ² (target population = 800 plants/m ²)	

The treatments were arranged in randomised blocks with 4 replicates.

Plots were sown on 9 March into a good seedbed prepared by conventional harrow on ploughed land at a light soil site at Little Witchingham in Norfolk using an Oyjord plot drill. The plots were rolled after drilling and received normal farm inputs of fertiliser, herbicides and pesticides, including two pyrethroid sprays during crop emergence, applied overall to combat flea beetle (*Longitarsus parvulus*) attack.

The trial was harvested by combine on 22 September.

*Not for publication without the Director's consent.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

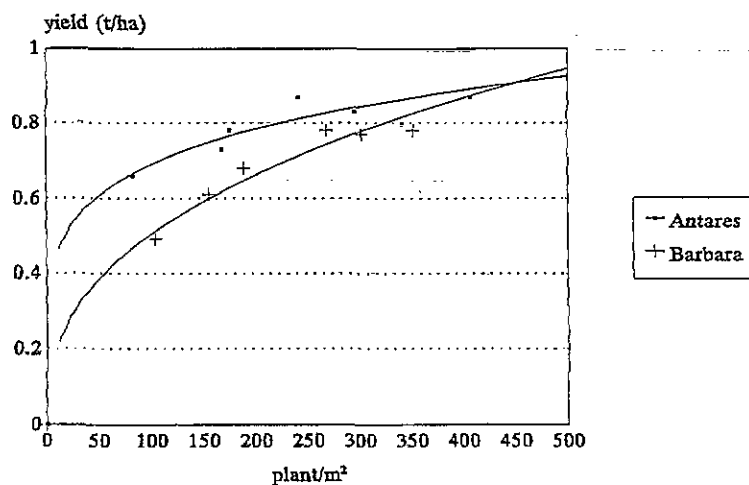
Results and discussion

Crop establishment was fairly low, averaging only 37% of seed sown. The trial area was affected by flax flea beetle which appeared to attack emerging cotyledons causing widespread damage and some immediate loss of young seedlings, in spite of the early application of insecticide.

Yields

Seedrates		Yield (t/ha at 91% dm)		
Nos.seeds/m ²	Av.plant popn./m ²	Antares	Barbara	Mean
214	94	0.66	0.49	0.57
357	162	0.73	0.61	0.67
500	183	0.78	0.68	0.73
643	256	0.87	0.78	0.82
857	301	0.83	0.77	0.80
1143	381	0.87	0.78	0.83
LSD		0.097		0.068
Mean		0.79	0.69	
LSD		0.040		
SE per plot (33 df)		±0.067		
SE as %GM		9.1		

Yields were low and on average there was no significant yield response to populations above 256 plants/m², although when yield was plotted against population it tended to increase with increasing plant density.



Plant populationsTable 1. Plants/m₂ (7 June)

Seedrates Nos.seeds/m ²	Antares	Barbara	Mean
214	83	105	94
357	169	156	162
500	177	190	183
643	242	269	256
857	297	304	301
1143	408	353	381
LSD	78.4		55.4
Mean	229	230	
LSD	NS		
SE per plot (33 df)	±54.4		
SE as %GM	23.7		