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# Barley yellow dwarf virus - effect on yield of Clipper barley

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DEPARTMENT OF AGRICULTURE

Western Australia

EXPERIMENTAL SUMMARY 1977

Barley Yellow Dwarf Virus



G.D. McLean & T.N. Khan  
Plant Pathology Branch  
Plant Research Division

Barley Yellow Dwarf Virus - Effect on Yield of Clipper Barley 77B4, 77MN6

Location: Manjimup Research Station  
Bramley Research Station

Planting

Date: June 10 & 15, 1977

Experimental: The trials were inspected in September. The Bramley trial appeared healthy and remained healthy. The trial at Manjimup had plants which exhibited both dwarfing and yellowing. These plants were plotted on a plan and marked with stakes. Four affected plants were sent to Dr P.R. Smith, Plant Research Institute, Victorian Department of Agriculture, who identified the cause as Barley Yellow Dwarf by aphid transmission.

Results:

TABLE 1 - Assessments on healthy and diseased plants in Manjimup (77MN6)

	Healthy plants	Affected plants
Dry weight*	7.131 ± 0.67	5.009 ± 0.45
Grain weight/plant*	2.776 ± 0.25	1.999 ± 0.22
Grain weight/head*	0.876 ± 0.02	0.684 ± 0.02
Grain per plant*	64.4 ± 5.76	50.9 ± 4.61
1000 grain weight	47.27	38.9

\* Indicates significant difference at  $p = 0.05$

Comments:

1. Significantly lower grain yield was obtained due to the barley yellow dwarf infection.
2. The grain yield components grain weight per head and 1000 seed weight also showed similar decline due to infection.
3. The above results may have originated due to the poor vigour of the affected plants as reflected in the dry weight results.
4. This estimate of yield loss may be an over-estimate on the population basis, as poor vigour of the infected plants may result in compensatory growth of the non-infected plants.