

THE COMPETITIVENESS OF A PARAQUAT-RESISTANT BIOTYPE OF
BARLEY GRASS, *HORDEUM GLAUCUM*

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Abstract. Field experiments, using the de Wit replacement series technique, were carried out to determine the outcome of competition between paraquat-resistant and susceptible biotypes of barley grass, *Hordeum glaucum* Steud. An experiment was also conducted to compare resistant *H. glaucum* with paraquat-sensitive, *H. leporinum*. *H. leporinum* is the dominant barley grass in the Ararat region of Victoria where the paraquat resistant *H. glaucum* occurs. The effect of competition was determined by counting the number of tillers and heads produced, and total biomass productivity at the end of the growing season. The results show that in the absence of paraquat the susceptible biotype of *H. glaucum*, and *H. leporinum*, were superior competitors to the resistant *H. glaucum*. In the absence of competition the species/biotypes had similar productivity. The implications of these findings with regard to the spread of the resistant biotype are discussed.