Project Title: Genomic selection to breed for yield stability in barley

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There is an opportunity to explore the use of new genetic and statistical technologies to breed more stable varieties faster. In recent years genomic selection (GS) has become economically feasible for implementation in breeding programs, however the validation of this technology needs further investigation. This project will investigate GS in the context of genotype x environment (GxE) interaction with yield and yield stability. This will be explored using barley as the test case, recognising that the recent introduction of planet barley has introduced European yield genetics with good adaptation to mid-high rainfall Australian environments. Coupled with Australian yield genetics the stability of yield for Australian barley growers can be improved. The project will use yield related trait phenotyping and environment characterisation within the context of GS to breed more stable varieties.