

## WHAT WE HAVE SELECTED FOR WESTERN AUSTRALIAN BARLEY VARIETIES

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The Barley Breeding Australia-Western Node has successfully developed several new malting barley varieties including Gairdner, Baudin, Hamelin, Vlamingh and new breeding lines WABAR2312 and WABAR2315. Gairdner and Baudin have become widely cultivated varieties across Australia. In all cases, one variety was selected from a cross of a WA barley variety/breeding line and an introduced variety/line from other programs. SSR and DarT molecular markers were used to analyse the whole genome of the new varieties and their parents. Chromosomal regions have been identified as “Western region-specific” genomic components for a successful barley variety while other regions are flexible for introduction of new genes. A WA fragment of chromosomal 7H has been retained in all new barley varieties. This is further supported from a QTL mapping result of Baudin/AC Metcalfe DH population. The chromosome 7H fragment interacts with other QTLs for controlling grain yield. The result will provide further evidence for adopting for whole genome selection strategies in developing new varieties and at the same time develop molecular tools for variety identity.

### **PRESENTER PROFILE:**

Dr Chengdao Li is a senior barley Breeder and Senior Molecular Geneticist. His research focuses on development of new barley varieties using molecular techniques. He is one of the breeders for barley varieties Vlamingh, Hamelin and Baudin.