

## **Assessment and Application of Chinese faba bean & broad bean germplasm to accelerate Australian faba bean breeding program**

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China is the world's largest producer of faba bean and broad bean, and Chinese germplasm is generally very distinct from germplasm from other regions. A significant amount of Chinese germplasm has been assembled in Australia, but has not been widely used in the breeding program other than as a valuable source of resistance to Bean Leafroll Virus (BLRV). Greater use of this germplasm would increase the overall genetic diversity within the Australian faba bean program and also introduce novel traits, such as Chinese quality characteristics. A total of 109 lines of Chinese faba and broad bean germplasm from six provinces, plus 8 Australian faba bean varieties and breeding lines, were assessed at the Waite Campus in 2018-2019 for a range of morphological, reproductive and seed traits. These traits include: emergence, number of branches, plant height, leaf area, days to flower, flower colour, days to maturity; pod traits – maximum pods per node, shape, length, width, indehiscence, pods per plant; seed traits – colour, seeds per pod, seeds per plant and 100 seed weight. Crosses were made between Australian elite lines and random lines from each province in 2018 to capture the overall genetic variation in the Chinese germplasm. More targeted crosses will be made in 2019 taking the data collected in 2018 into account for selection of the parents.