

# KIT 1.3

Change fundamental plant architecture, physiology and/or biochemistry to maximise water-limited yield potential in wheat, barley, canola and sorghum.



## Impact

Growers have access to wheat, barley, canola and sorghum varieties possessing transformational improvements in water-limited yield potential.

## Summary

- There is accurate information about the economic value of plant characteristics that can underpin improved water-limited yield potential.
- Plant breeders are better able to utilise fundamental research to improve water-limited yield potential.

## SCOPE

## INVESTMENT OUTCOMES

### Enhanced water uptake

Knowledge and improved breeding selection tools are developed to enhance crop water capture.



1.3.1 Plant breeders and researchers have knowledge of and selection tools for plant characteristics that can maximise water uptake.

### Enhanced conversion of water to biomass

Knowledge and improved breeding selection tools are developed to optimise crop growth and build the resources to maximise yield potential.



1.3.2 Plant breeders and researchers are accelerating the transfer of relevant knowledge from other species to wheat, barley, canola and sorghum.

1.3.3 Plant breeders and researchers have knowledge of and selection tools for plant characteristics that optimise conversion of water to biomass.

### Enhanced conversion of biomass to yield

Knowledge and improved breeding selection tools are developed to deliver maximum yield potential.



1.3.4 Plant breeders and researchers have knowledge of and selection tools to manipulate flowering processes and structures of wheat, barley, canola and sorghum to optimise grain number in relation to water availability and biomass.

1.3.5 Plant breeders and researchers have knowledge of and selection tools to manipulate haying-off processes to maximise yield.

1.3.6 Plant breeders and researchers have knowledge of and selection tools to minimise post grain-fill yield losses.