

SALINITY RESEARCH

WITH THE HELP OF A MODEL PLANT, ARABIDOPSIS,
ACPF is taking a novel approach
TO TACKLE SALINITY.

THE SALT RESEARCH TEAM
is searching through
an Arabidopsis library,
containing hundreds of
plants each with a different
package of genes and traits.

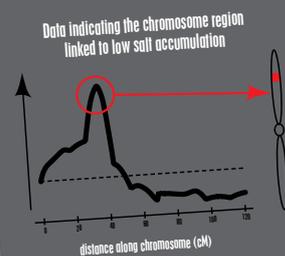
THESE PLANTS ARE then grown
in a salt treatment and tested
for levels of salt (sodium)
accumulation. Plants with
low levels of accumulation
are selected and assessed
to identify the genetic
mechanisms they use to
exclude salt from their roots.



DID YOU KNOW?

67% of all Australian grain growing areas are affected by salinity.

253 million hectares, or 30% of all Australian soils are affected by sub soil salinity.



WE ARE WORKING to determine the regions of the chromosome where the sodium transporter genes lie. So far many regions have been identified; however, five are of particular interest to ACPF. Within these regions are an estimated 1200 genes. It's our job to pinpoint the key genes out of these 1200 and determine their precise roles in managing high levels of salt.

Arabidopsis thaliana is a member of the mustard family. It is used as a model research plant due to its short life cycle (about six weeks from germination to mature seed) and small genome (around 30,000 genes). The knowledge gained from research on this plant can be related back to wheat and barley.

ACPFG Research



The Australian Centre for Plant Functional Genomics (ACPFG) uses functional genomics to improve the resistance of wheat and barley to hostile environmental conditions such as drought, salinity, frost and mineral deficiencies or toxicities. These stresses, known as abiotic stresses, are a major cause of cereal crop yield and quality loss throughout the world.

To meet our mandate of delivering research outcomes nationally, ACPFG has four nodes throughout Australia. The headquarters is at the University of Adelaide's Waite Campus, with other major research nodes at the University of Melbourne, the University of Queensland and the Department of Primary Industries (DPI) at La Trobe University.



Australian Government
Australian Research Council



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