

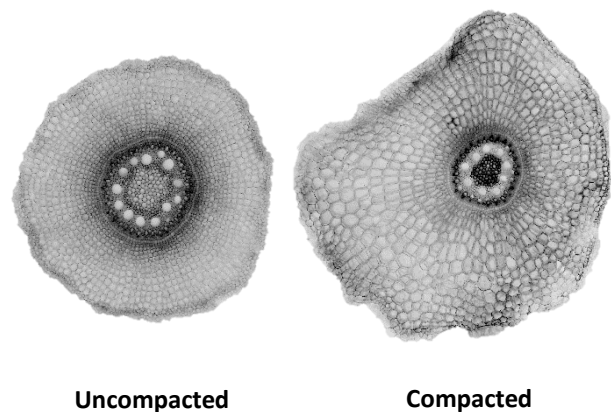
# Sugarcane root systems and compacted soils

CSIRO is researching how sugarcane roots handle compacted soils and whether differences in tolerance exist among Australian cane varieties.

## Initial work

Soil compaction can be a major impediment to sugarcane productivity.

- The effects of soil compaction can be seen visually on sugarcane variety Q151 (left two images) with substantially reduced root depth and plant vigour.
- There are clear differences in cell structure of individual roots grown in compacted soils (right two images), which shows a smaller central core through which water and nutrients travel during uptake from the soil (variety: SRA1).



## Future work & output

- Testing varieties for growth differences in pots with compacted soils.
- Core sampling in-field to understand root-zone impacts of compaction and row spacing.
- Providing information on which varieties may perform better in fields where compaction is an issue.

This project is funded by Sugar Research Australia. For more information see the SRA Soil Health Toolbox at <https://sugarresearch.com.au/soilhealth/>, including a soil compaction guide produced by MSF Sugar.



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