SUBSOIL CONSTRAINTS - UNDERSTANDING AND MANAGEMENT

Year: 2014 - 2019

Funding Provider:
GRDC

Lead Organisation:
Liebe Group

Collaborators
CSIRO

Location:
West Wubin, WA

PROJECT FUNDERS

REPORTS & LINKS

Subsoil Constraints Trial Final Report 2017

Aim:
To determine the most effective and economical method of ameliorating subsoil acidity.

Project Information:
Subsoil constraints, including acidity, nutrient disorders (deficiencies and toxicities), compaction, sodicity/waterlogging and transient salinity have estimated to cost Western Australian growers approximately $600 million per annum in lost production.

These constraints retard root growth and function which limits water and nutrient uptake causing insufficient levels for production at or near the rainfall limited yield potential. Current diagnostic practices often do not provide sufficient information for growers to confidently identify and manage such constraints.

This project has been designed to increase profitability through efficiency and production gains associated with improved subsoil management. Coupled with the innovative lime incorporation trial at west Wubin, the trial aims to manage subsoil constraints and maximise returns through the following identified strategies:

- Improve subsoil pH to 5.5 at a depth of 30cm
- Use appropriate ameliorant: Lime or dolomite
- Use of the appropriate incorporation method: Tiny Grizzly disc plough and spader

Outcomes:

- Improved knowledge and resolution of the extent and distribution of soils in WA with subsoil constraints.
- Better understanding of how different crop species and varieties respond to various subsoil constraints so that; production and financial risks associated with each constraint can be more accurately assessed along with the appropriateness of specific crops better matched to soil type.
- Improved tools for grower use such as; Yield prophet and Lime calculator, soil water monitoring tools and, soil mapping tools such as EM, Gamma and NDVI.

FOR FURTHER INFORMATION ABOUT THIS PROJECT OR THE LIEBE GROUP PLEASE CONTACT THE LIEBE GROUP OFFICE ON 08 9661 1907 OR EMAIL ADMIN@LIEBEGROUP.ORG.AU