GRDC investment in R, D & E to address important issues identified by the Southern Regional Cropping Solutions Network

List of investments was current at 31 May 2019

SOILS AND NUTRITION

- A holistic approach to seep management for preventing land degradation in the landscape
- Assessment of nitrogen and water co-limitations by remote sensing as a tool to improve wheat and canola profitability and manage risk
- Benchmarking and managing soil herbicide residues for improved crop production
- Biosolids to overcome subsoils constraints in the Victorian grain growing soils
- Building the resilience and profitability of cropping and grazing farmers in the high rainfall zone of Southern Australia
- Direct comparison between selected field infrared instruments for the prediction of soil properties in grain cropping soils
- Enabling Analytics For Grain Crop Monitoring Applications - High temporal and spatial resolution measures of plant available soil water (PAW)
- Evaluation of late nitrogen applications to achieve yield potential and increase protein in wheat
- Extension program to promote best practice principles for identifying and managing soil limitations
- Fertiliser form and soil interactions when applied in high concentration bands
- High work rate ‘plough and sow’ technology for farm-scale sandy soil amelioration (South)
- Identifying low pH tolerance and effective rhizobia for wild Cicer to improve adaptation to acid sandy soils
- Improving nitrous oxide abatement in higher rainfall cropping systems and developing nitrogen response curves
- Improving profit and reducing risk by managing nitrogen in wheat and extreme temperature in pulses
- Improving wheat yields on sodic, magnesic, and dispersive soils
- Increasing production on sandy soils in the low and medium rainfall areas of the Southern region
- Increasing the effectiveness of nitrogen fixation in pulse crops through development of improved rhizobial strains, inoculation and crop management practices
- Innovative approaches to managing subsoil acidity in the southern grain region
- Legume management for economic nitrogen production in the low rainfall areas of North West Victoria
- Managing legume and fertiliser nitrogen in the Southern Region
- Measuring and managing soil water in Australian agriculture
- More Profit from Crop Nutrition
    - » Benchmarking wheat yield against nitrogen use
    - » Regional soil testing guidelines for the Southern Region
    - » Nitrogen and water interactions
    - » Reassessing the value and use of fixed nitrogen
    - » Nutrient performance indicators
    - » Phosphorous requirements to accompany high nitrogen levels
    - » Managing micronutrient deficiencies in cropping systems of eastern Australia
- New knowledge and practices to address topsoil and subsurface acidity under minimum tillage cropping systems of South Australia
- New tools to measure and monitor soil moisture
- Nitrogen fixing break-crops and pastures for high rainfall zone acid soils
- Nitrogen inputs by free living nitrogen fixing bacteria - grower messages
- Nutrient performance indicators
- Optimising nitrogen fixation of grain legumes - Southern Region
- Optimising the yield and economic potential of high input cropping systems in the high rainfall zone
- Program for improving farmer confidence in targeted nitrogen management through automated sensing, decisions and intelligent infrastructure - Future Farm Initiative
- Proximal soil sensing for profitable and sustainable farming
- Real-time evaluation of soil nitrate using ion exchange technology
- Scoping study - Reviewing mechanisms and magnitude of nutrient mineralisation in Australian grain producing soils

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SOILS AND NUTRITION

- Soil acidity is limiting grain yield – SA
- Soil acidity is limiting grain yield - Southern Victoria
- Soil spectroscopy capability
- Spatial variability of soil acidity and response to liming in cropped land of the Victorian high rainfall zone
- Strategies to better synchronise nutrient supply and crop demand
- Tailoring an integrated solution to effectively address subsoil constraints by incorporation of chemically-balanced nano-amendments
- Tools for rapid real time measurement of nutrients
- Understanding biological farming inputs
- Understanding how waterlogging affects water and nitrogen use by wheat
- Understanding plant available soil water and implications for crop management
- Understanding the amelioration processes of the sub-soil application of amendments in the Southern Region
- Updated nutrient response curves in the northern and southern regions
- Using soil and plant testing data to better inform nutrient management and optimise fertiliser investments for grain growers in the Southern Region

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