



Sugar Research Australia's SOIL HEALTH PROGRAM

THE PROGRAM

Sugar Research Australia's Soil Health Program (SHP) invests-in, coordinates and delivers research to adoption projects aimed at improving the condition of sugarcane soils so that they are more resilient to stress and able to support productive, profitable and sustainable farming systems. The breadth of activity is supported by the industry at all levels and research agency partners, from discovery of new knowledge and next wave technologies to performance measurement and practical application of best soil management practices by growers in the field.

The objectives and aims of the SHP are guided by the SHP Logic Framework and priorities for investment are updated regularly via industry and partner consultation. The Program seeks to form beneficial partnerships with organisations to collaborate and co-invest in these priority projects which range from one to five years in duration.

The SHP concentrates research to adoption efforts on balancing the three key elements of a healthy soil - its physical structure, chemical properties and biological diversity.

THE PROGRAM THEMES

The Program is divided into three key themes:

PARTNERSHIPS FOR RESEARCH TO ADOPTION CONNECTIVITY

The SHP is supporting activities that assist growers to understand why soil health is vital and makes good economic sense, how to plan and instigate changes to their individual farming systems and provide opportunities to increase skills to measure the impact of practice change on soil health, production and business profit. Importantly, it is also supporting communications to simplify the key messages on soil health to the industry and address practical barriers to on-farm adoption such as identifying appropriate priorities and access to key resources like machinery/equipment.

Facilitating better connections between research and adoption efforts across the industry and its regions is a priority of the Program and is delivering effective co-operation between growers, millers, service organisations and researchers.

BUILDING THE SOIL RESOURCE

Addressing ways to improve the health of sugarcane soils by identifying constraints and practical measures to remediate soil condition and build capability is paramount. The SHP is assisting growers and service providers to understand local impediments to production and profit that can be improved by changing soil management practices and the most effective and cost efficient strategies to make this happen in the field.

In a tech savvy world, research effort is not only consolidating and refining past work, it is exploring new innovations and working collaboratively with research partners and aligned industries to reduce duplication of effort and expedite outcomes.

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TOOLS, MEASUREMENT, ANALYSES AND MONITORING

Strategies to address constraints and improve soil condition, underpinned by rigorous science and demonstration, will give growers greater confidence to follow a plan, monitor impact and review outcomes against farming practices and industry business and sustainability performance indicators. The SHP is supporting research to adoption efforts that allow growers and farm advisors to measure and evaluate the implications of management practices, make more informed decisions and do this as simply as possible.

The Program is also addressing industry's need to respond to increasing obligations to demonstrate sustainable performance and create opportunities to participate in market off-set programs.

OUTCOMES FOR THE INDUSTRY

The SHP Program is:

- Delivering a collaborative platform for ongoing industry co-operation and investment in soil health research to adoption initiatives underpinned by the support of leading research organisations and industry partners.

- Building regional adoption pathways using a whole-farm-system and principles approach to addressing soil constraints which impact upon farm and industry production, profit and sustainability.
- Investing in industry capacity, capability and communication initiatives to improve implementation of existing knowledge and trial/demonstration of new knowledge with grower and service provider input and feedback.
- Coordinating joint efforts across key focus areas (KFA) of SRA's Strategic Plan which have a role in improving the health of sugarcane soils. These areas encompass nutrients, farming systems, harvesting, plant varieties (focus on roots) and pest, disease and weed management.
- Increasing understanding, and investigating knowledge gaps, in the role of soil organic matter and functional carbon stocks to improve soil structure, water infiltration, resistance to compaction and drive the soil food web to regulate pest and pathogens populations.
- Improving nutrient turnover and nutrient holding capacity to reduce the reliance on high-level inputs of water and mineral fertiliser.
- Using fine-scale spatial data to identify constraints to production and potential risk exposure, including development of strategies to better forecast and address soil and climate variability across micro-climatic zones.
- Address legitimate new research questions and knowledge gaps to develop the next generation of tools and technologies for future implementation.

SOIL HEALTH TOOLBOX

SRA's Soil Health Toolbox is the primary vehicle for extending information on current research, practical resources and shared grower experiences to support soil management practice and performance measurement in the field.

Visit the site to find up to date information on current SRA and other industry partner projects, in-field research and demonstration as well as technical information.

sugarresearch.com.au/soilhealth