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GRDC injects $3.5M to enhance soil organic matter in Australia

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Grains Research and Development Corporation (GRDC) is investing $3.5 million in an innovative farming system project to explore ways Australian grain growers to increase soil organic matter and return carbon to the soil.

The five-year investment by the Grains Research and Development Corporation (GRDC) in partnership with Australiaâ??s national science agency CSIRO and industry partners Kalyx Australia and Delta Agribusiness, is expected to generate international interest with its focus on improving soil organic matter through effective nutrient management using a whole-system approach to increase soil microbes.

This investment builds on GRDCâ??s commitment to support grain growers to understand and incorporate sustainable farming practices through research, development and extension (RD&E).

A 2022 independent assessment of GRDCâ??s RD&E portfolio determined that more than a quarter of projects worth approximately $200M were supporting the grains industry to adopt improved practices or technologies with direct environment benefits.

Looking forward, GRDC is finalising a new RDE Plan 2023-28 within which one of the four proposed pillars is â??Thrive For Future Generations: Australiaâ??s grains industry remains a global leader in sustainability, for people, the planet & our long-term ability to farmâ??.

This CSIRO-led project will identify the most effective ways to increase soil organic matter from crop residues in a dryland cropping systems and detail the cost-benefit analysis of a range of nutrient and residue management strategies for grain growers. The project will also conduct a lifecycle assessment of inputs for carbon accounting purposes.

Soil organic matter contributes to a range of biological, chemical and physical properties of soil and is essential for supplying nutrients to crops, preserving soil structure and maintaining water infiltration. Lower organic matter levels reduce soil resilience and function.

Good soil organic matter levels support higher grain yield and quality, but Australian soil organic matter levels are declining under continuous cropping cycles. Although plant residues are very high in carbon, nutrients, such as nitrogen, phosphorus and sulphur are required to break it down to build healthy soils with high levels of humus.