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GRDC invests $12.7M to integrate indigenous wheat varieties into Australian agriculture

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The Grains Research and Development Corporation (GRDC) is investing $12.7 million in a four-year national research project to integrate long coleoptile wheat into Australian farming systems. The research will explore a range of genetic, environmental, and management factors relating to lengthy coleoptile wheat implementation. The project aims to mitigate sowing risks for growers and provide greater flexibility around sowing time.

The project will be led by CSIRO, Australiaâ??s national science agency, with research parties including the University of Melbourne, NSW Department of Primary Industries, QLD Department of Agriculture and Forestry, SLR Agriculture, the WA Department of Primary Industries and Regional Development, the University of South Australia, and EPAG Research.

The interest of growers in long coleoptile or 'moisture seeking' wheat is vital, especially in Western Australia, where growers have been involved in trials for the past three years to inform future agronomic and farming system guidelines.

Through this project, a standard for measuring and defining wheat coleoptile length will be developed. Long coleoptile wheat can be sown deeper than traditional varieties, enabling better use of stored soil moisture. In addition, the project will investigate how these genetics perform in various production environments, soils, and farming systems.

Using climatic models and on-farm field trials, the team found that lengthy coleoptile varieties could increase yields by 20%. This will help to increase sowing rates and get the crop into the field at the right time. In this approach, delayed germination and emergence are avoided, which can reduce yields. This will generate new lengthy coleoptile wheat varieties for further commercial release, creating supporting agronomic packages.