

# Shortage of skilled plant breeders could impact global food security

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Plant breeders play a crucial role in ensuring the long-term success of crops.  
Credit: CSIRO

A lack of scientists specialized in plant breeding could lead to 'dire' food security implications in Australia, and around the world, according to

new research conducted across three continents.

Plant breeding is a multidisciplinary science that underpins the global production of food, [animal feed](#), fuel and fiber.

A joint paper between Australia's national science agency CSIRO, Lincoln University in New Zealand and McGill University in Canada to address the issue, has painted a concerning picture of future capacity in the plant breeding area.

The paper found that to maintain our level of agrifood, fiber and feed production, we need to urgently address the skills shortage.

Lead author and CSIRO scientist Dr. Lucy Egan said the shortage has been building for some time and has the potential to impact [agricultural production](#) worldwide.

"What we're seeing is a whole generation of highly-skilled plant breeding specialists who are now reaching retirement age, with a gap left as university graduates opt to focus on other areas of plant science including [molecular biology](#)," Dr. Egan said.

"The implications of this shortage could be dire, including affecting global food security and the economies of different countries around the world, including Australia."

Lincoln University's Dr. Rainer Hofmann said the situation is much the same across the Tasman.

"Agricultural production plays such a key role for our country, and so it's really important we start looking at strategies to slow this skills shortage," Dr. Hofmann said.

"Our research looked at the current state of plant breeding across tertiary, government and industry sectors and found that decreasing skills in plant breeding will have flow-on effects for a wide range of agrifood and fiber sectors."

The report has highlighted a number of responses to the skills shortage, including the need for a coordinated approach between the public and private sectors.

McGill University's Dr. Valerio Hoyos-Villegas said one of the keys to addressing the shortage will be the establishment of dedicated training facilities in different countries.

"We also need more focus on graduate programs in plant breeding, and increased private sector involvement if we are to keep pace with emerging scientific and technological advances in the sector," Dr. Hoyos-Villega said.

"Due to the long-term nature and the variety of agricultural industries plant breeding serves, it is important that funding and research become a matter of priority, with modernized [plant breeding](#) education top of mind."

The paper, [Cultivating Success: Bridging the Gaps in Plant Breeding Training in Australia, Canada and New Zealand](#), was published in *Crop Science*.

**More information:** Lucy M. Egan et al, Cultivating success: Bridging the gaps in plant breeding training in Australia, Canada, and New Zealand, *Crop Science* (2024). [DOI: 10.1002/csc2.21286](https://doi.org/10.1002/csc2.21286)

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