

Wild wheat gene could boost drought tolerance and grain size of commercialized crop varieties

In new research published in Plant Biotechnology Journal, [Harkamal Walia](#), associate professor and Heuermann Chair of [Agronomy and Horticulture](#) at Nebraska, and colleagues describe a novel form of a gene obtained from wild wheat that has the potential to improve drought tolerance in cultivated wheat. Introducing this gene into cultivated wheat improved the plant root structure so that it continued to grow in search of water under dry soil conditions.

Wheat is the most widely grown crop in the world and, together with rice, provides more than 50% of the caloric intake of humans globally The discovery by Walia and his colleagues could represent an important new genetic resource, enabling breeders to recapture this natural survival trait in cultivated wheat.

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[T]he team found that adding the wild root gene also resulted in plants with larger grains in the absence of drought. Walia and his team were not expecting this, as introducing tolerance to a stress can sometimes result in lost productivity when the stress is absent.

“This particular trait may have the opposite effect, which is a benefit in both conditions,” Walia said. “We are now working to understand the reason behind this surprising finding.”

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