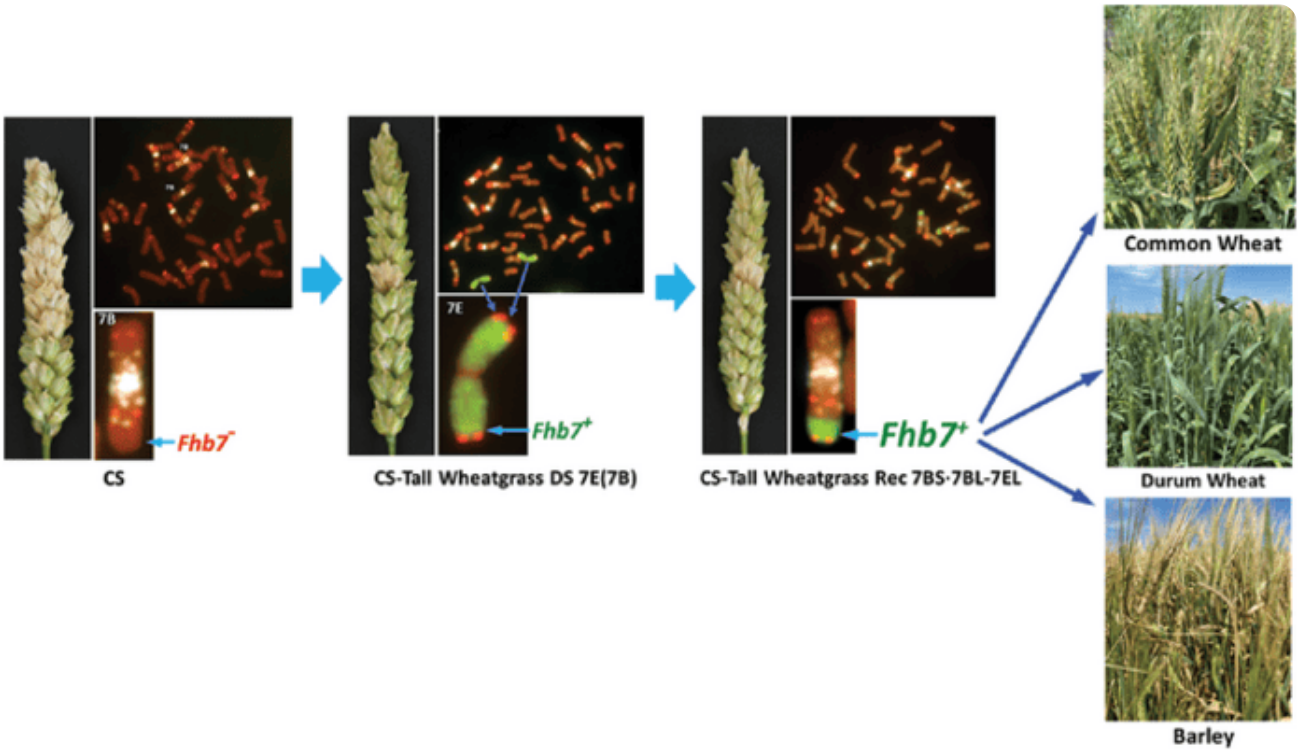
Science Societies

A New Spring Wheat Germplasm Resistant to Fusarium Head Blight

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A depiction of the development of FHB-resistant spring wheat ger- mplasm WGC002, which contains the wild grass–derived resistance gene Fhb7The2. Image courtesy of Xiewen Cai.

Fusarium head blight (FHB) is a devastating fungal disease of wheat (*Triticum aestivum* L.) in the United States and worldwide. Host resistance has proven the most economically effective and environmentally friendly tactic of FHB disease control in wheat production. However, the lack of effective resistance genes has limited the progress in breeding for FHB resistance in wheat, especially durum wheat.

USDA‐ARS scientists developed and released the new wheat germplasm 'WGC002' for use in wheat breeding. They introduced a new FHB resistance gene (*Fhb7* ^{The2}) from wild grass into wheat by chromosome engineering (non‐GMO). The researchers developed markers specifically for *Fhb7* ^{The2} and validated them in different wheat genotypes, ensuring that they are highly diagnostic for the gene. Additionally, WGC002 does not contain the yellow flour pigment gene, an unfavorable trait end‐use quality in wheat, linked to *Fhb7* ^{The2}, making it ready for immediate use in wheat breeding.

This FHB‐resistant wheat germplasm harboring *Fhb7* ^{The2} will enhance and diversify resistance of wheat to FHB disease and potentially minimize economic losses caused by this disease to wheat growers.

Adapted from

Cai, X., Danilova, T., Charif, A., Wang, F., Zhang, W., Zhang, M., … & Funnell‐Harris, D. (2024). Registration of WGC002 spring wheat containing wild grass‐derived Fusarium head blight resistance gene *Fhb7* ^{The2}. *Journal of Plant Registrations*, *18*, 179–186. https://doi.org/10.1002/plr2.20342

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