

Celiac-safe wheat? Here's how gene editing can eliminate crop allergens

In the absence of celiac-safe wheat in the market, gluten intolerant population needs to follow a lifelong gluten-free diet to avoid undesired health effects. [The JRC \[Joint Research Center\] report](#) gives a detailed description of the low-gluten, celiac-safe wheat developed in the EU. Wheat with such properties can be developed with gene editing through inactivation or elimination of the protein fragments that trigger celiac disease in genetically predisposed individuals.

The editing targets the genes for gliadin-type gluten proteins, leaving the genes for glutenin-type gluten proteins that are responsible for the food technological and dough-making qualities of wheat largely undisturbed.

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What are the advantages?

- Health impact: Genetically modified gluten-free wheat products allow gluten-intolerant population to keep consuming wheat products. Following a 100% gluten-free diet can contribute to an imbalanced diet and whole grain wheat is considered a significant component of a healthy diet. Therefore, having access to low-gluten wheat can remove the undesired effects of a gluten-free diet.
- Economic impacts:
 - For EU consumers: Gluten-free products are 200% more expensive than their gluten-containing counterparts, therefore having access to a low-gluten wheat would be cheaper alternative for those following a celiac-safe diet.

[This is an excerpt. Read the original post here](#)