

GAENTRY: USDA develops ‘gene-stacking’ solution to fungal pathogens—but will it actually work?

If climate change is the new normal, farmers in some regions of the world will have to get used to fighting mold and mildew. For wheat growers in particular, [fungal blights](#) are already a big problem Fungal pathogens are [advancing](#) northwards at about 7 kilometers per year on average, worldwide.

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Enter the USDA’s [Agricultural Research Service](#) (ARS). On June 14, the ARS published a pilot study on an innovative technology called [GAENTRY](#) (Gene Assembly in *Agrobacterium* by Nucleic acid Transfer using Recombinase technology) that can insert a “stack” of multiple genes simultaneously into plants.

[Roger Thilmony](#), a research molecular biologist at the ARS, says his team inserted 10 genes into *Arabidopsis* plants The genes were transgenic, making the *Arabidopsis* seedlings glow fluorescent colors so the researchers would know at a glance if the genes had been successfully inserted. However, genes from the same or related species that have some benefit, such as disease resistance, can also be swapped in

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[Sarah Gurr](#), a plant pathologist at the University of Exeter, is skeptical about whether GAENTRY is ready for prime time. “*Arabidopsis* is a little weed and it’s not a crop plant,” she says. “While it’s all fantastic stuff, it isn’t necessarily transferrable from a *Brassica*, which is what *Arabidopsis* is, into wheat, which is hugely complex genome-wise.”

Read full, original article: [USDA Unveils New Gene-Stacking Tool to Prevent Plant Diseases](#)