Growing food in space may offer sustainability benefits beyond genetically engineering plants on Earth

Sending fancy French grapes into orbit might sound like an expensive PR stunt. There is, after all, a long history of shooting foods into space for no good reason But these grapevines are no gimmick, insist Space Cargo Unlimited, the French startup behind the experiment. By sending the vines to grow in the harsh conditions of the ISS for the last ten months (along with 12 bottles of Bordeaux red wine) the company hopes to create plants hardy enough to survive the ever harsher conditions here on Earth.

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The idea is that exposing the vines (and later on, other types of crop) to microgravity plus high levels of radiation on the ISS will trigger the organisms to evolve and develop more resilient traits.

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If all this research is successful, it could also have some clear advantages over other current methods for tweaking plant genetics, such as genetic modification – adding in brand new genes from one species to another, or gene-editing – making changes to existing genes. In Europe, both approaches are currently restricted, with zero approved gene-edited crops on the EU market, and little signs of this changing despite vehement criticism from some elements of the scientific community.

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