

Space wine: How sending grapevines into orbit could protect the wine industry from devastating impacts of climate change

[A] group of scientists is cultivating the next generation of mutant grapes, which they hope will be resistant to shocks like frost, disease, and drought.

The mission, code name CANES, is an unlikely-sounding partnership between the French aerospace startup Space Cargo Unlimited, the University of Bordeaux's prestigious wine science institute (ISVV), vine grower Mercier, and the European Space Agency.

On March 6, 2020, the team took 320 shoots cut from local vines in the winter months before takeoff—all were alive but in hibernation—and launched them aboard a SpaceX Falcon 9 rocket to the International Space Station.

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[T]hey were subjected to microgravity and super-accelerated particles known as cosmic rays—radiation that can surge amid solar flares or in distant supernovae. Splash-landing to earth off the coast of Florida in January, the experiment was an attempt to jump-start evolution itself by pushing vines to their limits in an environment so extreme and hostile that genetic mutations and new behaviors are induced.

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The objective, [researcher Stéphanie Cluzet] says, is to gather the "maximum information" available to discover what changes are hidden inside the cells of the plants. "We want to decipher their secrets."

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