



INSIDE THE FUSION REACTOR THAT COULD CHANGE THE WORLD

Science Focus

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A PATHOLOGICAL LIAR

The search for
THE EDGE OF THE UNIVERSE

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HOW WE COULD REIMAGINE
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FLORIDA, USA

SPACE
NASA RESEARCHERS GROW PLANTS IN LUNAR SOIL COLLECTED DURING THE APOLLO MISSIONS

If humans want to spend extended periods on the Moon, or travel deeper into the Solar System, we're going to need a reliable food source. Researchers at the University of Florida have found a possible solution to that problem. They've grown *Arabidopsis thaliana* – a green-leafed, cress-like plant in 50-year-old samples of regolith – lunar surface material – that were collected during the Apollo 11, 12 and 17 missions.

They placed the seeds in samples of regolith, put them under LED grow lamps (along with control seeds planted in regular Earth soil and volcanic ash) and fed them with a nutrient solution every day.

“After two days, they started to sprout,” said lead researcher Prof Anna-Lisa Paul. “Everything sprouted. I can't tell you how astonished we were!”

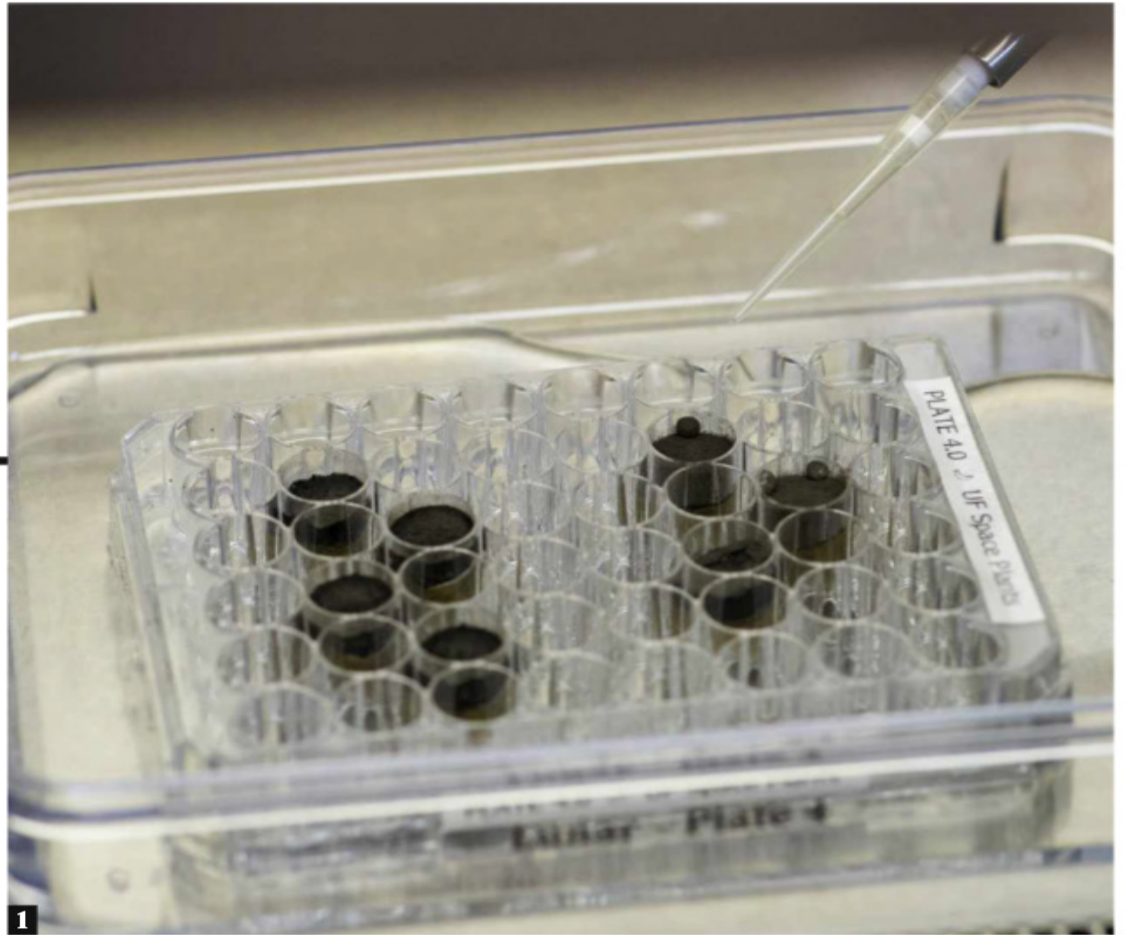
After day six, the growth of the samples planted in the regolith began to slow and when later examined were found to have stunted roots and leaves. The plants' growth also varied according to which mission's regolith they were planted in, with the Apollo 11 samples faring worse than the others. It's hoped that further research will lead to plants that can be made robust enough to thrive in lunar surface material.

1. Lunar regolith is hydrophobic – meaning it repels water – so the researchers needed to mix water through it before planting the seeds.

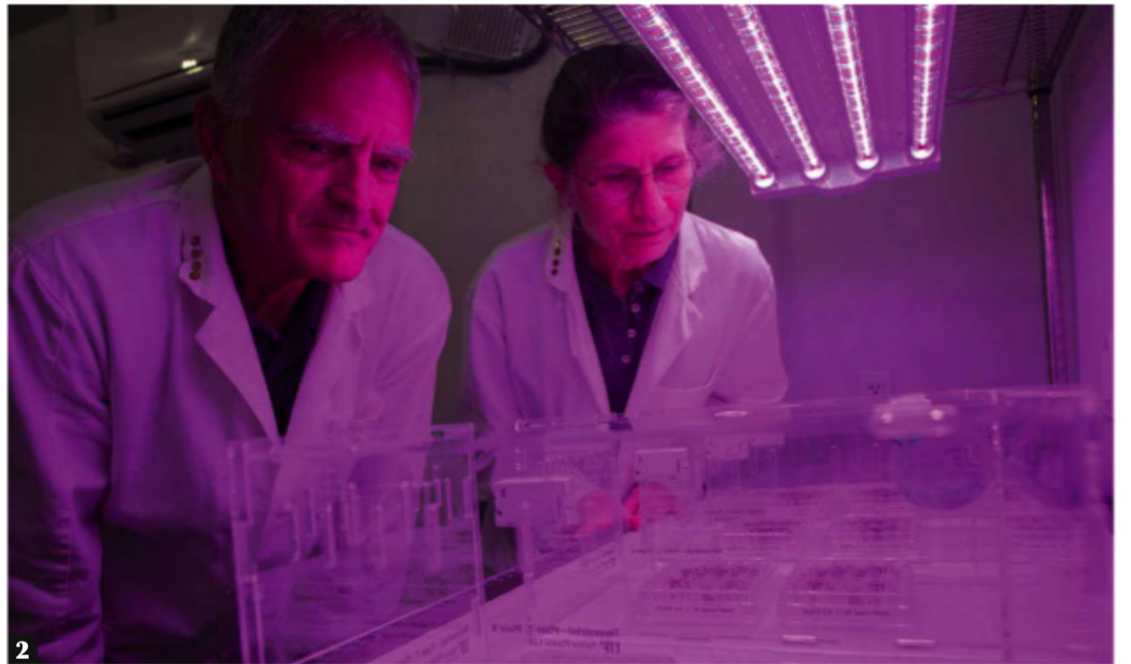
2. Profs Rob Ferl and Anna-Lisa Paul monitor the seeds growing in the soil samples underneath the LED grow lamps.

3. The plants will now undergo genetic analysis to identify any alterations that could be made to their DNA to help them grow more easily in the regolith.

4. After 16 days, the plants grown in the lunar regolith (top of the photo) are visibly less developed.



1



2



3

PLATE 2.0 ☾ UF Space Plants

