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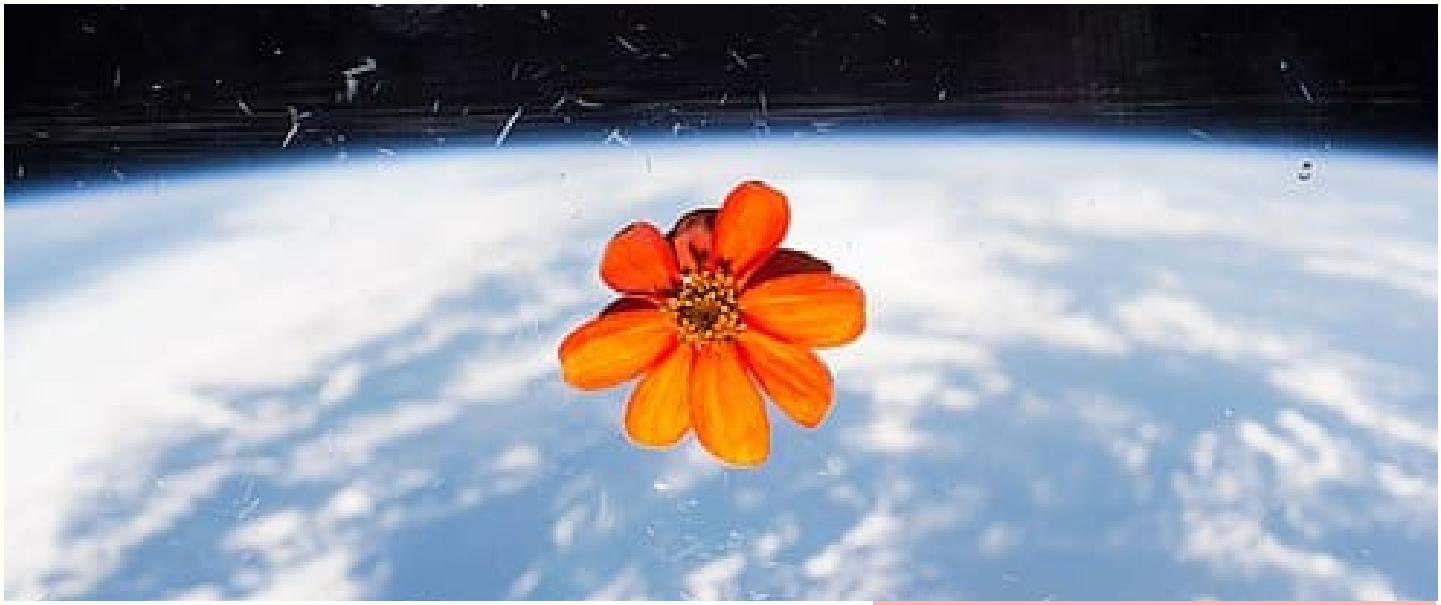

How do we grow plants in space?

The Vegetable Production System, also known as Veggie, is a garden on the outer space residing on the International space station. This system works by inserting a seed in 'plant pillows'.

Plant pillows are special bags containing 'space dirt' that controls and releases fertilizer. On insertion of a plant wick, a seed is placed inside the oriented so that the roots can grow into the bag and the stems are emerged up and out of the bag. Read More

For photosynthesis, Red and Blue LED lights are set to give the plants a sense of direction so that they keep growing upward. The walls of the Veggie chamber expand according to the size of the growing crop. Read More

DID YOU KNOW?

In 1982, the crew of the Soviet Salyut 7 space station grew some Arabidopsis using Fiton-3 experimental micro-greenhouse apparatus, thus becoming the first plants to flower and produce seeds in space.

The first growth test of crops in the Advanced Plant Habitat aboard the International Space Station yielded great results. Arabidopsis seeds - small flowering plants related to cabbage and mustard - grew for about six weeks, and dwarf wheat for five weeks.

Back in 1995, the University of Wisconsin-Madison and NASA partnered to help tubers become the first vegetable grown in space.

Why do we grow plants in space?

Growing plants in space can metabolize carbon dioxide in the air to produce valuable oxygen and can help control cabin humidity. In the context of human spaceflight, astronauts need to be self-sufficient for long periods of time when they are travelling for deep space missions and growing their own food is a big step in that direction, also it provides a refreshing atmosphere and psychological benefit to human spaceflight crews. Read More

Research Work

Research related to space gardening has taken place on ISS using a plant-growing system called 'Veggie'. Veggie is intended to produce food for astronauts, whereas other experiments have been mainly concerned with examining plant physiology under different conditions, such as microgravity. This will hopefully throw up some insights into how plants can be grown successfully in novel and challenging environments. That's good news not only for astronauts, but also for us back here on Earth. Read More

VIDEO LINKS

- Space Plants - How Are They Adapting?
- The Veggie Vegetable Production System on The ISS
- ScienceCasts: Historic Vegetable Moment on the Space Station

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