Salads in space? Astronauts try growing own veggies

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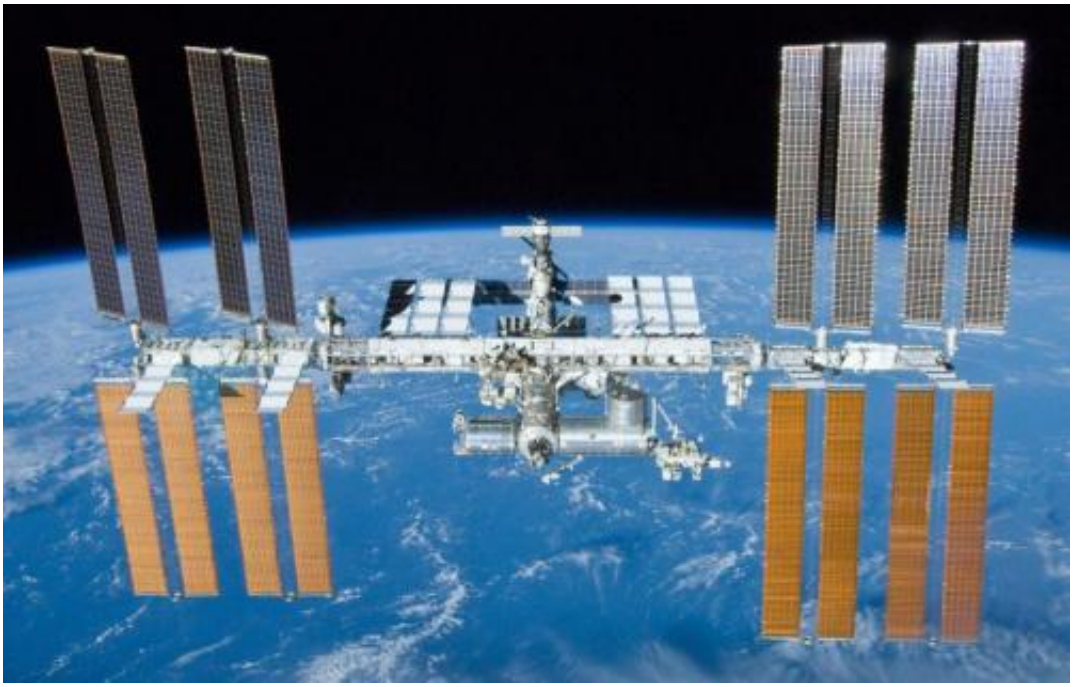

The International Space Station is featured in this image photographed by an STS-132 crew member on board the Space Shuttle Atlantis after the station and shuttle began their post-undocking relative separation. Credit: NASA/Crew of STS-132

As salad ingredients go, romaine lettuce ranks somewhere between limp carrots and dried radishes on the excitement scale.

But add a dash of outer space, and suddenly that frilly leaf is looking

downright exotic, especially to astronauts used to food wrapped in plastic.

Gardening in space could become a reality soon if NASA is able to grow its first crop of romaine lettuce on the International Space Station.

Astronauts began the farming experiment in early May and - if it's successful - NASA could make history by the end of year. U.S. astronauts have never eaten food grown in space, agency officials said.

Space explorers might someday tend whole gardens on the way to Mars, said Gioia Massa, the project's science-team leader.

"We want to get to the point where we can grow a variety of things," said Massa, whose list included tomatoes, strawberries and basil.

For now, though, NASA is limiting itself to the "Outredgeous" variety of red romaine lettuce, largely because of the plant's hardiness.

"It was happy in a lot of different environments," she said.

Early testing also showed that the romaine lettuce didn't harbor as many microbes as some other plants. That's crucial because astronauts in space have weakened immune systems, and washing the plants - a chore well-known to most home gardeners - is difficult in the microgravity of the orbiting station.

So NASA is being cautious and barring its astronauts from eating the first batch of lettuce now being cultivated under red, blue and green LED lights. That crop, which began growing May 8, will be ready for harvesting early this month. Astronauts will pick the plants and freeze them so that leaves can be sent back to Earth later this year.

When the space lettuce is back on the ground, scientists will analyze the plants for microbes and other hazards. A major worry is that space radiation could make microbes more virulent.

But if everything checks out, station astronauts will be allowed to grow - and possibly eat - a second batch of romaine lettuce, potentially by the end of the year.

The lettuce experiment "could be a precursor to learning how to farm and garden out in the solar system," said Trent Smith, the veggie project manager.

Not only do fresh foods provide astronauts with some much-needed nutrients, he said, but the plants' consumption of carbon dioxide can help filter the air of a spacecraft.

Though NASA's experiment with romaine lettuce is a first for the agency, it won't be the first time that space-farers have grown plants fit for consumption. Earlier this year, Russian scientists reported that crops they had grown on the station, including dwarf wheat and Japanese leafy greens, were safe to eat.

"The experiments with peas have been very promising," said Margarita Levinskikh, a researcher at the Institute of Biomedical Problems, in a report published by a Russian news agency.

Even if the lettuce experiment is successful, Massa said she expects heavy testing would accompany every new vegetable NASA would grow in space. So a full space salad - complete with romaine lettuce, carrots and tomatoes - likely is several years away.

"We know it's not going to be easy," Massa said of the experiment. But she added that's why NASA has the space station. It's "the platform for

doing these studies now to (test) what we need for future exploration missions."