

Gardens of the galaxy, can you grow vegetables on Mars

In "The Martian", the 2015 film directed by Ridley Scott, astronaut Mark Watney (Matt Damon) is accidentally abandoned alone on Mars by his crewmates. He decides to grow potatoes." Mars will come to fear my *botany* powers, " Mark Watney predicts in "The Martian" — and scientists intend to make good on the promise.

botany 植物学

In 1979, Soviet cosmonauts aboard Soyuz 32 took eggs from Japanese quail. It was more complicated than they anticipated and it was not until 1990 that healthy quail chicks hatched.

NASA tried similar experiments with chicken eggs in the 1980s. The Japanese have sent live fish to the International Space Station, and also looked into crop growth and edible insects. However, there's a new urgency to the research.

"If you're on the space shuttle for just a week or two, of course, you're going to take everything with you, " says Dr Gioia Massa, a plant scientist at NASA's Kennedy Space Center in Florida. "It's like a camping trip, you're not going to do agriculture on short-duration trips."

But we're finally getting to the point where we see going back to the Moon by 2024, we see going on to Mars in the future.

Massa works on NASA's Vegetable Production System, known informally as Veggie, which since 2014 has been cultivating plants in and for the International Space Station. The project has had success growing three types of lettuce, Chinese cabbage, red Russian kale, mizuna mustard and zinnia flowers in space.

In March, Massa published research that found space lettuce was not only safe to eat, but as nutritious as the crops the Veggie team was producing on Earth.