

Basil Orbits Earth



The Materials on the International Space Station Experiment-3, or MISSE 3, was attached to the outside of the space station in August 2006. The suitcase-sized container is filled with hundreds of materials, including basil seeds, to study how each is affected by the space environment. Credit: NASA

You'll never guess what was in Barbara Morgan's pocket when she blasted off from Kennedy Space Center last week onboard space shuttle Endeavour.

The teacher-turned-astronaut carried millions of basil seeds into orbit and onto the International Space Station. Basil ... in space? Well, you never know when the ISS might run into some bland spaghetti sauce.

Seriously, basil in space is cutting-edge research. Astronauts on future missions to the Moon and beyond are going to want to take plants along for the ride--for food, oxygen and even companionship. It's important for NASA to learn how seeds endure space conditions and germinate in low gravity.

In this case, it's not only NASA doing the learning; kids will be too.

Some of the basil seeds will remain on the station to be grown in low gravity. The rest will be returned to Earth and divided into kits for students to study. They'll measure seed germination rates--how fast space basil grows compared to Earth basil--and also learn more about the scientific method.

Morgan's seeds (not really carried in her pocket, but you get the idea) are joining three million other basil seeds that have been flying on the station for a year and are waiting for Morgan to bring them back to Earth.

Most of the "veteran" seeds have actually spent time outside the ISS exposed to breathtaking vacuum, harsh radiation and anything else space can throw at them. They "hung out" in suitcase-sized test beds known as MISSE 3 and 4, short for Materials on the International Space Station Experiment 3 and 4. MISSE is managed by NASA's Langley Research Center in Hampton, Virginia; William Kinard is the principal investigator.

To get the seeds to classrooms, NASA works with the George W. Park Seed Company in Greenwood, S.C. The company began its relationship with NASA in the 1980s with the SEEDS (Space Exposed Experiment Developed for Students) program. During that experiment, more than 12 million tomato seeds flew on the Long Duration Exposure Facility – a satellite deployed in 1984 by space shuttle Challenger to provide long-term data on the space environment and its effects on space systems and operations.

"I think the kids will be excited to work with something that's been in space. And to know, for this experiment, there are no answers in the back of a book," says Miria Finckenor, an engineer at NASA's Marshall Space Flight Center in Huntsville, Ala., and one of the MISSE investigators.

"We hope to get more students interested in science and reach as many as we did with the tomato seeds experiment," she says. More than 40,000 classrooms in all 50 states and 30 foreign countries participated in that program.

For more information on participating in growing seeds from space, visit <http://www.nasa.gov/audience/foreducators/plantgrowth/home/index.html>

Source: by Lori Meggs, Tony Phillips, Science@NASA

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