Orbital Technologies Corporation (ORBITEC) Helps

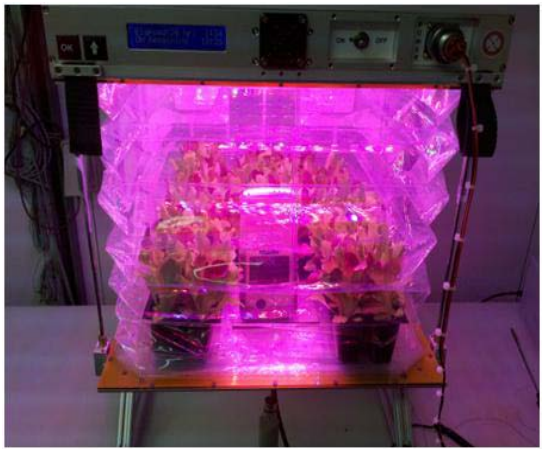
NASA Grow Vegetables in Space

NASA's Desert RATS – or Research and Technology Studies – will make its 13th trip to the desert this fall for another round of space analog testing. The Desert RATS tests offer a chance for a NASA-led team of engineers, astronauts, and scientists from across the country to come together to conduct technology development research in the Arizona desert. The location offers a good stand-in for future planetary exploration mission destinations. This year's tests will take place August 31 through September 15.

During the trials, researchers study the effectiveness of new designs for space suits, robots, rovers, surface networking and communications, exploration information systems and computing, habitats, and other equipment, and gain experience in the use of new technologies designed to make planetary exploration safer, easier, and more efficient.

For this year's trip to the desert, ORBITEC delivered one of its the "VEGGIE" units, or deployable plant growth systems for producing salad-type crops in space. The VEGGIE design provides growing areas that can be linked together to provide up to one square meter of growing area, but stowed within a single crew transfer bag on the Space Shuttle. The VEGGIE units contain LED lighting and a water/nutrient delivery matting, but utilize the ambient environment for temperature and CO_2 control to minimize complexity and power requirements.

Tom Crabb, ORBITEC's president said, "The VEGGIE system will grow a variety of vegetables and plants on the Moon, Mars, well just anywhere and by the way, the vegetables are delicious."



VEGGIE hardware developed during VEGGIE IPP

The units were designed by ORBITEC's Human Support Systems and Instrumentation Division, which develops cost-effective systems, subsystems, and components to sustain life within closed environments for space travel and habitation. This includes environmental control and monitoring solutions for pressure control, oxygen supply, temperature and humidity control, ventilation, thermal transport, water processing, food and waste management, as well as fire detection and suppression.

The company also includes a terrestrial BioProducts and BioProduction Systems Group, dedicated to creating the next generation of bio-agricultural products through system and service solutions that increase plant productivity with dramatic operational cost savings. With unique capabilities stemming from twenty years of research in environmental control and life-support systems for NASA, these systems are optimized for growth of plant-made pharmaceuticals, industrial products and high-yield crops through lighting, control systems, automation and growth services.

ORBITEC ‘s space and ground biotechnology includes:

- Temperature and humidity control
- Solid-state lighting
- Atmospheric composition control
- Automated process monitoring and data acquisition
- Growth production protocols
- Energy monitoring, control, and conservation
- Nutrient delivery and waste processing
- Biomass collection and separation
- Energy monitoring, control, and conservation

About Orbital Technologies Corporation (ORBITEC)

ORBITEC is a leading high technology development and subsystem integration company based in Madison, Wisconsin. ORBITEC offers commercially mature solutions and strong capabilities in five distinct areas: Next Generation Fire Suppression; Propulsion, Propellant, and Power Systems; Life Support and Environment Control; Bio-based products and production systems; and Interactive 3D Simulation Software. ORBITEC has won more than $250 million in contracts to develop state-of-the-art technologies and products. The company has been able to convert research and development initiatives into leading technologies and to mature the technologies into valuable products in their respective markets, providing significant cost advantages, superior functionality, and high reliability. ORBITEC is led by an experienced management team with over one hundred years of industry experience.

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