

Food Systems Engineering Facility

The kinds of food the astronauts eat are not mysterious concoctions but foods prepared here on Earth, with many commercially available on grocery store shelves. Diets are designed to supply each crew member with all the recommended dietary allowances of vitamins and minerals necessary to perform in the environment of space.

Foods flown in space are researched and developed in the Foods Systems Engineering Facility at NASA Johnson Space Center in Houston, Texas. Foods are tested for nutritional value, how well they freeze dry, the storage and packaging process, and of course taste. Astronauts are asked to taste test food items. They use a simple form to rate the products on such things as appearance, color, odor, flavor, and texture. These components are rated using a numbering system. The Food Systems Engineering Facility uses the astronauts' ratings to help design better space food.

Astronauts select their menu about 5 months before they fly. For the ISS, they will choose 30-day flight menus. Crew members will store the food in the galley onboard the Station.

The astronauts will use a special tray on the ISS to hold their food during preparation and eating. Because everything drifts in a microgravity environment, utensils and food containers need to be held in place. Food trays will be designed on the basis of the food packages that will be used on the ISS. These trays will be different from those used on the Space Shuttle because the ISS will have a



Four individuals participate in a cantaloupe “sensory evaluation” at the Food Systems Engineering Facility. This facility consists of several areas: Kitchen (shown), Freeze Drying Room, Packaging Room, Analytical Laboratory, and Packaging, Fabrication, and Tasting Area.

table available; the Space Shuttle does not. The ISS tray will attach to the table.

From the beginning of human space travel, food has been an important feature that has involved astronauts, technicians, and engineers. Because food is an important part of life, it is imperative that the space food system is the best it can be. Astronauts on the ISS cannot get into a car and go down to the local grocery store if they do not like what is for dinner. The supply of food must be nourishing and tasty so astronauts maintain their health during their important stays in space.

