

Charlie's Note: This short article presents an interesting perspective on living in space and the space effort. It might spur some discussion for your "Man in Space" units.

BAKING BREAD IN SPACE

If people are going to live for long periods in space, they will need more creature comforts than any currently available on short term missions. Among the things they will need in space will be food. And not just the heavily processed stuff that comes in squeeze tubes or plastic bags. "We have to find ways to make the astronauts feel more at home, and letting them cook their own food will go a long way towards that," says Diane Chenevert, Manager of Public Affairs at Spar's Satellite and Communications Systems Group in Ste-Anne-de-Bellevue. "This was the first-ever cooking experiment in space, using the staple food of most of the world. It was a very popular experiment because just about everybody eats bread.

The experiment she is talking about was one of the "Get Away Specials" first solicited by NASA more than eight years ago. These were called "Get Away Specials" because while ordinary people could not fly in space, their ideas could.

As a sponsor, Spar Aerospace Limited received more than 500 contest entries with ideas for the experiment from across the country. Ten people came up with the idea of seeing if it would be possible to have yeast rise in near-zero gravity, and then to bake bread. Originally, the experiment was supposed to fly in 1986, but was put on hold indefinitely after the Challenger disaster. Finally, in September 1992, Spar was able to send six of the winners to see the launch of the Space Shuttle Endeavour on which their experiment flew.

The experiment was a success, because many things were learned about how ingredients behave in a weightless environment. The bread, however, didn't rise to the occasion.

"The ingredients did not mix properly," Chenevert says. "We think the dry ingredients were floating around when the water was injected, so the mixture didn't become dough. We ended up with a granular substance resembling the texture and look of white sand. We discovered that we have to do things differently in space."

It may be that what we need is some kind of expandable oven that will hold the ingredients together, but that will allow them to swell as the dough rises. This would be similar to the pouches which contain microwave popcorn, which expand as the corn pops.

One of the people who suggested the experiment was Kathleen Clayton of

Calgary, an Administrative Assistant for the Dalhousie Community Association. "I picked up a flier in the post office which said I could get a decal if I entered the contest," she said. "So I went home and discussed it with my husband and my son, and I went into the kitchen and I experimented. I froze stuff, and I mixed and baked. I really wanted the decal!"

Another of the contest winners, Annette Van Adrichem of New Lowell, Ontario, is a poultry farmer who is writing a cookbook for budget-conscious chefs. Of the Challenger accident, she says: "It was truly devastating, and it took a long time to get things back on line. I really thought the whole project would be shelved."

Clayton and Van Adrichem were among several finalists who finally got to see their experiment idea go aloft in September.

"The actual launch was overwhelming" Clayton recalls. "No video or film can really show you. The tail is so fantastic ... like liquid gold, and then the sound rolls towards you, crackling and banging. And I thought: My idea is actually in a Shuttle going around the world."

"We had a super time down there (at Cape Canaveral)," Van Adrichem says. "But the highlight for me was to meet the Spar team that put our idea together, the people who made it happen. I think the main thing is to understand that it has to be dreamed about first, in order for it to become real."

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