

Space Nutrition



Volume 2

Food That Counts

Issue #3



Birthday News

The International Space Station (ISS) just celebrated its second birthday!! The first crew (called Expedition 1) moved in on November 2, 2000. This month, the Expedition 5 crew will "turn over the keys" to the Expedition 6 crew. The ISS crewmembers have been living on the station for periods of 4 to 6 months. This is quite a long time, when you think about it.

Curiosity Corner



Treyl from TX asks -

Are the astronauts going to have Thanksgiving dinner while they are in space, like we do?

Well - the astronauts will have Thanksgiving dinner - but probably not exactly like we do. Turkey is one of the space foods, and there are vegetables, like potatoes, that the crew can select. These are similar to what we might eat on Thanksgiving Day, but there is no stuffing or pumpkin pie!

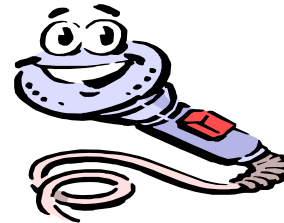
We want to make sure the astronauts are getting enough to eat while they are on the International Space Station (ISS). We design a computerized questionnaire for each crew, using foods from their menu. This is called the "Food Frequency Questionnaire" or FFQ. The FFQ has about 50 blanks that crewmembers fill in to tell us how many of each item they've eaten in the last week. Foods are grouped by categories (for example - beverages, soups, poultry, snacks), and each category has several lines listing the different types of foods in that category. The "beverages" category would have lines for water, coffee, juice, etc.



The crewmembers fill out the questionnaire weekly, and the computer file is "downlinked" from the ISS to Mission Control in Houston. The folks in Mission Control put the file on a special computer (called a server) that the Nutrition Lab can access. We get the file, and use a mathematical formula to convert the recorded foods into nutrients. We multiply the number of nutrients in each serving of a food, times the number of servings the crew reported eating. Then we add up the nutrients for all of the foods. We then prepare a report for the Flight Surgeon (the doctor in Mission Control) and tell him if each astronaut is eating or drinking enough. Nutrition is just as important during space flight as it is on Earth.

Did you know?

- A questionnaire is a list of questions used to collect data. Examples are surveys and the census.
- Not eating enough can cause you to lose muscle and bone, make you tired, and keep you from performing well. Eating too much can also cause problems.
- Astronauts need to be in excellent health to be able to perform all of the work they have to do. That work includes conducting spacewalks and science experiments, and keeping the ISS working well.
- Dr. Peggy Whitson, the Expedition 5 Science Officer, and her crewmates arrived at the ISS in June. Can you imagine spending holidays in space - like Thanksgiving.....?
- We are at approximately 50 days (L-50) before the launch of STS-107. This month we completed the L-60 data session. Crewmembers received calcium tracers, then recorded all their foods and collected samples (blood, urine, saliva, and feces) for several days. Data from this session will tell us how their bodies use calcium in normal gravity, and we will compare this to data collected on orbit.



FUN CORNER

Find these space foods:

Fettucini	Peas	Coffee	Nuts					
Perch	Yogurt	Tortilla	Borsch					
Jerky	Orange juice	Rice	Tuna					
A	L	L	I	T	R	O	T	T
R	E	M	A	E	S	R	U	R
H	C	R	E	P	U	N	W	E
S	I	S	N	G	A	T	C	E
P	U	O	O	U	E	A	V	N
X	J	Y	K	R	E	J	E	R
F	E	T	T	U	C	I	N	I
R	G	H	I	L	T	N	S	C
U	N	U	T	S	E	S	N	E
S	A	E	P	A	N	U	A	S
C	R	M	H	C	S	R	O	B
P	O	C	O	F	F	E	E	G

Solution to Last Month's Crossword

I	N	T	E	R	N	A	T	I	O	N	A	L
N	I	U	S	N	U	A						
V	I	E	W	S	C	W	C	T	A	N	K	
E			S	E	H	R	G					
S	T	A	T	I	O	N		I	U			
T	S	A	T	E	N	T	E	A	M			
I	K	N		A		I	G					
G			F	A	R	C	O	M	E	T		
A	S					N	S					
T	R	A	I	N	I	N	G			D	I	
I	F					L	A	N	D	I	N	G
O	K	E	E	F	E	O			A	N		
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		Y	U	R	I	E		L	T			
			E			S	H	U	T	T	L	E

Word of the Month

Musculoskeletal

Can you guess what this word means? Look for the meaning of the "Word of the Month" in the next issue of Space Nutrition

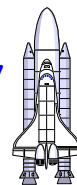
Check out these cool NASA links for more fun space science facts:

<http://virtualastronaut.jsc.nasa.gov>

<http://lsda.jsc.nasa.gov>

<http://www.nasa.gov/kids.html>

<http://www.spaceflight.nasa.gov>



Check out the Nutritional Biochemistry Laboratory's website for more information about nutrition and space.

www.jsc.nasa.gov/sa/sd/facility/nutrition.htm