MISSION IMAGINATION

Space Food

1
00:00:12,070 --> 00:00:10,470
hi i'm kimberly gloss-late space food

2
00:00:14,549 --> 00:00:12,080
systems laboratory manager at the

3
00:00:20,710 --> 00:00:14,559
johnson space center welcome to mission

4
00:00:25,589 --> 00:00:23,189
the true answer is it's not

5
00:00:28,070 --> 00:00:25,599
we purchase the foods that we repackage

6
00:00:30,150 --> 00:00:28,080
for the crew members to consume on orbit

7
00:00:32,389 --> 00:00:30,160
from local grocery stores right here in

8
00:00:33,830 --> 00:00:32,399
the houston area we do this because we

9
00:00:35,990 --> 00:00:33,840
want the crew members to have a food

10
00:00:37,270 --> 00:00:36,000
system that's familiar to them that

11
00:00:38,950 --> 00:00:37,280
makes them comfortable when they're

12
00:00:41,270 --> 00:00:38,960
living and working on the international

13
00:00:43,110 --> 00:00:41,280

space station

14
00:00:45,350 --> 00:00:43,120
how does the food system work on the

15
00:00:46,150 --> 00:00:45,360
international space station

16
00:00:48,709 --> 00:00:46,160
well

17
00:00:50,709 --> 00:00:48,719
we package the foods here at our lab at

18
00:00:53,430 --> 00:00:50,719
johnson space center and they are then

19
00:00:56,950 --> 00:00:53,440
stowed in food containers that we call

20
00:01:00,069 --> 00:00:56,960
bulk overwrap bags that's bob for short

21
00:01:02,790 --> 00:01:00,079
we stow the food by category we have one

22
00:01:05,750 --> 00:01:02,800
bob that has beverages and straws

23
00:01:08,149 --> 00:01:05,760
another bob that has meats and fish and

24
00:01:09,990 --> 00:01:08,159
so on once those containers have been

25
00:01:11,750 --> 00:01:10,000
stowed in our lab they're shipped to the

26
00:01:14,469 --> 00:01:11,760
cargo integration facility where they're

27
00:01:16,710 --> 00:01:14,479
combined into a cargo ship set and

28
00:01:18,710 --> 00:01:16,720
loaded into a specific vehicle like

29
00:01:21,030 --> 00:01:18,720
spacex or orbital for launch to

30
00:01:22,710 --> 00:01:21,040
international space station once those

31
00:01:25,109 --> 00:01:22,720
vehicles arrive at station and are

32
00:01:26,950 --> 00:01:25,119
docked the cargo can be offloaded and

33
00:01:29,590 --> 00:01:26,960
the astronauts can stow the bob

34
00:01:31,429 --> 00:01:29,600
containers into the galley area when an

35
00:01:34,149 --> 00:01:31,439
astronaut is ready for a meal they

36
00:01:36,230 --> 00:01:34,159
simply go to the various bob containers

37
00:01:42,710 --> 00:01:36,240
select the food items they want and

38
00:01:46,789 --> 00:01:44,389

planning a food system for mars is a

39
00:01:48,950 --> 00:01:46,799
complex problem we're approaching it

40
00:01:50,710 --> 00:01:48,960
from three different directions first of

41
00:01:52,230 --> 00:01:50,720
all we're looking at using alternative

42
00:01:54,789 --> 00:01:52,240
processing technologies like

43
00:01:57,190 --> 00:01:54,799
microwave-assisted thermal sterilization

44
00:01:59,510 --> 00:01:57,200
and high pressure processing in addition

45
00:02:02,550 --> 00:01:59,520
to packaging systems that will restrict

46
00:02:04,550 --> 00:02:02,560
the flow of oxygen vapor and water vapor

47
00:02:06,069 --> 00:02:04,560
transmission into the food products

48
00:02:07,830 --> 00:02:06,079
after they're packaged

49
00:02:09,990 --> 00:02:07,840
secondly we're looking at meal

50
00:02:12,150 --> 00:02:10,000
replacement bars which will allow crew

51
00:02:13,910 --> 00:02:12,160
members to consume a single bar instead

52
00:02:15,589 --> 00:02:13,920
of eating several food items for

53
00:02:17,030 --> 00:02:15,599
breakfast or for lunch

54
00:02:18,790 --> 00:02:17,040
the third thing we're doing is looking

55
00:02:21,350 --> 00:02:18,800
at boosting nutrients within the

56
00:02:22,550 --> 00:02:21,360
individual food items like omega-3 fatty

57
00:02:25,270 --> 00:02:22,560
acids

58
00:02:27,270 --> 00:02:25,280
proteins and probiotics

59
00:02:29,030 --> 00:02:27,280
all of these things will help ensure

60
00:02:30,710 --> 00:02:29,040
that the crew members health is

61
00:02:33,270 --> 00:02:30,720
supported for all of the work that they

62
00:02:35,430 --> 00:02:33,280
have to do on mars base

63
00:02:37,350 --> 00:02:35,440

now it's time for you to put science

64
00:02:39,750 --> 00:02:37,360
technology engineering and mathematics

65
00:02:40,869 --> 00:02:39,760
to work something we do at nasa every

66
00:02:45,350 --> 00:02:40,879
day