1
00:00:00,546 --> 00:00:03,236
>> Hi welcome to NASA's kitchen.

2
00:00:03,576 --> 00:00:07,636
We are here today inside the
NASA space food laboratory here

3
00:00:07,636 --> 00:00:10,966
at NASA Johnson Space Center
while everyone here is getting

4
00:00:10,966 --> 00:00:13,756
ready for this Thanksgiving
holiday complete

5
00:00:13,826 --> 00:00:16,586
with the perfect Turkey
and all the trimmings.

6
00:00:16,936 --> 00:00:18,356
We are here today talking

7
00:00:18,356 --> 00:00:21,266
to Vickie Kloeris our NASA
food scientist who is going

8
00:00:21,266 --> 00:00:25,216
to talk a little about how the
crew aboard the International

9
00:00:25,216 --> 00:00:27,156
Space Station we have
three who are living

10
00:00:27,156 --> 00:00:30,786
in space now including
NASA astronaut Kevin Ford

11
00:00:30,826 --> 00:00:33,176

who are going to be
celebrating their Thanksgiving,

12
00:00:33,306 --> 00:00:35,316
there a board the International
Space Station flying

13
00:00:35,316 --> 00:00:37,446
about 230 miles above earth.

14
00:00:37,646 --> 00:00:39,646
Vickie thank you for being
here to come talk to us

15
00:00:39,646 --> 00:00:41,596
about how they're going to
celebrate their Thanksgiving

16
00:00:41,596 --> 00:00:44,036
and the food system there
aboard the space station.

17
00:00:44,156 --> 00:00:46,146
>> Well you're welcome
and I'd like to start

18
00:00:46,146 --> 00:00:48,356
by wishing everybody
a happy Thanksgiving.

19
00:00:49,166 --> 00:00:51,926
We have several options
in our food system

20
00:00:52,036 --> 00:00:53,746
for the crew members
to choose from.

21
00:00:54,086 --> 00:00:57,166
So they can kind of select

what they want to have

22
00:00:57,306 --> 00:00:58,596
for their Thanksgiving meal.

23
00:00:58,926 --> 00:01:02,006
But we do have some of the
traditional items available

24
00:01:02,076 --> 00:01:07,726
so we have smoke turkey, we
also have a dressing a cornbread

25
00:01:07,726 --> 00:01:10,906
dressing that is rehydratable
they can add hot water to that.

26
00:01:11,376 --> 00:01:14,506
We have green beans
and mushrooms,

27
00:01:15,016 --> 00:01:19,166
we have broccoli al gratin,
we have mashed potatoes,

28
00:01:19,316 --> 00:01:24,216
we have bread products, and
for desert we have cobbler.

29
00:01:24,216 --> 00:01:27,296
So we have a cherry blueberry
cobbler, apricot cobbler

30
00:01:27,296 --> 00:01:28,306
that they can choose from.

31
00:01:28,576 --> 00:01:31,146
So we have many of the
traditional we also have yams.

32
00:01:31,216 --> 00:01:35,076
We have many of the
traditional items that we think

33
00:01:35,076 --> 00:01:37,226
of as being a traditional
Thanksgiving.

34
00:01:37,966 --> 00:01:40,466
So they can choose from
all of that to make

35
00:01:40,466 --> 00:01:43,946
up their Thanksgiving meal or
their Christmas meal coming

36
00:01:43,946 --> 00:01:45,226
up next mouth as well.

37
00:01:45,306 --> 00:01:47,366
>> Right. So a number of items
for the crew to actually choose

38
00:01:47,366 --> 00:01:50,996
from and from what I understand
Suni just before she left had

39
00:01:50,996 --> 00:01:56,426
left some fluffy marshmallows
or marshmallow fluff for Kevin

40
00:01:56,916 --> 00:02:00,146
so he can add to his so
perhaps he'll be whipping

41
00:02:00,146 --> 00:02:01,426
up some candy yams --

42
00:02:01,426 --> 00:02:01,576

>> Yes.

43
00:02:01,776 --> 00:02:02,876
>> -- this Thanksgiving?

44
00:02:02,876 --> 00:02:03,556
>> Uh-huh.

45
00:02:03,556 --> 00:02:06,816
>> So first before we
even get into more talking

46
00:02:06,896 --> 00:02:09,356
about the space food I would
like to talk to you more

47
00:02:09,356 --> 00:02:11,596
about your role as a
NASA food scientist.

48
00:02:11,596 --> 00:02:14,286
In fact we had polled Twitter
and asked them some questions

49
00:02:14,286 --> 00:02:16,106
and had them send us
some questions and one

50
00:02:16,106 --> 00:02:19,896
of those questions here are from
Joshua Stern, what does it take

51
00:02:19,896 --> 00:02:21,386
to become a NASA food scientist?

52
00:02:22,086 --> 00:02:25,626
>> Well food science
is, you know,

53

00:02:25,726 --> 00:02:29,356
food science is typically
work in the industry

54
00:02:29,356 --> 00:02:31,016
and do product development

55
00:02:31,016 --> 00:02:34,016
and quality assurance
for food companies.

56
00:02:34,496 --> 00:02:38,986
I started here with one of the
contractors who was working

57
00:02:38,986 --> 00:02:40,836
on the Shuttle food
system actually.

58
00:02:41,086 --> 00:02:46,146
I started quite a few years
ago, 1985 and so I worked here

59
00:02:46,146 --> 00:02:46,966
for several years

60
00:02:47,026 --> 00:02:50,856
for a contractor before
becoming a civil servant

61
00:02:51,736 --> 00:02:54,986
and I actually started
as civil servant manger

62
00:02:54,986 --> 00:02:56,316
of the shuttle food system.

63
00:02:56,736 --> 00:02:57,196
>> Okay.

64
00:02:57,196 --> 00:02:58,576
>> And eventually transitioned

65
00:02:58,636 --> 00:03:01,486
over to managing the
Space Station food system.

66
00:03:01,976 --> 00:03:02,436
>> Okay.

67
00:03:02,436 --> 00:03:05,316
>> So we actually have
several food scientists here.

68
00:03:05,666 --> 00:03:08,986
On the NASA side we currently
have three food scientists.

69
00:03:09,856 --> 00:03:14,246
Myself, and then we have one
food scientist who's working

70
00:03:14,296 --> 00:03:17,146
on what we call our Advance
Food Technology Program

71
00:03:17,466 --> 00:03:20,446
so that's our research
arm if you will

72
00:03:20,446 --> 00:03:22,116
of our future food systems.

73
00:03:22,576 --> 00:03:25,026
And then we have a new
food scientist who came

74
00:03:25,026 --> 00:03:29,926
on board recently and

she's working the O'Ryan

75
00:03:29,996 --> 00:03:34,146
and the Exploration Class food
systems the operational systems

76
00:03:34,146 --> 00:03:36,126
of the future because myself

77
00:03:37,006 --> 00:03:41,456
and the AFT food scientist
Michele Perchonok we're not

78
00:03:41,766 --> 00:03:44,586
ready to retire yet but
we're getting closer

79
00:03:44,876 --> 00:03:49,916
and so Grace is going to be our
food scientist of the future

80
00:03:49,916 --> 00:03:51,526
after Michele and I are gone.

81
00:03:51,576 --> 00:03:52,336
>> Okay. Great.

82
00:03:52,506 --> 00:03:54,786
So I want to talk to
you a little about --

83
00:03:54,936 --> 00:03:58,806
talk to me about the ISS food
system, what exactly is that?

84
00:03:58,976 --> 00:03:59,816
What does it entail?

85
00:03:59,876 --> 00:04:02,066

>> Okay. Well we have --

86
00:04:02,426 --> 00:04:04,586
to start with people
have to understand

87
00:04:04,586 --> 00:04:07,436
that we have an all shelf
stable food system meaning

88
00:04:07,436 --> 00:04:10,936
that we have no dedicated
freezers or refrigerators

89
00:04:11,106 --> 00:04:15,986
for food so that requires all of
our food processing to last --

90
00:04:15,986 --> 00:04:20,606
our food has to last a long
time at room temperature.

91
00:04:21,216 --> 00:04:24,546
It's called -- that's what they
call shelf stable so it has

92
00:04:24,546 --> 00:04:26,776
to be stale on the shelf
for a very long time.

93
00:04:27,236 --> 00:04:29,506
The only refrigeration we have

94
00:04:29,506 --> 00:04:31,616
on orbit they do
have a small chiller

95
00:04:31,986 --> 00:04:34,266
where they can actually
chill a beverage.

96
00:04:34,636 --> 00:04:36,796
So the water that we have

97
00:04:36,916 --> 00:04:40,636
on station they either have
hot water ambient water room

98
00:04:40,636 --> 00:04:43,046
temperature water so they
when they prepare a beverage

99
00:04:43,046 --> 00:04:45,046
if they want it to be chilled
they're going to have to put it

100
00:04:45,046 --> 00:04:47,556
in this chiller and let
it chill for a while.

101
00:04:47,756 --> 00:04:51,006
It's small it's about the
volume internal volume

102
00:04:51,006 --> 00:04:53,836
of a typical home
microwave so not very large

103
00:04:54,086 --> 00:04:56,516
but it does allow them to
have a chilled beverage

104
00:04:56,516 --> 00:04:59,956
after they exercise and for
about the first 10 years

105
00:04:59,956 --> 00:05:02,656
on space station they didn't
even have that option.

106
00:05:02,906 --> 00:05:06,446
The chiller was added when
we went to crew of six

107
00:05:06,516 --> 00:05:10,226
on space station and we added
a second food preparation area

108
00:05:10,786 --> 00:05:14,156
so the chiller has only been
there a relatively short while

109
00:05:14,156 --> 00:05:17,636
compared to the life of the
International Space Station.

110
00:05:17,636 --> 00:05:17,726
>> Sure.

111
00:05:17,896 --> 00:05:20,686
>> But they really appreciate
having a chilled beverage

112
00:05:20,686 --> 00:05:23,556
when they have to exercise a
lot every day and they get hot

113
00:05:23,556 --> 00:05:26,216
and sweaty and so the
they like the idea

114
00:05:26,216 --> 00:05:27,606
of having a chiller now.

115
00:05:27,666 --> 00:05:31,176
>> Sure. And I understand, you
know, food while it's important

116
00:05:31,706 --> 00:05:34,326

to our bodies to
sustain our lives

117
00:05:34,376 --> 00:05:37,276
but it's also there's a
psychological aspect to it.

118
00:05:37,276 --> 00:05:37,666
>> Yes.

119
00:05:37,666 --> 00:05:39,276
>> And can you talk to me
a little bit about that.

120
00:05:39,276 --> 00:05:40,996
>> Yeah when I first
came to work here

121
00:05:40,996 --> 00:05:45,696
and all we were flying was short
shuttle flights food really was

122
00:05:45,876 --> 00:05:50,426
low on the totem pole as far
as priority because, you know,

123
00:05:50,426 --> 00:05:52,766
most crew members that
flew on shuttle felt like,

124
00:05:52,766 --> 00:05:56,476
well it's a camping trip no
big deal I can find something

125
00:05:56,476 --> 00:05:56,906
to eat.

126
00:05:57,296 --> 00:06:01,596
So very few of them were,
you know, very concerned

127
00:06:01,596 --> 00:06:05,176
with what was on the menu
or available to them to eat.

128
00:06:05,526 --> 00:06:07,486
But as we went into
the Phase one program

129
00:06:07,486 --> 00:06:09,926
and our crew members went
and began to stay on mere

130
00:06:09,996 --> 00:06:12,786
for extended period of
time, they began to realize

131
00:06:12,826 --> 00:06:15,316
that food the longer you're
there the more important

132
00:06:15,316 --> 00:06:15,856
it becomes.

133
00:06:15,966 --> 00:06:19,126
Because it's one of the
few creature comforts

134
00:06:19,486 --> 00:06:23,736
that you do have on orbit and
so those first crew members

135
00:06:23,826 --> 00:06:27,146
who transitioned to long
duration space flight they

136
00:06:27,146 --> 00:06:30,336
quickly spread the word among
the rest of the astronaut

137
00:06:30,336 --> 00:06:33,546
that food becomes more and more
important the longer you're

138
00:06:33,546 --> 00:06:37,156
saying on orbit and so for our
International Space Station crew

139
00:06:37,156 --> 00:06:39,946
members who are now staying
typically about six months

140
00:06:39,946 --> 00:06:43,856
at a time on orbit, the
psychological aspect

141
00:06:43,856 --> 00:06:46,166
of the food is extremely
important.

142
00:06:46,426 --> 00:06:49,876
And so they pay a lot of
attention our basic menu

143
00:06:49,876 --> 00:06:53,436
on space station is a standard
menu and it includes all

144
00:06:53,436 --> 00:06:55,816
of the foods and beverages
that we have and we have

145
00:06:55,816 --> 00:06:59,146
about 200 foods and
beverages on the U.S. side

146
00:06:59,446 --> 00:07:00,886
so it's a pretty big selection.

147

00:07:01,236 --> 00:07:05,326
But we do allow our crew members
to augment that standard menu

148
00:07:05,666 --> 00:07:12,196
with nine what we call bonus
containers and those are

149
00:07:12,266 --> 00:07:15,236
of their own choice they can
choose more they can choose

150
00:07:15,236 --> 00:07:17,236
their favorites from
our food system

151
00:07:17,576 --> 00:07:20,456
or they can also choose
commercial off the shelf

152
00:07:20,456 --> 00:07:23,336
products that meet our
shelf life requirements

153
00:07:23,336 --> 00:07:25,676
and our microbiological
requirements

154
00:07:26,056 --> 00:07:30,606
and so the crew members focus
a great deal of time on what

155
00:07:30,606 --> 00:07:32,696
to put in those bonus containers
because that is their --

156
00:07:32,986 --> 00:07:35,906
>> It's kind of their
snack pack in the pantry.

157

00:07:35,976 --> 00:07:36,446
>> Yeah, yeah.

158
00:07:36,596 --> 00:07:39,876
And it's a big part of the
psychological aspect of the food

159
00:07:39,876 --> 00:07:42,126
because that's what they get
to choose and that's going

160
00:07:42,126 --> 00:07:44,286
to be the little special
things that they have.

161
00:07:44,526 --> 00:07:48,216
Sometimes it could
be dessert type items

162
00:07:48,216 --> 00:07:51,636
but often it's commercial
entrees that they want.

163
00:07:51,876 --> 00:07:56,576
Like maybe a thermal stabilized
Indian food or something,

164
00:07:56,816 --> 00:07:59,576
you know, of that nature so
ethnic foods are often part

165
00:07:59,866 --> 00:08:02,416
of what they choose for
their bonus containers.

166
00:08:02,646 --> 00:08:02,756
>> Sure.

167
00:08:02,756 --> 00:08:05,776
>> We have a lot of anecdotal

evidence from crew members

168
00:08:06,246 --> 00:08:09,566
that some foods, not all foods,
but some foods taste different

169
00:08:09,566 --> 00:08:12,566
to them when they get on orbit
then they did on the ground.

170
00:08:12,746 --> 00:08:15,306
And it works both ways we'll
have crew members select

171
00:08:15,306 --> 00:08:17,396
something thinking they're
really going to like it

172
00:08:17,396 --> 00:08:19,236
when they get on orbit
and then they don't.

173
00:08:19,676 --> 00:08:23,616
Or we'll have crew members come
back and say I didn't like this

174
00:08:23,616 --> 00:08:26,436
on the ground but boy when
I got on orbit I tasted it

175
00:08:26,436 --> 00:08:28,856
and I was really sorry
I hadn't taken more.

176
00:08:29,236 --> 00:08:34,606
And so and we really feel like
that a lot of that has to do

177
00:08:34,606 --> 00:08:37,346
with the change in the aroma

178
00:08:37,346 --> 00:08:38,896
that they're getting
from the food.

179
00:08:39,336 --> 00:08:43,116
So most of the way that you
and I perceive the taste

180
00:08:43,116 --> 00:08:45,986
of the food a big part of
that is the smell the aroma

181
00:08:45,986 --> 00:08:47,406
that you get from the food.

182
00:08:47,406 --> 00:08:51,416
So when you and I have a cold
on the ground everything tastes

183
00:08:51,416 --> 00:08:53,746
like cardboard or
tastes like nothing

184
00:08:54,006 --> 00:08:55,736
because you aren't
getting aroma from it

185
00:08:55,736 --> 00:08:56,796
because your nose is congested.

186
00:08:56,796 --> 00:08:57,386
>> Because they're just eating

187
00:08:57,386 --> 00:08:59,536
out of this package here
it's not going to be.

188
00:08:59,536 --> 00:09:02,786

>> Right. And so when they
get on orbit of course

189
00:09:02,786 --> 00:09:05,646
when they first go into orbit
they're going to be congested

190
00:09:05,646 --> 00:09:08,446
from the fluid shift that
occurs but that will dissipate

191
00:09:08,446 --> 00:09:10,396
over time to a certain degree.

192
00:09:10,706 --> 00:09:13,026
But then they've got
a lot of other things

193
00:09:13,026 --> 00:09:15,216
that are interfering
with their ability

194
00:09:15,246 --> 00:09:16,696
to get aroma from the food.

195
00:09:16,936 --> 00:09:19,996
They are eating out of a
package rather than off a plate

196
00:09:20,476 --> 00:09:25,326
and on orbit hot air doesn't
necessarily rise it's going

197
00:09:25,326 --> 00:09:29,056
to -- some of it will rise but
it disperses in other directions

198
00:09:29,056 --> 00:09:31,686
so it limits how much aroma
you're getting from the food.

199
00:09:31,686 --> 00:09:31,866
>> Okay.

200
00:09:32,116 --> 00:09:34,336
>> Plus you're in a confined
environment with a lot

201
00:09:34,336 --> 00:09:36,396
of other competing odors some

202
00:09:36,396 --> 00:09:39,716
of which aren't necessarily
pleasant and so all

203
00:09:39,716 --> 00:09:41,566
of that taken together does --

204
00:09:41,756 --> 00:09:44,016
it's not too surprising
that they feel

205
00:09:44,016 --> 00:09:45,756
like their taste buds
are somewhat dulled.

206
00:09:46,036 --> 00:09:46,146
>> Sure.

207
00:09:46,376 --> 00:09:48,456
>> Now the other possibility is

208
00:09:48,456 --> 00:09:51,936
that micro gravity is somehow
effecting the taste receptors

209
00:09:51,986 --> 00:09:55,506
on the tongue and there have
been, you know, the sweet, sour,

210
00:09:55,506 --> 00:09:58,396
salty, bitter taste receptors
there have been a couple

211
00:09:58,396 --> 00:10:02,456
of attempts over the
years on the shuttle to

212
00:10:02,456 --> 00:10:06,606
and in bed rest studies to try
and see if that is happening.

213
00:10:07,286 --> 00:10:10,206
The one that was made
on the shuttle was done

214
00:10:10,206 --> 00:10:11,766
on a very short duration flight

215
00:10:11,806 --> 00:10:13,836
and so the results
were inconclusive

216
00:10:14,246 --> 00:10:17,246
and our research team our
Advanced Food Technology team

217
00:10:17,246 --> 00:10:21,676
has actually proposed to do an
experiment on orbit on station

218
00:10:21,676 --> 00:10:24,186
with long duration
crew members to see

219
00:10:24,186 --> 00:10:28,416
if we can quantify specifically
that there might be a change

220
00:10:28,416 --> 00:10:31,376
in those taste receptors
that could be contributing

221
00:10:31,716 --> 00:10:34,986
to this preserved change
of flavor in foods.

222
00:10:35,306 --> 00:10:36,166
>> Right. This is fascinating

223
00:10:36,166 --> 00:10:38,026
because we're still
learning how --

224
00:10:38,026 --> 00:10:38,116
>> Yes.

225
00:10:38,116 --> 00:10:40,246
>> -- micro gravity
treats our bodies.

226
00:10:40,246 --> 00:10:40,506
>> Effects.

227
00:10:40,886 --> 00:10:41,196
Uh-huh.

228
00:10:41,226 --> 00:10:43,526
>> So one of the questions
that we have on Twitter as well

229
00:10:43,526 --> 00:10:45,066
and this is something
that rumor has it

230
00:10:45,066 --> 00:10:50,456
that also they prefer spicy food
and I understand it probably has

231
00:10:50,456 --> 00:10:51,216
to do with this aroma --

232
00:10:51,506 --> 00:10:51,776
>> Right.

233
00:10:52,206 --> 00:10:54,906
>> -- that's the theory,
but his question this comes

234
00:10:54,906 --> 00:10:55,926
from Alex Simora [phonetic]

235
00:10:56,426 --> 00:10:59,466
if spicy food is most popular
why not send up hot sauce

236
00:10:59,546 --> 00:11:00,996
or make everything spicy.

237
00:11:01,046 --> 00:11:02,326
>> Well, okay.

238
00:11:02,526 --> 00:11:04,336
Let me deal with the
second part first.

239
00:11:04,336 --> 00:11:06,866
Is the reason we don't
make everything spicy is

240
00:11:07,566 --> 00:11:10,386
because we also have
crew members who don't --

241
00:11:10,736 --> 00:11:13,456
not all crew members
really want spiciness.

242
00:11:13,916 --> 00:11:16,456
So we'd rather have the
condiments available

243
00:11:16,456 --> 00:11:17,746
and let them add it.

244
00:11:18,226 --> 00:11:20,496
Some of our foods do
have spice in them.

245
00:11:20,496 --> 00:11:22,856
For instance we have a
free stride ship cocktail

246
00:11:23,186 --> 00:11:25,946
that has horseradish sauce in
it so it has a nice little kick

247
00:11:26,286 --> 00:11:28,166
and a lot of our crew
members really like that.

248
00:11:28,166 --> 00:11:31,076
And we also have to take into
account the fact that many

249
00:11:31,076 --> 00:11:34,606
of our international partners
who are consuming our foods

250
00:11:34,606 --> 00:11:37,396
at time aren't necessarily
all that interested

251
00:11:37,396 --> 00:11:39,456
in having really spicy foods

252

00:11:39,806 --> 00:11:43,266
because their diets are
different as far as level

253
00:11:43,266 --> 00:11:45,416
of spice then we
might have here.

254
00:11:46,656 --> 00:11:48,286
But we do have a lot

255
00:11:48,286 --> 00:11:50,386
of condiments available
to crew members.

256
00:11:50,386 --> 00:11:53,316
One of the things that they can
take is we have a standard set

257
00:11:53,316 --> 00:11:55,676
of condiments that we
send but one of the things

258
00:11:55,676 --> 00:11:57,946
that is very poplar for
crew members to take

259
00:11:58,006 --> 00:12:00,826
in bonus containers
is hot sauce, salsa,

260
00:12:01,186 --> 00:12:03,226
those kind of things they can
take those things with them

261
00:12:03,226 --> 00:12:06,226
and many of them do
to add to their food.

262
00:12:06,226 --> 00:12:06,836

>> Add their flavor.

263
00:12:07,056 --> 00:12:07,266
>> Uh-huh.

264
00:12:07,266 --> 00:12:09,116
>> Great. And so
another questions here

265
00:12:09,116 --> 00:12:12,306
and this is relevant all to this
Thanksgiving meal John Knight

266
00:12:12,336 --> 00:12:14,876
wants to know what has been the
most popular Thanksgiving meal

267
00:12:14,876 --> 00:12:16,076
on the ISS?

268
00:12:16,276 --> 00:12:20,136
>> Well I would say the most
popular has been our traditional

269
00:12:20,166 --> 00:12:23,396
slice Turkey that we have
available with things

270
00:12:23,396 --> 00:12:28,246
like mashed potatoes and the
candy yams that we have and,

271
00:12:28,246 --> 00:12:30,006
you know, maybe the
cobblers for dessert

272
00:12:30,046 --> 00:12:32,316
that typically has
been the most popular.

273
00:12:32,656 --> 00:12:36,376
And now all of these items are
available in the standard menu

274
00:12:36,376 --> 00:12:39,046
but many of our crew members
when they know they're going

275
00:12:39,046 --> 00:12:42,876
to be on orbit for a holiday
they'll go ahead and assemble

276
00:12:42,876 --> 00:12:46,076
that meal in their bonus
container so that it's all

277
00:12:46,076 --> 00:12:48,826
in one place and when
they're ready to, you know,

278
00:12:48,826 --> 00:12:50,766
they know it's in that
container and they don't have

279
00:12:50,766 --> 00:12:53,086
to go looking for it in
the various containers.

280
00:12:53,566 --> 00:12:53,676
>> Right.

281
00:12:53,676 --> 00:12:56,676
>> So many of them will do
that if they know they're there

282
00:12:56,726 --> 00:12:59,746
for a holiday they'll go ahead
and decide what they're going

283

00:12:59,746 --> 00:13:02,556
to eat for that meal, set it
aside in their bonus containers

284
00:13:02,606 --> 00:13:06,016
so that it's there and ready to
go when they go to celebrate.

285
00:13:06,016 --> 00:13:07,936
>> And so real quick just
briefly because we're going

286
00:13:07,936 --> 00:13:10,716
to need to wrap up here talk to
me about how they'll be cooking

287
00:13:10,716 --> 00:13:12,586
because I know we will be
having to thaw the turkey

288
00:13:12,586 --> 00:13:15,656
and all this stuff and so
very long and it seems like --

289
00:13:15,806 --> 00:13:17,306
>> For them it's very simple.

290
00:13:18,016 --> 00:13:21,746
These packages of food the
thermal stabilized products

291
00:13:21,746 --> 00:13:24,956
if they want them warmed they
have a suitcase food warmer

292
00:13:25,126 --> 00:13:27,456
that they open up and
it's got a hot plate

293
00:13:27,456 --> 00:13:30,086

down the center it's got
cavities on both sides

294
00:13:30,086 --> 00:13:32,776
where they load these pouches
in, close it up, plug it in,

295
00:13:32,776 --> 00:13:34,986
and in about 20, 25
minutes depending

296
00:13:34,986 --> 00:13:37,386
on how hot they want it
those foods are ready to go.

297
00:13:37,476 --> 00:13:37,756
>> Okay.

298
00:13:37,986 --> 00:13:41,256
>> For something like this
rehydratable product they're

299
00:13:41,256 --> 00:13:43,716
going to add water from
the rehydration station

300
00:13:43,716 --> 00:13:45,486
in this case they
would add hot water.

301
00:13:45,896 --> 00:13:48,956
It tells them how much to add,
about how long they need to wait

302
00:13:48,956 --> 00:13:50,786
for the product to
absorb the water,

303
00:13:51,036 --> 00:13:52,306
so they'll inject the water,

304
00:13:52,516 --> 00:13:53,886
they'll manipulate
it a little bit

305
00:13:53,886 --> 00:13:55,886
with their fingers before
they cut the package open

306
00:13:55,886 --> 00:13:59,306
to stir the water and the food
together and then they'll wait

307
00:13:59,356 --> 00:14:02,246
for it to absorb the water
and the water is hot enough

308
00:14:02,466 --> 00:14:04,606
that typically they
can just cut it open

309
00:14:05,026 --> 00:14:07,826
and eat it once it's
rehydrated so they don't have

310
00:14:07,856 --> 00:14:11,306
to like warm it up after that
because the water is hot enough.

311
00:14:11,816 --> 00:14:14,646
Beverages again if they want it
chilled they're going to have

312
00:14:14,706 --> 00:14:18,136
to hydrate it ahead of time and
give it some time in the chiller

313
00:14:18,136 --> 00:14:19,806
if they want to have
a chilled beverage.

314
00:14:20,326 --> 00:14:24,006
So there's really not a lot, you
know, it's mostly just warming

315
00:14:24,006 --> 00:14:27,696
or adding water so there's
not a lot of cooking going on.

316
00:14:27,696 --> 00:14:28,996
>> Well I haven't
done my shopping yet,

317
00:14:28,996 --> 00:14:32,566
any chance I can just bag this
up and take it home with me?

318
00:14:32,566 --> 00:14:32,666
>> Sure.

319
00:14:32,866 --> 00:14:35,616
>> Well, again, Vickie
thanks so much for coming out

320
00:14:35,616 --> 00:14:37,386
or letting us here
inside your kitchen

321
00:14:37,386 --> 00:14:38,656
and showing us all about this.

322
00:14:38,656 --> 00:14:38,746
>> Sure.