1
00:00:05,030 --> 00:00:02,790
now this week obviously as we celebrate

2
00:00:07,829 --> 00:00:05,040
earth we reflect on one of earth's many

3
00:00:10,390 --> 00:00:07,839
benefits and that is plants

4
00:00:11,830 --> 00:00:10,400
while toddlers may not fully appreciate

5
00:00:13,669 --> 00:00:11,840
their veggies

6
00:00:15,829 --> 00:00:13,679
space crews are always excited when a

7
00:00:19,510 --> 00:00:15,839
spacecraft docks bringing fresh fruits

8
00:00:21,670 --> 00:00:19,520
and vegetables from earth and the spacex

9
00:00:23,509 --> 00:00:21,680
dragon that arrived recently

10
00:00:25,910 --> 00:00:23,519
has delivered a new experiment that's

11
00:00:28,070 --> 00:00:25,920
designed to help space crews grow their

12
00:00:29,910 --> 00:00:28,080
own veggies on board

13
00:00:32,470 --> 00:00:29,920

this would be essential obviously for

14
00:00:35,670 --> 00:00:32,480
long deep space missions

15
00:00:37,430 --> 00:00:35,680
jessica egan with the poic there at the

16
00:00:39,670 --> 00:00:37,440
marshall space flight center spoke with

17
00:00:42,150 --> 00:00:39,680
a representative of

18
00:00:45,110 --> 00:00:42,160
the orbital technologies about the

19
00:00:48,229 --> 00:00:45,120
veggies project

20
00:00:50,150 --> 00:00:48,239
the veggie is a food production system

21
00:00:51,830 --> 00:00:50,160
that will be flown to space station at

22
00:00:52,950 --> 00:00:51,840
the end of this year

23
00:00:54,310 --> 00:00:52,960
to provide

24
00:00:56,950 --> 00:00:54,320
supplemental nourishment to the

25
00:01:01,029 --> 00:00:56,960
astronauts and grow vegetables and such

26
00:01:04,390 --> 00:01:01,039
as lettuce and tomatoes and radishes and

27
00:01:06,789 --> 00:01:04,400
and a full dietary menu is capable on

28
00:01:10,149 --> 00:01:06,799
this production system the hardware

29
00:01:12,070 --> 00:01:10,159
consists of a an led uh lid with

30
00:01:14,469 --> 00:01:12,080
lighting underneath it with a bellow

31
00:01:16,230 --> 00:01:14,479
system and a skeleton that holds that

32
00:01:19,910 --> 00:01:16,240
all together we have root maps with

33
00:01:22,469 --> 00:01:19,920
seeds inside of them and and the

34
00:01:24,789 --> 00:01:22,479
it's an accordion type

35
00:01:25,670 --> 00:01:24,799
system that will raise as the plants

36
00:01:27,670 --> 00:01:25,680
grow

37
00:01:29,749 --> 00:01:27,680
and the lighting system is only the

38
00:01:32,310 --> 00:01:29,759

light that is necessary for plants to

39
00:01:34,630 --> 00:01:32,320
live and it's a 24 7 cycle so there is

40
00:01:36,950 --> 00:01:34,640
no night time so it grows very quickly

41
00:01:38,550 --> 00:01:36,960
and we turn the crops very quickly so

42
00:01:41,510 --> 00:01:38,560
why is this unique

43
00:01:44,230 --> 00:01:41,520
well uh it's unique in a way that it's

44
00:01:46,389 --> 00:01:44,240
very interactive to the astronauts they

45
00:01:48,710 --> 00:01:46,399
can touch it feel it have the goodness

46
00:01:51,590 --> 00:01:48,720
there's been plant science up there but

47
00:01:53,749 --> 00:01:51,600
it's all been enclosed and very uh

48
00:01:55,590 --> 00:01:53,759
controlled environment this this

49
00:01:59,429 --> 00:01:55,600
environment is

50
00:02:02,069 --> 00:01:59,439
outside it's it's very very

51
00:02:03,590 --> 00:02:02,079
interactive to the astronauts

52
00:02:05,990 --> 00:02:03,600
we

53
00:02:08,309 --> 00:02:06,000
are very interested in the environmental

54
00:02:12,150 --> 00:02:08,319
control and life support systems with

55
00:02:14,869 --> 00:02:12,160
this plant technology iss with zero g

56
00:02:16,550 --> 00:02:14,879
we're able to take and assess what the

57
00:02:19,110 --> 00:02:16,560
plants do in the grow and what we're

58
00:02:21,990 --> 00:02:19,120
trying to do is capture the humidity

59
00:02:24,229 --> 00:02:22,000
condensation and result recycle it back

60
00:02:27,830 --> 00:02:24,239
into the environmental control systems

61
00:02:30,949 --> 00:02:27,840
so in this effort to resource utilize

62
00:02:33,990 --> 00:02:30,959
um as much as possible now it's it's

63
00:02:35,750 --> 00:02:34,000

critical to do this at zero g because if

64
00:02:38,309 --> 00:02:35,760
we're going to do long duration space

65
00:02:41,190 --> 00:02:38,319
moon mars this has to be done and we

66
00:02:43,910 --> 00:02:41,200
have to recover and and take those

67
00:02:46,470 --> 00:02:43,920
resources as far as they can we have

68
00:02:48,390 --> 00:02:46,480
commercialized a lot of this technology

69
00:02:50,869 --> 00:02:48,400
with the led lighting

70
00:02:53,589 --> 00:02:50,879
systems and wavelengths of lights we're

71
00:02:55,750 --> 00:02:53,599
actually building full rooms of

72
00:02:58,710 --> 00:02:55,760
plant growth rooms for customers

73
00:03:00,630 --> 00:02:58,720
universities uh things like that

74
00:03:03,750 --> 00:03:00,640
the applications for this

75
00:03:06,710 --> 00:03:03,760
commercialization for this is is endless

76
00:03:08,869 --> 00:03:06,720
you know the extreme environment uh

77
00:03:11,990 --> 00:03:08,879
places where we can grow year round

78
00:03:14,630 --> 00:03:12,000
within these systems and produce

79
00:03:17,190 --> 00:03:14,640
a lot of food for uh people that don't

80
00:03:19,190 --> 00:03:17,200
wouldn't normally get that fresh food we

81
00:03:21,589 --> 00:03:19,200
have customers commercial as well as

82
00:03:24,229 --> 00:03:21,599
government that want to put hotels into

83
00:03:27,110 --> 00:03:24,239
space that want to put

84
00:03:29,350 --> 00:03:27,120
colonize the moon eventually mars and to

85
00:03:31,430 --> 00:03:29,360
do that this is the starting period and

86
00:03:33,990 --> 00:03:31,440
iss gives us that platform which is a

87
00:03:35,750 --> 00:03:34,000
wonderful platform

88
00:03:37,670 --> 00:03:35,760

the first batch

89
00:03:39,670 --> 00:03:37,680
will be tested thoroughly

90
00:03:42,149 --> 00:03:39,680
to ensure safety and nutrition but the

91
00:03:43,830 --> 00:03:42,159
goal is to eventually allow

92
00:03:46,309 --> 00:03:43,840
international space station astronauts