1
00:00:16,550 --> 00:00:14,470
it's hard to believe but malaria still

2
00:00:18,310 --> 00:00:16,560
claims over a million lives around the

3
00:00:19,830 --> 00:00:18,320
globe every year

4
00:00:22,310 --> 00:00:19,840
in fact more than half the world's

5
00:00:25,269 --> 00:00:22,320
population lives in areas with active

6
00:00:31,189 --> 00:00:25,279
malaria transmission and with no vaccine

7
00:00:35,430 --> 00:00:33,350
the disease is spread by certain types

8
00:00:37,430 --> 00:00:35,440
of mosquitoes known in the scientific

9
00:00:39,910 --> 00:00:37,440
world as anopheles

10
00:00:42,069 --> 00:00:39,920
rice fields of which there are over 500

11
00:00:44,630 --> 00:00:42,079
000 acres in california's sacramento

12
00:00:46,229 --> 00:00:44,640
valley serve as ideal breeding grounds

13
00:00:48,310 --> 00:00:46,239

for these insects

14
00:00:51,110 --> 00:00:48,320
although malaria is not prevalent here

15
00:00:54,389 --> 00:00:51,120
the mosquitoes are so it's a good study

16
00:00:59,270 --> 00:00:56,950
using scanners aboard satellites and

17
00:01:01,670 --> 00:00:59,280
aircraft such as the u2

18
00:01:03,750 --> 00:01:01,680
scientists like byron wood at nasa's

19
00:01:05,830 --> 00:01:03,760
ames research center are producing and

20
00:01:08,070 --> 00:01:05,840
analyzing imagery of the valley which

21
00:01:09,510 --> 00:01:08,080
might help make malaria control more

22
00:01:11,990 --> 00:01:09,520
manageable

23
00:01:17,510 --> 00:01:12,000
the black blocks here are flooded rice

24
00:01:22,710 --> 00:01:19,830
by looking at how the rice shown in red

25
00:01:24,710 --> 00:01:22,720
develops in these fields wood and his

26
00:01:27,590 --> 00:01:24,720
colleagues predict which are likely to

27
00:01:29,350 --> 00:01:27,600
produce the most mosquitoes

28
00:01:31,670 --> 00:01:29,360
information like this would help

29
00:01:33,910 --> 00:01:31,680
organizations such as the sutter yuba

30
00:01:36,710 --> 00:01:33,920
mosquito control district whose job it

31
00:01:38,149 --> 00:01:36,720
is to limit populations of the insects

32
00:01:40,149 --> 00:01:38,159
they now have to trudge through

33
00:01:42,310 --> 00:01:40,159
thousands of acres of flooded rice

34
00:01:47,350 --> 00:01:42,320
fields every year looking for mosquito

35
00:01:51,910 --> 00:01:49,830
counting the tiny squiggly larvae makes

36
00:01:54,469 --> 00:01:51,920
it possible to spray only in fields

37
00:01:56,630 --> 00:01:54,479
where it's absolutely necessary an

38
00:02:00,069 --> 00:01:56,640

important concern economically and

39
00:02:03,670 --> 00:02:01,910
but the counting process is so

40
00:02:05,590 --> 00:02:03,680
labor-intensive it's virtually

41
00:02:08,070 --> 00:02:05,600
impossible in parts of the world with

42
00:02:09,749 --> 00:02:08,080
far more rice fields and wouldn't have

43
00:02:11,670 --> 00:02:09,759
to be done at all if mosquito

44
00:02:17,910 --> 00:02:11,680
concentrations could be determined from

45
00:02:22,229 --> 00:02:20,470
under dr bob washington's direction

46
00:02:24,550 --> 00:02:22,239
scientists from the university of

47
00:02:26,869 --> 00:02:24,560
california davis work with the sutter

48
00:02:28,630 --> 00:02:26,879
yuba district to check the accuracy of

49
00:02:30,630 --> 00:02:28,640
nasa's imagery

50
00:02:33,030 --> 00:02:30,640
in addition to counting larvae they

51
00:02:35,430 --> 00:02:33,040
determine the ages of adult mosquitoes

52
00:02:37,110 --> 00:02:35,440
in the area by removing and examining

53
00:02:39,030 --> 00:02:37,120
female ovaries

54
00:02:41,589 --> 00:02:39,040
there should be very few young adults

55
00:02:43,750 --> 00:02:41,599
where low larvae counts were predicted

56
00:02:47,350 --> 00:02:43,760
and so far nasa researchers have been

57
00:02:50,070 --> 00:02:47,360
right 80 percent of the time

58
00:02:52,550 --> 00:02:50,080
uc davis researchers are also working on

59
00:02:55,190 --> 00:02:52,560
a fungus as an alternative to chemicals

60
00:02:57,670 --> 00:02:55,200
currently used in mosquito control

61
00:03:00,550 --> 00:02:57,680
this fungus produces spores that attack

62
00:03:02,949 --> 00:03:00,560
only mosquito larvae nothing else in the

63
00:03:05,190 --> 00:03:02,959

environment is affected and since it

64
00:03:07,270 --> 00:03:05,200
continues to work in the fields months

65
00:03:09,830 --> 00:03:07,280
and possibly years after a single

66
00:03:12,149 --> 00:03:09,840
application it could prove more cost

67
00:03:14,630 --> 00:03:12,159
effective as well

68
00:03:16,550 --> 00:03:14,640
the task now is to get the fungus and

69
00:03:19,990 --> 00:03:16,560
imaging techniques to countries that

70
00:03:22,710 --> 00:03:20,000
need the most malaria control

71
00:03:26,070 --> 00:03:22,720
bringing nasa technology university

72
00:03:28,309 --> 00:03:26,080
expertise and public agency experience