

ICMR- VCRC develops bacteria-infected mosquitoes to control dengue strains

5 July, 2022. The Print



Pondicherry (Puducherry)[India], July 5 (ANI): With an aim to control dengue strains, the Indian Council of Medical Research (ICMR) and Vector Control Research Centre (VCRC) developed two mosquito colonies infected with bacteria for dengue control.

The ICMR-Vector Control Research Centre in Puducherry developed two colonies of *Aedes aegypti*, infected with wMel and wAlbB *Wolbachia* strains called *Ae. aegypti* (Pud) for decreasing the spread of the viral disease.

The VCRC had been working for the last four years on *Wolbachia* mosquitoes which is a microscopic organism.

” It is actually an endosymbiont. We call it endo means inside and biont means give and take relationship. What does it do in the sitting in every cell of mosquito, it actually makes it a home and then all *Wolbachia* here can effectively control the viruses, like dengue virus” said Director, ICMR-VCRC, Dr Ashwani Kumar.

Around ten thousand eggs containing two strains wMel and wAlbB were brought for the research from Monash University and cleared by the Indian government.

“These *Wolbachia* eggs we hatch the mosquitoes and then we back cross them with the local strain of Puducherry *Aedes aegypti* and now we have created that mosquitoes of Puducherry having *Wolbachia*. After backcrossing now, we have stable lines of *Wolbachia* carrying these mosquitoes.” Dr Ashwani explained.

These mosquitoes have been found fit for replacing both dengue and chikungunya viruses, Dr Ashwani further said, “We have done their fitness studies, we have done their virus challenge studies and we have

found that in need they can bring down substantially copy number of these viruses of both dengue and chikungunya viruses.”

The expert cited good potential in the technology and informed that the study started four years ago and has been completed now but government approvals were still pending.

The actual project may need numerous government approvals as ‘mosquitoes are to be released every week in the local areas.

“There can be sensitivities about the release of mosquitoes because every week releases the mosquitoes in the local area in order to replace the local population with the wall Wolbachia carrying mosquitoes. So, you have to prepare communities, political leaders, society as a whole in accepting that the mosquitoes are being released,” he informed.

“It’s like mosquitoes are replacing the mosquitoes,” He added as the female mosquitoes will mate with the local males and when the next generation will be produced, it will have the Wolbachia in it. And slowly, steadily the local population will be replaced.

“We have the eggs and mosquitoes in the laboratory and whenever it’s required then we will release these mosquitoes,” he concluded. (ANI)

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