Fruit fly to fight mosquito

BOFFINS say they can cut in half the lives of disease-carrying mosquitoes and slash the risk they will infect people with dengue fever.

Researchers, including Alyssa Pyke and Andrew van den Hurk from the Queensland Health Forensic and Scientific Services, and experts from the University of Queensland, say bacteria taken from fruit flies is the magic ingredient.

Infecting the insects with Wolbachia cuts short their lives and makes them more resistant to viruses they can pass on to humans.

Professor Scott O’Neill, of UQ, said: “This project has the potential to dramatically improve the lives of people living in dengue-affected regions of Australia and the rest of the world. “The naturally occurring bacteria passes from one generation of mosquito to the next and can halve the adult mosquito lifespan. This project will seek to introduce the bacteria to mosquitoes so that they do not live long enough to transmit the dengue virus.”

There is no vaccine currently available and no effective drug to treat dengue cases. “This project will provide a large area-wide control strategy that is cost-effective, self-perpetuating and will not require the use of insecticides,” Prof O’Neill said.

UQ will be the lead agency for the $10 million, five-year project, working with scientists from Thailand, Vietnam, Japan, Australia and the US.

“We are currently conducting a series of experiments in contained outdoor greenhouse settings that are examining the ability of the Wolbachia infection to spread into natural mosquito populations,” he said. “If these prove successful, we hope to move to open field testing within the next one to two years.” Infected mosquitoes could be released into the insect population to spread the infection.