THOUSANDS of mosquitoes deliberately infected with a bacterium will be released in Cairns this summer as part of research aimed at eradicating dengue fever.

University of Queensland scientists have been given regulatory approval for trials in the Cairns suburbs of Gordonvale and Yorkeys Knob, beginning in January.

Project leader Scott O’Neill has spent more than 15 years working on ways to use the naturally occurring Wolbachia bacterium to control insect-transmitted diseases.

He has previously shown that by infecting Aedes aegypti mosquitoes with Wolbachia, it stops the dengue virus from multiplying in the mosquitoes.

“If the dengue virus can’t grow in the mosquito, then it can’t be transferred between people,” Professor O’Neill said.

“You can almost think of this as a vaccine for the mosquito population, rather than the human population.”

Once Wolbachia has infected a mosquito, the bacterium is passed down among new generations of the insects, in the eggs.

Prof O’Neill said the trials were approved only after three bodies – the CSIRO, the Australian Pesticides and Veterinary Medicines Authority and the Federal Department of Environment and Heritage – had independently assessed the risk of harm to humans and the environment as “negligible”.

He said the researchers would reduce the naturally-occurring mosquito population in Gordonvale and Yorkeys Knob before releasing the Wolbachia-infected insects in weekly stages.

“The total (of infected mosquitoes) will be in the thousands. That’ll be less than the number we eliminate from the population,” Prof O’Neill said.