

CONTROLLING OFFICER'S REPLY**FHB(FE)119****(Question Serial No. 1294)**

Head: (49) Food and Environmental Hygiene Department

Subhead (No. & title): (-) Not specified

Programme: (1) Food Safety and Public Health

Controlling Officer: Director of Food and Environmental Hygiene (Miss Vivian LAU)

Director of Bureau: Secretary for Food and Health

Question:

Regarding the work to “take forward initiatives to enhance pest control services, particularly in respect of mosquitoes and rodents”, the Department applied various new technologies for rodent control such as “night vision cameras”, “thermal imaging cameras”, and “rodent trapping devices driven by pressurised gas” last year.

- Please set out as per the table below the district(s) and place(s) where the new technologies were applied, the expenditure involved and their effectiveness:

District	Place/venue of application	Technology applied for rodent control	Hours spent on application of the technology	Number of rodents caught	Expenditure involved

- Will the Department extend the scope of application of the technologies? If yes, what are the details and the estimated expenditure involved? If no, what is/are the reason(s)?

Asked by: Hon KWOK Wai-keung (LegCo internal reference no.: 28)

Reply:

Information on the trial tests conducted by the Food and Environmental Hygiene Department on technologies for rodent control since 2019 is as follows:

District	Place/venue of application	Technology applied for rodent control/surveillance	Period of application of the technology	Expenditure involved
Sham Shui Po, Wong Tai Sin and Tsuen Wan	Public markets of the Department	Rodent trapping device driven by pressurised gas	Put on trial for 8 months (from October 2018 to June 2019)	Around \$60,000
Kowloon City and Mong Kok	Public markets of the Department in Kowloon City District and a rear lane in Mong Kok District	Night-vision camera surveillance system	Put on trial for 3 months (from April to July 2019)	Around \$760,000
All districts in the territory	Rear lanes in all districts	Thermal imaging camera surveillance system	Put on trial for 1 year (from January to December 2020)	Around \$2.1 million

The Department has completed the trial test on a rodent trapping device driven by pressurised gas and no rodents were caught during the trial period. As the results have shown that the technology could not enhance the effectiveness of rodent control in the local environment, the Department does not intend to employ this type of device. The trial scheme on the night-vision camera surveillance system aimed to test the capability of the system for identifying rodents in night-vision images by means of artificial intelligence analysis technology in order to monitor the extent and level of rodent activities. The trial test was completed in late July 2019. Initial test results have shown that the technology is capable of accurately identifying rodents and tracing their movements, which is conducive to quantifying and enhancing the effectiveness of anti-rodent measures. However, if the technology is to be widely applied, a considerable number of night-vision cameras have to be installed in order to achieve the desired results. That may involve issues pertaining to resources, technology (such as locations of installation and power supplies) and privacy. The Department has also conducted a proof of concept test on the use of thermal imaging in order to assess whether artificial intelligence analysis technology can be applied to identify rodents in thermal images. Initial results have shown that the function of this surveillance system is comparable to that of the night-vision camera surveillance system, but no clear images of human faces are captured. The Department is conducting a trial test on the thermal imaging camera surveillance system in selected rear lanes in Kowloon City District, and plans to install thermal imaging cameras before and after the 2 phases of anti-rodent operations in designated target areas which will be conducted later in all districts throughout the territory with a view to quantifying and reviewing the effectiveness of the operations. The estimated expenditure involved is around \$2.1 million. Upon completion of this trial

scheme in late 2020, the Department will compare the technologies of using night-vision cameras and thermal imaging cameras in terms of their actual application and effectiveness in monitoring rodent activities with a view to developing strategies for on-going application of the technologies and determining their respective scopes of application.

In addition to application of new technologies, the Department has kept in view new products for prevention and control of rodent infestation around the world, and has conducted trial tests to assess their suitability for use in Hong Kong. The Department is conducting a test on a poisonous bait having flavours of food to assess whether it is more attractive to rodents than traditional poisonous baits. Besides, the Department is testing a new break back trap during the special operation in 6 public markets. The newly designed break back trap which is more sensitive than traditional break back traps is expected to be more effective in catching rodents. The above tests are expected to be completed in July 2020. If the results are satisfactory, the Department will put the said bait and break back trap to extensive use in all districts.

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