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Dengue-Mosquito OL Trap
"A Local Technology That Works"

If there is one disease that has greatly affected Filipinos, then it must be dengue fever. Its high death toll, for one, has put health professionals on a constant alert. Dengue can strike anyone- no matter the economic status, age, and gender.

The call to prevent dengue is like a mosquito buzzing over the ears- its noise should not be ignored. Swatting the cause right from the start may be the best way.

The Mosquito OL Trap

Researchers from the Department of Science and Technology's Industrial Technology Development Institute saw that going down to the source of the vector could effectively decrease the number of dengue-carrying mosquitoes. After several laboratory studies, the researchers were able to prove this indeed. The number of Aegis aegypti mosquitoes went down after breeding places were treated, signaling the decrease of dengue cases too.

The experiments used a mosquito trap called OL Trap, short for Ovicidal-Larvicidal Trap developed by the ITDI-DOST researchers. The trap is made of ordinary tin can (regular-sized evaporated milk) painted black and a strip of lawanit board measuring 1 X 6.5 X ½ inches. An all-natural mosquito attractant solution poured in the can moistens the lawanit through capillary action. The moist lawanit becomes an attractive nest for the mosquito. The black color of the container attracts the mosquitoes and the fumes of the solution kills the eggs and larvae.

Laboratory tests showed that the OL Trap is 100 percent effective. Field tests in 500 households in Quezon City and 500 households in Marikina City also show promise.

The OL Trap my last up to two months, outliving a generation of mosquitoes which has a lifespan of only one month. A female mosquito can lay as many as 400 eggs four times in its life, 80 percent of which will turn out to be female. But through the OL Trap, the next generation of mosquitoes in an area will certainly be wiped out.

DOST expects a gradual reduction in mosquito population in communities under the program.

With these findings, it can be said that the OL Trap is another local technology that works.

The Roll-Out of Ovi-Larvicidal (OL) trap System in Region 1

The roll-out of ovi-larvicidal (OL) trap system for aedes mosquito nationwide is the third phase of the DOST program on natural larvicide for dengue vector control. This is one of the Filipino Innovation projects of Secretary Mario G. Montejo of the Department of Science and Technology (DOST) that addresses the problem of dengue fever - one of the top 10 diseases that has greatly affected Filipinos because of its high death toll. This program encourages complementation where initiatives are harmonized for the various disciplines to work together with the goal of making things simple yet beneficial.

The Department of Science and Technology Region 1 (DOST 1), in partnership with the Department of Health – Center for Health Development Region 1 (DOH-CHD 1) conducted a Consultative Meeting on the Operational Plan for the Roll-out of the OL Trap System in Region 1 recently at the DOST 1, City of San Fernando, La Union. The following participated in the meeting: from DOST 1 – Regional Director Elsa R. Chan, Asst. Regional Director Armando Q. Ganal, Provincial S&T Directors, and DOST Regional OL Trap Focal Person Arthur Aubrey R. Alviar; from DOH-CHD 1 – OIC-Regional Director Dr. Valeriano V. Lopez Jr., Local Health Assistance Division Chief Dr. Edwin Monis, DOH Regional OL Trap Focal Person Ashley Antonio, and the Provincial Health Team Officers. The strategies for the smooth implementation of the program were planned and organized. The municipalities and barangays where the kits will be installed in Ilocos Norte, Ilocos Sur, La Union and Pangasinan were identified.

The 11,200 OL trap kits with the initial one (1) month supply of pellets from the Industrial Technology Development Institute (ITDI) –DOST were distributed to 2,800 houses representing 28 barangays from 11 municipalities/cities in Region 1 . Four (4) OL kits were installed in every house.

Each municipality/city assigned five (5) Barangay Health Workers (BHWs) from each identified Barangay to orient, supervise and monitor the installation of the OL traps in the specified areas. A total of 140 BHWs were trained on the field application of the OL trap system cum distribution of the OL trap. The importance of the OL trap was emphasized to reduce the generation of dengue mosquitoes and to provide the participants the capacity/competence in the installation, servicing and monitoring of the gadget.

Demand for DOST Mosquito Traps in Ilocos Norte Up Due to Rising Dengue Cases

The demand in Ilocos Norte for mosquito trapping device that the Department of Science and Technology (DOST) created has grown as deaths and patients falling ill due to dengue continues to rise. Residents have been asking the DOST to provide them with additional mosquito trap device known as the ovicidal/larvicidal (OL) trap system that the agency has been giving away since May. The device is made of a small black plastic bucket filled with a natural solution that kills mosquito eggs once they are trapped inside the container.

Engr. Fehlander Madriaga, DOST provincial chief, said his office is working on the release of additional mosquito traps since the current supply is intended for households that have been pre-identified as recipients. He said the DOST has already released 4,000 anti-dengue kits to households in Laoag, Batac, Dingras and San Nicolas where cases of dengue are high.

In Laoag, the City Health Office has recorded 187 dengue cases and five deaths since January while Dingras recorded 72 dengue incidents as of end of July. The outbreak of dengue cases in Dingras prompted officials to declare the town under calamity state.

The DOST also provides households of free pellet refill good for six months or until November. “We could not release additional kits at the moment because we were supplied limited quantity of the OL kit. What we merely supply now are the pellets mixed with water to make the solution as mosquito attractant,” Engr. Madriaga said.

He advised residents to create their own plastic containers and just buy pellets for the solution. Madriaga said the pellets will be commercially available by September and to be produced by a private company which has been tapped to manufacture the product.

He said residents have found the kit effective because it has been trapping dengue-causing mosquitoes. The device can be placed in the backyard, garden area and inside the house where mosquitoes can be found and trapped.

According to DOST, the solution may last up to a week and to be replaced weekly thereafter. The device costs no more than P15 while a sachet of pellet only costs P1.50. A household only consumes four sachets per week.

Pangasinan Adopts DOST Mosquito Ovicidal/Larvicidal Trap

by Immanuel C. Quiban, Science Research Analyst, DOST 1

The Department of Science and Technology (DOST) through its Industrial Technology Development Institute (ITDI) developed the mosquito ovicidal/larvicidal trap (OL trap) which aims to control the population of the dengue-carrying aedes mosquitoes.

The primary component of this OL trap is the solution made from natural active agent which is safe to humans but lethal to mosquitoes. After careful study and research and field testing of the OL trap in Quezon City and Marikina City, DOST partnered with the Department of Health (DOH) in its nationwide launching. The project targets 50,000 households nationwide, majority of the recipients are in National Capital Region (NCR) with 5,000 households and other regions with 2,800 households. DOST provided 200,000 OL trap kits, as well as OL pellets good for 6 months and conducted trainings to DOST and DOH staff. On the other hand, DOH was responsible in identifying sites with high dengue cases and in facilitating and coordinating with Local Government Units (LGU) and health centers for recipients of mosquito OL trap kits.

In the province of Pangasinan, six barangays were identified as recipients of the project. The beneficiaries of the OL trap came from barangays Bonuan Gueset, Malued and Pantal in Dagupan City and barangays Bued, Buenlag, and Macabito from the municipality of Calasiao. The selected locations were

chosen based on the list provided by DOH taking into consideration the number of cases and deaths linked to dengue. Another factor was the two locations are considered highly urbanized areas.

The responsibility of monitoring and the installing of the OL trap fall into the hands of Barangay Health Workers (BHW) with close coordination with the City and Municipal Health Offices. The BHWs were trained on the installation and monitoring of the OL traps. They were also given monitoring forms good for six months. The training was conducted by Mr. Arthur Aubrey Alviar, Science Research Specialist 1 of the Ilocos Sur Provincial Science and Technology Center. He is also the Regional Coordinator for the OL trap project.

According to Dr. Jesus Arturo De Vera, the Municipal Health Officer of the Municipality of Calasiao, the project is helpful in curbing the exponential population growth of aedes mosquitoes, known to be the vector of dengue disease. It is important to eliminate the mosquitoes in their egg or larvae stage to avoid reproduction. Furthermore, he stated that instead of using fogging to eliminate aedes mosquitoes, use OL traps is more cost effective since it maximizes the elimination of the mosquitoes.

He also stated that the most effective solution to dengue is cleaning of the surroundings and making sure that there will be no breeding ground for the dengue carrying mosquitoes. On the other hand, Dr. Leonardo Carbonel, the City Health Officer of Dagupan City emphasized that there is an increase of dengue cases every year, and that the cases are prevalent in highly urbanized areas such as Dagupan City and Calasiao. He also added that the dengue cases increase in rainy season and decreases in the summer eason.

The information and promotion drive of the DOST developed OL trap in the province was headed by Engr. Felipe D. Andrada, the Provincial Science and Technology Officer of Pangasinan and Ms. Felicidad M. Tan, OIC of Pangasinan Science and Technology Center- Satellite Office in Urdaneta City.

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