

Public Health Pesticides Program Completes First Five Years

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The IR-4 Public Health Pesticides program completed its first five years of existence in June 2013. Currently, with funding extended through mid-2018, the program is entering a period of expanded activity and growth. In this article we summarize the objectives and some major activities of the program's first years and look forward to key priorities and strategies for the near future.



Attractive toxic sugar baits - an innovation in mosquito control, with regulatory support from IR-4.

In June 2008 the IR-4 Project entered into a new five-year cooperative agreement with USDA-ARS to use IR-4 resources and expertise to help enhance the vector control toolbox – the set of pest control products that protect people and animals from arthropod pests that transmit disease or cause major nuisance. Vector control is a classic minor use of pesticides, with a small market that often requires public support for innovation, product development and registration, and the retention of materials facing new data requirements. The overall objective of the new program was to build on IR-4's history of support for minor agricultural pest control markets by facilitating the registration of conventional and biological pesticides (including repellents, attractants, and toxicants) useful for vector control. The financial support of ARS allowed IR-4 to establish a new Public Health Pesticides (PHP) program with dedicated staff and access to additional IR-4 resources at HQ and in the regions to support these efforts.

The primary funding supporting the IR-4 PHP program originated in a joint effort of USDA-ARS and the Department of Defense – the Deployed War-Fighter Protection Research Program (DWFP). The DWFP was established in 2004 to develop and validate novel methods to protect United States military personnel deployed abroad from threats posed by disease-carrying insects. Thus, a particular focus of the IR-4 PHP program is enhancing the health and safety of deployed US military personnel by helping translate entomological and chemical research into vector control products with regulatory approvals for military use anywhere in the world. In addition, the program has been empowered by its funders to broadly support the development, registration, and retention of pest control products for civilian public health and veterinary medicine in the U.S. and globally.

A major objective of the IR-4 PHP program has been to identify underutilized vector control materials. A

primary product of the first five years was a new PHP Inventory and Database that uniquely integrates data on specification, regulatory status, and bioactivity of over 700 materials with PHP actual or potential use ir4.rutgers.edu/publichealth.html.

Direct regulatory support for new products is another major objective. The flagship project since the program's inception has been the development of data and models to support all-crop tolerances for the new mosquito adulticide etofenprox. The methods developed during this project are increasingly being used to evaluate drift and deposition of ultra-low-volume (ULV) pesticide applications generally. Another major regulatory support activity has been representing registrants of novel vector control tools including insecticide autodissemination stations, lethal ovitraps, attractive toxic sugar baits, novel botanical vector repellents, and other innovative vector control strategies.

Assisting the retention of registrations for existing vector control tools facing new data requirements has been an important means to ensure an adequate vector control toolbox, and the IR-4 PHP program has been instrumental in collecting usage data, preparing waiver arguments, and structuring joint data collection efforts to help protect key chemicals.

IR-4 PHP program staff routinely participates in World Health Organization panels and other global efforts to foster innovative vector control interventions, and is increasingly recognized as a key partner in product development efforts. With program funding recently extended through June 2018 by DWFP and ARS, and a new PHP Research Assistant starting work on August 1, the future looks bright for the newest IR-4 program.



GLP testing of spray equipment for novel data collection efforts to support mosquitocide registration.