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Effective Mosquito Management Starts with an IPM Approach

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Mosquito-borne diseases such as Zika, dengue, and West Nile raise significant public health concerns that motivate well-intentioned efforts to manage mosquito populations. The Entomological Society of America (ESA) advocates pest control that is based on the science-based and well-understood principles of Integrated Pest Management (IPM). IPM is a comprehensive approach to dealing with pests using strategies that are effective, economically sound, and ecologically compatible.

Recent news reports have attributed harm to honey bees in Dorchester County, South Carolina to the aerial application of a mosquito control product. This unfortunate incident is a reminder that all public health agencies must adopt IPM principles for pest and disease control, including the important step of informing and engaging all stakeholders.

IPM for mosquitoes involves identification of mosquito species and surveillance of their populations at all life stages. When populations of mosquitoes (immatures, adults, and especially pathogen-infected females which feed on blood) reach action levels, public health officials take steps to lower those populations using a variety of tactics that may include draining standing water to reduce populations of immature mosquitoes, releasing fish that eat immature mosquitoes, and treating immature and adult mosquitoes with pesticides. When mosquito populations need to be managed, professionals should use science-based IPM tactics that are effective, minimize harm to the public and the environment (including insect pollinators), and are sustainable. These tactics also extend to minimizing harm to honey bees and other pollinators. Although insect pollinators may be sensitive to some of the products used for mosquito control, their risk can be effectively managed by applying them in ways that maximize exposures to mosquitoes and minimize exposures to pollinators.

Protecting the public from insect-borne diseases is a community effort, and thus all stakeholders should be consulted and fully informed of the complete strategy for implementing IPM. The ESA supports further research efforts to develop a comprehensive understanding of the public health risks from insect-borne diseases, and, most importantly, urges all agencies to develop strategies that are consistent with IPM principles.

The Entomological Society of America is the largest organization in the world serving the professional and scientific needs of entomologists and people in related disciplines. Founded in 1889, ESA today has over 7,000 members affiliated with educational institutions, health agencies, private industry, and government. Members are researchers, teachers, extension service personnel, administrators, marketing representatives, research technicians, consultants, students, and hobbyists. The Society stands ready as a scientific and educational resource for all insect-related topics. For more information, visit <http://www.entsoc.org>.