Media Fact Sheet on the Zika Virus and the *Aedes aegypti* mosquito

Aedes aegypti mosquitoes, which are found throughout much of the southern and southeastern United States, Central and South America, as well as other parts of the world, are known carriers of a multitude of human diseases, including the Zika virus, chikungunya, yellow fever, dengue, and others. Questions have arisen in the press and on social media recently regarding many aspects of *Aedes aegypti* biology and overall mosquito control practices. Two items of particular note are:

(1) In an effort to control *Aedes aegypti* mosquitoes in Brazil, genetically modified mosquitoes were released in the city of Juazeiro in Brazil in 2011 to stop the spread of dengue. There is absolutely no scientific evidence to support the suggestion that the rapid and recent spread of Zika is in any way the result of this successful control action. All current and past scientific information available indicates that this scenario is without merit. Juazeiro is more than 400 miles away from Brazil's Atlantic coast, the area where Zika was first reported, and there is no scientific evidence that indicates that these genetically modified mosquitoes were carrying Zika virus or could otherwise cause Zika to develop and spread in a human population.

(2) Pyriproxyfen is an insecticide that is used to control mosquito larvae (and many other insects) and has been used in the United States since 1996, with no reports of increased numbers of birth defects in the U.S. geographically or otherwise linked to its use. Pyriproxyfen is by its chemical nature relatively safe for humans and other mammals because it is an insect growth regulator, not a nerve toxin. It works by interfering with insect-specific hormones involved in the insect growth cycle. Humans do not share these hormones and even after extensive testing have never been shown to be affected by it; nor is there evidence, after years of use as a flea control agent, that dogs and cats treated with pyriproxyfen have had such adverse reactions. In 2001, the World Health Organization's Joint Meeting on Pesticide Residues (JMPR) "assessed the safety of pyriproxyfen as a mosquito larvicide in potable water and concluded that intake at the target concentration for control would not present unacceptable risks" (http://tinyurl.com/hro3vlq).

The Entomological Society of America (ESA) is a non-profit organization of more than 7,000 insect scientists worldwide and stands ready to serve as a resource for reporters creating stories on a wide variety of insect-related topics. ESA is co-hosting a summit on controlling the *Aedes aegypti* mosquito in Maceió, Brazil on March 13, 2016. More details online at http://bit.ly/1W7MW6O.

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