AN INTEGRATED CONTROL PROGRAM AGAINST *AEDES ALBOPICTUS* IN NORTHERN ITALY: A CASE STUDY

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Aedes albopictus is a major biting nuisance and a competent vector for many arboviruses. During the last decades, it has colonized almost all the Italian territory. Integrated mosquito management of *Ae. albopictus* is particularly difficult because many breeding sites are present in private areas. Therefore, public education campaign has become a basic tool to involve homeowners in mosquito control, and door-to-door active education has been recently carried out with success in Spain, the United-States and Thailand.

The present study, conducted in the municipality of San Michele all'Adige (Trento) in 2015, aimed to assess a community-based integrated mosquito control strategy including a public education campaign (public meetings and distribution of flyers), larvicide treatments of public catch basins, and door-to-door visits consisting in homeowners' education, garden inspection and/or delivery of larvicide tabs. All these control measures were implemented in one site (full intervention site), while only public education and public larvicide treatments were implemented in a second site (partial intervention site). A third site was used as control (no intervention site). Biweekly egg counts from 95 ovitraps were modelled by a zero-inflated negative binomial mixed model to evaluate the efficacy of the type of intervention against mosquito abundance.

In the full intervention site, 181/297 houses have been visited in June and in September, and 2210 larvicide tabs have been delivered. The total number of private catch basins with mosquito larvae decreased three times between June and September, showing a correct use of larvicide tabs by homeowners. The average egg density in the full intervention site was 2.2 lower as compared to the no intervention site, whereas the average egg densities in the partial and the no intervention sites were similar. Our results confirm that only an integrated mosquito control strategy targeting both public and private areas can be effective against *Ae. albopictus*.