

CONTROL STRATEGIES USING STERILE INSECT TECHNIQUE

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In the last decades, the development of sustainable insect control methods has become one of the most challenging issue to reduce the impact of human vector borne diseases, like malaria, dengue, chikungunya or crop pests, like fruit flies. The focus of this talk is the Sterile Insect Technology (SIT) method of control of mosquito populations. This topic has received already significant attention as visible from [1]-[3] and the references therein. For the temporal dynamics we consider a compartmental model, which is minimalistic in the sense that it uses smallest possible number of compartments allowing for adequate modelling of the mechanism of SIT control. It is simpler than the models in [1], [2], [3], but it has the same asymptotic properties under SIT control. Specifically, even small level of SIT control induces bi-stable asymptotic dynamics. The spacio-temporal admits a travelling wave solution. We presents efficient SIT control strategies of changing the direction of the wave from invasion to retreat.

REFERENCE

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