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What can we infer from symbionts titre in their respective *Drosophila* host tissues?

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The endosymbiotic bacterium *Wolbachia* is considered as a potential biological tool for controlling invasive insect pest populations such as *Drosophila suzukii* (*Dsuz*), which has recently invaded European countries and come out as an emerging threat for fresh fruit cultivation. Recent reports have shown that European *Dsuz* harbors a new *Wolbachia* strain named *w*Suzi, related to the strong CI-causing *w*Ri strain of *D. simulans*. Nothing is known behind this novel host-microbial integrative biology as yet. Thus, to get more insights into this symbiotic relationship, we have examined *Wolbachia* tissue tropism in adult *Dsuz* individuals sampled according to different age status. Quantitative Real Time PCR (qRT-PCR) was used to calculate density of *Wolbachia* in reproductive as well as in different somatic tissues of 1, 7, 14 and 21 days old *Dsuz* flies of both sexes. We detected significant differences in *Wolbachia* titre 1) between reproductive organs of males and females, 2) among different somatic tissues, 3) based on different age groups. Notably, in male gonads, *Wolbachia* density substantially decreases with age, suggesting the possible use of *Wolbachia*-rich young males to evaluate their CI-inducing capability. Results will be further discussed with those obtained from *D. simulans* and *D. melanogaster* harboring their respective *w*Ri and *w*Mel strains. Thereby this approach will help in evaluating the potential use of *w*Suzi to control *Dsuz* population in future.