

most efficient DNA extraction methods were those carried out by BioSprint workstation although the incubation of samples in just TE buffer gave comparable results, being this latter a much more economical option. Regarding the volume of DNA template used, best results were obtained using 2.5 µl in conventional PCR and 1 µl in qPCR.

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## CONTROL OF WAX MOTH BY MEANS OF ORGANIC ACIDS

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The storage of frames that have contained brood or still contain pollen is problematic in practice as they can be attacked by the wax moth, *Galleria mellonella* in particular. To limit the damage to the drawn combs, different techniques or products can be applied. However, it is important that these treatments do not contaminate the wax so that it does not pose a risk to the bees or to the quality of the honey that will be stored in the combs later. These considerations have led to the banning of many chemical treatments in Europe and in Switzerland, only acetic acid is currently allowed. The way and the dosage recommended for practice to control *G. mellonella* with this organic acid are very empirical and we found no data on the effectiveness and mortality on the wax moth due to this method.

In a realistic field trial, we treated stacks of honey supers with liquid acetic acid according to the recommendations in the literature, we let the acetic acid vapours work for 120 hours and observed mortality on the different stages of the greater wax moth *G. mellonella* (egg, larva, cocoon, imago).

We have demonstrated very good efficacy of the treatment against eggs, cocoons and adult moths and partial mortality in larvae. We discuss the possibilities and limitations of this control technique. Practical recommendations are formulated to reach a good efficacy and to avoid risks for the users and risks of honey contamination.