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Efficiency of Wood Vinegar Mixed with Some Plants Extract against the Housefly (Musca domestica L.)

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Abstract : The efficiency of wood vinegar mixed with each individual of three plants extract such as: citronella grass (Cymbopogon nardus), neem seed (Azadirachta indica A. Juss), and yam bean seed (Pachyrhizus erosus Urb.) were tested against the second instar larvae of housefly (Musca domestica L.). Steam distillation was used for extraction of the citronella grass while neem and yam bean were simple extracted by fermentation with ethyl alcohol. Toxicity test was evaluated in laboratory based on two methods of larvicidal bioassay: topical application method (contact poison) and feeding method (stomach poison). Larval mortality was observed daily and larval survivability was recorded until the survived larvae developed to pupae and adults. The study resulted that treatment of wood vinegar mixed with citronella grass showed the highest larval mortality by topical application method (50.0%) and by feeding method (80.0%). However, treatment of mixed wood vinegar and neem seed showed the longest pupal duration to 25 day and 32 days for topical application method and feeding method respectively. Additional, larval duration on treated M. domestica larvae was extended to 13 days for topical application method and 11 days for feeding method. Thus, the feeding method gave higher efficiency compared with the topical application method.

Keywords : housefly (Musca domestica L.), neem seed (Azadirachta indica), citronella grass (Cymbopogon nardus), yam bean seed (Pachyrhizus erosus), mortality
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