

EFFECTIVENESS OF ACORUS FUME STICKS IN CONTROLLING MOSQUITOES

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We planned to invent natural herbal products with our previous knowledge of traditional medicine. We selected and collected some important medicinal plant raw materials according to the Siddha text. The fume ingredients were *Acorus calamus*, *Azadirachta indica*, *Ocimum sanctum*, *Ocimum americanum*, *Trachispermum ammi*, *Styrax officinale*, *Shorea robusta* and some bamboo sticks. These ingredients dried well in shadow ground, and then made into powder. All powders were mixed together. Powder: Citronella oil : neem oil mixed in the ratio 500g:75ml:25ml and the paste obtained was applied to bamboo sticks. The paste can be used for fragrances as well as for prevention of mosquito bites. The formulation is safe, eco friendly, cheap, easy to use and has maximum repellence against mosquitoes. In addition these homemade herbal repellents are very less harmful to ever health that the coils available in the market. This stick is effective for longer than 30 minutes 100% pure herbs used. Due to some unwanted effects of chemical repellents, there is an increasing demand for natural herbal preparations to be used as repellents and controlling agents. Mosquitoes were bred in straw soaked clear water and the 3rd instar larvae were selected and fed with fish mash. Emerged adults were picked with the help of aspirator and fed with 10% glucose solution until the assay was carried out. Mosquitoes having characteristics of Dengue causing ones were selected and treated with fumes from acorus sticks and live mosquito count was taken after 1hrs, 12 hrs and 24 hrs after treatment and compare with control. All were continuously fed with glucose meal. After 1 hour of treatment almost all the mosquitoes were found alive (95%) but not actively fly. After 12 hrs, 90% of the mosquitoes were found dead and after 24 hrs almost all mosquitoes were found dead. In control not a single dead mosquito was recorded during the period from 1- 24 hrs. Fume was also tried in open space in houses during 6-7.30 p.m. when the mosquitoes are abundant and effective repellent ability of fume from acorus sticks was observed. Mosquito controlling ability of bio active components in the fumes from herbal produce assures its usage in different forms of mosquito repellents which are eco friendly with no side effects. Trial in open space further assures the ability of bioactive components in plants which is used as a major ingredient in the preparation of that produce is the reason for mosquito repellent and mosquitocidal effect of that fume sticks and not by suffocation by fume itself. Also it has an acceptable smell with no other harm to human.

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