

Poseidon Sciences News

Head lice repellent in Hair Shampoos



A close up look at the head lice with the egg sac using scanning electron microscope as it grips the hair (from New Scientist magazine, 2004).

This is the first time that a head lice product can be used in shampoos to remove head lice using standard comb, thus enabling treatment without changing the normal daily grooming habits. It is convenient and safe alternative to pesticidal approach and the more user friendly for the children in particular.

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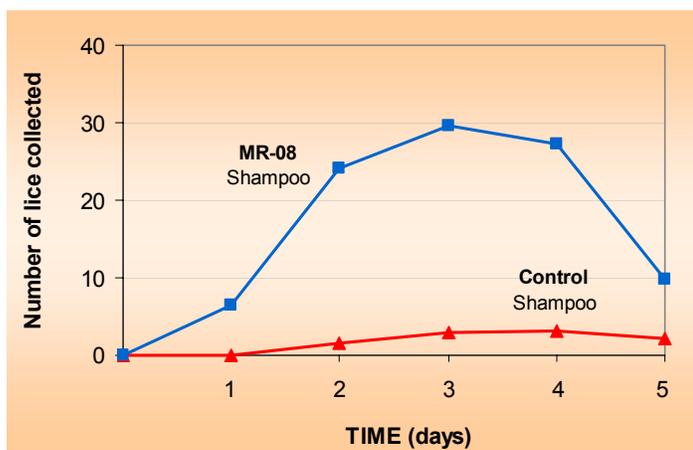
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Poseidon Sciences Group is an R&D company engaged in developing alternative, eco-friendly technologies to replace the toxic systems now being used by industries in diverse areas of medicine, biocides and insect control. The R&D Initiatives Program is designed to enable collaborations between Poseidon and industry/academia/governments to enable such technologies to be made available for worldwide use in the shortest possible opportunity.

The head louse (*Pediculus capitis*) has been part of human existence for millennia. Although head lice cause no serious medical problems, head lice infestation, particularly in children, remains a public health issue because of the itching and social stigma attached to their presence in the scalp. Resistance to the typical pyrethrins and pyrethroids normally used to kill head lice are increasing so that management problems now exist. Some lice populations have been documented to show resistance to as many as five different chemicals. Although there has been many reports on the use of 'natural' products, these are typically anecdotal and more extensive clinical trials are lacking or showed little practical value in head lice management.

Management of head lice using MR-08 in hair shampoo

Menthol propyleneglycol carbonate (MR-08) is a GRAS compound (FEMA # 3806; JEFCA # 444) and a derivative of the natural compound, menthol. It is in current use as a cooling agent in toothpastes and other cosmetic ingredients. Recently, MR-08 has been demonstrated to be a multifunctional compound with a wide range of biological activities, including as an anti-inflammatory, as anti-angiogenic and as a nontoxic insect repellent. Patents for these applications are now in national phase filing in various countries. More information about these actions can be found through the website, www.poseidonsciences.com. Poseidon scientists investigated the possibility of MR-08's functional properties may be useful in the management of head lice infestation. In this study, MR-08 was incorporated into a conventional shampoo to treat head lice infested children. After rinsing and towel drying, the hair was combed with a standard comb to collect head lice. The result of this study is shown in the figure below.



The data showed that treatment with MR-08 Shampoo allowed for a dramatic increase in the collection of lice out of the hair after shampooing. This enabled elimination of >90% of the head lice after 5 days of using MR-08 shampoo. It is interesting to note that the volunteers in the experimental group felt great relief from the itching and irritation associated with previous head lice infestation. The head lice collected after MR-08 treatment were alive showing no toxic effects associated with this treatment method.