

PALM-BASED HAIR CARE PRODUCTS FOR ANTI HAIR LOSS

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Hair loss is a major concern to most consumers. This happens when scalp becomes greasy but hair too dry. For Asian people, an average daily hair fall of between 20 to 30 strands is considered normal provided it is being equally and immediately replaced (Chung, 2000). It is important for those who have this problem to choose the right product to maintain scalp hygiene.

As people are becoming more conscious about hair loss, the sales of hair care products particularly shampoos and conditioners continue to grow. The market for hair care products especially shampoos and conditioners remained the key of hair care segment with 38.8% of sales in 2002. According to Datamonitor, the global hair care market for the year 2002 increased by 8.9% from USD32.3 billion in 2000 (Henderson, 2003).

HAIR GROWTH CYCLE

There are three stages of hair growth during its life-span (*Figure 1*). The first phase is anagen, which lasts for an average of three years. During this phase, hair achieves a maximum linear growth approximately 1 cm per month. It then turns into catagen, the second phase. This is the resting period, where there is no growth. Usually this phase lasts for about 100 days before it goes into telogen phase. During telogen, the end of the hair that is still in the follicle begins to dry

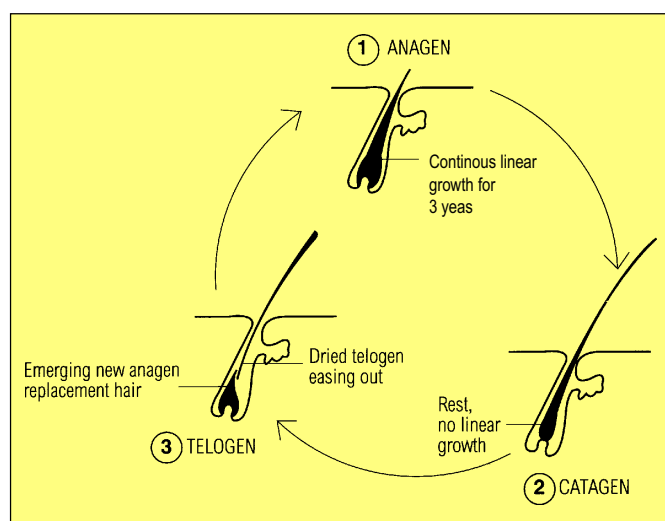


Figure 1. Scalp hair life cycle.

up, disintegrate and become lodged from the dermal papilla. Meanwhile a new anagen is formed to replace the out-going telogen hair.

STIMULATING SHAMPOO

Detergency

This palm-based stimulating shampoo is formulated with high percentage of palm-based materials, hair conditioning agent, mild surfactants and enriched with protein (*Figure 2*). The ability of the formulation to remove soil was evaluated using silk soiled with sebum at 0.5% concentration, water hardness 50 ppm and 350 ppm at room temperature. The results indicated that cleansing power of the formulated product is better than commercial shampoo (*Figure 3*).

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Figure 2. Stimulating shampoo.

Foaming

Foaming test was carried out at 0.1% concentration of formulated product. The results show that foaming power and stability is better than commercial shampoo (Figure 4).

In vitro IRRITATION ASSAY SYSTEM

The developed formula was evaluated against commercial shampoo with the Irritation Assay System to predict the potential of ocular irritations. Ocular Irritation Assay results

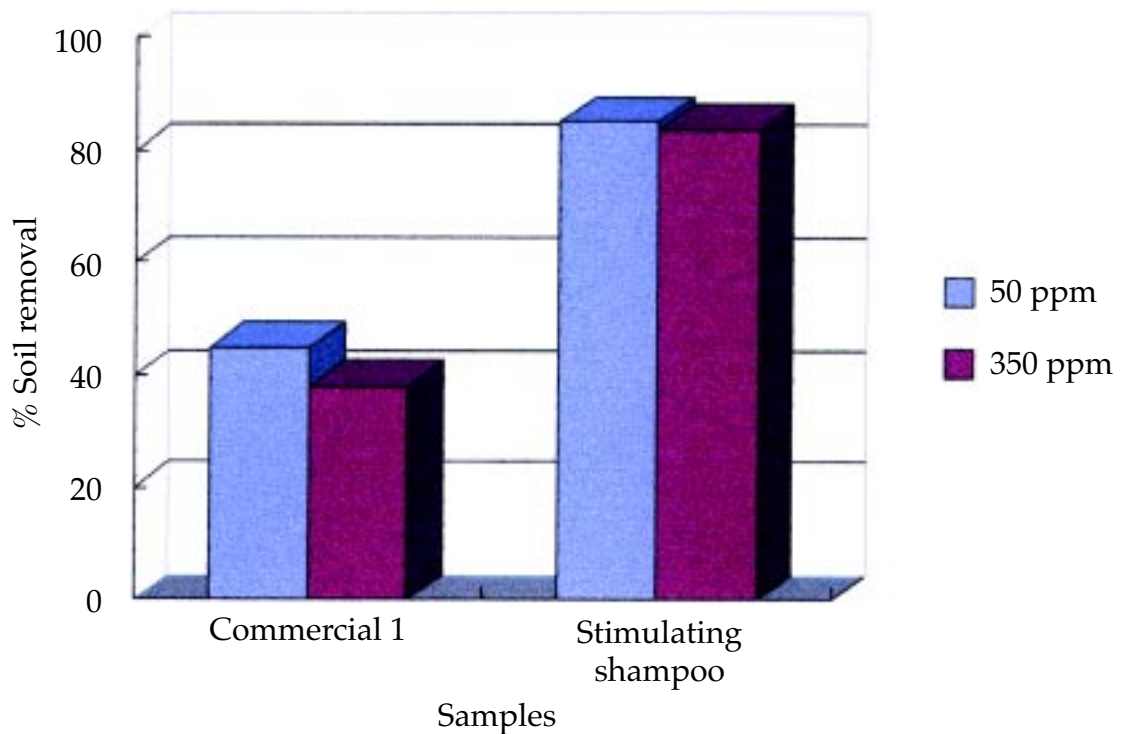


Figure 3. Detergency test (0.5% w/v) using silk (70C) at RT.

indicated that the formulated shampoo was classified as mild irritant and commercial shampoo was classified as minimal/mild irritant (Rosnah, 2003). Ocular Irritation Assay results are as indicated in Figure 5.

NOURISHING CONDITIONER

This product is formulated with 71.55% palm-based materials, hair conditioning agent and enriched with protein to help minimize the hair loss problem (Figure 6). This product is easy to

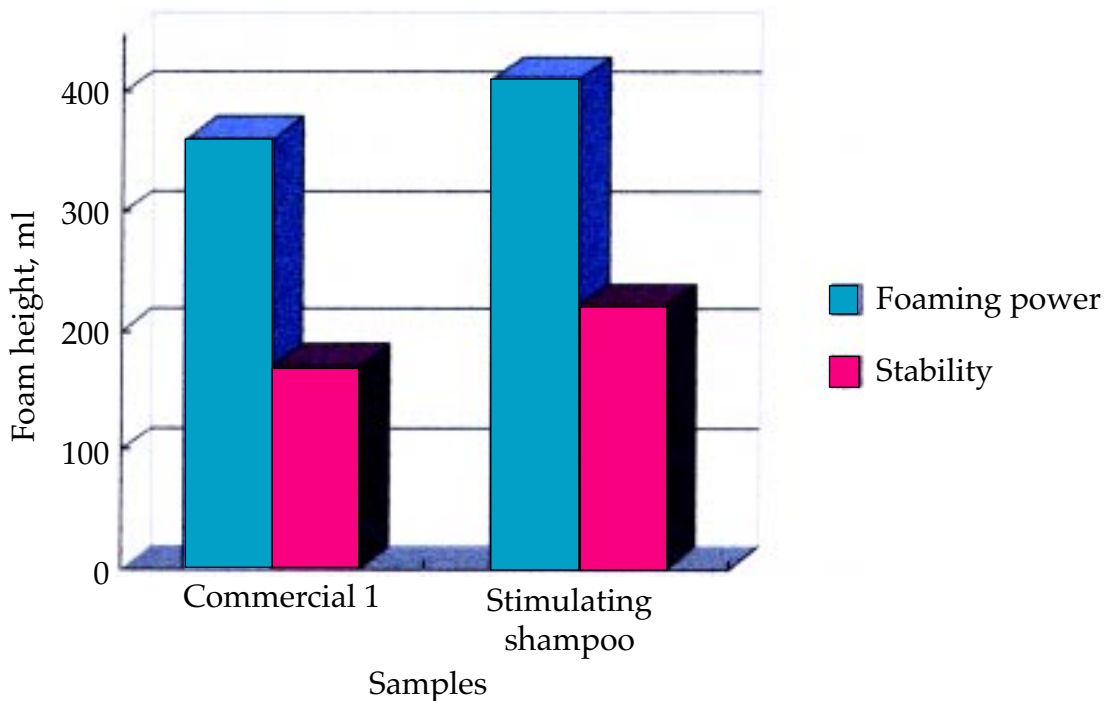


Figure 4. Foaming test (0.1% concentration) at 50 ppm water hardness.

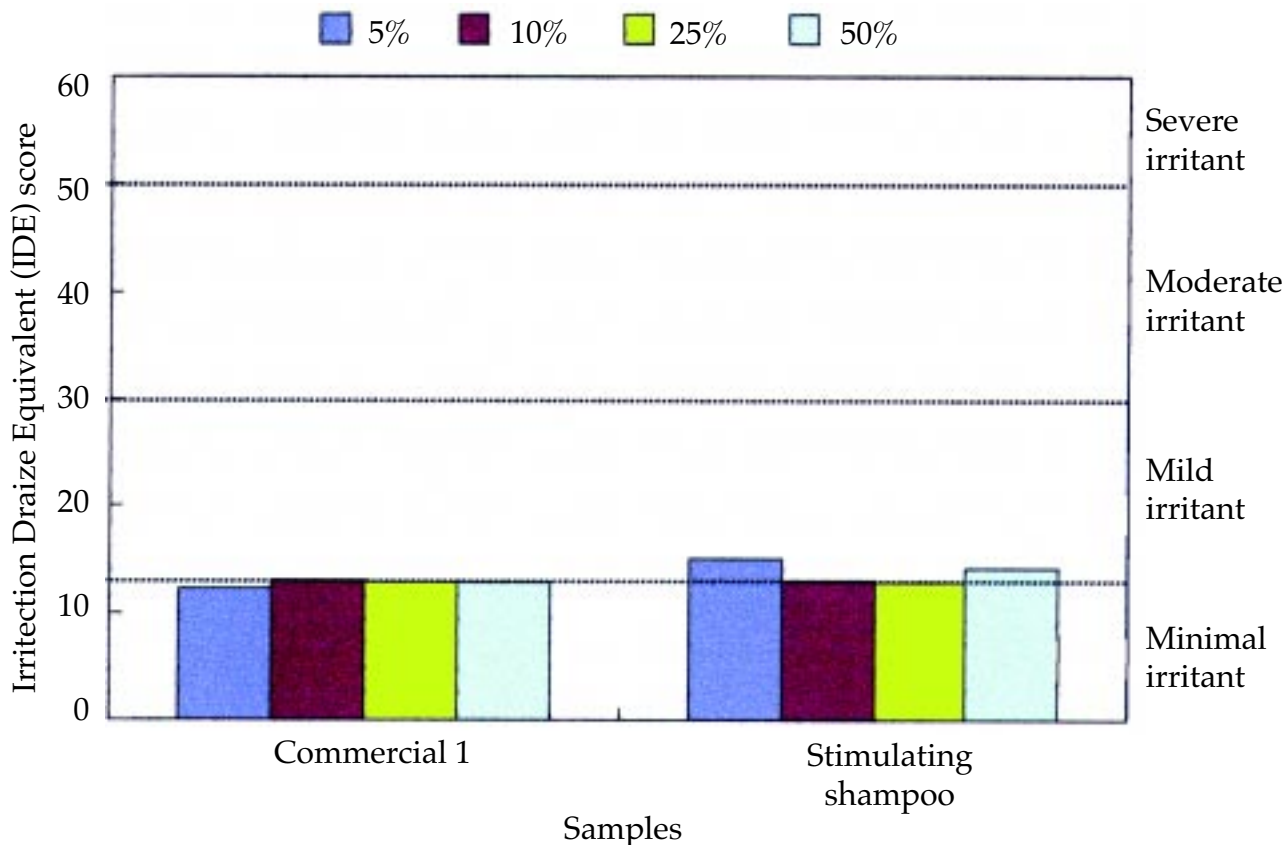


Figure 5. In vitro Ocular Irritation Assay System.



Figure 6. Nourishing conditioner.

apply and can improve manageability of hair and gives a lustrous shine as well.

CONCLUSION

These products can help to minimize the hair loss problem with the right combination of palm-based materials and protein as an active material.

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