

Formulation of an Organic Surf Wax

By Ashley Rozario

Introduction

The aim of this project was to formulate a quality surf wax using only organic materials. This organic surf wax will be a more “eco-friendly” alternative to paraffin-based surf waxes.

A surf wax is applied to the top deck of a surfboard to prevent the surfer from slipping off while riding a wave. The wax creates a rough coating that increases the surfer’s grip on the board. To achieve this, a surf wax must have certain properties. It should be hard, yet somewhat pliable to allow easy spreading of the wax onto the board to produce a bumpy wax coating. It should also be slightly sticky to enhance grip.

Materials and Methods

All sample waxes were made up to 100g using the same protocol. Each organic material was weighed out as a (w/w) percentage of 100g based on the desired formula. First beeswax was melted in the olive oil over a gentle heat, not exceeding 95°C. Then the remaining solid materials were added to the hot beeswax to be completely melted. The final liquid solution was poured into an aluminum container and was left to cool to a solid.

In total, 27 batch samples were made over four cook sessions to determine the effects of each organic material in the wax. This was done by slightly increasing or decreasing the proportion of each material over a series of batch samples.

All samples were compared to the paraffin-based surf wax to determine the closest match. The primary test was by touching and pressing the solid wax block. Organic samples that felt comparable with the paraffin-based control were spread across a wooden plank to observe its properties as a surface coating.

Almost all formulations were based on beeswax, due to its hardness and high melting point. Some soy wax was used to soften the wax and made it less brittle. A small portion of olive oil in the formula made the wax more pliable and easier to spread. Gum rosin made the wax sticky.

Results

[DELETED FOR CONFIDENTIALITY REASONS]

Table 1: Proposed formulae for organic surf wax

The results for formula A in Table 1 demonstrate that this organic wax formula, out of the 27 samples made, was most similar to the paraffin-based wax. Slight variations were designed to increase hardness by increasing beeswax (formulae B and D) or to increase adhesion by increasing gum rosin levels (formulae C and D). Ultimately, the wax made from formula D is more similar to the paraffin-based wax than the one made from formula A.

Conclusion

Using formula D, a large batch of organic surf wax bars will be made. These initial prototypes will be sent to surfers to be tested in real surfing environments. Based on their feedback, the formula can be further adjusted and optimized for use.