

The Use of Meadowlactone in Relaxers Summary of Research Results

Introduction:

In the process of formulating various skin care products to evaluate the activity of Meadowlactone, it was noted that in addition to the beneficial effects on skin conditioning, the lactone significantly improved the overall quality of the emulsion. It was therefore postulated that Meadowlactone when formulated into a relaxer may have two advantages, improved conditioning of the scalp and a more consistent "tighter" emulsion to provide uniform delivery of the active ingredient (e.g. lye).

Experimental design:

Meadowlactone was formulated into a standard relaxer base (see attached formula 43-70) at a level of 1.0%. The control relaxer contained an additional 1.0% water in place of the meadowlactone. The products were coded with random numbers and submitted to the salon for evaluation. In addition, swatches were used to provide additional information regarding the ability of the relaxer to straighten hair. Salon evaluations were accomplished using a "quarter-head design" such that the control and the test formulations are applied alternately to four quadrants of the head-form thereby keeping the resident relaxer time equal for both products. Processing time was 15-18 minutes. Subsequent to the lab-scale formulation, a scaled-up relaxer product containing 2% lactone was prepared for more extensive testing using contracted commercial salons.

Results:

Control relaxers, in this study as well as previous investigations, generally demonstrate a level of irritation of about 40-50% of the clients ranging from minor discomfort to severe irritation. Experience in our evaluation center indicates that for a standard lye relaxer, about 20% of the clients experience "significant irritation" while another 20-30% report milder sensation.

In the case of the relaxer formulated with 1-2% Meadowlactone, there were no cases of any irritation whatsoever, severe or mild. These studies ranged over several months of investigation and encompassed about 20 female clients.

The scaled-up product has been evaluated on a much larger population of clients with confirmatory results: better relaxation, improved emulsification of the product, and significantly reduced levels of irritation.

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In addition, the swatch tests demonstrated a very significant improvement in the straightening of the lactone-containing relaxer:

Effect of Meadowestolide and Meadowlactone on Relaxer Performance

Regular strength relaxer: (2.2% NaOH) for 15 min.

Control relaxer Relaxer with 2% Meadowestolide Relaxer with 2% Meadowlactone

30X 30X 30X

Significantly improved straightening, softer with more body

Fanning Evaluation Center

Meadowlactone, at a level of 2% in a relaxer, reduces or eliminates irritation to the scalp

Hair Fiber Cross Section

Cuticle Nuclear Remnant Microfibrils Macrofibrils Cortical Cell

FANCOR
The Fanning Corporation

Conclusion:

Meadowlactone can be a very valuable addition to relaxer systems providing at least three significant benefits:

1. Elimination/reduction of irritation
2. Improved straightening and better condition of the relaxed hair
3. Improved emulsion characteristics of the product

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