



An Assessment of Meadowfoam Seed Oil's Conditioning Effects on Hair Compared to Dimethicone

Background: Meadowfoam Seed Oil (MSO) is a fully refined triglyceride composed of approximately 95% fatty acids with chain lengths of 20 carbons or more. The oil is a light-colored, odor-free product prized for its exceptional oxidative stability and functionality in a wide range of cosmetic and personal care formulations.

Objective: To evaluate MSO conditioning effects on hair compared to 1000 cSt dimethicone.

Note: Meadowfoam Seed Oil XPR and Meadowfoam Seed Oil can be used interchangeably.

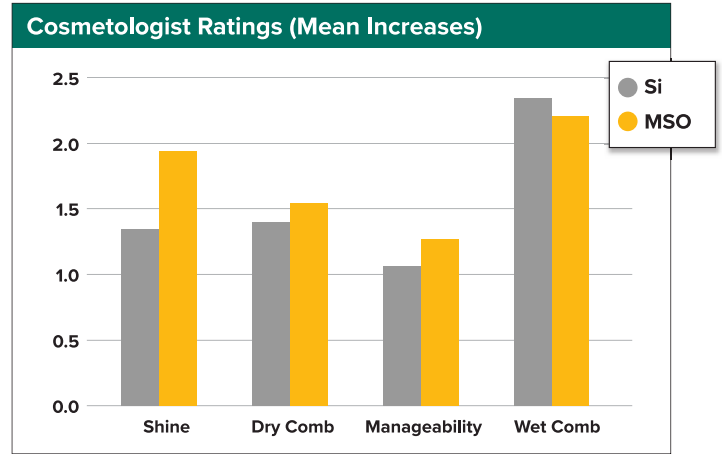
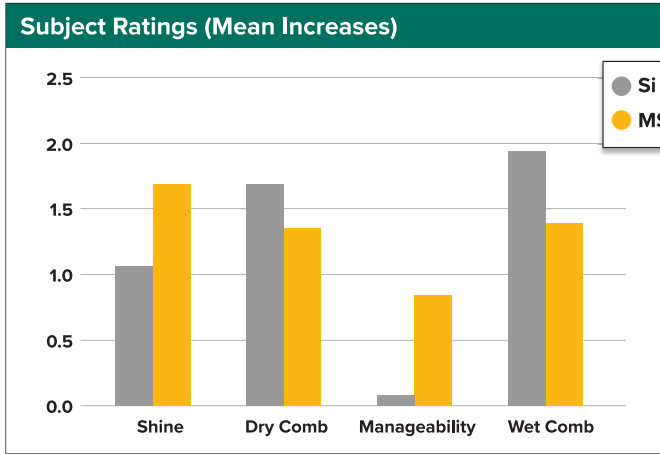
MSO Hair Conditioning: Test Formulation

Ingredient	INCI	Function	%
Incroquat Behenyl TMS	Behentrimonium Methosulfate (and) Cetearyl Alcohol	Conditioner	4.0
GE SF 95 -1000 or Meadowfoam Seed Oil	Dimethicone or Limnanthes Alba (Meadowfoam) Seed Oil	Emollient	5.0
Deionized Water	Water	Solvent	89.3
Jaguar C-14S	Guar Hydroxypropyltrimonium Chloride	Viscosity Control Agent	0.3
Citric Acid (25% aqueous solution)	Citric Acid	pH Control Agent	0.2
Phenobact	Phenoxyethanol (and) Methylparaben (and) Propylparaben (and) Butylparaben (and) Ethylparaben	Preservative	1.0
Herbalesse #116778	Fragrance	Fragrance	0.2
Colorants	Color	Color	QS

MSO Hair Conditioning: Protocol

- N=15 subjects, male and female, age range 18-69
- Half head study comparing control (1000 cSt dimethicone) formula and test formula
- Ratings by subject and cosmetologist
- Laboratory: Essex Testing (New Jersey)
- Four criteria scored 1-10 (poor to excellent)
 1. Shine
 2. Dry Comb
 3. Manageability
 4. Wet Comb
- **Evaluation:** Paired, two tail t-test

MSO Hair Conditioning: Subject and Cosmetologist Ratings



MSO Hair Conditioning: Summary Table

SUBJECT RATINGS	Silicone Control			MSO			p-Value
	Pre-App	Post-App	Difference	Pre-App	Post-App	Difference	
Shine	5.0	6.1	1.1	4.7	6.4	1.7	0.12
Dry Comb	7.9	9.6	1.7	7.8	9.1 <svg	1.3	0.43
Manageability	6.6	6.7	0.1	5.9	6.7	0.9	0.13
Wet Comb	7.7	9.6	1.9	7.9	9.3	1.4	0.12

COSMETOLOGIST RATINGS	Silicone Control			MSO			p-Value
	Pre-App	Post-App	Difference	Pre-App	Post-App	Difference	
Shine	5.0	6.1	1.1	4.7	6.4	1.7	0.12
Dry Comb	7.9	9.6	1.7	7.8	9.1	1.3	0.43
Manageability	6.6	6.7	0.1	5.9	6.7	0.9	0.13
Wet Comb	7.7	9.6	1.9	7.9	9.3	1.4	0.12

MSO Hair Conditioning: Conclusions

- No statistically significant difference between changes in criteria in either panelist or cosmetologist ratings
- No loss in perceived benefits when MSO was substituted for dimethicone (1000 cSt)
- Perception that shine increased with substitution was consistent across both panelists and cosmetologists, but did not meet criteria for significance

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