



# Functionality with Jojoba-Derived Ingredients

## Increased Skin Hydration and Consumer Preference with Floraesters

Tiffany N. Oliphant, B.S., C.R.C.<sup>1</sup> and Robert A. Harper, Ph.D.<sup>2</sup>

<sup>1</sup>Floritech, Chandler, AZ USA <sup>2</sup>Harper & Associates, La Jolla, CA USA

### ABSTRACT

Small, controlled, clinical studies were carried out to explore the benefits associated with incorporating jojoba esters or hydrolyzed jojoba esters into personal care formulas. The first study compared Floraesters<sup>®</sup> 20 and Floraesters 60 [INCI: jojoba esters], at 2%, to marketed petrolatum alternatives, at 5%, in simple lotion formulas. After one application, the lotion formulas that contained jojoba esters produced more skin hydration than those that contained any of the marketed petrolatum alternatives, and produced results that were similar to petrolatum at 10%. In a second study, the lotion formula containing Floraesters 20 was compared to one of the marketed petrolatum alternative ingredients in a consumer preference study and the formula with jojoba esters prevailed in regards to perceived skin moistness, suppleness, smoothness/softness, greasiness, residue, and stickiness. In the third and fourth studies, Floraesters K-20W Jojoba [INCI: hydrolyzed jojoba esters (and) water (aqua)] and Floraesters K-100 Jojoba [INCI: hydrolyzed jojoba esters (and) jojoba esters (and) water (aqua)] were incorporated into non-woven wipes. The wipes that contained hydrolyzed jojoba esters were then compared to marketed hydro-alcoholic and non-alcoholic based wipes in their ability to hydrate the skin. After one application, the wipes that contained the hydrolyzed jojoba esters resulted in higher levels of skin hydration in all cases. These studies demonstrate how jojoba-derived ingredients can provide added functionality to multiple categories of personal care products.

### CONTACT

Tiffany Oliphant  
 CTL / Clinical Services Manager  
 Floritech  
 Email: sales@floratech.com  
 Phone: 480-545-7000  
 Website: www.floratech.com

### Increased Skin Hydration with Floraesters 20 / 60

**Purpose:** to compare the skin hydration potential of Floraesters 20 and Floraesters 60, when added to a lotion formula, to other marketed petrolatum alternative ingredients

**Design:** one application of each experimental lotion was applied to test sites on dry lower legs of 11 healthy subjects

**End Point:** increased skin hydration measured by the Corneometer<sup>®</sup> CM 825 over four hours (Figure 1)

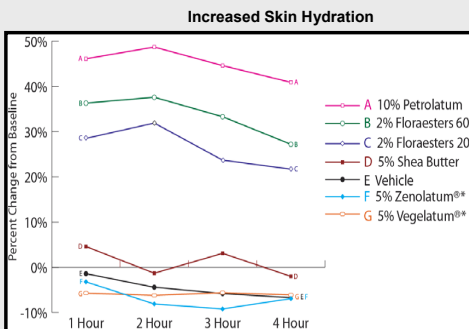


Figure 1. The test articles containing Floraesters 60 and Floraesters 20 increased skin hydration better than the vehicle and all other petrolatum alternatives at all time points (p<0.05, Floraesters 60).

### Increased Consumer Preference with Floraesters 20

**Purpose:** to ascertain consumer preference between a lotion formula containing Floraesters 20 and a lotion formula containing Vegetatum

**Design:** one application of each experimental lotion was applied to the backs of the hands of 25 healthy subjects

**End Point:** consumer preference survey immediately following application (Figure 2)

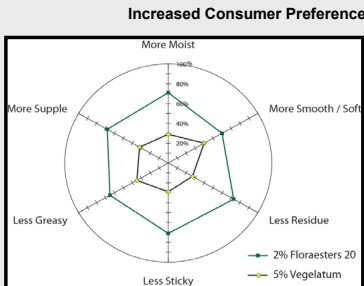


Figure 2. The test article containing Floraesters 20 was preferred over the Vegetatum formula in all cases.

### Increased Skin Hydration with Floraesters K-20W and K-100 Jojoba

**Purpose:** to evaluate the skin hydration potential of Floraesters K-20W Jojoba and Floraesters K-100 Jojoba in conjunction with glycerin (1%), when added to hydro-alcoholic and non-alcoholic based nonwoven wipe solutions

**Design:** one application of each experimental wipe was applied to dry lower legs of twelve healthy subjects

**End Point:** increased skin hydration as measured by the Corneometer CM 825 over two to four hours (Figure 3)

### Hydro-Alcoholic Nonwoven Wipes - Increased Skin Hydration

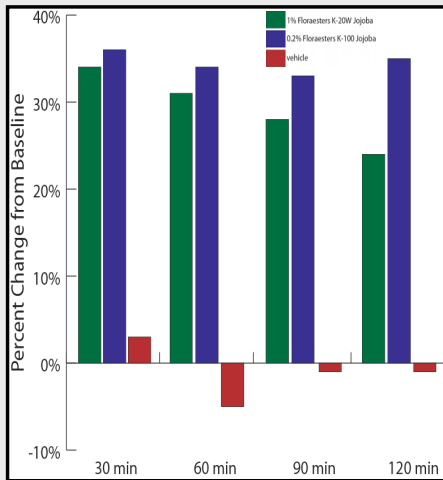


Figure 3. The addition of 1% Floraesters K-20W Jojoba or 0.2% Floraesters K-100 Jojoba produced statistically significant (p<0.05) increases in skin hydration over the vehicle at all time points.

### Non-Alcohol Based Nonwoven Wipes - Increased Skin Hydration

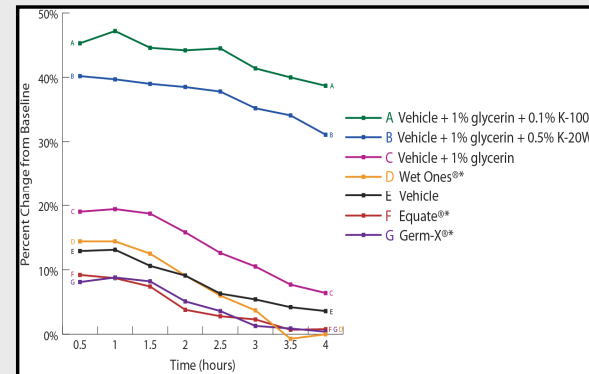


Figure 4. The addition of 0.5% Floraesters K-20W Jojoba or 0.1% Floraesters K-100 Jojoba produced statistically significant increases (p<0.001) in skin hydration over the vehicle + 1% glycerin and over baseline at all time points. The Floraesters K-20W Jojoba and Floraesters K-100 Jojoba products also performed statistically significantly (p<0.05) better than Wet Ones, Germ-X, and Equate.

### CONCLUSIONS

- Jojoba esters and hydrolyzed jojoba esters produce beneficial effects when formulated into different types of products.
- Floraesters 20 and 60 can increase skin hydration when added to a lotion formula.
- Floraesters 20 and 60 outperformed three other petrolatum alternatives, Zenolatum, Vegetatum, and Shea Butter, in increasing skin hydration.
- Floraesters 20 and 60 produced similar results with regard to increasing skin hydration when compared to 10% petrolatum.
- Floraesters 20 was preferred over Vegetatum in a consumer preference study.
- Floraesters K-20W and K-100 Jojoba increased skin hydration when incorporated, in combination with glycerin, into hydro-alcoholic non-woven wipes and non-alcoholic non-woven wipes.

Floritech the  
Natural Solution

Offering unique oil derivatives and specialty  
plant-derived cosmetic ingredients.

Botanical - Stable - Functional



# Functionality with Jojoba-Derived Ingredients

## Increased Skin Hydration and Consumer Preference with Floraesters

Presented by: Tiffany N Oliphant, B.S., C.R.C.,  
and Robert Harper, Ph.D.

## iLabel™ - Floratech Information Instantly

**iLabel** brings you valuable product information instantly. It provides lot-specific information such as material safety data sheets, certificates of analysis, specifications, safety statements, product information, and links to featured formulas for standard Floratech products. In essence it is an extension of the label - what we would have put on the label if it could fit.

**iLabel** saves you time by providing instant access to both critical and helpful documents to assist your regulatory and formulation requirements.

**iLabel** does not require registration, passwords or login. It is simply there to serve you.

Please visit [www.floratech.com/info](http://www.floratech.com/info) to use iLabel.

For the Society of Cosmetic Chemists  
2010 Technology Showcase

December 9<sup>th</sup> – 10<sup>th</sup>, 2010  
New York, NY

**iLabel™** Direct Access To The FloraTech Ingredient Database by Lot Number

INSTANT INFORMATION ON STANDARD FLORATECH INGREDIENTS

Enter Lot Number:

Please direct inquiries and comments to Floratech:  
email: [sales@floratech.com](mailto:sales@floratech.com)  
phone: + 1 480 545 7000  
fax: + 1 480 892 3000

**FLORATECH**  
[www.floratech.com](http://www.floratech.com)

© Copyright 2010, International Flora Technologies, Ltd., All Rights Reserved. Patent Pending.



Contact: [sales@floratech.com](mailto:sales@floratech.com)