

# Organoleptic Characteristics of Flavor Materials

By Gerard Mosciano



There are several reasons why I taste every day, whenever possible.

First, because it was a part of my initial training. L. Strasburger, my first mentor, tasted two ingredients every day, and managed to taste every approved ingredient once every two years, and every newly approved ingredient as they became available. He stressed that added

flavor experience lets one see additional potential applications for any flavor ingredient.

Second, because I'm convinced that it is a great training tool. When the tasting group has several senior flavorists and an assortment of technicians and apprentices, it gives everyone a chance to develop a common descriptive language and a great means to tap into the group's flavor experience. It also allows one to see what he or she has missed.

Third, because I am always looking for something newer and better. Today, with the emphasis on natural flavors, there has been an exceptional improvement in naturally derived fruit and botanical products and their essences, isolates and fractions. There has been a continual improvement in the technology and processes used to produce today's natural products, resulting in greater fidelity, more intensity and typically lower usage costs. Because natural products are source-specific, one must evaluate several sources to find the best product.

And, finally, because I strongly feel that tasting and evaluating new flavor ingredients hones your tasting skill.

Gerard Mosciano is joined by Wayne Pohero, Chris Hansen; Judith Michalski, chief creative flavorist, Silesia Flavors; Carl Holmgren, chief creative flavorist, director of flavor development, Brooklyn by Perfetti Ltd.; and Douglas Young, senior creative flavorist, Dragoco, in the organoleptic evaluations presented here.

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I have been consolidating my flavor ingredient database and came across some recent organoleptic evaluations of citrus products. Some of the newer sources are quite surprising; they are not from companies usually associated with citrus ingredients. Some of the newer sources are the same as the previous sources, but the ingredients are totally new and quite novel. Some of the sources are brand new and their products are unique and very exciting.

I have collected the following as examples:

## Organoleptic Evaluations

Orange Oil Sesquiterpeneless

*Source:* Berje

*Odor:* @ 1.0%. Citrus, sweet aldehydic orange with a heavy floral peely character. The material has fatty and waxy notes on dry-out.

*Taste:* @ 25 PPM. Fatty, aldehydic, sweet orange with a good citrus body. The oil has peely and green nuances.

*Possible Applications:* Baked citrus applications, citrus beverages (for stability), tropical nuances, fruit punches (for depth notes).

## Orange Juice Natural Extract

*Source:* Polarome

*Odor:* @ 100%. Sweet fresh juicy orange, slightly peely with a fruity pulpy and an aldehydic nuance.

*Taste:* 0.1% + 5% Sugar + 0.1% Citric Acid. Juicy, sweet fresh pulpy orange with a slightly peel tangerine nuance.

*Possible Applications:* Pulpy orange juice notes for beverages and punch drinks.

## Clementine Oil

*Source:* The Lebermuth Co.

*Odor:* @ 1.0%: Sweet, citrus, juicy orange, mandarin and tangerine with a tangy peely nuance. The clementine oil has a refreshing fresh-fruity apricot note.

*Taste:* @ 10 PPM + 5% Sugar + 0.1% Citric Acid. Sweet juicy citrus, orange, mandarin, tangerine body with fruity aldehydic apricot and peach nuances.

*Possible Applications:* Fruit punches, citrus punches, mandarin and tangerine notes sweet orange nuances; tropical notes, apricot and peach flavors.

## Lime Oil 4x Expressed

*Source:* Florida Treatt

*Odor:* @ 100%. Fresh, green, sweet juicy lime, with citral and  $\alpha$ -terpineol notes.

*Taste:* @ 15 PPM + 5% Sugar and 0.1% Citric Acid. Fresh,

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juicy lime, clean, lingering, with a bright body.  
*Possible Applications:* Lemon, lime, tropical nuances, fresh notes for mint.

### **Lemon Volatile Fractions**

*Source:* Florida Treatt

*Odor:* @ 100%. Sweet ethereal lemon, citrus like with an impacting acetaldehyde top note and pulpy juicy body nuances.

*Taste:* @ 50 PPM + 5% Sugar + 0.15% Citric Acid. Fresh tangy lemon juice with tangy fruity nuances and a clean citrus peel aftertaste.

*Possible Applications:* Lemon juice enhancers and top notes for beverages, citrus additives

### **Lime Volatile Fraction**

*Source:* Florida Treatt

*Odor:* @ 5.0% Sweet, juicy citrus lime with a fresh tangy top note and a green Terpeneol nuance.

*Taste:* @ 50 PPM with 5% sugar and 0.15% CA. Fresh juicy lime with pulpy citrus terpy nuances.

*Possible Applications:* Lemon and Lime beverage top notes, mint enhancers.

### **Orange Oil Terpene Free**

*Source:* Artech International

*Odor:* @ 1.0%. Sweet orange with fruity, juicy, aldehydic, citrus and woody nuances.

*Taste:* @ 10 PPM + 5% Sugar + 0.1% Citric Acid. Sweet orange, aldehydic, juicy, peely, fresh waxy with an interesting orange syrupy marmalade nuance.

*Possible Applications:* Orange beverages, fruit punches, baked applications.

### **Orange Essence Oil Terpene Free**

*Source:* Artech International

*Odor:* @ 1.0%. Sweet, fresh orange juice with a citrus body and a valencene-like woodiness on dry-out.

*Taste:* @ 10 PPM + 5% Sugar + 0.1% Citric Acid. Sweet, juicy orange, peely, slightly waxy with a lingering tangerine like nuance.

*Possible Applications:* Orange juice top notes, orange and other citrus beverages, fruit punch notes.

### **Grapefruit Oil Natural Hydrocarbon Free**

*Source:* Artech International

*Odor:* @ 1.0%. Citrus, sweet juicy grapefruit with fresh, juicy, aldehydic notes and with a wonderful characterizing pulpy sulfurous top note.

*Taste:* @ 10 PPM + 5% Sugar + 0.1% Citric Acid. Fresh, grapefruit body with juicy, pulpy citrus and tropical nuances.

*Possible Applications:* Grapefruit and orange beverages, citrus and tropical nuances.

### **Grapefruit Key Natural**

*Source:* International Flavors and Fragrances Inc.

*Odor:* @ 100%. Sweet, citrus, orange, fresh grapefruit, with tropical mango, berry and peach nuances.

*Taste:* @ 10 PPM. Sweet fresh grapefruit juice, aldehydic, citrus, rindy with a slight terpy nuance.

*Possible Application:* Grapefruit top notes, peach, tropical fruits, lemon and orange beverages.

**Menthene-8-Thiol, Grapefruit Mercaptan, Pardiff Grapefruit Oil Natural**

*Source:* International Flavors and Fragrances Inc.

*Odor:* @ 0.01%. Grapefruit, citrus, thiomenthone, cooling, rindy, juicy with nootkatone nuances.

*Taste:* @ 0.01PPM. Fresh squeezed grapefruit juice, nootkatone-like bitterness with tropical and citrus nuances.

*Possible Applications:* Grapefruit and orange juice, raspberry, black currant, grape and cranberry.

**Lemon Essence Oil**

*Source:* Sunkist

*Odor:* @ 100%. Sweet, lemon/lime, fresh juicy candy citral with a slight floral nuance.

*Taste:* @ 10 PPM + 5% Sugar + 0.1% Citric Acid. Sweet juicy fresh lemon, lemonade, citral-like with a candy citrus nuance.

*Possible Applications:* Lemon beverages, lime booster for beverages, citrus punches.

**Orange Aroma, Water Phase Essence**

*Source:* Sunkist.

*Odor:* @ 100%. Pungent, ethereal orange juice with a fresh green estry aldehydic citrus note with a waxy nuance.

*Taste:* @ 100 PPM + 5% Sugar + 0.05% Citric Acid. Fresh orange juice with tangy citrus and fruity nuances.

*Possible Applications:* Orange juice top note, citrus punches and lemon grapefruit juice enhancer.

**Orange Essence Oil**

*Source:* Sunkist

*Odor:* @ 100%. Juicy orange, citrus like with fresh aldehydic pulpy body notes and a fresh tangerine nuance.

*Taste:* @ 10 PPM + 5% Sugar + 0.05% Citric Acid. Juicy orange with sweet rich aldehydic pulpy notes and a heavy waxy citrus nuance.

*Possible Applications:* Orange juice enhancers, fruit punches and citrus blends.

These products represent some of the most advanced extraction, distillation and separation technology. Their availability will definitely improve the fidelity and character of the products in which they will be applied. I know, from my own experience, what I would have given to have had any of these materials in my raw material book. ■