Evaluation of Aromatic Attributes of Fragrances with Different Preparation Methods

Poster #44

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Introduction

- Fragrance industry is an important part of beauty product and cosmetics industry
- Aromas are incorporated into products to generate more recognizable products
- There is little research and literature concerning the preparation methods for fragrance evaluation

Objective

The objective of this study was to
- explore the effect of three different preparation methods on aromatic attributes of fragrances

Materials and Methods

- Six fragrances were selected for this study (Lotus Perfumery, Cairo, Egypt):
  - Lily of the Valley
  - Almond oil
  - Orange Blossom
  - Cumin oil
  - Musk
  - Amber

- 6 highly trained panelists at the Sensory Analysis Center (Manhattan, KS, USA) evaluated the 6 fragrances and determined aroma characteristics intensities using a scale from 0 to 15 with 0.5 point increments.

- 3 methods were used for samples preparation:
  - Sniffing glass/snifter (2 drops on a cotton ball in 11.5oz glass, covered)
  - Perfumer's strip/strip (1/2" dipped, strip stored in capped test tube)
  - Amber vial/vial (8 ml fragrance in 20 ml vial, capped)

- All samples were labeled with a 3-digit code and evaluated in a randomized order
- Reference materials were provided for each attribute

Results

Descriptive Analysis

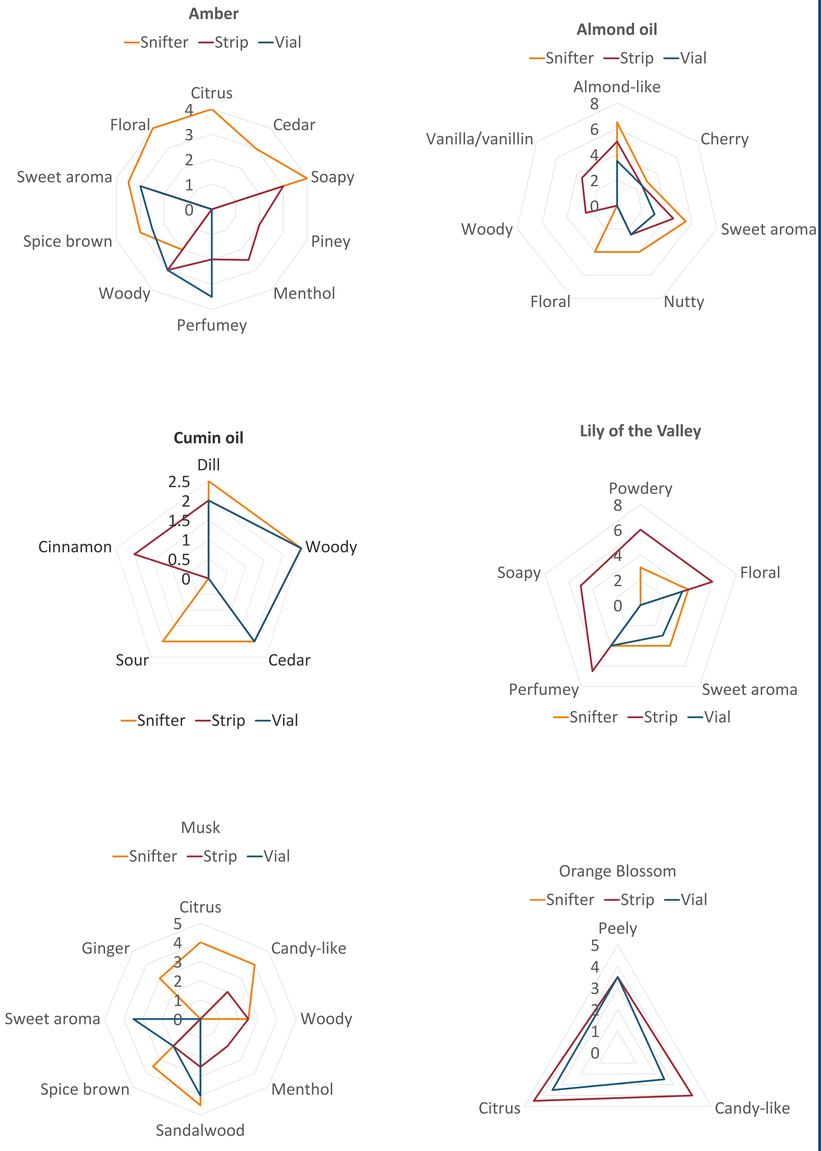

Figure 1. Descriptive sensory analysis results for 6 fragrances using 3 preparation methods. Orange blossom sample snifter and strip scores overlap.

Results

Descriptive Analysis

- Number of attributes found in samples varied from 3 to 10 (Figure 1)
- The intensity of attributes varied from 0 to 6.5 (scale 0 to 15)
- Generally the number of attributes detected was larger with snifter and strip methods

Amber
- Amber fragrance was the most variable fragrance among the three methods
- Seven attributes were detected using the snifter method, six attributes for the strip method, and four attributes for the vial method
- Woody and sweet aroma were detected with all 3 methods

Almond Oil
- Strip method provided six, snifter five, and vial with 4 attributes
- Highest intensities were found with the snifter method

Cumin Oil
- For all methods, woody, cedar, and dill attributes were detected
- Cinnamon was detected in the strip method and sour in the snifter method only

Lily of the Valley
- Four attributes were detected from the snifter and strip method and three attributes from the vial method
- Floral and perfumey were found with each method

Musk
- Snifter method resulted in six, strip in five, and vial method in three attributes.
- Sandalwood and spice, brown were the only two attributes that were detected in each preparation method.

Orange Blossom
- Orange Blossom fragrance was the most consistent among the three different preparation methods.
- Three attributes were identified for the preparation methods: citrus, peely, and candy-like.

Conclusions

- Preparation method has an effect on the number and intensity of perceived attributes in fragrances
- Overall strip and snifter methods provided more information than the vial method