



Highlighting important attributes of edible flowers

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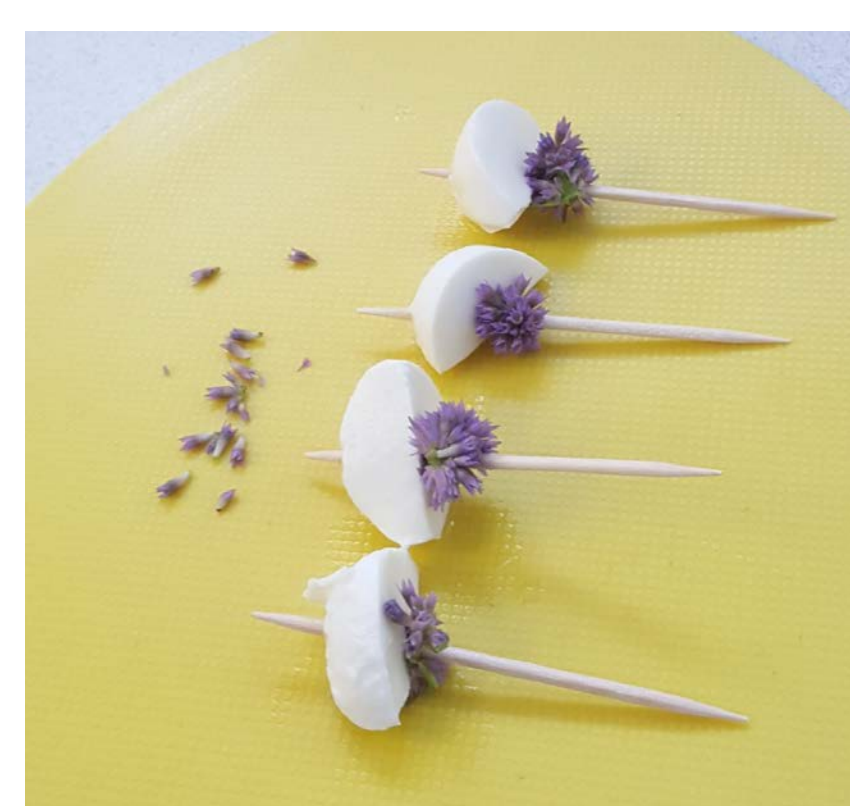
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Introduction

Rising consumer interest in food culture has dramatically impacted mainstream culinary trends. Edible flowers, such as violas and nasturtiums, have been used by professional chefs for years as garnishes or to give dishes a signature flavour. Now these ingredients are gaining popularity in home kitchens. Despite this interest, most consumers have a limited familiarity with edible flowers and it is unknown what may drive preferences.

Materials

- Obtained potted edible flowers from local grower
- 10 flowers used for sorting task, seven used for consumer tests
- Flowers picked off immediately before serving
- Served on bocconcini cheese in sample cups with three-digit codes
- Visual evaluation used potted edible flowers



Methods

Hedonic testing

- Recruited 212 herb purchasers from the Greater Toronto Area (GTA)
- Evaluated liking using a seven-point hedonic scale
- Participants completed demographics and purchase habits questionnaire
- Participants evaluated the aesthetic appeal of the flowers by observing potted versions of the edible flowers and indicating their most and least liked product
- Data collected using EyeQuestion software (Logic 8).

Flower profiling

- Members of a trained sensory panel (n=10) used free multiple sorting to profile flowers
- Flowers profiled with and without carrier cheese

Data analysis

- Data analysis completed in XLStat (Addinsoft)
- Consumers segmented using hierarchical cluster analysis
- Liking scores analysed by one-way ANOVA with Welch statistic and Games-Howell for multiple comparisons
- Visual evaluations were analysed by best-worst score
- Sorting data analysed using multiple correspondence analysis

Results

Table 1. Liking scores for seven edible flowers (n=212). Lettering within a column indicates significant differences.

Segment 1 (56%)		Segment 2 (44%)	
Product	Mean liking	Product	Mean liking
Flower 5	4.63 ^a	Flower 3	5.30 ^a
Flower 1	4.31 ^{ab}	Flower 4	5.14 ^{ab}
Flower 7	4.24 ^{abc}	Flower 2	4.76 ^{ab}
Flower 6	4.03 ^{bcd}	Flower 6	4.61 ^{bc}
Flower 4	3.73 ^{cd}	Flower 7	4.07 ^{cd}
Flower 2	3.54 ^d	Flower 5	3.65 ^d
Flower 3	3.53 ^d	Flower 1	3.48 ^d

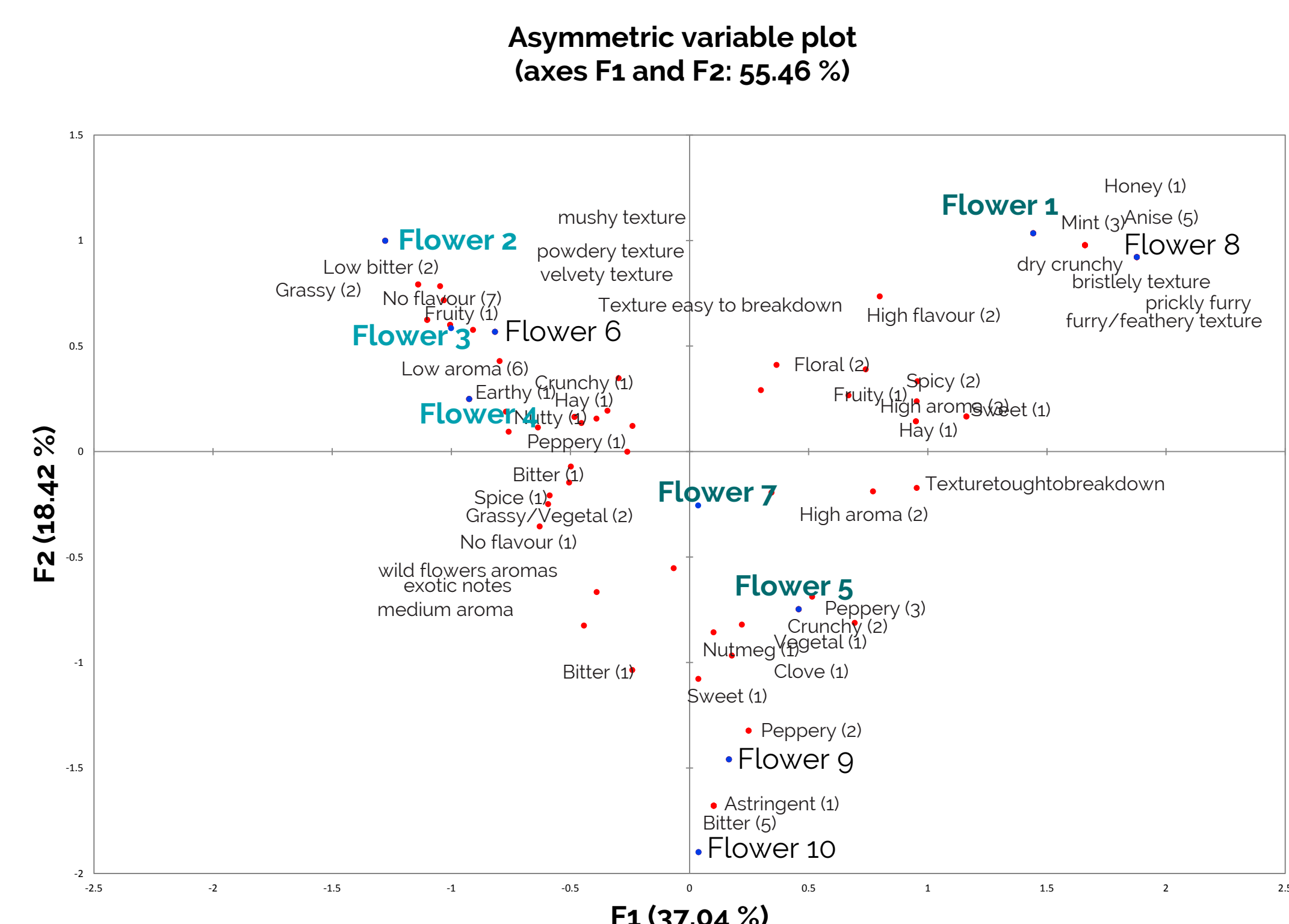


Figure 1. Results of free multiple sorting of edible flowers on bocconcini cheese.

Table 2. Best-worst scores for visual evaluation of seven potted edible flowers (n=212).

Product	Most	Least	Total	Best-worst score
Flower 7	77	5	82	0.88
Flower 3	27	5	32	0.69
Flower 5	24	5	29	0.66
Flower 4	33	12	45	0.47
Flower 2	14	7	21	0.33
Flower 6	11	6	17	0.29
Flower 1	5	93	98	-0.90

Conclusions

- Two consumer segments: 1) Segment 1: Prefers bold flavours, crunchy/bristly textures, 2) Segment 2: Prefers smooth texture, absence of flavour
- Most visually appealing flower was only moderately liked for taste
- Top flowers liked for taste were well liked for appearance