Flavor taste specification to generate productivity and guide flavor choice

FLAVOR MANAGEMENT MADE EASY | FLAVOR OFFERING MADE TRANSPARENT | FLAVOR BENCHMARKING MADE POSSIBLE

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Today, flavors are not specified for their most important attribute, their taste. As a result, leveraging your own flavor collection is difficult, access to market remains based on relationship and flavor choice is iterative and cumbersome.

iSense AG CEO Mathieu Asté explains how sensory analysis applied to flavors makes flavor collection management easier. You will also discover iSense functions of SEARCHING, COMPARING, BENCHMARKING, RATIONALIZING and MAPPING flavors.

Scaling sensory methodologies to specify the taste of flavors

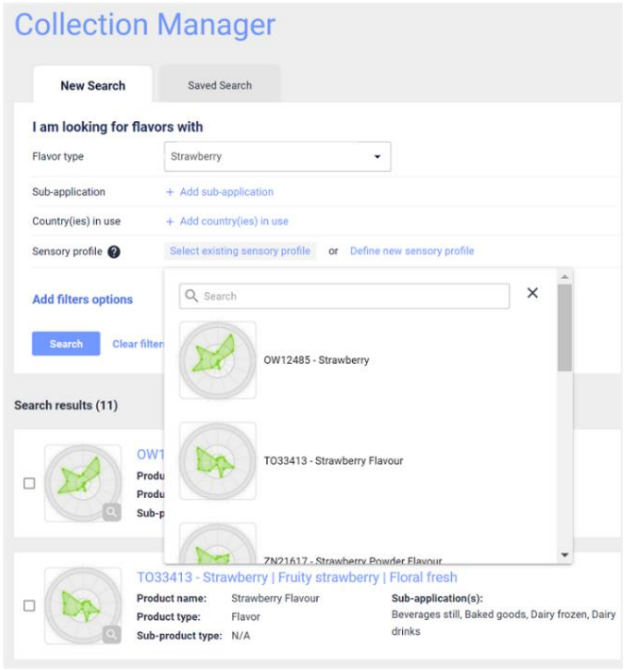
iSense evaluates flavors in tasting solution (simple water based standardized solutions which are either sweetened or acidified) with the support of EUROFINS|SAM[1]. Specifying the taste of Strawberry, Vanilla, Butter, Milk, Cream, Citrus, Chocolate and Coffee flavors is already possible.

iSense sensory panels are properly trained for each of the above flavor types and follow best in class sensory procedures. To get your flavors specified for their taste, it is as simple as sending a 30ml/30g flavor sample to iSense lab in France.

SEARCHING for flavors

iSense flavor collection manager centralizes all your flavors in one private and protected place with a controlled access. It helps to find and select flavor profiles quickly. Searching flavors on the spot with customers is possible. Leveraging your own collection becomes easy.

Visual 1
Specified flavor profiles from your collection manager
Making flavor search easy



[1] https://www.eurofins-sam.com/

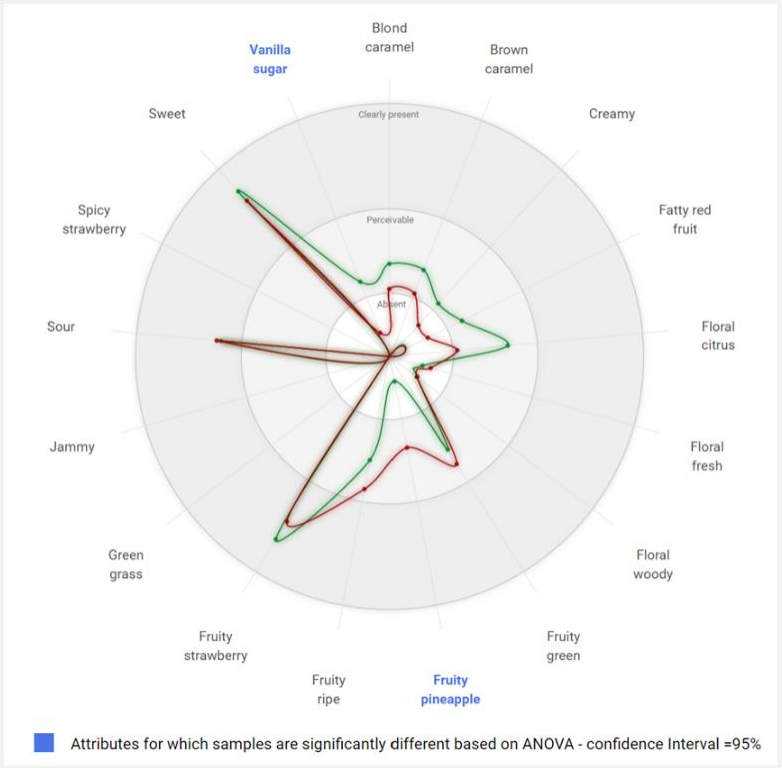
If the desired profile is not in your collection, save your search and extend it to the marketplace. The right flavor will appear. If still not there, brief your preferred flavor house with a detailed profile request.

COMPARING flavors

iSense standardized sensory data makes comparison possible and reliable. The built-in ANOVA[2] test shows the significant differences between flavors, guiding flavor choice and generating flavor insights.

What makes a particular flavor unique? iSense highlights the attributes which are the most different and helps you to progress quicker with your developments.

Visual 2
Objective comparison of flavors across suppliers, with built-in ANOVA



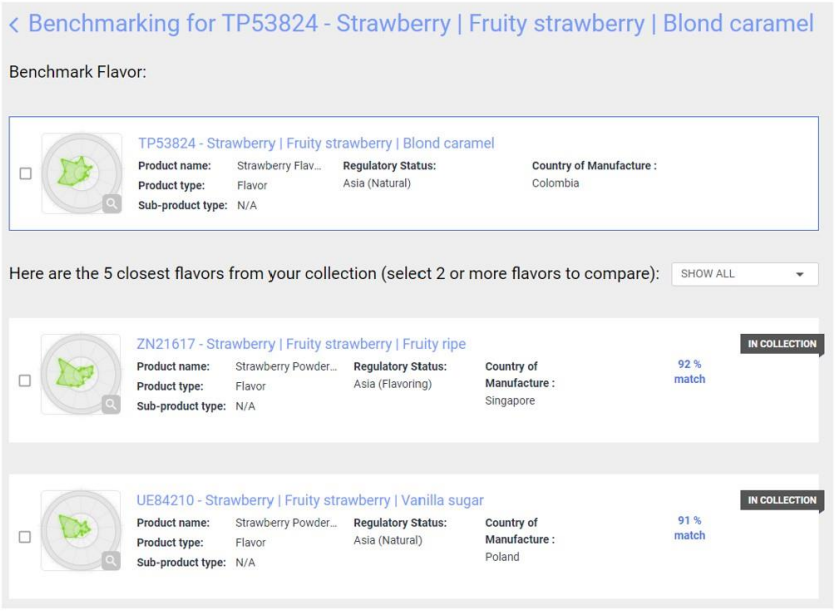
BENCHMARKING flavors

The benchmarking function helps you to find the closest flavors to your flavor sample based on Euclidian distance[3].

The output consists in the 5 closest flavors from your own collection or the 10 closest flavors from your collection and the marketplace. This is a starting point to rationalize your collection, accelerate matching or find contingency suppliers.

[2] ANOVA test - https://link.springer.com/content/pdf/bbm%3A978-1-4419-7452-5%2F1.pdf
[3] EUCLIDIAN DISTANCE -https://link.springer.com/content/pdf/bbm%3A978-1-4419-7452-5%2F1.pdf

Visual 3
Flavor benchmarking with Euclidian Distances

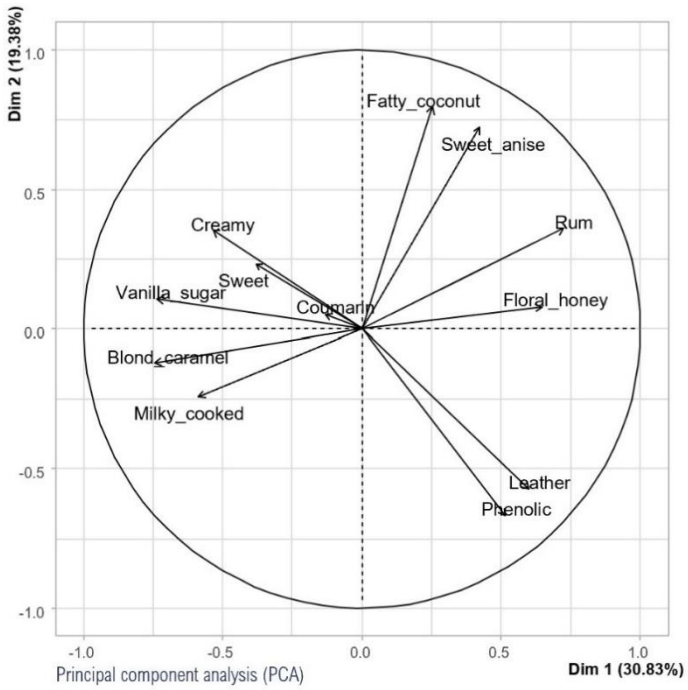


RATIONALIZING flavors

Whether your flavor collection is complex and/or scattered, it is now centralized on the iSense cloud-based collection manager. As you specify flavors, iSense can map and cluster them using principal component analysis (PCA)[4] and Agglomerative hierarchical clustering (AHC)[5].

The visual 4 shows one of the outputs of a PCA run with 132 vanilla flavors from the whole world. The circle of correlation indicates that the flavors are well discriminated and that descriptors are well differentiated.

Visual 4
iSense vanilla sensory landscape PCA - CIRCLE OF CORRELATION 132 flavors & extracts



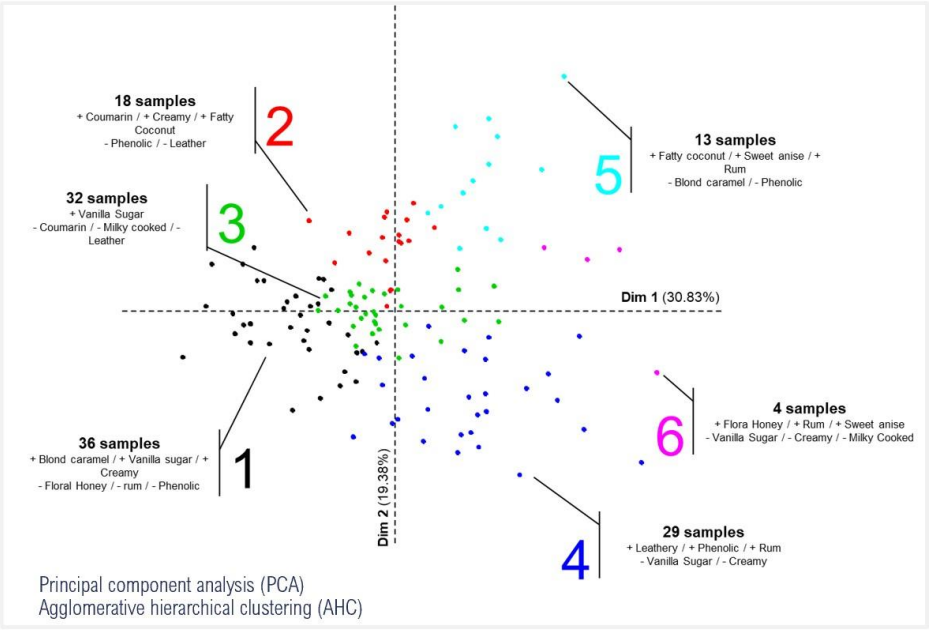
[4] Principal component analysis - https://link.springer.com/content/pdf/bbm%3A978-1-4419-7452-5%2F1.pdf
[5] Agglomerative hierarchical clustering -https://link.springer.com/content/pdf/bbm%3A978-1-4419-7452-5%2F1.pdf

Flavors displayed on the left of the PCA map are more “Creamy, Milky Cooked, Blond Caramel and Vanilla Sugar” and flavors displayed on the right are more “Rum, Floral Honey, Fatty Coconut and sweet anise”.

The Visual 5 shows the same 132 vanilla flavors on the 2-D map and highlights 6 differentiated clusters. As we build data, we can segment per geographies and applications to drive flavor rationalization and choice.

Where are your vanilla flavors on this map? Are your flavors covering all clusters? Is there a white space you haven’t identified yet? Which flavor profiles are mostly used in bakery vs dairy, in UK vs Spain? Once your flavors are specified, you can start answering these questions.

Visual 5
iSense vanilla sensory landscape
PCA & AHC
132 flavors & extracts
6 clusters



What is done for flavors can be applied for flavor ingredients like vanilla extracts, citrus oils and others. We can provide a specification of flavor ingredients that will help with QC, creation, and standardization of ingredients.

As for companies that consider building blocks approach, they can specify the taste of their building blocks and set design of experiments to predict blending impact.

Making flavor transparent to support productivity and innovation

Flavor ingredient suppliers now have an opportunity to specify and standardize the taste of their products while iSense offers them a digital channel to market.

Flavor houses benefit from the same digital commercial channel to serve broader markets more efficiently and at lower cost. They leverage their existing collection, delivering transparency, speed and productivity to their customers.

On the other side, Food and beverage manufacturers have the first cloud-based flavor collection manager to optimize their flavor operation and support successful new product development.

The flavor industry transition to digital is on the way.

About iSense AG

iSense exists to make the global flavor offering transparent, organized and easily accessible. We specify flavors most important attribute, their taste. We offer the first cloud-based flavor management system and flavor marketplace. Today we connect flavor houses with Food & Beverage manufacturers to generate productivity, speed and access to market. Tomorrow, we'll supply analytics and trade flavors online.

To know more about our service, contact us now: contact@isensegroup.com