FURMAN™
Sensory Dynamics

Whiskey Flavor, Texture and Mouthfeel: The Effects of Structuring From Bottle to Glass

Introduction.

The texture of a whiskey is determined by a number of factors, including alcohol, water and various flavor compounds such as vanillin, tanins, and esthers. Small differences between the proportions of each influencing factor will result in one Whiskey having a slight, or significant texture from another. This explains why there is variety in the texture of whiskies, from delicate, silky and velvety, to luscious, creamy and full-bodied.

Of the factors that influence texture, alcohol and water compose the greatest volume in the whiskey. A whiskey bottled at 40% abv (alcohol by volume) is 40 per cent alcohol, and the balance of 60 per cent is almost entirely water.

On their own, water and alcohol have almost opposite affects on the tongue for texture and mouthfeel. In the case of spirits like whiskey, the two are integrated along with the other influencing components to form various mouthfeel and texture in different brands.

This sensory analysis explores the changes in the integrating factors of two familiar national brands, and two local brands of bourbon and single malt whiskies, when a method of structuring is applied. The whiskey is analyzed first from bottle to glass, from the distillery as a control. The second part of the analysis includes pouring the whiskey from the bottle through a handheld funnel comprised of a bio-organizing, tuned resonant flow form with a double vortex action, into a glass.

The unit being used in this sensory analysis is the Natural Action Technologies Portable Unit PU-GY
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The four whiskies are poured from the bottle, through the portable unit, into a beaker, and again from the beaker into the bottle. The third pass is from the bottle through the unit into a tasting glass.

The first analysis of each sample is an eight point, 13 level flavor profile for grain, yeast, bakery flavors, spice, herbal, fruit, nut, and wood.

The second is a 13 point analysis of the texture/mouthfeel of each sample determining heat/harshness to smooth/silky.

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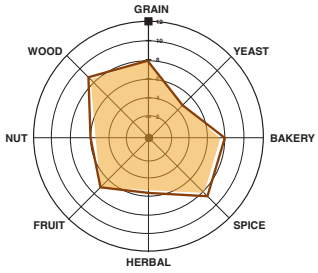
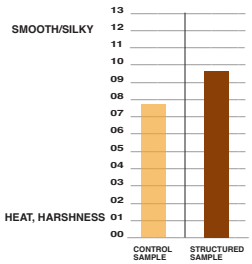
Tasting.

FLAVOR PROFILE

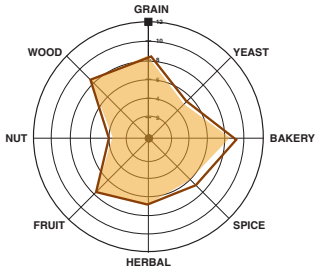


TEXURE/MOUTHFEEL PROFILE

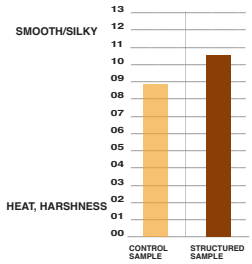


A.
Kentucky Bourbon Whiskey
45.2% Alcohol by Volume

FLAVOR PROFILE

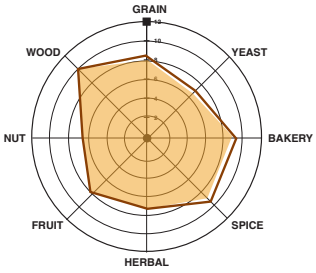


TEXURE/MOUTHFEEL PROFILE

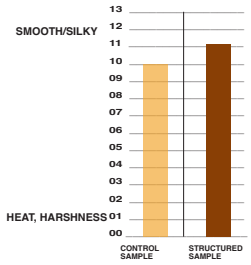


B.
Kentucky Wheated Bourbon Whiskey
45.0% Alcohol by Volume

FLAVOR PROFILE

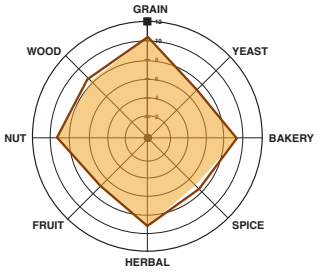


TEXURE/MOUTHFEEL PROFILE

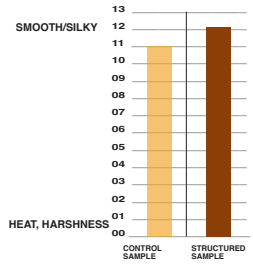


C.
American Single Malt Whiskey
44% Alcohol by Volume

FLAVOR PROFILE



TEXURE/MOUTHFEEL PROFILE



D.
American Single Malt Whiskey
44% Alcohol by Volume

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Conclusion.

Throughout the sensory analysis of the four whiskies, it had become clear that the method of passing the whiskies through the device overwhelmingly improved the texture and mouthfeel of the whiskies. Each of the structured samples texture/mouthfeel profile was Improved by an average of 16.9%.

A. Kentucky Bourbon Whiskey texture/mouthfeel profile improvement. 24.3%

B. Kentucky Wheated Bourbon Whiskey texture/mouthfeel profile improvement. 20.4%

C. American Single Malt Whiskey texture/mouthfeel profile improvement 12.0%.

D. American Single Malt Whiskey texture/mouthfeel profile improvement 10.9%.

The flavor profiles of the four sample were slightly improved also through the integration and organizing action of the device. It is believed that the integration of the water with the alcohol and flavor compounds that improved the texture/mouthfeel profiles, “uncovered” the existing flavors that were veiled by heat and harshness.
Creating a more enjoyable tasting experience.