



TECHNICAL BULLETIN

Zemea® USP-FCC Propanediol: Bitterness and Sweetness Study

INTRODUCTION

The effect of Zemea® USP-FCC propanediol on the flavor of various food and beverage products was studied. The sensory testing was conducted by an experienced tasting panel of Tate & Lyle employees.

EXPERIMENTAL DESIGN

Test Methods & Products

Nine (9) Tate & Lyle employees experienced in the evaluation of food and beverages tasted three juices and two yogurts with and without the addition of Zemea® USP-FCC propanediol. The nine panelists tasted the products and discussed their perceptions of the flavor. They indicated whether the test or control product in each pair was sweeter, more bitter, and had a stronger overall flavor.

Table 1. Products Tested

Product	Zemea® USP-FCC Propanediol Level, Wt. %	
	Control	Test*
Plain Greek Yogurt	0	1.0
Vanilla Yogurt	0	1.0
Orange Juice (no pulp)	0	0.1
Cranberry Juice	0	0.1
Grapefruit Juice	0	0.1

*Zemea® USP-FCC propanediol was added directly to the final product.

RESULTS

- The plain Greek yogurt and grapefruit juice containing Zemea® USP-FCC propanediol were less bitter and clearly sweeter than the corresponding control products.
- The vanilla yogurt and orange juice containing Zemea® USP-FCC propanediol were less bitter and somewhat sweeter than the corresponding control products.
- Cranberry juice containing Zemea® USP-FCC propanediol was less bitter and less sweet than the corresponding control product.

CONCLUSION

- The addition of Zemea® USP-FCC propanediol to various food and beverage products may achieve a reduction in bitterness in the final product.
- The addition of Zemea® USP-FCC propanediol to various food and beverage products may achieve an overall improved sweetness perception in the final product.
- Zemea® USP-FCC propanediol is a pure, naturally derived ingredient ideally suited for both food and beverage applications. It functions well as a carrier, taste modifier, extraction solvent, diluent, and humectant.

DATA SUMMARY

Chart 1. Plain Greek Yogurt

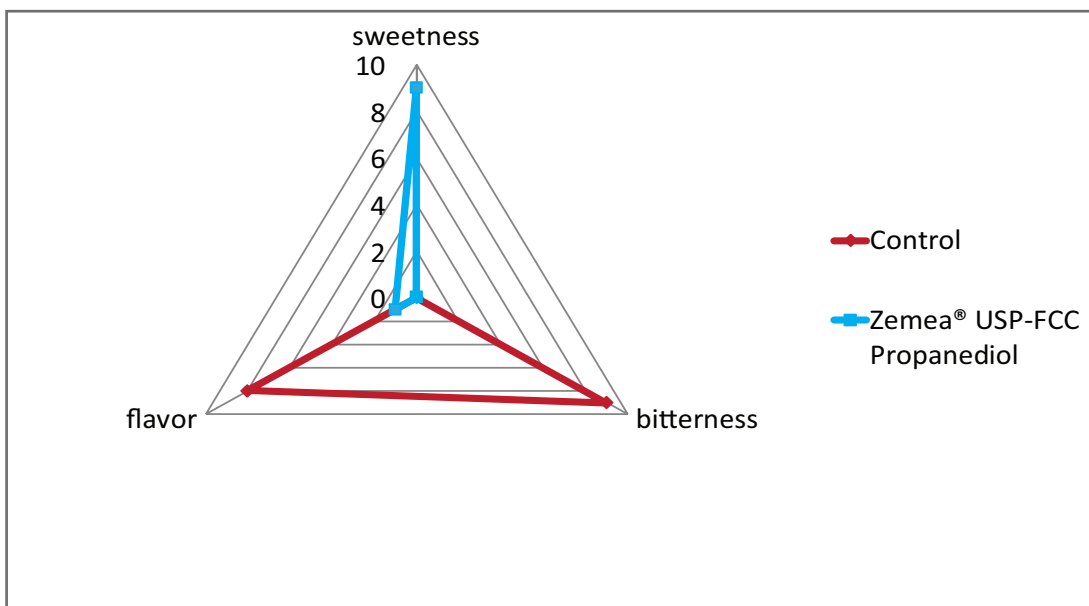


Chart 2. Vanilla Yogurt

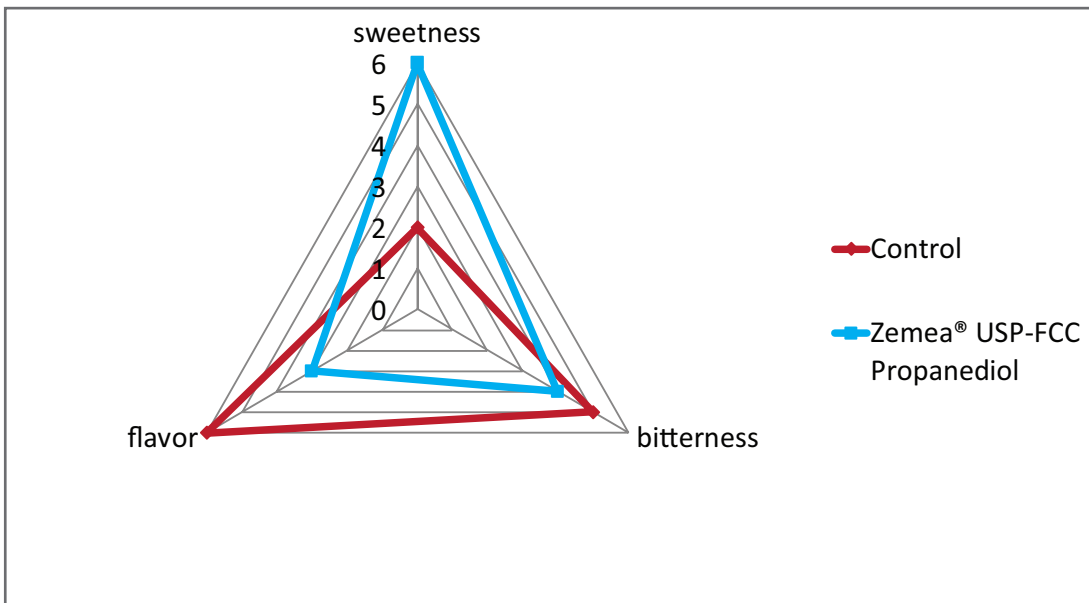


Chart 3. Orange Juice (no pulp)

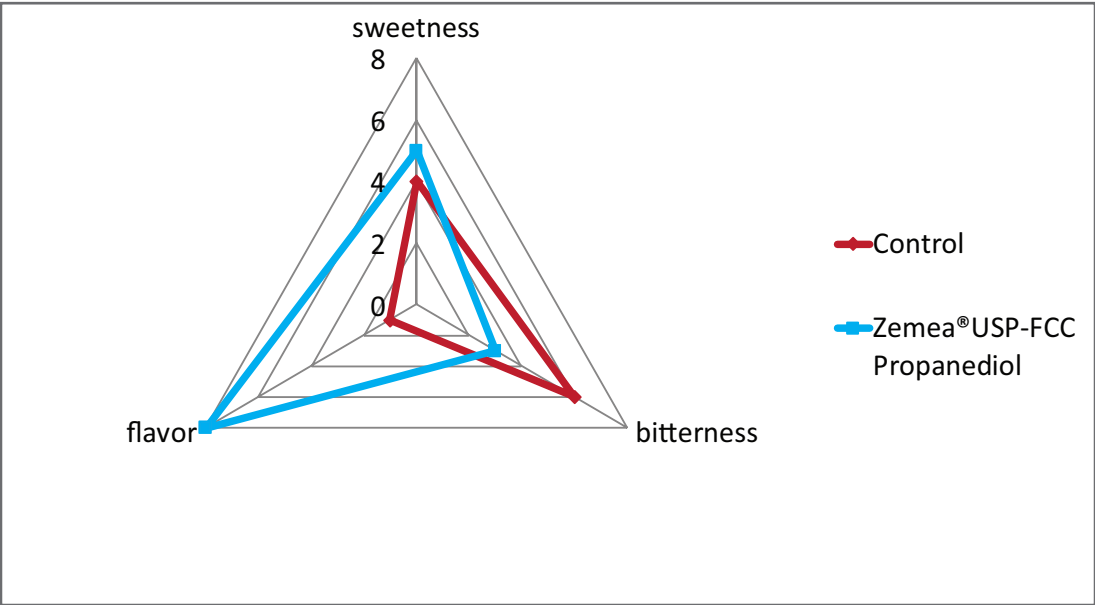


Chart 4. Cranberry Juice

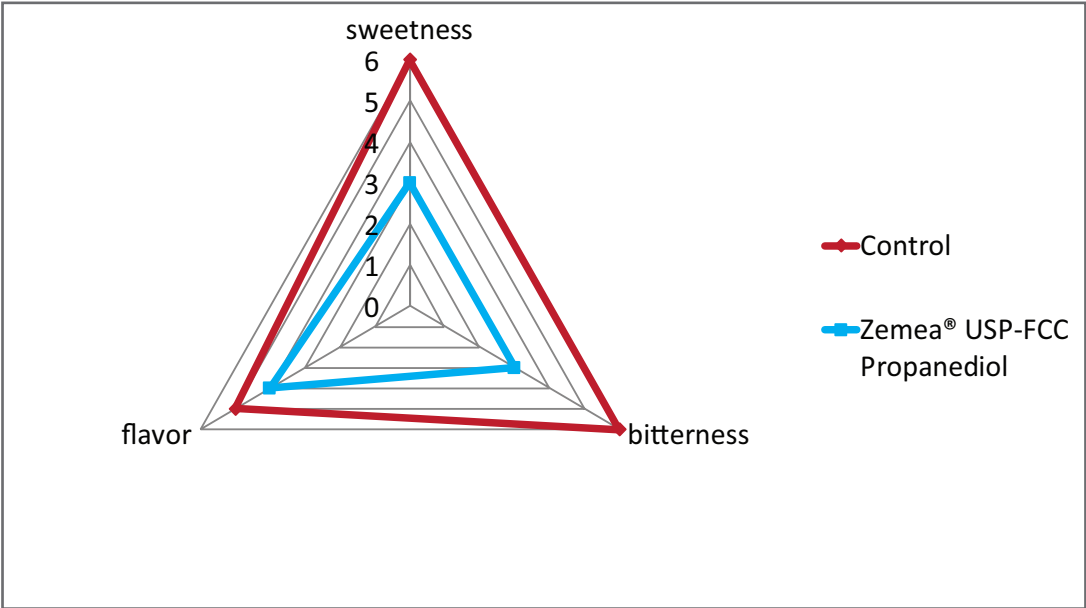
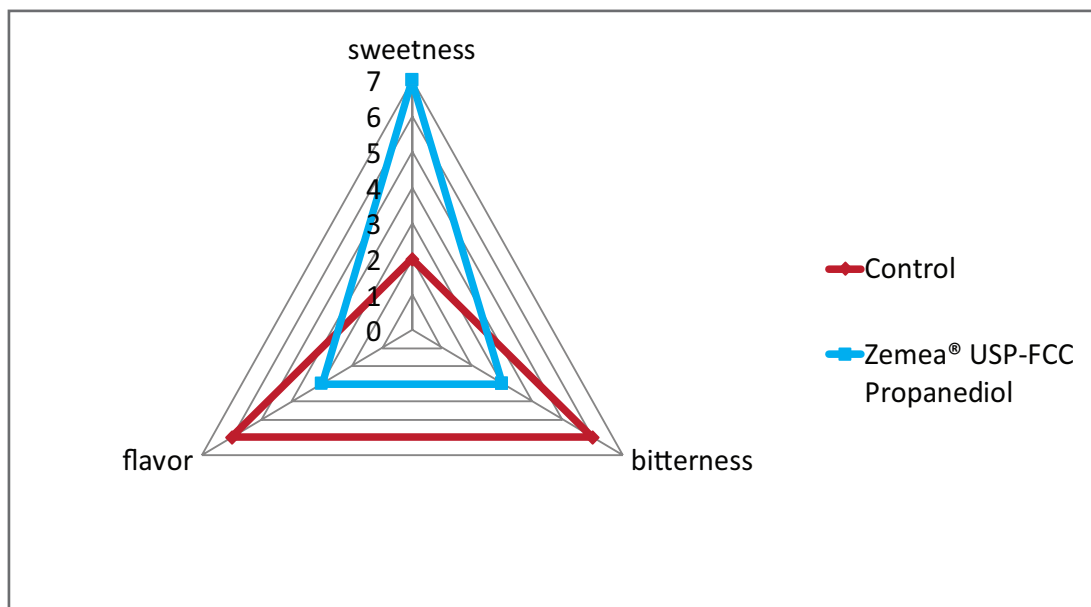


Chart 5. Grapefruit Juice



**For additional information
or samples:**

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