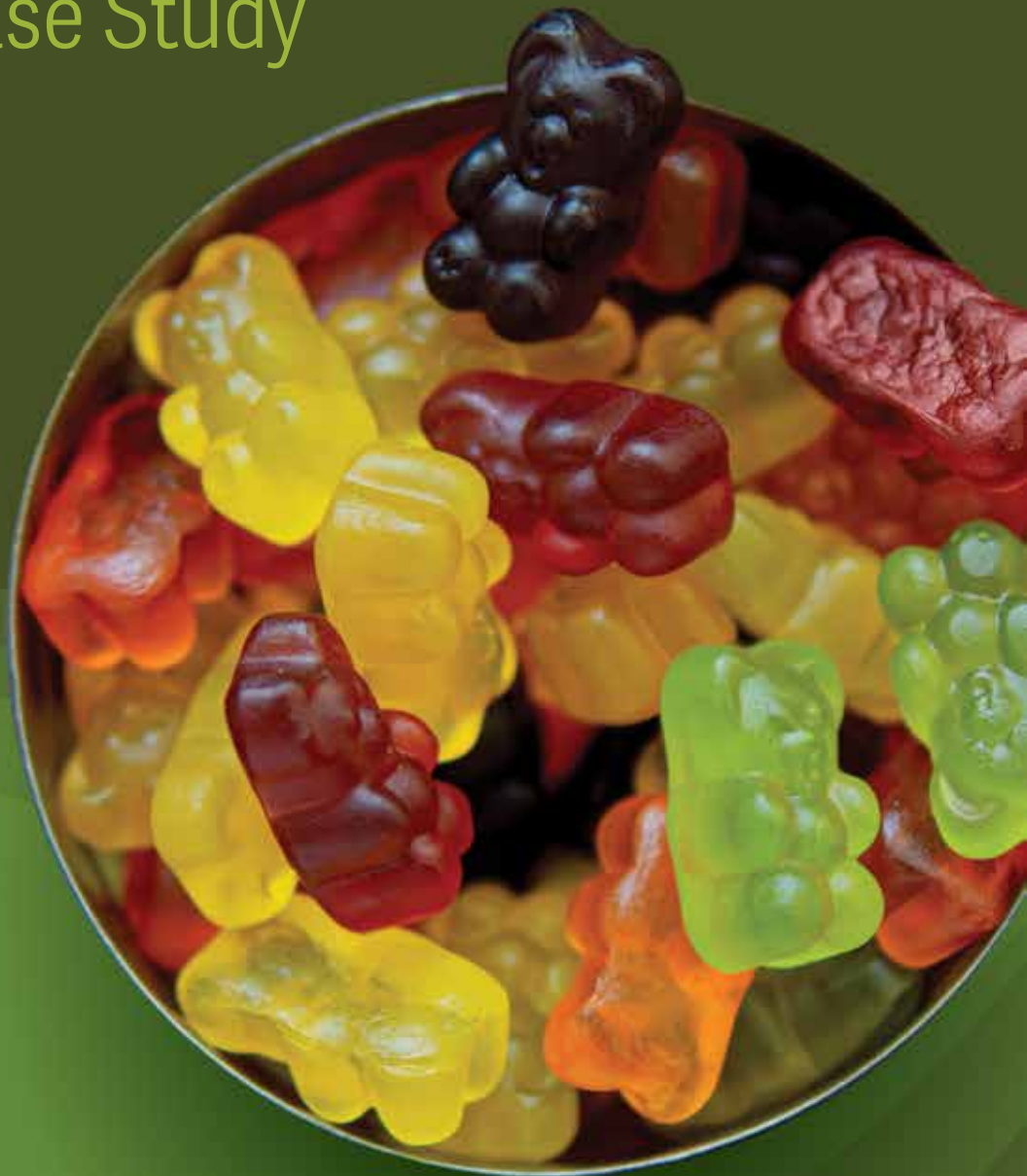


Sugar Reduction Starts Here!

Gummy Case Study



*moistur*LOK[®]

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Case Study Objectives

Reduce sugar by 75% in a gummy candy while maintaining favorable eating quality.

Confirm consumer perception of low sugar gummy candy versus the control formula.

Demonstrate nutritional impact on the facts panel from the reformulation versus the control formula.



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Solution

Reduced sugar as compared to the control formula by **77.8%**.

Added a dietary fiber claim of **7 grams per serving**.

76% of consumers studied indicated the two samples were indistinguishable while **70% confirmed intent to buy the low sugar product**.

Reduced Sugar By
77.8%

Low Sugar

Nutrition Facts	
8 servings per container	
Serving size 13 pieces (25g)	
Amount per serving	
Calories	50
% Daily Value*	
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 0mg	0%
Total Carbohydrate 18g	7%
Dietary Fiber 7g	25%
Total Sugars 4g	
Includes 4g Added Sugars	8%
Protein 3g	
Vitamin D 0mcg 0%	Calcium 0mg 0%
Iron 0mg 0%	Potassium 0mg 0%
*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.	

INGREDIENTS: MoisturLOK® CASSAVA ROOT FIBER, OligoSMART® ISOMALTO-OLIGOSACCHARIDES, allSWEET® ALLULOSE, GELATIN, SUGAR, CITRIC ACID, FLAVOR, ARTIFICIAL COLOR, CARNAUBA WAX, GuoSWEET® MONK FRUIT EXTRACT

Control Formula

Nutrition Facts	
8 servings per container	
Serving size 13 pieces (25g)	
Amount per serving	
Calories	80
% Daily Value*	
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 15mg	1%
Total Carbohydrate 18g	7%
Dietary Fiber 0g	0%
Total Sugars 18g	
Includes 18g Added Sugars	36%
Protein 2g	
Vitamin D 0mcg 0%	Calcium 0mg 0%
Iron 0mg 0%	Potassium 0mg 0%
*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.	

INGREDIENTS: LIGHT CORN SYRUP (CORN SYRUP, SALT, VANILLA), SUGAR, GELATIN, CITRIC ACID, FLAVOR, CARNAUBA WAX, ARTIFICIAL COLOR.

moisturLOK®

Sensory Study Results

Control Formula

INGREDIENTS	AMOUNT
Light Corn Syrup	45.03
Sugar	27.01
Water	16.74
Gelatin	9.60
Citric Acid	1.00
Flavoring	0.32
Carnauba Wax	0.15
Color	0.15
TOTAL	100.00

33 participants (men and women between the ages of 10-70) received 4 different gummy samples

- **REF** - Control Formula
- **134** - Low Sugar Formula - 0.06% GuoSWEET MV50
- **801** - Control Formula
- **948** - Low Sugar Formula - 0.07% GuoSWEET

The participants were asked to compare the samples to the REF sample to determine if there were any differences they noticed between each sample and the REF. Additional questions about preference were also asked along with questions asking the participants to determine which samples they received were the low sugar samples.

An online survey was conducted after the participants received the samples.

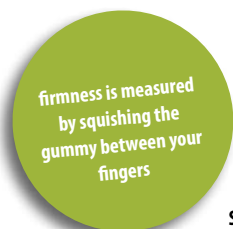
Please see survey data on the following pages.

Low Sugar (948)

INGREDIENTS	AMOUNT
MoisturLOK® SFLV	34.7
Water	15.69
OligoSMART® IMO Syrup	15.00
ALLSWEET® Allulose Crystalline Powder	13.70
Gelatin	10.27
Sugar	9.00
Citric Acid	1.00
Flavoring	0.32
Carnauba Wax	0.10
Color	0.15
GuoSWEET® MV50	0.07
TOTAL	100.00



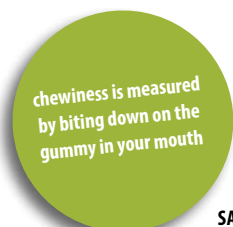
How firm are the samples (134, 801 and 948) compared to the reference sample?



	COMPARISON OF FIRMNESS TO REF		
	134 0.06% GUO	801 CONTROL FORMULA	948 0.07% GUO
LESS FIRM:	42%	42%	24%
SAME FIRMNESS:	18%	30%	39%
MORE FIRM:	39%	18%	36%

Percentages refer to the percent of participants that said each sample was *less firm*, the *same firmness* or *more firm* than the reference sample labeled REF. The reference sample had the same formula as the Control Formula listed in this summary and sample 801.

How chewy are the samples (134, 801 and 948) compared to the reference sample?



	COMPARISON OF CHEWINESS TO REF		
	134 0.06% GUO	801 CONTROL FORMULA	948 0.07% GUO
LESS CHEWY:	21%	15%	15%
SAME CHEWINESS:	30%	36%	30%
MORE CHEWY:	48%	48%	54%

Percentages refer to the percent of participants that said each sample was less chewy, the same chewiness or more chewy than the reference sample labeled REF. The reference sample had the same formula as the Control Formula listed in this summary and sample 801.

Was it easy to distinguish the low sugar samples from the regular sugar samples?

PARTICIPANTS RESPONSE	
Yes	No
24%	76%

If there was a reduced sugar version of your favorite gummy brand, and it tasted almost the same, would you buy it?

PARTICIPANTS RESPONSE	
Yes, I would buy	No, I would not buy
70%	30%