

# Savory Nut Bars

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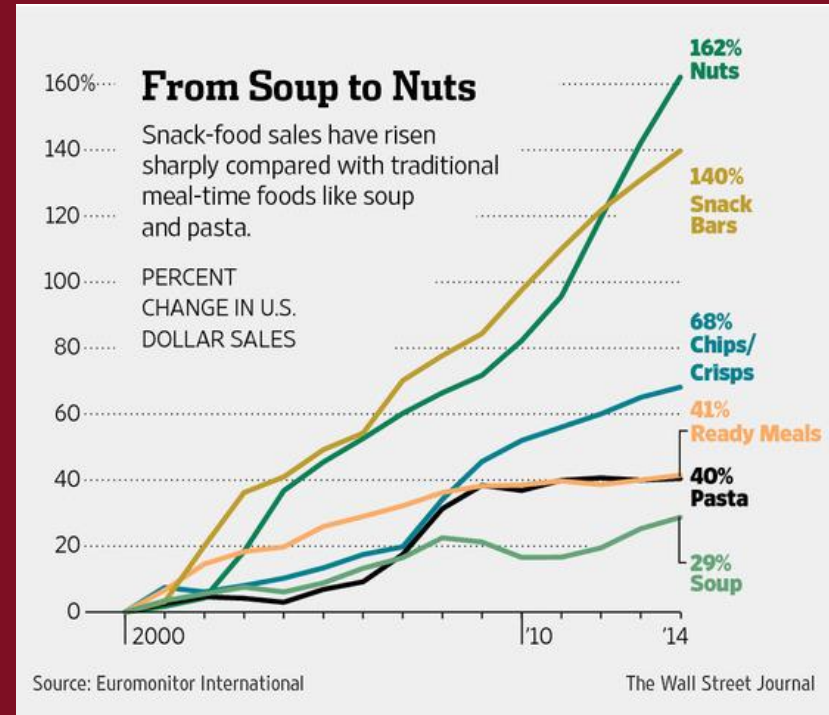
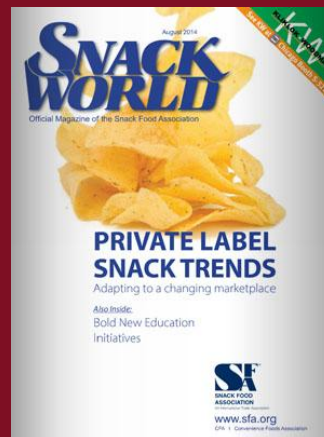
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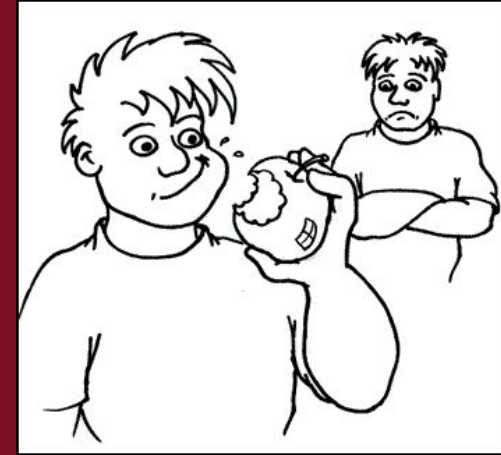
# Objective of the Savory Nut Bar

- Natural Food Store and School Campus
- Busy busy bees
  - Easy to get, easy to consume, yet very nutritious and beneficial to the body
- U.S Snack World Magazine Enterra Solution

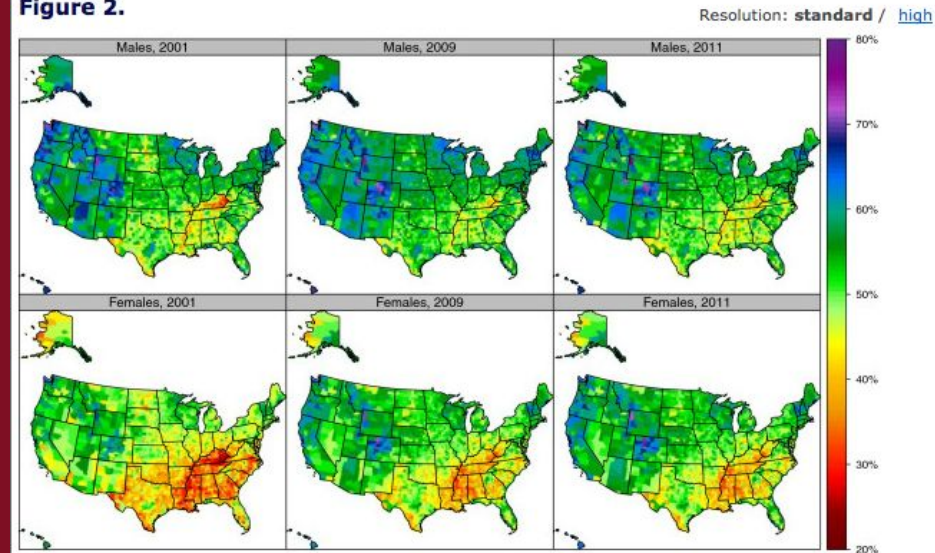


# Background

- Heart Disease and Diabetes
- Population Health Metrics




**Figure 2.**



Age-standardized prevalence of reporting sufficient physical activity by sex among adults age 20 and older, 2001, 2009, and 2011.

# Background

- This is where our  Savory Nut Bar comes in!
- No additional sweeteners or granola, etc.
- Our ingredients are natural and healthy!





# Background: Ingredients

- Dried ingredients: pecans, hazelnuts, pumpkin seeds, quinoa, flax seeds, and prunes
- Spices: salt, cinnamon, paprika, and cayenne
- Syrup: organic rice syrup, grade A dark honey, and vegetable oil



# Product Concept

- Are you a busy person but are aware of what you put in your body?
  - SAVORY NUT BAR is for YOU!



Health Claim: Good Source of dietary fiber. Contains protein, essential fat and GLUTEN FREE!



# Methods

## Independent

- Base nuts (pumpkin seeds, hazelnuts, pecans)
- Flax seed
- Quinoa

## Dependent

- Spice mixture
- Sugar syrup
- Oil and/or fat component
- Salt
- Dried fruit



# Methods

## Treatments used during prototype development

<b>Week 1:</b> Traditional nut cluster bar with an addition of prunes and spices	<u>Ingredients</u>	<u>Measurements</u>	<u>Grams</u>
	Toasted and Salted Pumpkin Seeds	1 cup	136.8 g
	Quinoa	¼ cup	45.3 g
	Salt	1 ½ teaspoon	8.7 g
	Toasted and Chopped Pecans	1 cup	115.7 g
	Cinnamon	¼ <del>tsp</del>	2.3 g
	Cayenne	¼ <del>tsp</del>	0.11 g
	Chopped Hazelnut	2 cups	261.7 g
	Flax Seed	¼ cups	39.1 g
	Cumin	¼ <del>tsp</del>	0.16 g
	Chopped Dried Prunes	1/3 cup	84.5 g
	Chopped Dried Cherries	1/3 cup	57.6 g
	Brown Rice Syrup	¼ cup	150.2 g
	Vegetable Oil	¼ cup	47.2 g



# Methods

<b>Week 2:</b> Utilized different spices and less spice added <del>honey</del> , eliminated the cherries	<u>Ingredients</u>	<u>Measurements</u>	<u>Grams</u>
	Toasted Unsalted Pumpkin Seeds	¼ cup	136.8 g
	Quinoa	¼ cup	45.4 g
	<del>salt</del>	1 ½ teaspoon	3.5 g
	Toasted and Chopped Pecans	1 cup	116.0 g
	Cinnamon	¼ teaspoon	1.7 g
	Cayenne	1.4 teaspoon	0.5 g
	Chopped Hazelnuts	2 cups	255.5 g
	Flax Seeds	¼ cup	39.3 g
	Chopped Dried Prunes	1/3 cup	176.9 g
	Grade A Honey	1/3 cup	176.9 g
	Brown Rice Syrup	¼ cup	84.8 g
	Vegetable Oil	¼ cup	51.6 g
	Smoked Paprika	1 <del>tsp</del>	2.2 g
	Black Pepper	¼ <del>tsp</del>	1.4 g

# Methods

<p><b>Week 3:</b></p> <p>Tried two different batches one with vegetable oil and one with coconut oil. Added maple syrup and vanilla. Heated vegetable oil and spices prior to baking. All ingredients total then divided into two small batches.</p> <p>Added a choc drizzle.</p>	Ingredients	Measurements	Grams
	Toasted Unsalted Pumpkin seeds	1 cup	130.9 g
	Quinoa	¼ cup	44.9 g
	Toasted and chopped pecans	1 cup	116.7 g
	Toasted chopped hazelnut	1 cup	256.3 g
	Flax seeds	¼ cup	37.2 g
	Chopped Dried Prunes	1/3 cup	163.4 g
	Vanilla	1 <del>tsp.</del> each batch	3 g
	Grade A Honey	¼ cup	70.8 g
	Brown Rice Syrup	½ cup	156.2 g
	Maple Syrup	¼ cup	61.3 g
	Paprika	½ <del>tsp.</del> + 1/8 <del>tsp.</del>	1.6 g
	Salt	½ <del>tsp.</del>	4 g
	Cinnamon	½ <del>tsp.</del>	1.5 g
	Cayenne	½ <del>tsp.</del>	0.6 g
	Batch 1: Coconut oil	¼ cup	25.9 g
	Batch 2: Vegetable oil	¼ cup	51.6 g

# Methods

<p><b>Week 4:</b>            Eliminated coconut oil. as well as chocolate.            Developed  <u>Two test products:</u>            One with brown rice syrup            Only.            Another with brown            Rice syrup and honey.</p>	<u>Ingredients</u>	<u>Measurements in Grams</u> (x2 for each sample)
	Pumpkin Seeds	130.9 g
	Quinoa	44.9 g
	Pecans	116.7 g
	Hazelnuts	256.3 g
	Flax Seeds	37.2 g
	Prunes	163.4 g
	Brown Rice Syrup	150.2 g
	Vegetable Oil	25.0 g
	Paprika	1.6 g
	Salt	4 g
	Cinnamon	1.5 g
	Cayenne	0.6 g
	Grade A Honey (only in honey and brown rice syrup batch)	37.5 g (only in honey and brown rice syrup batch)

# Methods

	<u>Ingredients</u>	<u>Measurements</u>
<b>Week 5:</b> Final product. Honey and brown rice syrup.	Pumpkin Seeds	130.9 g
	Quinoa	44.9 g
	Pecans	116.7 g
	Hazelnuts	256.3 g
	Flax Seeds	37.2 g
	Prunes	163.4 g
	Brown Rice Syrup	112.6 g
	Vegetable Oil	25 g
	Paprika	1.6 g
	Salt	4 g
	Cinnamon	1.5 g
	Cayenne	0.6 g
	Grade A Honey	37.5 g
<b>Total Grams=</b>		<b>932.2 g</b>



# Methods- Food Prep. Procedures

- > Selected a variety of nuts, spices, fruits and oils.
- > Utilized stove top roasting for flavor.
- > Dry heat with the oven set to 350 degrees for about 20 minutes.
- > Used this method each time but tried other oils and spices along the way.

# Methods - Evaluation Method

- Instrumental
  - Water activity and moisture content
- Sensory
  - Benchtop evaluations
  - Consumer testing
    - 807 Brown Rice Syrup vs. 503 Brown Rice Syrup with Honey
    - Overall liking, appearance, flavor, texture, JAR scale, and a comments section.

## [SAVORY NUTS!]

For each question, indicate your opinion of the quality of this sample by checking the one box that best represents your opinion.

Sample: 803

1. Overall Liking: Considering everything, how much do you like this sample?

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do not like at all										Like extremely

2. How much you like the appearance of this sample.

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do not like at all										Like extremely

3. How much you like the flavor of this sample.

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do not like at all										Like extremely

4. Do you think the flavor of this sample is...

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
δ									
Much Too Weak					Just About Right				Much Too Strong

4. How much you like the texture of this sample.

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do not like at all										Like extremely

Comments about this sample:

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# Statistical Analysis

- Excel Software
  - P value, standard deviation, and correlation between attributes of our product.
- The Food Processor Nutrition Facts Label
  - Review the actual nutrition in our food product and identified if our health claim was reached.



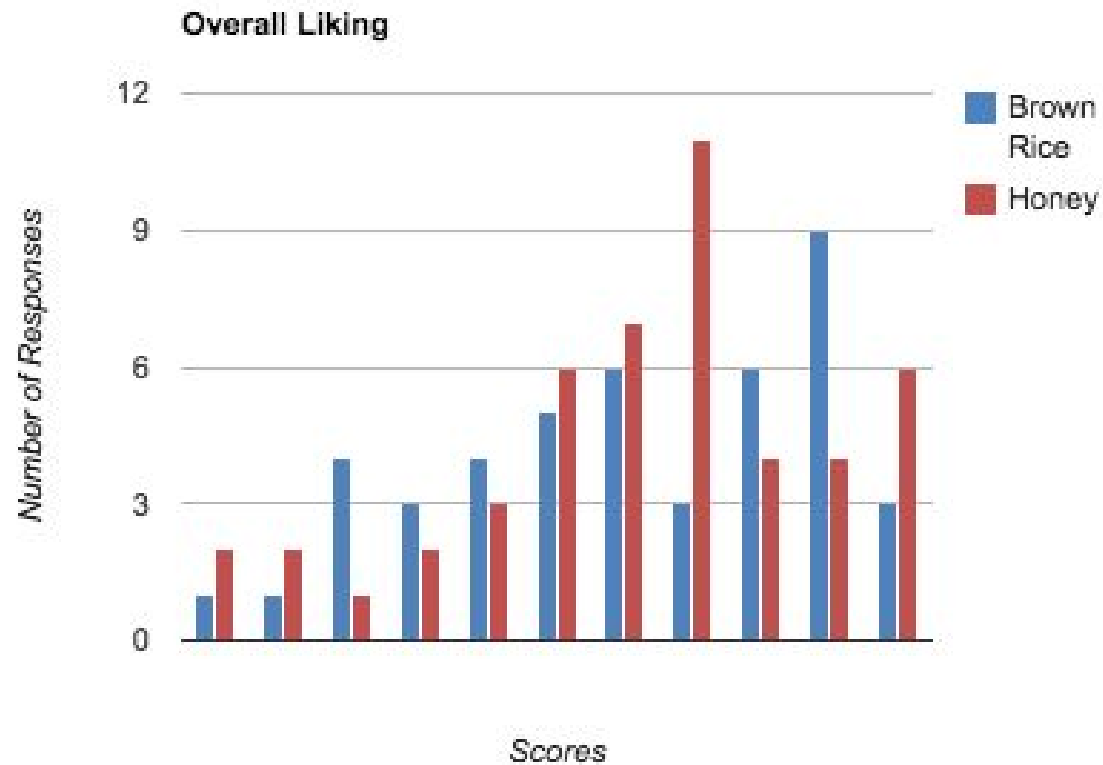
# Data Analysis

	Brown Rice	Honey
Overall Liking		
Mean	7.11	7.23
Standard Deviation	2.73	2.65
P-Value	0.917	
Appearance		
Mean	7.11	7.04
Standard Deviation	2.72	3.35
P-Value	0.792	
Flavor		
Mean	7.13	6.81
Standard Deviation	3.12	2.98
P-Value	0.368	

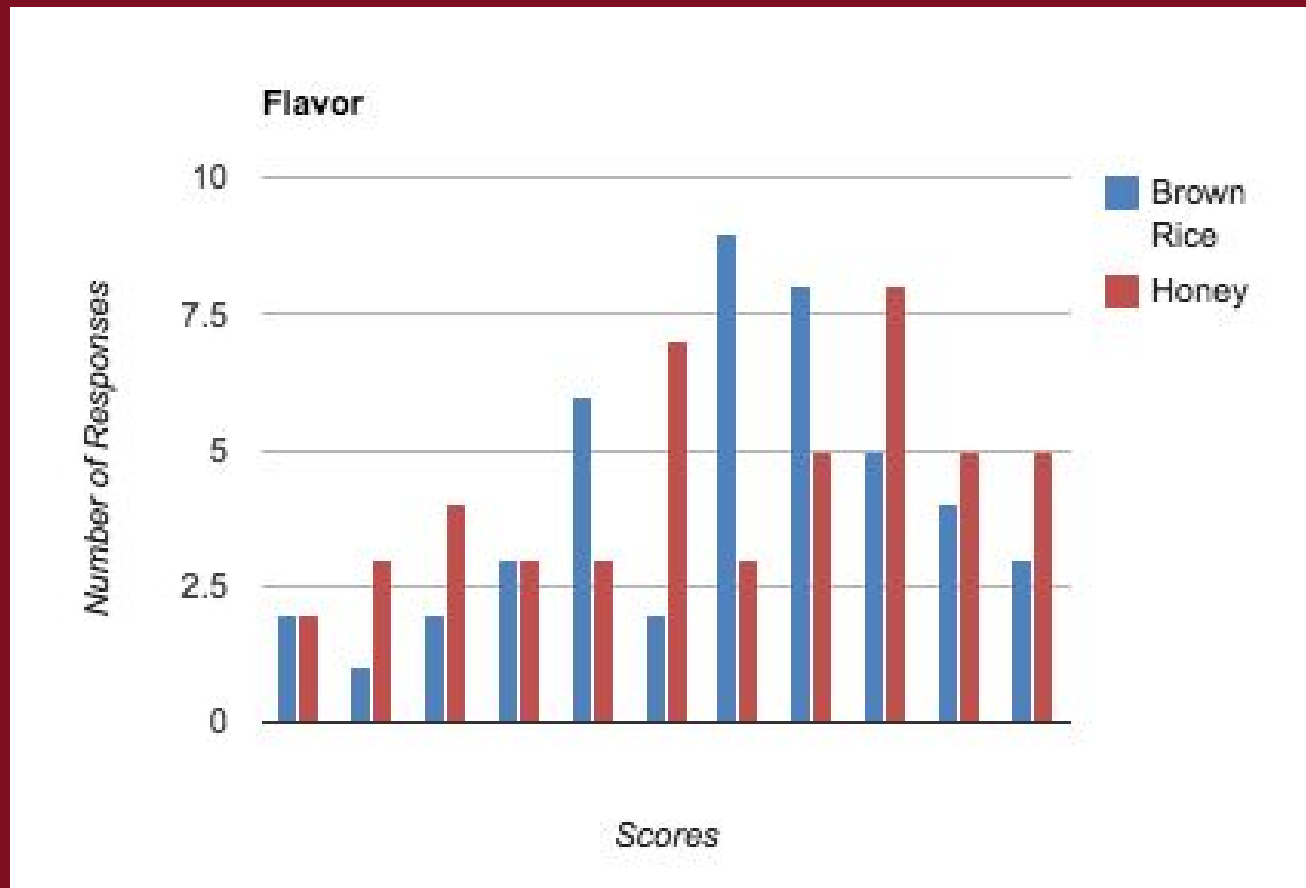
# Data Analysis

JAR		
Mean	5.52	5.82
Standard Deviation	1.99	1.82
P-Value	0.368	
Texture		
Mean	6.97	7.16
Standard Deviation	2.63	2.8
P-Value	0.613	

# Data Analysis



# Data Analysis





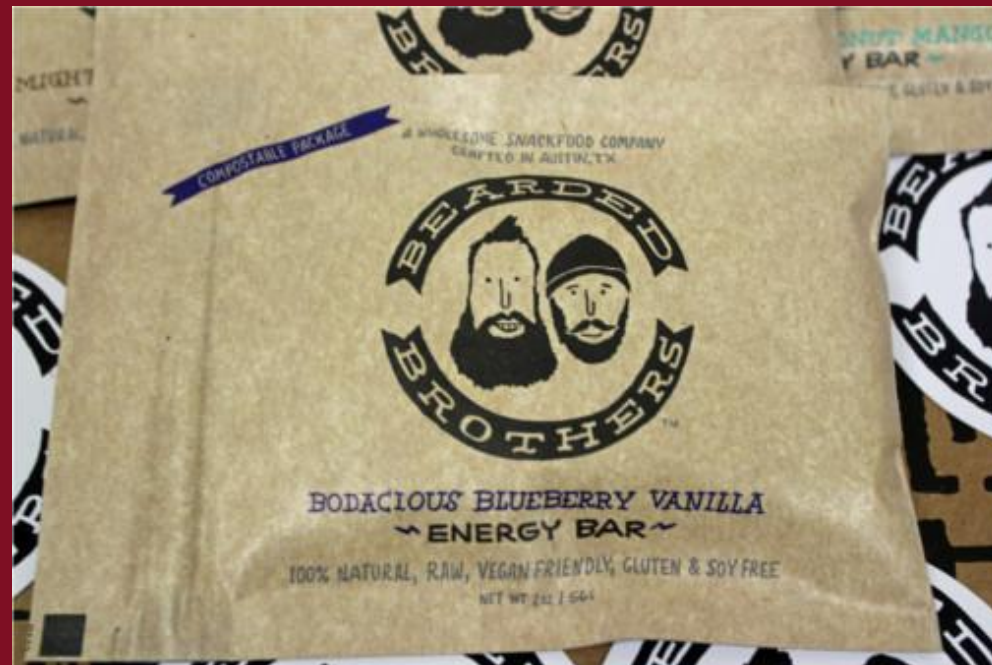
# Product Label

Simple: reflective of product concept



# Packaging

Sustainable: reusable & compostable



# Nutrition Facts

- Serving size
- Good source of fiber
- Small list of ingredients
- Allergen statement

## Nutrition Facts

Serving Size 1 bar (52g)

### Amount Per Serving

**Calories** 230      Calories from Fat 140

### %Daily Value\*

**Total Fat** 16g      **25%**

Saturated Fat 1g      **5%**

Trans Fat 0g

**Cholesterol** 0mg      **0%**

**Sodium** 40mg      **2%**

**Total Carbohydrate** 20g      **7%**

Dietary Fiber 4g      **16%**

Sugars 9g

**Protein** 4g

Vitamin A 4%      •      Vitamin C 2%

Calcium 4%      •      Iron 6%

\* Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs:

	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carb		300g	375g
Dietary Fiber		25g	30g

**Ingredients:** hazelnuts, prunes, pumpkin seeds, pecans, organic brown rice syrup, quinoa, Grade A honey, flax seeds, vegetable oil, salt, cinnamon, paprika, cayenne

**Contains:** Hazelnut, Pecan, pumpkin seed

# Conclusion

- Satisfied with our product
- Finding the sweet and spicy balance
- Not a snack for everyone



# Future Development

- Change sample presentation
- Experiment with different spices, herbs, and uncommon nuts

# Works Cited

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