Bamboo Fiber Muffins

- Misty Wilcox, Lee Castro, Kali Morimoto
Bamboo Fiber

- International Fiber Corporation (IFC)
- Brand Name- JustFiber Bamboo Fiber (BF 200 FCC)
  - 99% Dietary Fiber
  - Insoluble
  - Non Caloric
Control

- Standard Muffin

Experiment #1

- Added Bamboo Fiber
- Increased Milk

Muffin #1

- Dry
- Dense
Experiment #2
- Increased Milk

Muffin #2
- Gummy
- Uneven Texture

Experiment #3
- Decreased Milk
- Increased Oil

Muffin #3
- Bitter Aftertaste
- Dense
Experiment #4
- *Hydrated Fiber

Muffin #4
- Airy
- Tender

Experiment #5
- Increased Baking Powder

Muffin #5
- Airiness
- Increased Tendernessness
- Golden Brown
Experiment #6
- Decreased Oil
- Increased Egg
- Incorporated Flourishes

Muffin #6
- Less bitter
- Even texture

Experiment #7
- Decreased Flour/Baking Powder
- Increased Sugar

Muffin #7
- No bitter aftertaste
Experiment #8

- Increased sugar

Muffin #8

- Acceptable Muffin
Challenges

• Adjusting the muffin recipe to incorporate the bamboo fiber
• Trying to meet the criteria of a Standard (55 gram/2 ounce) muffin
• Control all human variables
• Maintain proper oven temperature
• Time restrictions
• Mistakes in calculations
Recipe

(makes 6 2 ounce muffins)

• ½ cup All Purpose Flour
• 4 tablespoons Sugar
• 1 ½ teaspoon Baking Powder
• ¼ teaspoon Salt
• 2 tablespoons Egg
• 2 tablespoons Canola Oil
• ¼ cup + 2 tablespoons Skim Milk
• Hydrated Bamboo Fiber
  • 2 tablespoons Bamboo Fiber Powder
  • ¼ cup + 3 tablespoons of Skim Milk
• 3 tablespoons Chopped Dried Cherries
• 1 teaspoon Almond Extract
Nutrition Label

High in fiber!

<table>
<thead>
<tr>
<th>Nutrition Facts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serving Size (55g)</td>
</tr>
<tr>
<td>Servings Per Container</td>
</tr>
<tr>
<td>Amount Per Serving</td>
</tr>
<tr>
<td>Calories 130</td>
</tr>
<tr>
<td>% Daily Value*</td>
</tr>
<tr>
<td>Total Fat 4g</td>
</tr>
<tr>
<td>Saturated Fat 0g</td>
</tr>
<tr>
<td>Cholesterol 15mg</td>
</tr>
<tr>
<td>Sodium 150mg</td>
</tr>
<tr>
<td>Total Carbohydrate 25g</td>
</tr>
<tr>
<td>Dietary Fiber 5g</td>
</tr>
<tr>
<td>Sugars 8g</td>
</tr>
<tr>
<td>Protein 3g</td>
</tr>
<tr>
<td>Vitamin A 4%</td>
</tr>
<tr>
<td>Calcium 8%</td>
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</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Calories per gram:</th>
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<tbody>
<tr>
<td>Fat 9 • Carbohydrate 4 • Protein 4</td>
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</tbody>
</table>
Sensory Evaluation of a Bamboo Fiber Muffin

**Directions:** You are presented with a sample of a high fiber muffin. Please rate each attribute with #1 being unacceptable and #5 being highly acceptable. Please provide comments to explain your answer.

**Ingredients:** All-purpose flour, skim milk, egg, canola oil, dried cherries, sugar, bamboo fiber, baking powder, Salt, almond extract.

<table>
<thead>
<tr>
<th>Sensory Attribute</th>
<th>Acceptability</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Denseness</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Aroma</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Taste</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Flavor</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Aftertaste</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Texture</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Moistness</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
</tbody>
</table>

**Would you eat this muffin again?**

- I would never eat this muffin
- I would eat this muffin sometimes
- I would eat this muffin often

**Comments:**

Thank you for your participation!