

Milkshake Project Summary

The first round of taste testing was conducted using the John Green building's EMDH staff. Final winning milkshakes will be determined in the second round at campus dining centers, which has yet to come.

Questions:

- 1. Can vanilla ice cream be used for a flavored milkshake?*
- 2. What is the baseline ratio of ice cream to milk?*

Question 1: Can Vanilla Ice Cream Be Used for a Flavored Milkshake?

Answer: Yes, a vanilla ice cream base can be used for a flavored milkshake (depending on the milkshake). The top two winners for strawberry milkshakes used vanilla ice cream. Second place for chocolate milkshakes used vanilla ice cream as a base.

First Round Results

Different recipes for strawberry milkshakes, chocolate milkshakes, and vanilla milkshakes were created. Each recipe used 2 cups of ice cream. Strawberry ice cream was used for some of the strawberry shakes, and vanilla for other strawberry shakes. The same approach was used in creating the chocolate milkshake recipes: chocolate ice cream bases compared to vanilla ice cream bases. The vanilla milkshakes used two different vanilla ice cream brands.

Strawberry Milkshakes

For the strawberry milkshake recipes, 5 different samples using a strawberry ice cream base were created. Out of these 5, strawberry ice cream milkshake sample B had the highest score. Three separate samples were made using a vanilla ice cream base. The vanilla ice cream strawberry milkshakes were matched against the winner, sample B. The results are as follows:

- 1st place: Vanilla Ice Cream Base H*
2nd place: Vanilla Ice Cream Base G
3rd place: Strawberry Ice Cream Base B

Chocolate Milkshakes

For the chocolate milkshake recipes, 4 different samples using a chocolate ice cream base were created. Out of these 4, samples B and C tied for the highest score. Two vanilla ice cream chocolate milkshake samples were created and matched against the chocolate ice cream chocolate milkshakes. The results are as follows:

- 1st place tied: Chocolate Bases B and C*
2nd place: Vanilla Ice Cream Base A and E

Vanilla Milkshakes

For the vanilla milkshake recipe, 3 different samples using Dean's vanilla bean ice cream were used, and 5 samples using Blue Bunny vanilla ice cream were used. A and B had the same recipe (1 cup milk and 2 cups vanilla ice cream). The only difference was the vanilla ice cream brand. These were separated into their own group and matched against each other. B and D had different recipes and were grouped together. Finally, F,G,H, and I were separated into their own group. Participants scored each

sample within each group. At the end, they each put an asterisk next to their favorite shake out of all 8 samples. The results are as follows:

1st place: Blue Bunny Vanilla Ice Cream D

2nd place: Dean's Vanilla Bean Ice cream A

Question 2: What is the Baseline Ratio of Ice Cream to Milk?

The ratio depends on the type of milkshake being created as well as if syrup is used or not used.

Strawberry Milkshakes

Strawberry Ice Cream Base. In general, for every 2 cups of strawberry ice cream, there was $\frac{1}{2}$ cup of milk. In other words, for every 1 cup of strawberry ice cream, $\frac{1}{4}$ cup of milk was used. (4:1 of 4 cups of ice cream to 1 cup milk ratio.) This generally applied when syrup was used. However, the ratio differed when using diced strawberries instead of syrups or toppings. Diced strawberries (used for D and E) had less liquid in them, so between $\frac{3}{4}$ and 1 cup of milk was needed to get a consistency similar to the other shakes.

Vanilla Ice Cream Base. With strawberry toppings, less milk was needed. In fact, for G and H, no milk was used. H had the highest score, and used a combination of strawberry topping and strawberry Monin syrup. It can be concluded that when strawberry topping and/or strawberry syrup is used, less milk (or no milk) is necessary.

Chocolate Milkshakes

Chocolate Ice Cream Base. The tied first place winners (B and C) both used $\frac{1}{4}$ cup of milk and $\frac{1}{4}$ cup of syrup (either Hershey's or Monin). (4:1:1 of ice cream to milk to syrup ratio). This appears to be the appropriate ratio when using chocolate ice cream as a base. Less milk is needed when syrup is added.

Vanilla Ice Cream Base. A vanilla ice cream-based chocolate milkshake came in second place overall. In this instance, $\frac{1}{2}$ cup of Monin syrup (with no milk) scored higher than when using a full cup of Monin syrup. Like the other shakes, less milk is needed when syrup is added.

Vanilla Milkshakes (No Syrup)

Two different kinds of vanilla ice cream (Dean's and Blue Bunny) were used, but the ratios were the same up against each other. The baseline ratio of ice cream to milk was 1 cup of milk to every 2 cups of vanilla ice cream. However, the baseline was affected depending on different variables that were added. If $\frac{1}{4}$ cup of heavy whipping cream was added, the milk amount was cut in half ($\frac{1}{2}$ cup instead of 1 full cup of milk). If $\frac{1}{2}$ cup of heavy whipping cream was used, no milk was necessary.