



# Choose 1% or Less Taste-Test Protocol

## Introduction

The perceived taste of low-fat milk is a barrier to consumption. In a national survey, 47% responded that they do not drink skim milk because they do not like the taste (Caravan Opinion Research Corporation, November 1994). However, in blind taste tests conducted by CSPI, almost all consumers like the taste of low-fat milk (1%). In previous studies, 80% of consumers liked the taste of skim milk and 94% liked the taste of either 1% or skim milk.

Surprisingly, when consumers are presented with whole, 2%, 1%, and skim milk in blind taste tests, few can taste the difference between those types of milk. In previous campaigns, more than a quarter of consumers confused whole and skim milk and more than a third mistook whole and 1% milk.

In Kentucky, over 5,000 individuals tried the Blind taste test and 80% of them chose 1% milk as their favorite milk!

The results show that the negative attitudes about low-fat milk are more in the mind of consumers than in their taste buds. Blind taste tests are an important way of overcoming those negative attitudes. They provide consumers with the opportunity to taste low-fat milk and, for most, discover that they like it.





## Materials needed to conduct milk taste tests:

Material	Comments
Box	To make it more difficult to see into the cups, a box or other raised surface, about 18 inches high, is placed on top of the table. Tasting cups are placed on top of the box. Box should be marked <b>A, B, C, D</b> on the side facing out toward consumer.
Garbage can (with liner)	For used cups and other trash.
Cooler (large)	To store back-up milk. A refrigerator, if in close proximity, may also be used.
Cooler (small)	To keep the cartons of milk that are being poured cold. Recommend using $\frac{1}{2}$ gallon containers of milk.
Cups (3 ounce)	3 oz. white ( <b>not clear</b> ) paper cups are ideal.
Ice	To keep containers of milk cold.
Masking Tape	To mark boxes and hang signs.
Milk (Skim/nonfat, 1%, 2%, & whole milk)	Choose a carton size that is easy to pour, such as a $\frac{1}{2}$ gallon. Plan on at least 1 oz. of milk per person for each type of milk. For example, less than a half-gallon of each type of milk (whole, 2%, 1%, and skim) would be needed to taste test 50 people in four hours of taste testing. Be sure there is enough of each type of milk for the anticipated number of tests.
Paper towels	To use for cleanup.
Pens	To record responses.
Table	6 x 2 $\frac{1}{2}$ feet is ideal.
Taste-Test Protocols & Taste-Test Protocol Summary Sheets (2-3)	To help guide each volunteer during the taste tests.

## Personnel

Two (2) volunteers are needed to run each taste test, if a large crowd is anticipated up to three (3) can be helpful. By using dietetics students or high school students to be volunteers, you can save on staffing costs.

Volunteer	Suggested Duties
<b>A</b>	<ul style="list-style-type: none"> <li>• Completes <i>Pre-Test Questionnaire</i></li> <li>• Records taster's responses on <i>Tasting Response Data Sheets</i></li> <li>• Reviews results with each taster</li> </ul>
<b>B</b>	<ul style="list-style-type: none"> <li>• Prepares milk samples</li> <li>• Recruits participants to take taste tests</li> <li>• Presents tasting cups to each participant</li> </ul>
<b>C</b>	<ul style="list-style-type: none"> <li>• If using a 3<sup>rd</sup> volunteer, volunteer C shares Volunteer A and/or B's tasks.</li> </ul>



## Step-by-step instructions for taste tests

- 1) Volunteers should encourage participation in the taste test. Ask potential participants to take the test to see if they can taste the difference between whole, 2%, 1%, and skim milk. Explain the test will only take a few minutes but could help them cut fat and cholesterol from their diet.
- 2) Volunteer A will begin by asking participants (tasters) the questions on the *Pre-Test Questionnaire* and recording their responses regarding the type of milk typically consumed.
  - **Whole milk** is also called **vitamin D or regular milk**;
  - **2%** is also called **reduced fat**;
  - **1%** is also called **low-fat**;
  - **Skim milk** is also called **nonfat**;
  - lactose-reduced milk comes in whole, 2%, 1%, and skim.
  - If the participant (taster) drinks a type of milk not listed on the questionnaire, determine the fat content of that milk and circle the corresponding response. For example, if the participant drinks low-fat buttermilk, circle 1 in the column “usually use” and indicate that they drink low fat buttermilk in the comment column.
- 3) While Volunteer A carries out step 2, Volunteer B will pour 1 ounce milk samples for the taster. The volunteer will pour the appropriate type of milk into each cup (A, B, C, D) as indicated on the *Tasting Response Data Sheet* for that “Taster #”. It is very important to **double-check the “Taster #” with Volunteer A for each new taster to ensure that you are both on the same number**. Place the samples on the box with cup **A** to **your** left. Do not put the milk samples in front of the taster until they have closed their eyes.

The test should be double blind (i.e.: both Volunteer A and the taster should be unaware of which type of milk is being offered). Therefore, Volunteer B should fill the milk cups out of sight of the waiting taster and Volunteer A. The cups can be filled at the same table, but behind the cooler/box, out of view. Be sure the taster is not able to see the label or the color of the milk cap being poured.

**For the best taste, milk should be very cold and freshly poured for each taster.** Be careful not to drip water from the outside of the milk carton into the sample cups -- even one drop could change the flavor.

- Note: If the taste test is being conducted at a supermarket and the milk must be purchased from the participating supermarket after completion of the taste test, Volunteer B should keep track of the total number of containers of milk used.
- 4) After the taster completes the *Pre-Test Questionnaire*, Volunteer B will serve the milk samples. He/she will tell the taster,

*“I’d like you to taste four kinds of milk. One is skim, which has no fat; one is 1% fat, which has very little fat; one is 2% fat, which is fattier; and one is whole milk also called vitamin D or regular milk, which has the most fat. You’ll taste them in random order and I’ll hand you one cup at a time. After tasting each sample, I’ll ask you to identify it and tell me if you liked it. This is not a comparison test; we want you to guess based on the taste of each milk individually and not in comparison to the others. We also want you to determine the type of milk from the taste and not from the appearance, so please close your eyes.”*



**After the taster has closed his/her eyes, Volunteer B will place the milk samples before the taster with the cups in the order A to D from left to right.**

Hand the taster milk-cup **A**. After they taste it, ask, “*What type of milk was that? skim? 1%? 2%? whole? Did you like it?*” Have the taster guess the type before you offer the next sample. Don’t remind them of their previous guess. It is okay for the tasters to make the same guess more than once. Record the response. Repeat for cup **B**, cup **C** and cup **D**. **To ensure accurate results, Volunteer B should always present the cups in the order A to D (from left to right).**

- 5) While Volunteer B carries out step 4, Volunteer A will record the taster’s responses on the *Tasting Response Data Sheet*. **Be sure to record the responses in the row for the appropriate “Taster #”.** Only the original guess will be counted. **Again, this is not a comparison test.** If the taster insists that you change a guess after tasting subsequent samples, write their second guess in the comments column followed by the letter of the sample. **Do not change the original response.** Any comments such as, “they all taste the same” or “I like them all,” may also be noted in the comments column.

**After the taster finishes tasting all the milk samples, Volunteer A should briefly discuss the results. This is an opportunity to talk to the taster about the importance of good nutrition and encourage switching to 1% or skim milk.**

- Focus on the taste of milk and the current type of milk the taster usually drinks.
- Determine the lowest fat milk the taster liked by reviewing the response on the *Tasting Response Data Sheet*.
- Discuss switching to lower fat milk, or for those already drinking 1% or less milk, congratulate the taster for making a healthy choice. Below are sample responses:

**• If the Taster could not tell the difference between the milks or said they liked the taste of skim:**

*Suggest that they switch to skim milk. It has all the vitamins and calcium of whole or 2% milk without all the artery-clogging saturated fat. If it is the appearance of skim milk that bothers them, point out that getting past the appearance would allow them to make this simple change that would significantly improve their health.*

**• If the Taster liked the taste of 1% milk:**

*Point out that 1% and skim milk are the only low-fat milks. 2% milk does not meet the government’s definition of low-fat (less than 3 grams of fat per serving, 2% has 5 grams).*

*Suggest that they switch to 1% milk. It is much lower in fat and cholesterol than whole or 2% milk. Note: Skim milk is even better. 1% milk still gets 20% of its calories from fat, while skim milk has no fat.*

**• For those concerned about weight:**

*Share that whole milk is one of the top 5 sources of calories for adults. Skim milk has 40% fewer calories than whole milk. (Whole milk has 160 calories per cup and skim milk has only 90.)*



- **If the Taster only liked 2% or whole milk:**

*Use the food label to point out that one (1) cup of whole milk has one quarter of their day's budget for artery-clogging saturated fat and that saturated fat is a major contributor to heart disease.*

*Recommend that they gradually work their way down by first switching to 2% milk for 2-3 weeks. Once they become used to 2% milk, then switch to 1%.*

*Share that 2% milk does not meet the government's definition of low-fat (less than 3 grams of fat per serving, 2% milk has 5 grams).*

- **If the taster already drinks skim milk:**

*Congratulate them for doing their heart a favor and encourage them to keep up the good work.*

- 7) Finally, Volunteer A should ask the participants “*Are you willing to switch to (or continue drinking) either 1% or skim milk?*” Record their responses in the pledge column.
- 8) Volunteers should clean-up the testing site upon completion of the day's taste tests. Thank the agency or clinic that allowed you to conduct the taste test!



# Choose 1% Or Less: Milk Taste Tests

## Pre-Test Questionnaire

### Volunteer A/C

Location \_\_\_\_\_ County \_\_\_\_\_

Name (Volunteer A/C) \_\_\_\_\_ Date \_\_\_\_\_ Data Sheet # \_\_\_\_\_

Taster #	Gender	Age	Usually Use <sup>1</sup>	How Often? <sup>2</sup>	Comments
1	F M		S 1 2 W N	D W M N	
2	F M		S 1 2 W N	D W M N	
3	F M		S 1 2 W N	D W M N	
4	F M		S 1 2 W N	D W M N	
5	F M		S 1 2 W N	D W M N	
6	F M		S 1 2 W N	D W M N	
7	F M		S 1 2 W N	D W M N	
8	F M		S 1 2 W N	D W M N	
9	F M		S 1 2 W N	D W M N	
10	F M		S 1 2 W N	D W M N	
11	F M		S 1 2 W N	D W M N	
12	F M		S 1 2 W N	D W M N	
13	F M		S 1 2 W N	D W M N	
14	F M		S 1 2 W N	D W M N	
15	F M		S 1 2 W N	D W M N	
16	F M		S 1 2 W N	D W M N	
17	F M		S 1 2 W N	D W M N	
18	F M		S 1 2 W N	D W M N	
19	F M		S 1 2 W N	D W M N	
20	F M		S 1 2 W N	D W M N	

<sup>1</sup>Ask the taster: What type of milk do you usually use? Circle the response:

S = Skim; 1 = 1% fat; 2 = 2% fat; W = Whole (or Vitamin D); N = never drinks milk

<sup>2</sup>Ask the taster: How often do you use milk? Ask as an open-ended question and circle the response:

D = uses milk daily; W = uses milk weekly; M = uses milk monthly; N = never uses milk



# Choose 1% Or Less: Milk Taste Tests

## Tasting Response Data Sheet

### Volunteer B

Location \_\_\_\_\_ County \_\_\_\_\_  
 Name (Volunteer A/C) \_\_\_\_\_ Date \_\_\_\_\_ Data Sheet # \_\_\_\_\_

Taster # <sup>1</sup>	Usually Use <sup>2</sup>	Sample A <sup>3</sup> offer guess like	Sample B offer guess like	Sample C offer guess like	Sample D offer guess like	Lowest Liked <sup>4</sup>	Comments	Pledge <sup>5</sup>
1		S	2	1	W			Y N
2		2	1	W	S			Y N
3		W	1	2	S			Y N
4		1	2	S	W			Y N
5		W	S	1	2			Y N
6		2	1	W	S			Y N
7		S	1	2	W			Y N
8		1	2	W	S			Y N
9		2	W	S	1			Y N
10		1	S	2	W			Y N
11		S	W	1	2			Y N
12		W	2	1	S			Y N
13		2	W	S	1			Y N
14		W	2	1	S			Y N
15		1	W	S	2			Y N
16		S	2	1	W			Y N
17		S	W	1	2			Y N
18		W	1	2	S			Y N
19		1	S	W	2			Y N
20		S	2	W	1			Y N

- <sup>1</sup> Remember to double check the subject number with Volunteer A for each participant.
- <sup>2</sup> Record the type of milk the taster usually uses (ask Volunteer A).
- <sup>3</sup> Present to the taster the type of milk listed in the column "offer." Under "guess," mark which type the taster guessed. Under "like," indicate whether the taster liked the sample offered -Y (yes) or N (no).
- <sup>4</sup> Of the samples taster liked, indicate type with the least fat (skim is lowest, then 1%, then 2%, whole is highest).
- <sup>5</sup> Did the taster agree to try to switch to (or continue using) 1% or skim milk? Circle Y (yes) or N (no).



# Taste-Test-Protocol Summary Sheet

**Step 1:** Volunteer B encourages people to participate in taste test (if using a 3<sup>rd</sup> volunteer, Volunteer C can share this task)

**Step 2:** Volunteer A asks questions on the *Pre-Test Questionnaire*

**Step 3:** Volunteer B prepares milk samples:

- Pour one (1) ounce of milk in cups **according to “Taster #” number and *Tasting Response Data Sheet***.
- Milk should be very cold and freshly poured for each taster.
- Be careful not to drip water from the outside of the milk cartons into the cups.
- Place milk samples in front of taster only **after he/she has closed his/her eyes.**

**Step 4:** Volunteer B serves the milk samples. Before serving, explain:

- *“I’d like you taste four kinds of milk -- one is skim, which has no fat; one is 1% fat, which has very little fat; one is 2% fat, which is fattier; and one is whole (3% fat), which has the most fat.”*
- *“You’ll taste the samples in random order, and I’ll hand you one cup at a time.”*
- *“After tasting each sample, I’ll ask you to identify it and tell me if you like it, before trying the next one.”*
- *“This is not a comparison test.”*

**Step 5:** Volunteer A records each participant’s responses and reviews results:

- Responses are recorded on the *Tasting Response Data Sheet*.
- Once tasting is complete, review results with each taster.
- Determine the lowest-fat milk the participant liked from his/her responses.
- Discuss the benefits of drinking 1% and skim milk.
- Ask the taster if he/she is willing to switch to or continue drinking 1% or skim milk, record response.
- Thank the taster for participating in the milk taste test.