

## IEHA Program Lesson Submission

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<b>Topic Title:</b>	Got Milk (Alternatives)?
<b>Topic Description:</b> (Information should be researched, educational, approved for use (if you are not the author, seek approval from materials author), and presented in a format that would allow an individual to read, study, and teach to other peers. <b>All copyright issues should be resolved before submission.</b> )	Not all kinds of “milk” are created equal. This program will take a look at what is out there in the dairy and plant-based milk alternative world. Discover the unfamiliar of the increasingly popular dairy alternatives for other products as well.
<b>Short Goal/Objective Statement for Lesson:</b>	<ol style="list-style-type: none"> <li>1. Learn what “Standard of Identity” means.</li> <li>2. Learn what nutritional benefits milk and plant-based milk alternatives offer.</li> <li>3. All milk and plant-based milk alternatives offer various health advantages. Knowing the difference in these milks will allow for an informed decision regarding your nutrition and health.</li> <li>4. Learn differences among the choices.</li> </ol>

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## Area 10 – Foods and Nutrition

### Got Milk (Alternatives)?

Not all kinds of “milk” are created equal. This program will take a look at what is out there in the dairy and non-dairy world. Discover the unfamiliar of the increasingly popular dairy alternatives for other products as well. All milk and plant-based milk alternatives offer various health advantages. A good strategy may be to mix up the types of milk you drink. That way, you can get the best of each of them. Knowing the difference in these milks will allow for an informed decision regarding your nutrition and health.

- ❖ Optional Taste Test Activity Included
  
- ❖ Plant-Based Milk – So Many Alternatives
  - Milk vs. plant-based milk
  - Many varieties of plant-based milk options
  - Nutritional differences between varieties of plant based-milk
  - What are the benefits and disadvantages of plant-based milk
  - What are the characteristics of plant-based milk
  - What are the health benefits of plant-based milk
  
- ❖ Milk vs. Plant-Based Milk
  - USDA “Identity of Standard”
    - The term “milk” can be confusing. Terms such as plant-based milk or milk alternative to describe differences.
  - Traditional milk may not be for everyone
    - Milk allergies is the most common food allergy in infants and children and the second most common in adults.
    - Cow’s milk contains lactose, a milk sugar that can be difficult to digest. Nearly 40% of the population suffer from lactose malabsorption.
  - Interest in plant-based milk alternatives has surged over the past 10 years.
- ❖ Plant-Based Milk Alternatives
  - There are many varieties of plant-based milks available.
    - Almond Milk
    - Cashew Milk
    - Blended Nut Milk Options- Almond and Cashew
    - Rice Milk
    - Soy Milk
    - Pea Protein Milk
    - Coconut Milk
    - Hemp Milk
    - Oat Milk
  - Other milk alternative options available such as fermented dairy drinks like yogurt or kefir.
- ❖ Nutritional Differences
  - Not all plant-based milk alternatives are created equal.
    - Soymilk – Most similar to cow’s milk for protein and nutrients. May have added sugar or higher sodium. Most nutritionally balanced of the plant-based milk alternative options.
    - Almond Milk- Have a lower protein content and poorer protein quality than cow’s milk or soymilk. May be fortified with calcium and vitamins A & D. May not be recommended with nut allergies or sensitivities. Come in a variety of flavors such as sweetened or vanilla.

- Cashew Milk- These milks have a lower protein content and poorer protein quality than cows' milk or soymilk; is also low in other macronutrients. A good alternative to almond milk if you don't like the almond flavor and want lower calories. Not recommended for those with nut allergies or sensitivities. Can be fortified to be higher protein.
- Hemp Milk- Complete proteins containing all essential amino acids are found in this option. Rich in Omega-3 fatty acids. It does **not** contain the psychoactive component of cannabis sativa plants used to make marijuana and CBD
- Oat Milk- Slightly more protein than many almond milks, but less than soy or cow's milk. Higher in carbs and calories and has a creamy taste. Has benefit of soluble fiber. Can be found as "extra creamy" for a richer flavor.
- Rice Milk- Calories primarily from carbohydrates and has poor protein and nutrient content unless added to it. Less likely to trigger allergies
- Coconut Milk- Has little or no protein and are high in saturated fats. Fortified with vitamin D but only few fortified with calcium. Many people with tree nut allergies are able to drink coconut milk. Test for coconut allergy specifically!
- Pea Protein Milk- Good option for consumers that are vegan, allergen-friendly, and higher in protein than other nut-based milk. Tastes creamy and consistence is very close to cow's milk. Has 50% more phosphorus, zinc, and selenium than cow's milk.
- Consumers should carefully read the Nutritional Facts Label and the ingredient list to understand the content of milk alternatives and discern if they are a good option.
- ❖ Plant-Based Alternative qualities and characteristics
  - Sweetness, viscosity and overall taste, each of these dairy alternatives has its pros and cons.
    - Agreed these products do not taste like traditional milk.
    - Almond milk is the most popular of the plant-based milks followed by oat milk.
    - Oat milk and coconut milk = smooth, creamy texture. Both can make a rich dairy-free latte, however, coconut milk doesn't blend as easily as oat milk.
    - Pea protein milk and soy milk are also creamy and have a mild taste.
    - Almond milk and rice milk both tend to be a bit thin and watery.
    - Rice milk has a naturally sweet taste, making it a pleasant addition to tea.
    - Soy milk functions well for dairy-free baking, its mild flavor and protein content affects the browning and structure of baked goods.
- ❖ Disadvantages of Milk Alternatives
  - Flavor profiles may not be preferred.
  - Options do not taste like traditional milk
  - May contain nut or soy products, which can be allergens. Always read the ingredient and allergen label.
  - Not all milk alternatives are low in calories or low in sodium. Always read the Nutritional Facts Label.
  - Cost may be higher than traditional milk.
- ❖ Benefits of Milk Alternatives
  - Milk Alternatives can provide options for allergies, lactose sensitivity, animal or environmental concerns, or even lifestyle choices.
  - Products characteristics such as taste, nutritional profile functional properties and cost, can influence selection of one type of milk alternative over another.
  - Milk alternatives have a variety of vitamins and minerals.
  - Milk alternatives can be a part of a healthy diet, assisting in weight management and reducing risk of chronic diseases.
    - Milk alternatives may help lower intake of saturated facts which may reduce risk of heart diseases
    - Although some plant-based milks have added sugars, choosing unsweetened, low-calorie, plant-based milks can help support a healthy weight, which further reduces risk of chronic diseases.

- ❖ Conclusion: What you need to know about plant-based milk alternatives.
  - Plant-based milk alternatives are made by soaking and grinding various plants, such as grains, legumes and nuts, and straining the liquid to create a beverage that resembles milk, but is not a traditional milk product.
  - All milk and plant-based milk alternatives offer various health advantages. A good strategy may be to mix up the types of milk you drink. That way, you can get the best of each of them.
  - Knowing the difference in these milks will allow an informed decision regarding your nutrition and health.

## References:

- Plant-Based Milk, So Many Alternatives!. LSU Ag Center. [www.lsuagcenter.com](http://www.lsuagcenter.com) 12/2021
- Cows' Milk Alternatives – What you need to know about plant-based milk alternative options. UCONN University of Connecticut. Sharon Gray, UConn Extension. May 29, 2020.
- Milk alternatives: know what you are buying. Michigan State University Extension. Diane Rellinger. March 3, 2015.
- What “Milk” is in the Milk Aisle? <https://foodandhealth.com/what-milk-is-in-the-milk-aisle/> Lisa Andrews, Med, RD, LD. 2021/01.
- Milk Drinks. Environmental Nutrition. Heidi McIndoo, MS, RD. Jan. 2022.
- “Organic soymilk-Silk.” Open Food Facts, <https://world.openfoodfacts.org/product/0025293600232/organic-soymilk-silk>
- “Soy milk.” Open Food Facts, <https://world.openfoodfacts.org/product/0079403114867/soy-milk>
- Veganbaking.net . “Almond Non-Dairy Milk.” Wikimedia Commons, 14 Oct. 2010, [https://commons.wikimedia.org/wiki/File:Almond\\_Non-Dairy\\_Milk\\_\(5082992066\).jpg](https://commons.wikimedia.org/wiki/File:Almond_Non-Dairy_Milk_(5082992066).jpg)
- “Cashewmilk-Friendly Farms-Half gallon.” Open Food Facts, <https://world.openfoodfacts.org/product/0041498288099/cashewmilk-friendly-farms>
- “Cashew milk - Califia Farms.” Open Food Facts, <https://world-fr.openfoodfacts.org/produit/0813636020522/cashew-milk-califia-farms>
- “Living Harvest Hempmilk.” The Green Line Market, <https://thegreenlinemarket.com/product/living-harvest-hemp-milk-unsweetened-32-case12/>
- “Planet Oat Oatmilk.” Wikimedia Commons, 10 May 2020, [https://commons.wikimedia.org/wiki/File:Planet\\_Oat\\_oatmilk\\_carton.jpg](https://commons.wikimedia.org/wiki/File:Planet_Oat_oatmilk_carton.jpg)
- “Oat Milk-Chobani.” Open Food Facts, <https://world.openfoodfacts.org/product/9310653104507/oat-milk-chobani>
- Veganbaking.net. “Rice Non-Dairy Milk.” Flickr, 14 Oct. 2010, <https://www.flickr.com/photos/vegan-baking/5083001476>
- “Organic Coconut Milk-Whole Foods Market Inc.” Open Food Facts, <https://world.openfoodfacts.org/product/0099482416393/organic-coconut-milk-whole-foods-market-inc>
- “Organic Coconut Milk Beverage-So Delicious Dairy Free.” Open Food Facts, <https://world.openfoodfacts.org/product/0744473912100/organic-coconut-milk-beverage-so-delicious-dairy-free>
- “Original-Ripple Foods.” Open Food Facts, <https://world.openfoodfacts.org/product/0855643006052/orginal-ripple-foods>
- “Pea Milk-Snappea.” Open Food Facts, <https://world.openfoodfacts.org/product/9555833701323/pea-milk-snappea>

# Optional Program Activity

**Goal:** Allow participants the opportunity to sample different types and flavors of milk alternatives without the bias of knowing which milk alternative or milk they are trying.

**Supplies Needed:**

A variety of alternative milks, traditional milk

2oz. Portion Cups with Lids

Provided “Guess Sheet” and “Answer Sheet” Template – 4 copies per sheet provided

**Prepare:**

Prior to the program, each milk option will need to be portioned into the 2oz. cups. You will want to have a sample of each type of milk per person attending. Label the samples A, B, C, D, E. Select a variety of different types such as unsweetened, sweetened, or flavored. Each type of milk should be labeled according to the *Answer Sheet*, blank sheet has been provided. A blank *Guess Sheet* has also been provided (4 copies per page). You will want one copy of each 1/4 sheet per person. **One of your options should be traditional cow’s milk.**

**Procedure:**

This activity can be done before, during, or following the presentation. Participants will be given each type of milk sample to taste. They will not know which kind of milk they are tasting. They are then given the opportunity to guess which type of milk alternative it is (rice milk, oat milk, almond milk, etc). They can pick their favorite type of milk alternatives. Once they have tasted all the samples, guessed, and picked their favorites, the Presenter can then let them know which milk or milk alternative is in each sample. Provide each member a copy of the *Answer Sheet* at the end.

**Discussion Topics:**

Which type of milk was your favorite?

Which type of milk did you not like and why?

Which product would you consider using at home?

Discuss the various nutritional contents and how they vary by type of milk alternative.

Discuss different flavor options. “Extra Creamy”, Chocolate, Vanilla, Sweetened/ Unsweetened.

*EXAMPLE:*

Got Milk (Alternative)? Answer Sheet

A: Walmart 2% Milk

B: Silk Oatmilk

C: Great Value Almondmilk

D: Silk Coconutmilk

E: Silk Soymilk

Got Milk (Alternative)? Taste Test  
Guess Sheet

A:

B:

C:

D:

E:

Got Milk (Alternative)? Taste Test  
Guess Sheet

A:

B:

C:

D:

E:

Got Milk (Alternative)? Taste Test  
Guess Sheet

A:

B:

C:

D:

E:

Got Milk (Alternative)? Taste Test  
Guess Sheet

A:

B:

C:

D:

E:

Got Milk (Alternative)? Taste Test  
Answer Sheet

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C:

D:

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E:

Got Milk (Alternative)? Taste Test  
Answer Sheet

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B:

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D:

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