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Nutritional Content and Health Benefits of Plant-Based Non-Dairy Beverages
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MESSAGE FROM THE PRESIDENT

Edward Bitok, DrPH, MS, RDN



Dear colleagues and fellow members of ANDIA,

Hello from your president!

We all continue to navigate a world that has been turned upside down by a lingering pandemic. It's my prayer that this message finds you well.

Over the past few months our organization has continued to grow, drawing members from different parts of the world. We currently have close to 140 members from 17 different countries, with some of our newer members coming from Jamaica, Zimbabwe, Mozambique and the Philippines.

As the organization grows, we are challenged to continue to find creative ways to reach out and actively engage with our growing family. Thus, we are excited to announce our upcoming Fall events, including an all-member virtual meeting in October and a series of webinars featuring cutting edge topics in nutrition science in October, November and December. Please visit our website for the latest information and a list of scheduled events. You can also follow us on Facebook and Instagram where you will find recipes, nutrition tips, member spotlight, and

upcoming events.

As we embark on the last stretch of the year, we are staring at elections which will take place sometime in November. This is a wonderful opportunity to get involved with the organization as an officer. Please reach out to our nominating chair, Dr. Joycelyn Peterson through andiaassociation@gmail.com if you are interested in running for office.

I am incredibly thankful to our team of volunteers who continue to serve our organization, either by writing articles, giving presentations, posting on our social media channels, recruiting new members; and all the behind-the-scenes activities that are crucial in keeping the organization going. We wouldn't have come this far without your dedication.

As we continue to be actively involved in addressing nutrition-related issues affecting our world today, let us not lose sight of our greater mission of preparing souls for eternity with Christ.

Thank you, members, for your continued participation and enthusiasm in our professional community.

Edward Bitok
ANDIA President 2021/22

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MESSAGE FROM THE EDITOR

Neosie Morris, MPH, BS



Milk has often been called a complete food because of its nutrient-rich content. However, health issues such as dairy intolerance, as well as concerns for the environment and animal welfare have contributed

to the demand for non-dairy beverages. In this issue we present the findings of a recent study on non-dairy plant-based beverages to keep you informed regarding the nutritional content and health benefits of different non-dairy plant beverages currently on the market. If you are looking to incorporate more non-dairy beverages into your diet, we have a delicious nut milk containing 8 grams of protein per serving and a bonus drink recipe bursting with tropical flavors.

Our university highlight takes us to the Northern Caribbean University, and our member spotlight is on Dr. Fiona Lewis, culinary nutrition and wellness entrepreneur.

We also conclude the series on the contributions of Lenna Frances Cooper to Adventists and Vegetarian Nutrition and Dietetics by highlighting the vegetarian cuisine medical nutrition therapy menus she developed, and meals served to the patients and visitors at the Battle Creek Sanitarium.

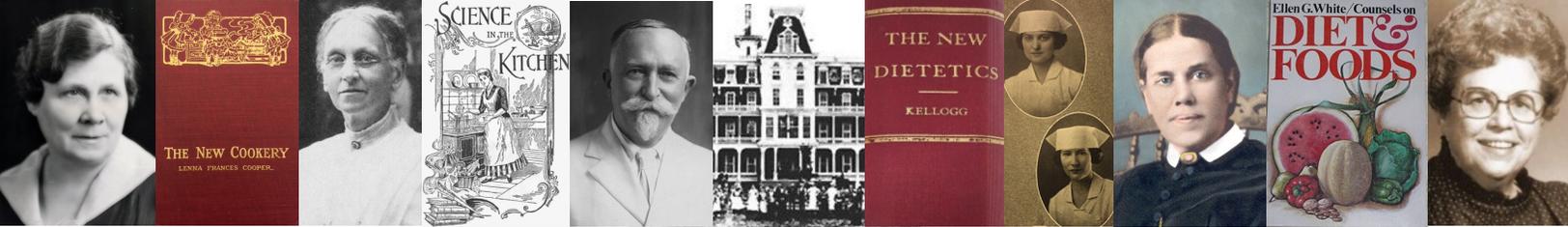
Thank you to all those who contributed to this newsletter.

Neosie Morris, MPH
ANDIA News Editor 2021/22



*“Pleasant words are as a honeycomb,
sweet to the soul, and health to the bones.”*

Proverbs 16:24



HISTORICAL REFLECTIONS OF ADVENTIST NUTRITION AND DIETETICS

This column explores the historical legacy of the Adventist nutrition and dietetics work and ministry, through articles and reprinted writings of Adventist nutrition and dietetics pioneers, for historical and educational purposes.

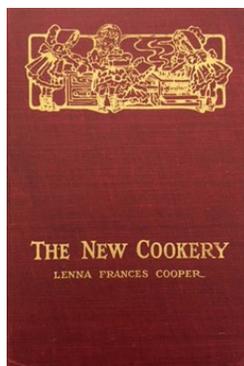
Lenna Frances Cooper, B.S., M.A., M.H.E., Sc.D.

Pioneer in Adventist Nutrition and Dietetics, Vegetarian Medical Nutrition Therapy, and Cofounder of the Academy of Nutrition and Dietetics

PART 3

By John Westerdahl, Ph.D., M.A., M.P.H., RDN, FAND, DipACLM

Lenna Frances Cooper's first book, *The New Cookery* (Good Health Publishing, 1913), featured nutritionally balanced and attractive vegetarian recipes, most of which were served on the menu at the Battle Creek Sanitarium. Many of these unique recipes incorporated innovative nut, wheat gluten, and legume-based meat substitutes, whole grain cereals, and other vegetarian food products that were originally created at the Sanitarium and later marketed and sold nationally by the Battle Creek Food Company (1).



Working closely with Dr. John Harvey Kellogg, Lenna developed the vegetarian cuisine medical nutrition therapy menus that were served to the Sanitarium's patients. Because of her multifaceted talents and accomplishments in dietetics at the Battle Creek Sanitarium, Lenna's reputation gradually became recognized on a national level as a leader in her field (2,3). Those

early days of training and experience working at the Battle Creek Sanitarium practicing vegetarian nutrition and dietetics gave her a strong foundation in nutritional science that paved the way to Lenna France Cooper's illustrious career.

The next page shows examples of a breakfast and dinner menu served at the Battle Creek Sanitarium.



Sanitarium Dining Room

The menus offered a variety of vegetarian dishes to patients and visitors. No coffee or caffeinated beverages were served at the sanitarium. Food items that contained milk could be served without if desired.



Battle Creek Sanitarium Menu

The Battle Creek Sanitarium served exclusively a vegetarian menu to its patients and visitors.

Breakfast

- **Fresh Fruit:** Apples, Strawberries, Oranges
- **Grains:** Gran Nuts (similar to Grape Nuts), Brown Rice with Black Raspberry Sauce, Granose Biscuit (a whole grain biscuit) with Hot Cream
- **Vegetables:** Baked Potatoes with Brown Sauce, Green Peas
- **Toasts:** Prune Toast, Nuttolene Toast (toast with a nut spread), Toasted Whole Wheat Wafers
- **Fermented Breads:** Fine Graham Bread, Coarse Graham Bread, White Bread, Fruit Bread, Zweiback
- **Liquid Foods:** Boiled Milk, Caramel-Cereal (a cereal grain-based coffee substitute), Oatmeal Gruel

Dinner

- **Soups:** Split Pea, Clear Tomato, Cream of Corn, Tomato with Vermicelli
- **Entrees:** Braised Protose (a meat substitute made from wheat gluten and peanuts), Nuttolene Fricassee (a meat substitute made from nuts), Savory Spaghetti, Walnut Roast
- **Vegetables:** Baked Potatoes with Brown Sauce, Potatoes in Jackets, Swiss Chard, Fresh Peas, Beet Salad
- **Relishes:** Sliced Tomatoes, Celery, French Salad
- **Breads:** Whole Wheat, Graham, Granose Biscuit (a whole-grain biscuit), Breakfast Toast, Bran Buns
- **Cooked Fruit:** Cherries, Pears, Blueberries, Sweet Prunes
- **Beverages:** Apple Juice, Grape Juice, Noko (a cereal grain-based coffee substitute), Pasteurized Milk, Yogurt Buttermilk, Hot Malted Nuts, Malted Nuts, Cream, Kaffir Tea (caffeine-free herbal tea)
- **Desserts:** Watermelon, Bananas, Farina Fruit Mold with Coconut Sauce

Note: No coffee or caffeinated beverages were served at the Sanitarium.

The story of Lenna Frances Cooper's life is a great inspiration to those of us who are Seventh-day Adventist nutrition and dietetic professionals. She pioneered vegetarian medical nutrition therapy along with her mentors Dr. John Harvey Kellogg and his wife Ella Eaton Kellogg at the Adventist church's first world-renowned medical institution, the Battle Creek Sanitarium over a century ago. She was responsible for the training of hundreds of dietitians who became among the first professional dietitians in American history. It was her idea to start a national professional association for dietitians. As a result, Lenna cofounded the American Dietetic Association in 1917, which in the 21st Century changed its name to the Academy of Nutrition and Dietetics and is now recognized as the world's largest organization of food and nutrition professionals (3).

Despite Lenna's great accomplishments and contributions to the history of Adventist dietetics and to the dietetics profession as a whole, few Adventist dietitians are aware of her amazing legacy. The Academy of Nutrition and Dietetics, for most of its 104-year history, had not publicly recognized Lenna's pioneering work and achievements in the field of vegetarian nutrition. For many years, the Academy and much of its membership looked at vegetarian and vegan diets as food faddism, not adequate to meet nutritional needs, and even potentially dangerous. The meat and dairy industries also have had their influence on the Academy's official dietary positions as well as been major financial contributors to the dietary profession in funding special projects, and its sponsorships of conferences, programs, and advertising in its journals and publications. As cofounder of the Academy, Lenna's role in vegetarian nutrition was not brought to light. Not until the 1980s did a major opportunity arise to educate the dietetic profession regarding the positive attributes of vegetarian nutrition.

Dr. Kathleen Zolber, Director of Loma Linda University's Department of Nutrition and Dietetics and the Director of Nutritional Services for Loma Linda University Medical Center, became the 57th president of the Academy serving from 1982-1983 (4).



Dr. Kathleen Zolber

Dr. Zolber, working with two other nutrition professors from Loma Linda University, Lydia Sonnenberg and Dr. U.D. Register, coauthored an educational pamphlet, "The Vegetarian Diet: Food For Us All," and was published by the Academy (5). Dr. Zolber credited the document as the beginning of the Academy's acceptance of vegetarian diets as reasonably healthful.

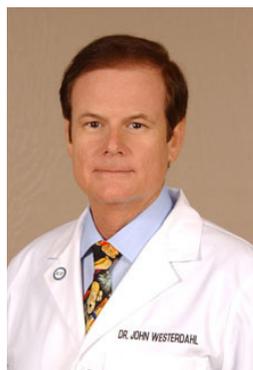
In my personal conversations with Dr. Zolber discussing the challenges she had in convincing the Academy to accept vegetarian nutrition as a healthy diet, she said, "working with the [Academy] was like trying to turn around an immovable ship" (6). A decade later, in 1992, the Vegetarian Nutrition Dietetic Practice Group of the Academy was established due to the growing interest in vegetarian nutrition by dietitians. In 1993, the Academy acknowledged that vegetarian diets could be perfectly healthy and could play a role in preventing disease in the publication of their first position paper on vegetarian diets, "Position of the American Dietetic Association: Vegetarian Diets." In 2018, after two years of effort, members of the Academy's Vegetarian Nutrition Dietetic Practice finally convinced the Academy of Nutrition and Dietetics to publicly acknowledge on their website, in publications, and in meetings for the first time, Lenna Frances Cooper's pioneering work in the field of vegetarian nutrition and dietetics.

What ANDIA members can do to spread the word about Lenna Frances Cooper's contributions to Adventist and Vegetarian Nutrition and Dietetics.

1. Share the history regarding Lenna Frances Cooper's legacy in Seventh-day Adventist Nutrition and Dietetics with your dietetic colleagues. Let them know of her pioneering work in the field of vegetarian nutrition and its use in medical nutrition therapy.
2. Share her history in vegetarian lectures and presentations to both health professionals and the general public.
3. In addition to being an active member of ANDIA to carry on the mission of Adventist Nutrition and Dietetics, consider also being an active member of the Vegetarian Nutrition Dietetic Practice Group of the Academy of Nutrition and Dietetics. During Lenna's life and career, she worked and made major contributions in nutrition and dietetics in both worlds – serving the Seventh-day Adventist world of dietetics and also in the larger world of the dietetics profession.

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NUTRITIONAL CONTENT AND HEALTH BENEFITS OF PLANT-BASED NON-DAIRY BEVERAGES

By Winston Craig PhD, MPH

Consumer demand for dairy alternatives has surged recently. Dairy intolerance, personal health issues, concerns about the impact of dairy milk production upon the environment, and animal welfare have fueled this growth. Soy milk was the first plant-based beverage to come onto the market. Its protein content and health benefits enabled it to enjoy substantial popularity. However, consumers lost confidence in soy when internet stories circulated about soy isoflavones (phytoestrogens) causing breast cancer. While this notion still lingers among consumers, the increased risk of breast cancer with the use of soy has not been substantiated (1). After this soy scenario, sales of almond milk, rice milk, and coconut milk began to surge, taking a considerable share of the market. Now oat milk, nut milks and a host of additional beverages have appeared on the market. A number of factors such as price, packaging, taste, organoleptic properties, nutritional profile, health claims, and whether the product is organic or not, determines which beverage is preferred.

Today the many non-dairy plant beverages available to the consumer are made from grains (rice, oats), legumes (soy, pea protein), nuts

(almonds, cashews, hazelnuts, walnuts, macadamia), seeds (quinoa, sesame, chia, flax, hemp), coconut, fruits (banana) and mixtures of the above. A number of studies have analyzed a variety of these beverages and concluded that most of them are not nutritionally equivalent to dairy milk (2-4) and should be recognized as such when feeding children. In spite of this, 7 in 10 consumers believe that non-dairy milk beverages are healthy for their kids (5).

A more recent cross-sectional survey of 148 plant-based non-dairy beverages from three different continents (Europe, Australia, and North America) found that the beverages generally scored well in terms of not containing high levels of sodium (median: 100 mg/serving), saturated fat (median: 0.5 g/serving), or calories (median: 93 cal/serving) (6). The beverages also appeared modest in sugar content (median: 4.6 g/serving) with 55% of the beverages containing no more than 5 g sugars/serving, and less than 20% of the beverages had high level of sugars (at least 10 g/serving or 20% Daily Value (DV)/serving). Sixteen percent of the beverages were unsweetened, with no added sugars at all. One should carefully read the label to learn how many

grams of sugar occur in a serving. The beverages flavored with chocolate were typically among the sweetest varieties. For comparison, a serving of flavored dairy milk contains 4 tsp (16 g) of added sugar. In excess, these 4 nutrients (sugar, salt, calories, and saturated fat) could have an adverse effect upon one's cardiovascular (7-9) and metabolic health (10), and body weight (11).

Fortification

It is important that a plant-based dairy alternative be adequately fortified with three essential nutrients, namely calcium, vitamins D and B12. For a vegetarian, and especially a vegan, these three nutrients may not be easily obtained in their diet in sufficient amounts without using dairy milk or a fortified equivalent (12). Calcium fortification of a non-dairy beverage can typically range from 100-450 mg/serving compared to 300 mg/serving for dairy milk. Over one-half (55%) of the beverages studied were fortified with calcium to levels equal to or greater than that of dairy milk (6). Beverages based upon coconut and nuts other than almonds average from 8-17% DV; almonds, oats and rice beverages average 22-24% DV; while soy and pea-based beverages contain 27-32% DV of calcium/serving. In addition, about 70% of those fortified with calcium achieved the level of 20% DV/serving (designated as a high nutrient content).

The international report (6) found that less than 10% of the beverages available in Europe and Australia contained vitamin D at the 20% DV level. The 20% DV level is recognized by the Dietary Guidelines as a high level of a nutrient. Even after eliminating the non-fortified beverages from the statistical calculations, the mean levels of vitamin D in all 3 regions were still low (12-27% DV).

While 60% of beverages overall were not fortified with vitamin B12, the lack of B12 was especially noticeable in almond-based beverages (7/33 fortified), cashew-based (3/7 fortified),

oats-based (10/23 fortified), rice-based (6/13 fortified), and beverages from mixed sources (2/14 fortified). Soy, pea, and coconut-based beverages had the highest averages for vitamin B12 content (24 -39% DV/serving). The lack of vitamin B12 fortification by beverage type was very similar to the pattern seen for vitamin D. The soy- and pea-based beverages also had the highest levels of vitamin D (12-20% DV), while coconut and oats had 10-11% DV, and the other beverages were only 3-9% DV/serving. Overall, the beverages were more commonly fortified with calcium (78%) than with vitamins D (53%) or B12 (41%), and the nutritional content was found to vary greatly between the different types of beverages. Fortification patterns varied amongst the manufacturers. Even among those beverages that were fortified, levels of fortification were often inadequate in more than 60% of cases for B12 and three-quarters of the cases for vitamin D. Poor levels of vitamin D and B12 fortification were also found in non-dairy beverages in Brazil (13).

Protein

Protein levels varied considerably among the various types of beverages (Table 1). While 1 in 4 beverages contained at least 5 g protein/serving, the protein levels varied from 0.1 g/serving for coconut to 20 g/serving for soy. Some of the newer varieties of beverage have added pea protein to boost the protein level to 8-9 g/serving. These pea-based beverages, as well as the soy-based beverages, had levels of protein comparable to that of dairy milk (8g/serving), as has been reported elsewhere (13). The grain-based beverages ranged from 0.8 g protein/serving for rice to 2.0 g/serving for oats. Nut-based beverages contained protein levels of 1.0-1.3 g/serving (Table 1). Those beverages with a protein content below 5 g protein/serving should not be regularly consumed by growing children as a substitute for dairy milk.

Table 1
Protein Levels in Various Plant-Based Beverages

| Beverage | g protein/ serving |
|----------------------------|--------------------|
| Coconut | 0.1 |
| Rice | 0.8 |
| Almond and other tree nuts | 1.0-1.3 |
| Banana, quinoa | 1-2 |
| Oats, hemp | 2.0 |
| Flax | 3.0 |
| Soy, pea protein | 8-20 |
| Cow milk (for comparison) | 8 |

In addition, it is important that consumers regularly read the product label, since formulations change with time and levels of fortification varied significantly between brands and even within different types of the same brand. A number of large supermarket chains have their own store brand of plant-based non-dairy beverages. These typically sell for less and may be less fortified than the national name brand products.

Fat

Most plant-based milks contain about 2.5 to 4.5 g fat/serving. The level of fat in dairy milk varies depending upon the type of milk, ranging from 0.2 g/serving in non-fat milk to 8g fat in whole milk. The level of fat in plant-based non-dairy milks is comparable to that of 1% and 2% dairy milk (2.4-4.9 g fat/serving). However, the fat in dairy milk is predominantly saturated fat while in plant-based milks the fat is largely heart-healthy unsaturated fat. For soy, flax and hemp seed-based milks the fat is predominantly polyunsaturated fat (with various levels of omega-3 fat) while for rice milk and the nut milks (almond, cashew, hazelnut and macadamia) it is predominantly monounsaturated fat. Oats has an equal mix of polyunsaturated and monounsaturated fat as well as a healthy level of soluble fiber. In contrast, the fat in coconut milk (4-4.5 g/serving) is at least 90% saturated fat (14). Saturated fat significantly raises LDL and total cholesterol levels in clinical trials (15).

Even though coconut fat has a good content of short- and medium-chain fatty acids, coconut is not as healthy as other vegetable oils (15). The ability of coconut oil to raise one's HDL cholesterol level may somewhat offset the atherogenic effect of its very high saturated fat content (16). The presence of phenolic antioxidants in virgin coconut oil has also been suggested as a factor that may partially ameliorate the negative effect of the high saturated fat content of coconut oil (17). However, we are unaware to date that any food company uses virgin coconut oil to make their coconut milk. We note that plant-based non-dairy beverages contain no cholesterol, while dairy milk contains 5-34 mg/serving depending upon the level of fat in the dairy milk.

Table 2
Summary of Nutrient Content of Non-dairy Plant-Based Beverages

| Healthy Nutrient | Beverages With Highest Level | Beverages With Lowest Level |
|------------------|------------------------------|-----------------------------|
| Calcium | Almond, soy, pea | Coconut, cashew |
| Vitamin D | Pea | Almonds, coconut |
| Vitamin B12 | Almond, cashew, soy | Rice |
| Protein | Pea, soy | Coconut, rice |

| Unhealthy Nutrient | Beverages With Highest Level | Beverages With Lowest Level |
|--------------------|------------------------------|-----------------------------|
| Sodium | Pea, almond | Coconut, soy |
| Sugar | Rice, oats | Coconut, cashew, pea |
| Saturated fat | Coconut | All the others |

Fiber

Dietary fiber is known to promote gastrointestinal and cardiovascular health, and improves glycemia and insulin sensitivity in both diabetic and non-diabetic individuals (18). The addition of prebiotic fibers, such as chicory root extract, to some beverages, would be considered a healthy addition since they may also enhance immune function (18). Soy, pea, oats and macadamia-based beverages tended to have the higher fiber contents. While most of the plant-based milks have 1-2 g fiber/serving, some (such as coconut and cashew) have negligible amounts, while dairy milk has none. Very few beverages contain carrageenan anymore to thicken their product. This seaweed extract was thought to be associated with some risk of causing cancer (19). The most

popular gums used today as thickening agents and emulsifiers are gellan gum, locust bean gum, xanthan gum, and guar gum. These water-soluble gums are useful for managing glycemia and hypercholesterolemia (18, 20, 21).

Glycemic Index

The glycemic index (GI) of the plant-based beverages also vary some. A diet comprised of lower GI foods is associated with a lower risk of obesity, diabetes, and cardiovascular disease (22). A low GI (<55) and medium GI (56 to 69) food is recommended, especially for those who wish to better regulate their blood glucose levels (22). Compared to dairy milk with a GI of 47, most of the non-dairy alternatives have a GI ranging from 50 to 60 (macadamia 50, cashew 53, soy 53, hazelnut 56, almond 57, and oats 60). The exceptions are coconut (GI = 97) and rice (GI = 99) (23).

Unique Features of Some Beverages

For some, flax and hemp milks may be the beverages of choice because of their rich content of heart-healthy omega-3 fatty acids (24, 25). Soy beverages are unique in their content of isoflavones. These soy phytochemicals have been shown to be protective against heart disease, breast and prostate cancer, and loss of bone mineral content (26). The isoflavone level in a soy beverage can vary markedly between brands, whether the beverage is made from the whole bean or soy protein isolate (27).

Rice and rice-based foods may contain a measurable amount of arsenic, considered a carcinogen (28). It has been suggested to limit the consumption of rice products, such as rice milk, to no more than 1 to 3 servings a week (29). Health authorities have recommended that children under the age of 5 should not have rice milk as part of their regular diet (30, 31). The analysis of 6 samples from 2 common brands of rice milk revealed arsenic levels ranging from 17

70 ppb (with an average of 30 ppb), levels that exceed the US drinking water maximum allowable level of 10 ppb (30). Brown rice syrup also contains arsenic, and has been used as a sweetening agent in some brands of hemp milk (30).

Sustainability Issues

Many consumers are concerned that their food choices be eco-friendly and sustainable. Researchers at University of Oxford have reported that the production of plant-based beverages (such as oat, soy, almond and rice milk) are associated with only 22-38% of the greenhouse gas (GHG) emissions of the level associated with dairy milk production (32,33). Water usage is also much less in the production of plant-based beverages than for dairy milk. While soy and oat production have a very low water usage, rice and almonds are quite water-intensive crops (33). About 270 liters of water are required for the production of one liter of rice milk, while 370 liters are required for the production of one liter of almond milk (33). Even so, almond and rice beverages still require much less water than the production of dairy milk.

In addition to the heavy water usage in almond production (34), almond farming also has an adverse effect on bees used to pollinate the almond trees (35). On the other hand, hazelnuts are pollinated by the wind rather than the honeybee, and grow in moist climates where water needs are much less of an issue. Rice is not only a high water consumer (33), it produces more GHG emissions than any other crop used for plant-based beverages (36). Soy milk and oat milk are considered eco-friendly. Both are associated with low water and land usage and modest GHG emissions (33). While almond and rice based beverages have environmental issues, all plant-based dairy alternatives have markedly lower GHG emissions, water usage, and land usage associated with their production than dairy milk production.

Conclusion

Consumers need to be well-informed regarding the nutritional content of the many plant-based dairy alternatives available, since their nutrient profiles can vary greatly between the different types of beverages (see Tables 1 and 2) and the levels of fortification can vary substantially between brands. Some beverage choices would not be advisable for young children to consume regularly as a substitute for dairy milk. Clearly, those beverages with at least 5 g of protein and not more than 10 g of sugar per serving, and having at least 10-20% DV of calcium, vitamin D and B12 per serving would be recommended, especially for children.

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Winston Criag, PhD, MPH, is Professor Emeritus of Nutrition at Andrews University, Michigan, and adjunct Professor of Public Health at Loma Linda University, California. He has over 40 years of teaching experience, is the author of 8 books on vegetarian nutrition and herbs, has peer-reviewed over 30 articles on nutrition and is the editor of CRC press book on Vegetarian Nutrition and Wellness. He has authored over 300 articles for health publications and 8 chapters for various books and is the co-author of a vegetarian nutrition position paper in 2009 and 2016 for the Academy of Nutrition and Dietetics.





PLANT-BASED COOKING CORNER

Featured Recipe: Soy Nut Milk

Provided by Joycelyn Peterson, DrPH, MPH, RDN

INGREDIENTS

- ½ cup blanched almonds
- ½ cup raw cashew nuts
- 1 cup soy milk powder
- 8 cups cold water
- 2 teaspoons honey

Nutrition Information (per serving/portion):

Calories: 156
 Protein: 8 g
 Carbohydrate: 9 g
 Sodium: 42 mg
 Fiber: 6 g
 Calcium: 56 mg



METHOD

1. Toast blanched almonds and raw cashews on cookie sheets in oven at 250 F. It is important that they be only lightly toasted.
2. Using one ingredient at a time, whiz together in a blender 2 or 3 minutes or until very well blended.
3. Pour into a container and let stand in refrigerator for at least an hour. Blend again for about 1 minute. Serve milk or store in refrigerator for up to 3 days. Makes 8 cups.



Dr. Joycelyn Peterson, is a registered dietitian, presently professor and Director of Nutritional Sciences Program at Morgan State University, Baltimore, Maryland. She has published three vegetarian cookbooks and many articles on plant-based diets.

Featured Recipe: Caribbean Piñabana Cooler

Provided by Malerie Horsford, BS

INGREDIENTS

- 2 cups fresh diced pineapples (chilled)
- 2 small ripe bananas cut into 1-inch pieces
- ½ cup sea moss gel
- 2 cups unsweetened almond milk (chilled)
- 1/8 teaspoon grated nutmeg
- ¼ teaspoon coconut essence
- 1 cup ice cubes

Nutrition Information (per serving/portion):

Calories: 110
 Protein: 1 g
 Carbohydrate: 25 g
 Sodium: 77 mg
 Fiber: 3 g
 Calcium 243 mg

METHOD

1. Add pineapples, bananas, almond milk, sea moss gel, coconut essence, and nutmeg to blender. Blend for 30 seconds.
2. Add ice cubes and continue blending until smooth or preferred consistency.
3. Pour into glasses and serve. Makes approximately 4 8-ounce cups



Malerie Horsford, B.S. (Hons), is a Food, Nutrition & Health Educator at the Secondary School Level in Trinidad and Tobago. When she isn't working, she enjoys long distance running, playing with her pup Spot, and creating healthy versions of common local dishes in the kitchen with her dad Errol.

PROGRAM & STUDENT HIGHLIGHTS: NORTHERN CARIBBEAN UNIVERSITY

By Vinola Richards, MA, RDN
Chair & Dietetics Internship Director at Northern Caribbean University



Northern Caribbean University (NCU) is a private, liberal-arts institution, located in Jamaica, and is owned and operated by the Jamaica Union Conference and the

Atlantic Caribbean Union Mission of Seventh-day Adventists (comprising the territories the Bahamas, Cayman Islands and the Turks and Caicos Islands). NCU offers a number of professional, pre-professional and vocational programs in a spiritually wholesome and aesthetically pleasing atmosphere. Its main campus is located in Manchester, and three regional campuses are in Kingston, Montego Bay, and St. Ann.

The department of Nutrition, Dietetics and Food Science offers a Bachelor of Science in Dietetics, an Associate of Science in Dietetics, and a Minor in Food and Nutrition.

The Bachelor of Science degree in Dietetics is a coordinated undergraduate program, with an integrated supervised practice consisting of 1200 hours in four domains (foodservice systems management, clinical, public health, and research). The program consists of credits from a given core, cognates, and general education requirements. The total number of credits for the Dietetics degree is at least one hundred and forty-one (141) credits consisting of sixty-eight (68) core credits, the cognates of thirty-eight (38) credits, and thirty-five (35) general education

credits. Requirements for entry level includes five passes at the Caribbean Secondary Education Certificate (CSEC) examination level including Math, English, Chemistry, Biology and any other subject.

The Dietetics curriculum is designed to:

- Prepare students to work in the fields of nutrition and dietetics.
- Provide foundations for advanced academic work.
- Enable students to register with the Council for Professions Allied to Medicine (CPAM) as Registered Dietitians (RD) and Registered Nutritionists (RNutr.)
- Foster the development of problem-solving and resource management skills.
- Encourage the development of personal resourcefulness.
- Apply evidence-based guidelines and evaluate emerging research for application in dietetics practice.

Associate of Science degree in Dietetics

This program consists of forty-one (41) core credits, twenty-four (24) credits of cognates and twenty-six (26) credits of general education requirements. The total number of credits for the Associate degree in Dietetics is ninety (90) credits minimum.

Minor in Food and Nutrition

Students are required to complete a total of twenty-three (23) credits for the minor in food and nutrition.

MEMBER SPOTLIGHT:

FIONA LEWIS, DRPH, MPH, RDN, LDN

FOUNDER, LLBJ CULINARY AND WELLNESS ENTERPRISES LLC.

<https://shedidthatfood.com/> | fionaloub@gmail.com

Dr. Fiona Lewis is a culinary nutrition and wellness entrepreneur who resides in Jackson, Mississippi. She describes herself as the girl who keeps going for all God invites her to become for His glory. Her favourite healthy snack, Tangelos. It is a treat to feature her in this issue.



1. Why did you decide to pursue a career in nutrition and dietetics?

Many of my mother's siblings experienced and died from complications of preventable lifestyle-related illnesses such as type 2 diabetes and heart disease. I also noticed the same patterns in communities representing the African and Caribbean diaspora in the US. As a result, I wanted to challenge the health disparities I observed by educating and empowering people from these communities to create a legacy of health.

2. Tell us about your career path within dietetics.

My career path began with me completing a Master of Science at Andrews University while taking a Didactic Program in Dietetics classes to

obtain my verification statement. I completed my Dietetic Internship at Orlando Regional Medical Center. It took me 3 years to complete the MS and 8-month internship. I passed my RD exam in 2007, and began serving as a clinical dietitian for Sodexo in NY City, at Westchester Square and White Plains Hospitals. I worked for Visiting Nurse Services of NY for 1 year doing home visits for Medicare-eligible clients and I then went on to complete a doctorate in public health at Loma Linda. I completed my DrPH in Preventive Care in 3 years. After my doctorate, I served in academia for 4 years for Andrews University and then Oakwood University. After my tenure at those two institutions, I completed a professional chef training program with an emphasis in plant-based culinary arts and then went on to assist the University of Mississippi Medical Center to establish their lifestyle medicine program for their medical residents. During that time, I also launched my own culinary nutrition company called LLBJ Culinary and Wellness Enterprises LLC and the SHE DID THAT_FOOD® brand.

3. What skills do you consider to be essential in this field?

- | | |
|--------------|---------------------|
| 1 | 2 |
| Adaptability | Public Speaking |
| 3 | 4 |
| Leadership | Innovative Thinking |

4. Have you noticed any changes in public perception and nutrition awareness since you started working as a dietitian in your country or community?

Yes, I have noticed a greater emphasis on nutrition and healthy eating, especially plant-based eating. Consumers want to educate themselves rather than relying on experts and there is also a demand for greater transparency. One of the most interesting shifts that I have observed is the public's perception about who is a nutrition expert, whose recommendations they are willing to follow, and what sources they use to obtain nutrition information.

5. What is your vision for the field of nutrition and dietetics?

My vision involves an increase in the diverse representation of credentialed professionals and an increase in innovative career pathways where the knowledge and skills acquired are applied in non-traditional ways. I would like to see more RDNs working in fields where RDNs do not typically work and non-traditional cross-industry collaborations.

6. Do you have any advice for students who are interested in studying nutrition and dietetics?

Master the content and skills that you are being taught. However, as you develop your career pathway be adaptable and think about the future of food and nutrition beyond the traditional role of RDNs.

7. Are there any upcoming projects you would like to tell us about?

In addition to refining my seasoning collection called Flavor in A Box, I am currently working on three projects. The first project is a virtual platform with multiple courses related to nutrition, wellness, and whole person care. The first course will be about women's health (hormones, gut health, and reproductive conditions). The second project is a plant-based menu/meal planning tool with foods representing the African and Caribbean diaspora. The third project is a community nutrition internship rotation collaboration with Oakwood University's Dietetic Internship Program. Students interested in doing a virtual community nutrition rotation can email me to set up an interview.





ANDIA UPDATES

Announcing ANDIA's First Virtual Meet and Greet

On October 3, 2021 at 1 pm PDT, ANDIA will be hosting its first-ever virtual meet and greet! This event will allow ANDIA members to meet the executive committee as well as interact and network with dietitians and nutritionists from around the world. Stay tuned for further details!

Learn how the Seventh-Day Adventist Nutrition and Health Message is spreading around the globe.

Network with other Seventh-Day Adventist Nutrition and Health professionals.

Hear exciting stories of what other professionals are doing to share the Seventh-Day Adventist message of Nutrition and Health.

JOIN US FOR THIS VIRTUAL EVENT!
DATE: SUNDAY, OCTOBER 3
TIME: 1 PM PDT
STAY TUNED FOR MORE INFORMATION

Be an Independent Preceptor

Did you know that you can register to be an independent preceptor with ACEND and obtain continuing education? Email us at ANDIAAssociation@gmail.com to find out more.

Plant-Based Nutrition Webinar Series to Begin in October

ANDIA's Plant-Based Nutrition Webinar Series will be kicking off on October 10, 2021. In this series, you will hear from leading experts in the fields of nutrition, medicine, and environmental science. See flyer on next page. More information to come!



ADVENTIST NUTRITION AND DIETETICS INTERNATIONAL ASSOCIATION

is pleased to announce an upcoming

PLANT-BASED NUTRITION WEBINAR SERIES

Topics and Dates:

"Can Vegetarian Diets Prevent and Treat Diabetes?"

Presenter: Dr. Zeno Charles-Marcel

Adjunct Associate Professor of Medicine at Loma Linda University

Sunday, October 10, 2021

"Are Vegetarian Diets Adequate for Growing Children?"

Presenter: Dr. Reed Mangels

Senior Nutrition Advisor for the Vegetarian Resource Group

Sunday, November 14, 2021

"Vegetarian Nutrition: Pathway to Sustainable Diets"

Presenter: Dr. Joan Sabaté

Director of Center for Nutrition, Lifestyle and Disease Prevention,
School of Public Health, Loma Linda University

Sunday, December 12, 2021

"Impact of Vegetarian Diets on Health of the Human Microbiome"

Presenter: Dr. Fayth Miles

Assistant Professor of School of Public Health and School of Medicine,
Loma Linda University

Sunday, January 9, 2022

REGISTRATION DETAILS TO FOLLOW LATER

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ANDIA NEWS

The Official Newsletter of the Adventist Nutrition & Dietetics International Association



Our Mission

To connect nutrition and dietetic professionals globally and advance the profession through research, education, and outreach in accordance with the philosophy and teachings of the Seventh-day Adventist Church.



Submission Information

This newsletter is a way of connecting with our members. You are invited to submit articles, news, and leave comments/recommendations. Contact us at ANDIAssociation@gmail.com for submission guidelines.

Article Submission Deadlines

Winter Issue: October 18, 2021

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