

CATEGORY: FOOD, NUTRITION & FOOD ACTION INITIATIVES

Nutrition

Research has validated nutrition as an important health determinant. The scope of research and research topics continue to expand exponentially. Plant-based nutrition is an area of substantial research currently, as is nutritional cognitive neuroscience and impacts on specific areas of health like brain fatigue, mood, and inflammation. Nutrition derived from plants is being investigated in relation to specific health conditions including asthma, hypertension management and cardiovascular outcomes, kidney disease, diabetes, breast and other cancers (Satija & Hud, 2018; Schulze et al., 2018; Morin et al., 2020; Trautwein & McKay, 2020; Alwarith et al., 2020; Almarzooq et al., 2023; Carrero et al., 2020; DeBruyn et al., 2020; Keaver et al., 2022; Limon-Miro et al., 2021). Studies on specific populations - American Indians & diabetes, Kenyans and their indigenous vegetables, and aging populations and their nutritional behavior patterns are shedding light on health correlates (DeBruyn et al., 2020; Ornelas et al., 2021; Bokelmann et al., 2022; Dominguez et al., 2024).

Prominent within the nutrition field, evident in research topics and expanding interest in business opportunities, are plant-based foods, plant protein, plant protein diversity, plant substitutes for cow milk and meat, and the promotion of plant-based diets (Ahnen et al., 2019; Gordon et al., 2023; Hertzler et al., 2020; McClements, 2020; Nosworthy et al., 2023; Salomé et al., 2020; Taifik et al., 2019; Toribio-Mateas et al., 2021; Verduci et al., 2019). Organizations like *Plant Based Foods Association*, and national and international [conferences on plant-based foods/nutrition/prevention of diseases](#) are emerging in greater numbers.

Issues like access to nutritious food, school-based nutrition programming and nutrition literacy for students, farm to school programs and related activity continue to be important in the nutrition-health sector (Angeles-Agdeppa et al., 2019; Charlton et al., 2021; de Medeiros et al., 2019; Kim & Park, 2020; Lai et al., 2021; Prescott et al., 2020; Turner & Calvert, 2019; Vamos et al., 2021). Research on COVID-19 is teasing out impacts on nutrition, food security and food consumption, these exacerbated during the pandemic (Refer to the Florida Horticulture for Health Network's Resource Hub [Pandemic Gardening](#) section). Strategies like nutrition counseling, therapeutic horticulture, food Rx models, nutrition education centers (Ikendi et al., 2023), and food literacy continue to play a role in health across populations, with particular focus on people with food and nutrition insecurity. Newer research in the field of nutrition seeking to address food security has included studies on mineral nutrients in plants, underutilized plant foods like sweet potato, edible insects, and nutritional value of food in food pantries (Khan et al., 2023; Kim et al., 2021; Li et al., 2023; Simmet et al., 2017).

More recent research has investigated nutrition-focused topics impacting health like the role of taste and texture, cultural nutrition/foodways (MIPLATO) (Weibe, 2021), pros and cons of vegetarian diets (Schürmann et al., 2017), and personalized nutrition (Cook, 2024). Production of phytochemicals and nutraceutical potential from plants - stone fruits among them, is currently an area of interest (Lara et al., 2020; Manivannan et al., 2020; Singh et al., 2023). Clinical utilization of plant-based nutrition and fasting protocols as a novel therapy has also emerged (Jamshed et al., 2024) as have university courses and certificates in plant-based nutrition and sustainable agriculture (Consumnes River College, California Dept. of Education, University of Guelph).

Investigations into specific plants and their role in nutrition and health appear to be increasing including lemongrass, indigenous vegetables, microgreens, quinoa greens, nuts (and nut

consumption), nightshade vegetables, watermelon, dandelions, prickly pear, ginkgo seeds, ancient wheats and wild edible plants (Adhikary et al., 2024; Bokelmann et al., 2022; Di Gioia et al., 2022; Gómez et al., 2024; Kim et al., 2017; Kuang et al., 2023; Dhuli et al., 2023; Liu et al., 2021; Roumia et al., 2023; Tharmabalan, 2023).

Previously identified developments related to nutrition and food—food is medicine movement and produce prescription programs—are seen as important on-going activity in this sector. References for these have been included in the Florida Horticulture for Health Network’s Resource Hub - Food subset in Food, Nutrition and Food Action category, with a reference for Fleming, Zhang & Nelson (2022) Horticulture for Health Activity in U.S. Hospitals: Horticultural Therapy, Gardens in Hospitals, Nutrition-led Programming, and Affiliated Community Gardens.

Resources on plants-based nutrition, and their connection to health are extensive. The resources listed here were selected, meant to be a starting point for further investigation.

Refer to Resource Hub: Food, Nutrition & Food Action category: food subset and Horticulture Practices category for related resources.

Key Organizations

[Academy of Nutrition and Dietetics](#)

[American Society for Nutrition](#) (ASN) – vision is a healthier world through evidence-based nutrition, advancing the science, education, and practice of nutrition

[Dept of Food, Bioprocessing and Nutrition Sciences NC State University](#)

[Institute of Child Nutrition](#) (ICN) – variety of programs, resources specifically geared to children & nutrition

[Institute of Food Technologists](#)

[MiPlato /My Plate](#)

[Nutrition Incentive Hub](#)

[USDA Food and Nutrition Service](#) – mission to increase food security & reduce hunger by providing low-income people access to food, healthful diet & nutrition education supporting American horticulture

[USDA Center for Nutrition Policy and Promotion](#) (CNPP) “works to improve health & well-being of Americans by developing & promoting dietary guidance that links scientific research to nutrition needs of consumers”

Books, journals & epublications on nutrition

Backman, C. (2016). [Integrating gardening, nutrition, & 4-H positive youth development: An overview.](#) Washington State University Extension.

Cornell University. (2022). [Garden-Based Learning: Nutrition in the Garden.](#)

[Dietary Guidelines for Americans 2020-2025 Edition.](#)

FAO. IFAD. UNICEF. WFP. WHO. (2020). [The State of Food Security and Nutrition in the World 2023.](#)

Feeding America. (2021). [Nutrition in Food Banking Toolkit](#) (2nd edition).

[Journal of Agriculture, Food Systems, and Community Development](#)

[Journal of Food Science](#)

[Journal of Nutrition, Education & Behavior](#)

Kuhnlein, H., & Turner, N. (2020). [Traditional Plant Foods of Canadian Indigenous Peoples: Nutrition, Botany and Use.](#) Routledge.

[Nutrients journal](#)

[Plant Foods for Human Nutrition journal](#)

Smithsonian Science Education Center. (2022). [Curriculum Food! How Do We Ensure Good Nutrition For All?](#)

[Tray Talk Communities for healthy school meals website](#)

Research & articles on nutrition

Recently published selected research & articles:

Adhikary, K., Banerjee, P., Barman, S., Bandyopadhyay, B., & Bagchi, D. (2024). Nutritional aspects, chemistry profile, extraction techniques of lemongrass essential oil and its physiological benefits. *J Am Nutr Assoc.*, 43(2), 183-200

Ahnen, R.T., Jonnalagadda, S.S. & Slavin, J.L. (2019). Role of plant protein in nutrition, wellness, and health. *Nutrition Review*, 77(11), 735-747.

Alwarith, J., Kahleova, H., Crosby, L., Brooks, A., Brandon, L., Levin, S. M., & Barnard, N. D. (2020). The role of nutrition in asthma prevention and treatment. *Nutrition Reviews*, 78(11), 928-938.

Altawili, A.A., Altawili, M., Alwadai, AM. et al. (2023). An exploration of dietary strategies for hypertension management: A narrative review. *Cureus*, 15(12), e50130

Angeles-Agdeppa, I., Monville-Oro, E., Gonsalves, J.F., & Capanzana, M.V. (2019). Integrated school based nutrition programme improved the knowledge of mother and schoolchildren. *Maternal & Child Nutrition*, 15 Suppl 3(Suppl 3), e12794.

Ashaolu, T.J. (2020). Antioxidative peptides derived from plants for human nutrition: Their production, mechanisms and applications. *European Food Research and Technology*, 246, 853-865.

Bhatta, S., Stevanovic Janezic, T., & Ratti, C. (2020). Freeze-drying of plant-based foods. *Foods*, 9(1), 87.

Bokelmann, W., Huyskens-Keil, S., Ferenczi, Z., & Stöber, S. (2022). The role of indigenous vegetables to improve food and nutrition security: Experiences from the project HORTINLEA in Kenya (2014–2018). *Frontiers in Sustainable Food Systems*, 6, 806420.

Carrero, J.J., González-Ortiz, A., Avesani, C.M. et al. (2020). Plant-based diets to manage the risks and complications of chronic kidney disease. *Nature Reviews Nephrology*, 16(9), 525-542.

Carino, S., Malekpour, S., Porter, J., & Collins, J. (2021). The drivers of environmentally sustainable hospital foodservices. *Front Nutr.*, 8, 740376.

Charlton, K., Comerford, T., Deavin, N., & Walton, K. (2021). Characteristics of successful primary school-based experiential nutrition programmes: A systematic literature review. *Public Health Nutr.*, 24(14), 4642-4662.

Cook, E. (2024). Personalized nutrition to changes in plant-based protein: Ingredient trends to watch in 2024. *Global Food Industry News*.

Day, K., Tsupros, M.M., & Schober, D.J. (2022). To plant a garden is to believe in tomorrow: A case study of a Chicago community-based organization focused on health education through school gardens. *J Prev Interv Community.*, 50(1), 72-88.

DeBruyn, L., Fullerton, L., Satterfield, D., & Frank, M. (2020). Integrating culture and history to promote health and help prevent Type 2 diabetes in American Indian/Alaska Native communities: Traditional foods have become a way to talk about health. *Prev Chronic Dis.*, 17, E12.

de Medeiros, G.C.B.S., de Azevedo, K.P.M., Garcia, D.Á. et al. (2019). Protocol for systematic reviews of school-based food and nutrition education intervention for adolescent health promotion: Evidence mapping and syntheses. *Medicine, (Baltimore)* 98(35), e16977.

Derbyshire, E.J. (2017). Flexitarian diets and health: A review of the evidence-based literature. *Frontiers in Nutrition*, 3, 55.

Di Gioia, F., Petropoulos, S.A., Ferreira, I.C.F.R. & Rosskopf, E.N. (2021). Microgreens: From trendy

- vegetables to functional food and potential nutrition security resource. *ISHS Acta Horticulturae 1321: III International Symposium on Soilless Culture and Hydroponics: Innovation and Advanced Technology for Circular Horticulture*.
- Dominguez, L.J., Veronese, N., & Barbagallo, M. (2024). Dietary patterns and healthy or unhealthy aging. *Gerontology*, 70(1), 15-36
- Dominguez, L.J., Donat-Vargas, C., Sayon-Orea, C. et al. (2023). Rationale of the association between Mediterranean diet and the risk of frailty in older adults and systematic review and meta-analysis. *Exp Gerontol.*, 15, 177, 112180
- Doustmohammadian, A., Omidvar, N., & Shakibazadeh, E. (2020). School-based interventions for promoting food and nutrition literacy (FNLIT) in elementary school children: A systematic review protocol. *Syst Rev.*, 9(1), 87.
- Dhuli, K., Bonetti, G., Micheletti, C. et al. (2023). Unraveling the role of prickly pear extract as a potent nutraceutical agent against metabolic syndromes. *Clin Ter.*, 174(Suppl 2(6), 159-168.
- Ebert, A. W. (2020). The role of vegetable genetic resources in nutrition security and vegetable breeding. *Plants*, 9(6), 736.
- Everett, W., Badaracco, C., & McCauley, S. (2020). From hospital to home: Why nutrition counts. *Health Affairs*. <https://www.healthaffairs.org/doi/10.1377/forefront.20200117.329745/full/>
- Evert, A., Dennison, M., Gardner, C.D., Garvey, T., Lau, K.H.K., & MacLeod, J. (2019). Nutrition therapy for adults with diabetes or prediabetes: A consensus report. *Diabetes Care*, 142(5), 731–754.
- Fleming, L., Zhang, W. & Nelson, K. (2022). Horticulture for health in U.S. hospitals: Horticultural therapy, gardens in hospitals, nutrition-led programs & affiliated community gardens. *Journal of Therapeutic Horticulture*, 32(1), 13-32.
- Fleming, L. (2021). Horticulture for health framework. *ISHS Acta Horticulturae 1330: XV International People Plant Symposium and II International Symposium on Horticultural Therapies: The Role of Horticulture in Human Well-being and Social Development*.
- Gaikwad, K.B., Rani, S., Kumar, M. et al. (2020). Enhancing the nutritional quality of major food crops through conventional and genomics-assisted breeding. *Front Nutr.*, 7, 533453
- Gómez, M.J.R., Magro, P.C., Blázquez, M.R., et al. (2024). Nutritional composition of quinoa leafy greens: An underutilized plant-based food with the potential of contributing to current dietary trends. *Food Research International*, 178, 113862.
- Gordon, M., Peña, AN., Beal, T., & Bezner Kerr, R. (2023). Suitability of alternative protein foods for agroecological approaches to address nutrition in low- and middle-income countries. *Curr Dev Nutr.*, 30;8(Suppl 1), 101998.
- Greer, A.E., Davis, S., Sandolo, C., Gaudet, N., & Castrogivanni, B. (2018). Agricultural experiences are positively associated with high school students' fruit and vegetable perceptions and consumption. *J Nutr Educ Behav.*, 50(2), 133-140.e1.
- Heady, D.D., & Alderman, H.H. (2019). The relative caloric prices of healthy and unhealthy foods differ systematically across income levels and continents. *The Journal of Nutrition*, 149(11), 2020-2033.
- Hertzler, S.R., Lieblein-Boff, J.C., Weiler, M., & Allgeier, C. (2020). Plant proteins: Assessing their nutritional quality and effects on health and physical function. *Nutrients*, 12(12), 3704.
- Hunter, D., Borelli, T., Beltrame, D.M. et al. (2019). The potential of neglected and underutilized species for improving diets and nutrition. *Planta*, 250, 709-729.
- Hull, S.C., Charles, J., & Caplan, A.L. (2023). Are we what we eat? The moral imperative of the medical profession to promote plant-based nutrition. *The American Journal of Cardiology*, 188, 15-21.
- Ikendi, S., Owusu, F., Masinde, D., Oberhauser, A., & Bain, C. (2023). Nutrition education centers: A community-based approach to management of malnutrition. *Journal of Agriculture, Food Systems, and Community Development*, 13(1), 9–15.
- Jamshed, H., Wright, N., & Kelly, O. (2024). Clinical utilization of plant-based nutrition and fasting

- protocols as novel therapies. *Frontiers in Nutrition*, 11, 1390857.
- Keaver, L., Houlihan, C., O'Callaghan, N., LaVertu, A.E., Ding, X., & Zhang, F.F. (2022). Evidence-based nutrition guidelines for cancer survivors in Europe: A call for action. *Eur J Clin Nutr.*, 76(6), 819-826.
- Khan, MIR., Nazir, F., Maheshwari, C., Chopra, P., Chillar, H., & Sreenivasulu, N. (2023). Mineral nutrients in plants under changing environments: A road to future food and nutrition security. *Plant Genome*, 16(4), e20362
- Kim, Y., Keogh, JB., & Clifton, PM. (2017). Benefits of nut consumption on insulin resistance and cardiovascular risk factors: Multiple potential mechanisms of actions. *Nutrients*, 9(11), 1271. National Center for Biotechnology Information: Bethesda [MD].
- Kim, S.O., & Park, SA. (2020). Garden-based integrated intervention for improving children's eating behavior for vegetables. *Int J Environ Res Public Health.*, 17(4), 1257.
- Kim, S., Meyers, S.L., Silva, J.L., Wesley Schilling, M., Siberio, W. et al. (2021). Sensory and nutritional characteristics of concept frozen desserts made from underutilized sweet potato roots. *HortTechnology*, 31(3).
- Klem, S. (2021). Food sources of 5 important nutrients for vegetarians. *Academy of Nutrition and Dietetics*.
- Kuang, R., Levinthal, DJ., Ghaffari, AA., Del Aguila de Rivers, CR., Tansel, A., & Binion, DG. (2023). Nightshade vegetables: A dietary trigger for worsening inflammatory bowel disease and irritable bowel syndrome? *Dig Dis Sci.*, 68(7), 2853-2860.
- Lai, I.J., Chang, L.C., Lee, C.K., & Liao, L.L. (2021). Nutrition literacy mediates the relationships between multi-level factors and college students' healthy eating behavior: Evidence from a cross-sectional study. *Nutrients*, 13(10), 3451.
- Laila, U., Kaur, J., Sharma, K., Singh, J., Rasane, P., Kaur, S., & Bhadariya, V. (2024). Dandelion (*Taraxacum officinale*): A promising source of nutritional and therapeutic compounds. *Recent Adv Food Nutr Agric*. 2024.
- Lara, M.V., Bonghi, C., Famiani, F., Vizzotto, G., Walker, R.P., & Drincovich, M. F. (2020). Stone fruit as biofactories of phytochemicals with potential roles in human nutrition and health. *Frontiers in Plant Science*, 11, 562252.
- Lettieri-Barbato, D., & Aquilano, K. (2018). Pushing the limits of cancer therapy: The nutrient game. *Front Oncol.*, 8, 148.
- Li, Y., Xiang, N., Zhu, Y. et al. (2024). Blue source-based food alternative proteins: Exploring aquatic plant-based and cell-based sources for sustainable nutrition. *Trends in Food Science & Technology*, 104439.
- Li, M., Mao, C., Li, X. et al. (2023). Edible insects: A new sustainable nutritional resource worth promoting. *Foods*, 12(22), 4073.
- Limon-Miro, A.T., Valencia, M.E., Lopez-Teros, V. et al. (2021). An individualized food-based nutrition intervention reduces visceral and total body fat while preserving skeletal muscle mass in breast cancer patients under antineoplastic treatment. *Clin Nutr.*, 40(6), 4394-4403.
- Liu, W., Zou, M., Wang, Y., Cao, F., & Su, E. (2021). Ginkgo seed proteins: Characteristics, functional properties and bioactivities. *Plant Foods Hum Nutr.*, 76(3), 281-291.
- Litton, M.M., & Beavers, A.W. (2021). The relationship between food security status and fruit and vegetable intake during the COVID-19 pandemic. *Nutrients*, 13(3), 712.
- Lott, M., & Story, M. (2019). The future of healthy eating research. *Stanford Social Innovation Review*.
- Manivannan, A., Lee, E.S., Han, K., Lee, H.E., & Kim, D.S. (2020). Versatile nutraceutical potentials of watermelon-A modest fruit loaded with pharmaceutically valuable phytochemicals. *Molecules*, 25(22), 5258.
- McClements, D.J. (2020). Development of next-generation nutritionally fortified plant-based milk substitutes: Structural design principles. *Foods*, 9(4), 421.

- Medici, E., Craig, WJ., Rowland, I. (2023). A comprehensive analysis of the nutritional composition of plant-based drinks and yogurt alternatives in Europe. *Nutrients*, 15(15), 3415
- Milliron, B. (2021). Creating a more powerful framework for healthcare promotion, research, and teaching: An eco-biopsychosocial model. *ISHS Acta Horticulturae 1330: XV International People Plant Symposium and II International Symposium on Horticultural Therapies: The Role of Horticulture in Human Well-being and Social Development*.
- Milliron, B.J., Vitolins, M.Z., Gamble, E., Jones, R., Chenault, M.C., & Tooze, J.A. (2017). Process evaluation of a community garden at an urban outpatient clinic. *J Community Health.*, 42(4), 639-648.
- Morin, É., Michaud-Létourneau, I., Couturier, Y., & Roy, M. (2019). A whole-food, plant-based nutrition program: Evaluation of cardiovascular outcomes and exploration of food choices determinants. *Nutrition*, 66, 54-61.
- Mozaffarian, D., Andrés, J.R., Cousin, E., Frist, W.H., & Glickman, D.R. (2022). The White House Conference on hunger, nutrition and health is an opportunity for transformational change. *Nat Food.*, 3(8), 561-563.
- Nosworthy, MG., Medina, G., Lu, ZH., & House, JD. (2023). Plant proteins: Methods of quality assessment and the human health benefits of pulses. *Foods*, 12(15), 2816.
- Ohri-Vachaspati, P., Turner, L., Adams, M.A., Bruening, M., & Chaloupka, F.J. (2016). School resources and engagement in technical assistance programs is associated with higher prevalence of salad bars in elementary school lunches in the United States. *J Acad Nutr Diet.*, 116(3), 417-426.
- Ornelas, I.J., Rudd, K., Bishop, S., Deschenie, D., Brown, E., Lombard, K., & Beresford, S.A.A. (2021). Engaging school and family in Navajo Gardening for Health: Development of the Yéego intervention to promote healthy eating among Navajo children. *Health Behav Policy Rev.*, 8(3), 212-222.
- Pak, S. (2021). PBFA analysis: Final 2020-2025 U.S. dietary guidelines for Americans. <https://www.plantbasedfoods.org/pbfa-analysis-final-2020-2025-u-s-dietary-guidelines-for-americans/>
- Palar, K, Lemus Hufstedler, E., Hernandez, K., Chang, A., Ferguson, L., Lozano, R., & Weiser, S.D. (2019). Nutrition and health improvements after participation in an urban home garden program. *J Nutr Educ Behav.*, 51(9), 1037-1046.
- Peña-Jorquera, H., Cid-Jofré, V., Landaeta-Díaz, L. et al. (2023). Plant-based nutrition: Exploring health benefits for atherosclerosis, chronic diseases, and metabolic syndrome—A comprehensive review. *Nutrients*, 15(14), 3244.
- Plant Based Foods Association. (2021). PBFA endorses the healthy future students and Earth Act. <https://www.plantbasedfoods.org/pbfa-endorses-the-healthy-future-students-and-earth-act/>
- Popa, M.E., Mitelut, A.C., Popa, E.E., Stan, A., & Popa, V.I. (2019). Organic foods contribution to nutritional quality and value. *Trends in Food Science & Technology*, 84, 15-18.
- Prescott, M.P., Cleary, R., Bonanno, A., Costanigro, M., Jablonski, B.B.R., & Long, A.B. (2020). Farm to school activities and student outcomes: A systematic review. *Adv Nutr.*, 11(2), 357-374.
- Rains, C.B., Giombi, K.C., & Joshi, A. (2019). Farm-to-school education grants reach low-income children and encourage them to learn about fruits and vegetables. *Transl Behav Med.*, 9(5), 910-921.
- Roumia, H., Kókai, Z., Mihály-Langó, B., Csobod, ÉC., & Benedek, C. (2023). Ancient wheats-A nutritional and sensory analysis review. *Foods*, 12(12), 2411
- Salomé, M., de Gavelle, E., Dufour, A. et al. (2020). Plant-protein diversity is critical to ensuring the nutritional adequacy of diets when replacing animal with plant protein: Observed and modeled diets of French adults (INCA3). *The Journal of Nutrition*, 150(3), 536-545.
- Satija, A., & Hu, F. (2018). Plant-based diets and cardiovascular health. *Trends Cardiovascular Medicine*, 28(7), 437-441.
- Savitz, J. (2021). How coffee affects health. *Institute of Food Technologists*.

- Scazzocchio, B., Vari, R., d'Amore, A. et al. (2021). Promoting health and food literacy through nutrition education at schools: The Italian experience with MaestraNatura Program. *Nutrients*, 13(5), 1547.
- Schulze, M.B., Martinez-Gonzalez, M.A., Fung, T.T., Lichtenstein, A.H., & Forouhi, N.G. (2018). Food based dietary patterns and chronic disease prevention. *BMJ*, 361, k2396.
- Schürmann, S., Kersting, M., & Alexy, U. (2017). Vegetarian diets in children: A systematic review. *Eur J Nutr.*, 56(5), 1797-1817.
- Seeley, E. (2023). Empowering food heroes to heal communities: WANDA's mission to achieve nutrition equity. *Food Tank*.
- Selhub, E., & Logan, A. (2012). The brain on nature's nutrients: Nutri-ecopsychology. In E. Selhub & A. Logan (Eds.), *Your brain on nature the science of nature's influence on your health, happiness, and vitality*. John Wiley & Sons Canada Inc.
- Sharps, M.A., Thomas, E., & Blissett, J.M. (2020). Using pictorial nudges of fruit and vegetables on tableware to increase children's fruit and vegetable consumption. *Appetite*, 114, 104457.
- Simmet, A., Depa, J., Tinnemann, P., & Stroebele-Benschop, N. (2017). The nutritional quality of food provided from food pantries: A systematic review of existing literature. *J Acad Nutr Diet.*, 17(4), 577-588.
- Singh, S., Singh, A., Hallan, S.S., Brangule, A., Kumar, B., & Bhatia, R. (2023). A compiled update on nutrition, phytochemicals, processing effects, analytical testing and health effects of *Chenopodium album*: A non-conventional edible plant (NCEP). *Molecules*, 28(13), 4902.
- Skelton, K.R., Lowe, C., Zaltz, D.A., & Benjamin-Neelon, S.E. (2020). Garden-based interventions and early childhood health: An umbrella review. *Int J Behav Nutr Phys Act.*, 17(1), 121.
- Sorokina, M., McCaffrey, K.S., Deaton, E.E. et al. (2021). A catalog of natural products occurring in watermelon *Citrullus lanatus*. *Front. Nutr.*, 8, 729822.
- Springmann, M., Wiebe, K., Mason-D'Croz, D., Sulser, T.B., Rayner, M., & Scarborough, P. (2018). Health and nutritional aspects of sustainable diet strategies and their association with environmental impacts: A global modelling analysis with country-level detail. *Lancet Planet Health*, 2(10), e451-e461.
- Stotz, S.A., Fricke, H., Byker Shanks, C., Reynolds, M., Lasswell, T., Sanville, L., Hoh, R., & Parks, C.A. (2024). Strengthening nutrition incentive and produce prescription projects: An examination of a capacity building and innovation fund. *Journal of Agriculture, Food Systems, and Community Development*.
- Sun, W., Chen, Z., Hong, J., & Shi, J. (2020). Promoting human nutrition and health through plant metabolomics: Current status and challenges. *Biology*, 10(1), 20.
- Taniguchi, T., Haslam, A., Sun, W., Sisk, M., Hayman, J., & Jernigan, V.B.B. (2022). Impact of a Farm-to-School nutrition and gardening intervention for native American families from the FRESH Study: A randomized wait-list controlled trial. *Nutrients*, 14(13), 2601.
- Taufik, D., Verain, M.C., Bouwman, E.P., & Reinders, M.J. (2019). Determinants of real-life behavioural interventions to stimulate more plant-based and less animal-based diets: A systematic review. *Trends in Food Science & Technology*, 93, 281-303.
- Tharmabalan, R.T. (2023). Nutritional profiles of four promising wild edible plants commonly consumed by the Semai in Malaysia. *Curr Dev Nutr.*, 7(4), 100054.
- Toribio-Mateas, M.A., Bester, A., & Klimenko, N. (2021). Impact of plant-based meat alternatives on the gut microbiota of consumers: A real-world study. *Foods*, 10(9), 2040.
- Trautwein, E.A., & McKay, S. (2020). The role of specific components of a plant-based diet in management of dyslipidemia and the impact on cardiovascular risk. *Nutrients*, 12(9), 2671.
- Tseng, T.A., Chang, J.J., & Chang, Y.C. (2023). Green experience: The effect of horticultural activities on children's physical and mental health and dietary behavior. *HortScience*, 58(6), 691-698.

- Turner, L., & Calvert, H.G. (2019). The academic, behavioral, and health influence of summer child nutrition programs: A narrative review and proposed research and policy agenda. *J Acad Nutr Diet.*, 119(6), 972-983.
- USDA (2021). Farm to school literature review. <https://www.fns.usda.gov/cfs/farm-school-census-and-comprehensive-review>
- USDA (2021). Farmers market nutrition program. <https://www.fns.usda.gov/fmnp/wic-farmers-market-nutrition-program>
- Vamos, S.D., Wacker, C.C., Welter, V.D.E., & Schlüter, K. (2021). Health literacy and food literacy for k-12 schools in the COVID-19 pandemic. *J Sch Health.*, 91(8), 650-659.
- Vaziri, A., & Dus, M. (2021). Brain on food: The neuroepigenetics of nutrition. *Neurochem Int.*, 149, 105099.
- Verduci, E., D’Elios, S., Cerrato, L. et al. (2019). Cow’s milk substitutes for children: Nutritional aspects of milk from different mammalian species, special formula and plant-base beverages. *Nutrients*, 11(8), 1739.
- Weibe, A. (2021). ICYMI: Mi Plato Para Ti: Developing an evidence-based, culturally relevant Hispanic American toolkit based on the 2020-2025 Dietary Guidelines for Americans. *Extension Foundation*. <https://connect.extension.org/blog/icymi-mi-plato-para-ti>
- Zamroziewicz, M.K., & Barbey, A.K. (2016). Nutritional cognitive neuroscience: Innovations for healthy brain aging. *Frontiers of Neuroscience*, 10, 240.
- Zheng, Y., Wang, J., Wang, Y., Xu, K., & Chen, X. (2023). The hidden dangers of plant-based diets affecting bone health: A cross-sectional study with US National Health and Nutrition Examination Survey (NHANES) data from 2005–2018. *Nutrients*, 15(7), 1794.
- (2021). The microbiome, nutrition and health: Assembling pieces of a complex puzzle. *Institute News*. <https://plantsforhumanhealth.ncsu.edu/2021/09/07/the-microbiome-nutrition-and-health-assembling-pieces-of-a-complex-puzzle/>
 - (2022). Feeding students on the go with 21st century technology. *TrayTalk*. <https://traytalk.org/2018/07/24/feeding-students-on-the-go-with-21st-century-technology/#more-4215>
 - (2022). California school district opens bread kitchen with focus on whole grains. *TrayTalk*. <https://traytalk.org/2017/02/14/california-school-district-opens-bread-kitchen-with-focus-on-whole-grains/#more-614>

Examples of nutrition programs

California Dept of Education offers an online course “Powering Up with Plant-Based Programs” intended for food service directors and staff.

<https://www.cde.ca.gov/ls/nu/ed/course894.asp>

Citysprouts focuses on public school gardens and promoting curiosity and wonder with hands-on science leaning through urban gardens using its website platform.

<https://www.citysprouts.org/about-us-2>

Cosumnes River College Dept of Horticulture, Dept of Nutrition and Foods has developed the *Certificate of Proficiency in Plant-based Nutrition & Sustainable Agriculture* linking human health, nutrition and the environment.

<https://crc.losrios.edu/academics/nutrition-and-foods/new-plant-based-program>

Cooking Matters provides curricula designed to teach parents and caregivers with a limited food budget to shop for and cook healthy meals. They provide education through interactive, hands-on & digital tools, & resources.

<http://cookingmatters.org/who-we-are>

Experiential Learning and Nutrition program delivered by Community Child Guidance Clinic in Connecticut uses hands-on organic gardening activities & *Grow Ahead* curriculum.

<https://www.ccginc.org/program-and-services/grow-ahead-program/experiential-learning-and-nutrition.html>

Food4Moms program created by a GUSNIP grantee is a 3 year produce prescription program in Hartford CT studying impact of PRx designed for pregnant, Latina & limited income participants.

<https://www.wholesomewave.org/news/food4moms-produce-prescription-program>

Fresh Rx supports the regional food system in Florida by purchasing fresh produce from local, family-owned farms that use organic growing practices and providing it to nutritionally vulnerable members of the community through the following initiatives: Fresh Rx Hospitals, Fresh Rx Kids, Fresh Rx Express.

<https://www.freshrx.org/whoweare>

Indigenous Food Lab is a professional indigenous kitchen and training center working to establish new indigenous food systems reintegrating Native foods and indigenous-focused education into tribal communities in North America.

<https://www.natifs.org/indigenous-food-lab/>

Let's get raw! Kids talk school gardens & salad bars focusing on nutrition literacy in conjunction with Whole Kids Foundation.

<https://www.youtube.com/watch?v=EPYqHnfZc3Y>

PLANTS- Partnership for Local Agriculture & Nutrition Transformation in Schools is strengthening relationships between schools & community-based food system stakeholders, promoting scratch cooking in schools with a focus on sustainable, equitable nourishing school meal programs.

<https://www.thelunchbox.org/apply-for-a-grant/plants-grant/#overview>

Plant-based nutrition for healthy black communities- Plant power to the people! World Food Day 2020 panel of doctors share nutrition info.

https://www.youtube.com/watch?v=wMqi_XU10Mg

Podcast *Fresh Produce – ready to eat and ready to explore* from Institute of Food Technologists *Sci dish* series.

<https://www.ift.org/news-and-publications/podcasts/scidish/episode-9-fresh-produce>

University of Alabama Birmingham's *Harvest for Health* program & research paired cancer survivors with master gardeners to grow food in their home gardens, with improvements in physical exercise, nutrition, self-confidence & sense of control.

<https://www.youtube.com/watch?v=kpzKxjNOLsw>

USDA Summer Nutrition Programs focused on increasing nutrition security for kids offers new options in 2024 - alternative meal services for rural communities, in-person meal sites & summer grocery benefits in addition to its traditional in-person summer meal sites.

<https://www.fns.usda.gov/summer> and <https://www.fns.usda.gov/summer/enhancing>

Women Advancing Nutrition Dietetics and Agriculture (WANDA) nonprofit is working to achieve nutrition equity in the United States by uplifting the voices of Black women and girls in food.

<https://foodtank.com/news/2023/03/empowering-food-sheroes-to-heal-communities-wandas-mission-to-achieve-nutrition-equity>

Videos, websites & webinars on nutrition

ICYMI: *Mi Plato Para Ti: Developing an evidence-based, culturally relevant Hispanic American toolkit based on the 2020-2025 Dietary Guidelines for Americans.*

<https://app.vidgrid.com/view/16qiV2HobniV/?sr=OKcHxF>

MiPlato Your Way resources in English and Spanish provides a 5-day sample menu using traditional Hispanic foods and dishes, meal tips, and Action Cookbook.

<https://www.nutritionondemand.net/consumer-resources/>

Dietitian Success Center website offers resources & articles that reflect current practices with 2024 nutrition trends.

<https://dietitiansuccesscenter.com/navigating-nutrition-trends-for-2024/>

Optimizing Nutrient Release from Plant-based Foods research from Dr. Cathrina Edwards, Quadram Institute.

<https://www.youtube.com/watch?v=0J2gwKw5tkY>

Phipps Conservatory's plant-forward nutrition basics webinar, video & blog.

<https://www.phipps.conservatory.org/blog/detail/plant-forward-nutrition-basics-webinar>

Plant based/nutrition conference session 111 panel with the topic - overcoming barriers to dietary change.

<https://www.youtube.com/watch?v=JPO1Exiot0M>

Plants, the Microbiome, and Mental Health TEDXMileHigh talk from C. Lowry & positives of eating greater variety of plants.

<https://www.youtube.com/watch?v=AJG3zYqNgnE>

ProVeg International organization publishes articles, research on food policies, trends with an international perspective with current articles like: Seven countries leading the way in plant-based food policies in 2024.

<https://proveg.com/us/seven-countries-plant-based-food-policies-2024/>

University of Guelph, Ontario offers online courses and a *Plant-Based Nutrition Certificate* focused on adopting a plant-based diet.

<https://courses.opened.uoguelph.ca/public/category/courseCategoryCertificateProfile.do?method=load&certificateId=29839235>

Vegetarian Nutrition practice group webinars from the Academy of Nutrition and Dietetics.
<https://www.vndpg.org/vn/resources/webinar>

Related organizations

[Afro-Vegan Society](#)

[Florida Academy of Nutrition and Dietetics](#)

University of Florida Extension

Written & compiled by Lesley Fleming, Brandy-Joe Milliron Nov2021; revised in 2022 by Lesley Fleming, Siang Tham; revised in 2023 by Lesley Fleming; revised in 2024 by Lesley Fleming