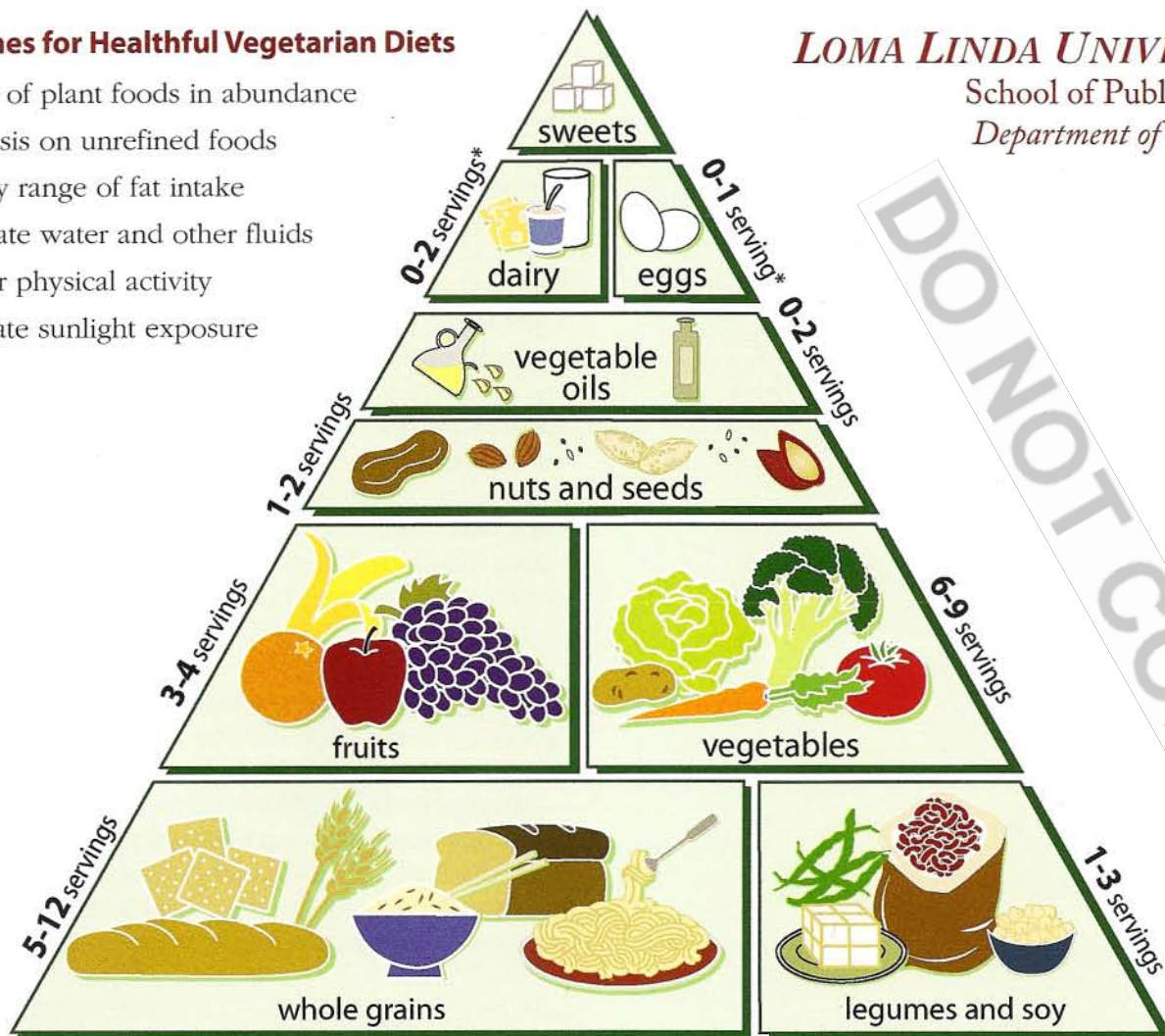


The Vegetarian Food Pyramid

Guidelines for Healthful Vegetarian Diets

- Variety of plant foods in abundance
- Emphasis on unrefined foods
- Healthy range of fat intake
- Adequate water and other fluids
- Regular physical activity
- Moderate sunlight exposure

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Department of Nutrition



* A reliable source of vitamin B12 should be included if no dairy or eggs are consumed.

Other Lifestyle Recommendations



Daily Exercise



Water—eight, 8 oz. glasses per day



Sunlight—10 minutes a day to activate vitamin D

| Calories/day ▶ | 1600kcal/day | 2000kcal/day | 2500kcal/day | 1600kcal/day | 2000kcal/day | 2500kcal/day |
|-----------------|--------------------|--------------|--------------|------------------------|--------------|--------------|
| Food Groups | vegan servings/day | | | lacto-ovo servings/day | | |
| Whole Grains | 5 | 7 | 12 | 5 | 6 | 9 |
| Legumes and Soy | 3 | 3 | 3 | 3 | 3 | 3 |
| Vegetables | 6 | 8 | 9 | 6 | 8 | 9 |
| Fruits | 3 | 4 | 4 | 3 | 4 | 4 |
| Nuts and Seeds | 2 | 2 | 2 | 1 | 1 | 2 |
| Vegetable Oils | 1 | 2 | 2 | 1 | 2 | 2 |
| Dairy Products | 0 | 0 | 0 | 2 | 2 | 2 |
| Eggs | 0 | 0 | 0 | 1/2 egg | 1/2 egg | 1/2 egg |
| Sweets | Optional | | | | | |

Vegetarian FAQs

What does “vegetarian” mean?

“Vegetarian” is a broad term meaning a diet that excludes meat, fish, and poultry.

Are there different types of vegetarian diets?

Yes, there are many different types, but three main categories exist.

1. Lacto-ovo vegetarians consume dairy products and eggs but no animal flesh;
2. Lacto-vegetarians consume dairy products but no eggs or animal flesh food; and
3. Vegans do not consume any dairy products, eggs, or animal flesh.

Why be a vegetarian?

From religion to economics, animal rights to personal health, the reasons are varied for choosing to follow a vegetarian diet.

One of the most compelling reasons is personal health. Research continues to show that those following a vegetarian diet have a lower risk of developing chronic diseases. They enjoy increased longevity and improved overall health status.

What about protein?

Vegetarian and total vegetarian diets both provide adequate protein. The daily recommended intake for protein is 0.8 grams/kilogram of body weight. For example, a 63 kg (140lbs) woman requires approximately 50 g of protein a day. An 82 kg (180lbs) man requires approximately 66 g of protein a day. These requirements can easily be met by eating a variety of foods such as lentils, almonds, eggs, tofu, pasta, and bread.

See the LLU Vegetarian Food Guide Pyramid for information on serving sizes and more food selection ideas.

What about vitamin B12?

Vitamin B12 is found only in animal products. As a result, vegetarians should take a supplement form of B12. Fortified cereal and grain products are a reliable source of vitamin B12. Because vegetarians do not consume animal products they need to be concerned about developing a B12 deficiency.

What about calcium?

Can you get enough calcium if you are not consuming dairy? Yes, and there are many options: leafy green vegetables, broccoli, calcium fortified tofu, almonds, and carrots, just to name a few. Many fruit juice and soy milk products are calcium-fortified as well.

What about iron?

Iron is readily available in a wide variety of foods such as spinach, kidney beans, lentils, and whole wheat bread. Include a source of vitamin C when eating these foods to increase the iron absorption.

What is involved in becoming a vegetarian?

Fortunately there is much more information available on vegetarian diets today to make the journey smoother. The way to lasting change is by taking small steps. Start by reducing your meat, poultry, and fish intake from five days a week to two days a week, for example. There are also many delicious meat alternatives available at most mainstream grocery stores to help during the transition period. There are many vegetarian cookbooks, and the Internet is a great resource for recipes as well.

Are vegetarian diets safe for children and teens?

In their position paper on this issue, the American Dietetics Association (ADA) asserts that well-planned vegetarian diets are able to meet the nutrient requirements of growing children and adolescents. Be sure to include a wide variety of foods in their daily meals while providing enough calories to meet their energy needs.

See the LLU Vegetarian Food Guide Pyramid for information on serving sizes and more food selection ideas.

Are vegetarian diets safe during pregnancy?

The ADA, American Academy of Pediatrics, National Academy of Sciences, and American Medical Association have all conducted studies whose results support a vegetarian pregnancy. Pregnant women require, on average, an extra 300 to 400 calories. This requirement can be easily met through a varied plant-based diet and by choosing calorie-dense foods such as nuts, dried fruits, tofu, and soybeans.

Why was the Vegetarian Food Pyramid developed?

Research continues to underscore the benefits of plant-based diets but with the overwhelming amount of information on vegetarian diets, it is easy to get lost in the maze of “what do I eat?” and “how often do I eat it?” The Vegetarian Food Guide was created to answer these questions.

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Comprised of an international group of researchers, the food guide committee used experimental research and epidemiological studies, in addition to considering the dietary patterns of worldwide vegetarian populations, to determine practical dietary guidelines for daily use based on an appropriate vegetarian diet. The goal was not only to ensure adequate nutrition but also to help achieve optimal health.

Who was the food guide created for?

Vegetarianism takes different forms and its definition can vary greatly depending on who you are speaking to or in what part of the world you find yourself. Some communities, such as Seventh-day Adventists, promote a vegetarian diet primarily for its health benefits. For others, such as Hindus, vegetarianism is a natural extension of the pacifist beliefs. Although the term “vegan” is generally meant to describe those who do not consume any animal or dairy products, its pop culture definition often implies not only a particular diet but also a lifestyle where manufactured goods made from animal products are avoided. For the purpose of this document, “vegan” refers to diet alone.

With these issues in mind, the committee sought to create a food guide that encompasses a broad range of vegetarian philosophies. Through the use of the familiar pyramid shape, the food guide can be used by those seeking to introduce more plant-based options into their diet.

What are the guidelines of healthful vegetarian diets?

While differing traditions of vegetarianism exist, there are unifying principles that remain the foundation of plant-based diets.

- Eat a variety of plant foods from all the food groups
- Try experimenting with different grains, legumes, vegetables, fruits, nuts, and seeds
- Take your cooking up a notch with herbs, spices, and plant oils
- Focus on unrefined and minimally processed grains
- Aim for 25–30 grams of fiber a day. Try a whole wheat bagel, oatmeal, or a whole grain cereal
- Focus on non-fat and low-fat products
- Be sure to include a supplement form of vitamin D in the absence of sunlight exposure
- Include a whole range of healthy fats such as nuts, seeds, and avocado
- Drink lots of water

If you are considering a vegan diet

- be sure to include a consistent source of vitamin B12 in your diet such as a supplement,
- eat lots of calcium-rich plant foods such as leafy green vegetables, broccoli, or fortified orange juice.

About the LLU Department of Nutrition

Part of the LLU School of Public Health, the Department of Nutrition, has been at the forefront of education and research in vegetarian diets for over 30 years. Partnering with the American Dietetics Association in the 1970s, faculty developed the vegetarian diet guidelines for dietitians. Since 1987, the department has organized and hosted the International Congress on Vegetarian Nutrition for educators, researchers, and scholars from around the world.

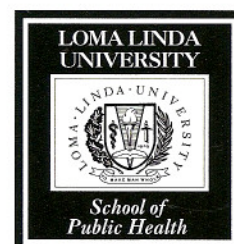
The Department of Nutrition provides academic programs leading to the Master of Public Health (MPH) and the Doctor of Public Health (DrPH) degrees. The department also offers the Master of Science (MS) degree in nutrition through the Graduate School in the areas of nutritional science and clinical nutrition.

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Reference: Haddad, E.H., Vegetarian food guide pyramid: conceptual framework. *AmJ Clin Nutr*, 1999. ©2008 Loma Linda University. Material may be reproduced for free distribution only given that proper credit to Loma Linda University Nutrition Department is cited. May not be modified in any way.

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| Food Groups | One Serving Equivalent | Dietary Purpose | Health Benefits |
|-----------------|--|--|--|
| Whole grains | 1 slice bread (30g) 1 cup (30g) dry cereal 1/2 cup (100g) cooked rice, pasta 6-in (30g) tortilla 1 small (30g) roll or muffin 1/2 (30g) bagel or english muffin 3-4 (30g) crackers | Provide energy, dietary fiber, iron, zinc, and B vitamins | May reduce risk of CHD, constipation, and help with weight management |
| Legumes and soy | 1/2 cup (100g) cooked dry beans, peas, limas, lentils, soy 1/2 cup (125g) tofu, soy product, meat analogs 1 cup (250mL) fortified soy beverage | Protein, B vitamins, trace minerals | <ul style="list-style-type: none"> •Proteins—building blocks for muscle, bones, blood, skin • B vitamins—important for nervous system and formation of red blood cells • Minerals—iron, zinc, magnesium |
| Vegetables | 1 cup (50g) raw leafy vegetables or salad 1/2 cup (50g) chopped raw vegetable 1/2 cup (80g) cooked vegetables 3/4 cup (175mL) vegetable juice | Rich in vitamins and minerals, fiber, antioxidants, phytochemicals, and naturally low in fat and calories—none has cholesterol | May reduce risk of stroke and CVD, type 2 diabetes, developing kidney stones, protect against certain cancers, help decrease bone loss |
| Fruits | 1 (150g) medium apple, banana, orange 1 cup (150g) berries 1 cup (150g) chopped fresh fruit 3/4 cup (175mL) fruit juice 1/4 cup (35g) dried fruit | Same as vegetables | Same as vegetables |
| Nuts and seeds | 1 oz. (30g) nuts and seeds 23 almonds (1/4 cup), 14 walnut halves (1/4 cup), 15 cashews (1/4 cup), 1/4 cup sunflower seeds 2 Tbsp (30g) peanut butter, almond butter, tahini | Protein, fiber, vitamins and minerals, essential fatty acids, vitamin E | Lowers risk of heart disease |
| Vegetable oil | 1 Tbsp (14g) plant oils 1/4 (50g) avocado 1 Tbsp (14g) salad dressing 23 (100g) olives | Essential fatty acids, vitamin E | Improves cholesterol |
| Dairy products | 1 cup (250mL) non-fat or low fat milk or yogurt 1/2 cup (125mL) low fat cottage or ricotta cheese 1.5 oz (42g) low fat fresh cheese | Rich in calcium for strong bones | Help build and maintain bone, may reduce risk of osteoporosis |
| Eggs | 1 whole egg 2 egg whites | Good source of protein and iron | |
| Sweets | 1/8 fruit pie 1 Tbsp (15mL) fruit preserves 1/2 cup (125mL) ice cream 1.5 oz (42g) chocolate bar 1/2 cup ice cream | None | Psychological |

Other Recommended Lifestyle Habits



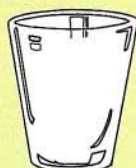
Exercise—Adults

30 min/day to avoid chronic diseases

60 min/day for weight loss

Exercise—Children

60 min/day



Water

At least eight, 8-ounce glasses of water every day



Sunlight

Enjoy at least 10 minutes of sun a day to activate vitamin D