

Chicken Egg Vegetarian or Non-Vegetarian

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The poultry industry provides affordable, high-quality protein globally. Biologically, eggs are a complete protein source containing all essential amino acids. They supply vital nutrients for cellular growth, muscle tissue repair, and overall metabolic function, serving as a cost-effective dietary solution to prevent malnutrition and maintain daily energy. The total egg production in the country is 149.11 billion numbers in 2024-2025. India ranks 2nd in the world in terms of total Egg production, next to China. The egg production has increased by 4.44% as compared to previous year (2023-24). Out of the total eggs produced, commercial poultry contributed 84.49%. The per-capita availability of egg is 106 eggs per annum. The per capita consumption of egg is 90 eggs per person annually. The Indian council of medical research (ICMR) and the National institute of nutrition (NIN) recommend 180 eggs annually. India still experiences a gap of 74 to 90 eggs per person to meet this goal. This recommendation translates to eating roughly 3 to 4 eggs per week to maintain a healthy, balanced diet.

Commercial (Unfertilized) Eggs

The vast majority of eggs found on supermarket shelves are unfertilized, having been laid by hens kept entirely without roosters. Because no male sperm has fused with the hen's ovum, these eggs are biologically incapable of developing into a chick, meaning there is no life or embryo present. From a purely scientific perspective, an unfertilized egg is simply a single specialized cell packed with protein and nutrients, containing no heartbeat, consciousness, or potential for life. Consequently, because no animal life is present or destroyed, proponents of this view argue that unfertilized commercial eggs function similarly to dairy products like milk and can be safely classified as vegetarian.

Fertilized Eggs

Fertilized eggs are the result of natural mating between a hen and a rooster. Once fertilized, the egg holds the complete genetic blueprint of a future living animal, meaning that given the right conditions and incubation temperature, it will actively develop and hatch into a chick. Because a fertilized egg represents a living organism in its earliest developmental stage, consuming it is biologically equivalent to consuming meat or an animal embryo. Consequently, under any dietary standard, a fertilized egg that can hatch into a chicken is firmly classified as non-vegetarian.



Fig1. Fertile and infertile egg difference

Unfertilized egg	Fertilized egg
An egg cell (ovum) produced by a hen without interacting with a rooster.	An egg cell that has fused with a sperm cell from a rooster.
It contains no embryo, no heartbeat, and no potential to develop into a chick.	It contains a developing embryo with the potential to become a chick.
Haploid (contains only the mother's genetic material).	Diploid (contains combined genetic material from both parents).
Generally considered vegetarian by lacto-ovo vegetarians because it contains no living animal life or embryo.	Strictly non-vegetarian because it contains a living embryo/animal tissue
Production cost is low	Production cost is high
Used for consumption	Used for hatching

Is Roosters Necessary for Producing Table Eggs?

Scientific perspective: In today's modern times, there is a widespread misconception that a rooster is required to produce table eggs. This is entirely untrue.

Commercial production: When young female chickens (layers) reach about 20 weeks of age, they naturally start laying eggs. These are table eggs, which we can safely consume. To start producing these eggs, roosters are not needed at all. After production begins, roosters are typically introduced to the flock only about 5 weeks later if fertile eggs (for breeding) are desired; otherwise, hens continue to lay table eggs without them.

National statistics: In country chicken (desi fowl) varieties, a hen lays an average of 1 to 4 eggs every 4 days. However, in regions like Namakkal where commercial poultry farming is practiced on a large scale, high-yielding layers produce roughly one egg every 25.5 hours.

Is that vegetarian can eat egg?

Yes, that Lacto-Ovo Vegetarians can eat egg

In Western contexts and many global vegetarian traditions, vegetarians are split into sub-categories. **Lacto-ovo vegetarians** consume dairy (*lacto*) and eggs (*ovo*), but exclude meat, fish, and poultry. Because commercial supermarket eggs are unfertilized and contain no living animal tissue, lacto-ovo vegetarians readily include them in their diet. They view unfertilized eggs similarly to dairy products like milk or honey—animal byproducts that do not require the slaughter or harm of an animal to produce.

- **Lacto-vegetarian:** avoids eggs, meat, and fish but includes dairy
- **Ovo-vegetarian:** avoids meat, fish, and dairy but includes eggs
- **Lacto-ovo vegetarian:** avoids meat and fish but includes eggs and dairy
- **Vegan:** avoids all animal and animal-derived products, including meat, fish, eggs, dairy, and often other items, such as honey

One large hard-boiled egg (50 grams) provides Source:

- Calories: 77.5 kcal
- Carbs: .56 g
- Total fat: 5.3 g
- Saturated fat: 1.64 g
- Monounsaturated fat: 2.04 g
- Cholesterol: 186 mg
- Protein: 6.3 g
- Vitamin A: 74.5 mcg RAE
- Vitamin B2 (riboflavin): 0.257 mg
- Vitamin B12 (cobalamin): 0.555 µg
- Vitamin B5 (pantothenic acid): 0.7 mg
- Phosphorus: 86 mg
- Selenium: 15.4 µg

For all the nutrients eggs have to offer, they are a **fairly low calorie food**. Hard-boiled eggs provide only **77.5 calories, 5.3 grams of fat, and a very small amount of carbs**

Cultural and Regional Differences

The classification of eggs as vegetarian or non-vegetarian varies sharply across the globe based on cultural and regional standards

In the West: Eggs are widely accepted as vegetarian-adjacent, and menus clearly distinguish between "vegetarian" (which may contain eggs/dairy) and "vegan" (which contains nothing derived from animals).

In India and South Asia: The dietary landscape is different. Eggs are traditionally classified as **non-vegetarian**. Many restaurants and food product packagers explicitly label products with a brown dot inside a green square for vegetarian, or a brown dot inside a brown square for non-vegetarian—with **eggs falling strictly under the non-veg label**.

Conclusion

Ultimately, the classification of eggs as vegetarian or non-vegetarian depends entirely on the intersection of biological science and regional culture. From a scientific standpoint, commercial unfertilized eggs contain no embryos or life, leading lacto-ovo vegetarians worldwide to consume them similarly to dairy. However, cultural traditions heavily influence dietary standards, with South Asia and India strictly categorizing all eggs as non-vegetarian. Meanwhile, India's booming commercial poultry sector produces over 149 billion eggs annually, though a significant nutritional gap remains between current consumption and ICMR-NIN recommendations. Whether viewed through a global dietary lens or a traditional regional framework, understanding these nuances helps consumers make informed choices for a balanced diet.

References

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