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Vegan Food: From Ancient Ahimsa to Modern Food Science

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A few years ago, â??veganâ?• was a niche word found mostly in conversations around animal welfare, wellness cafÃ©s, or international lifestyle movements. Today, it is appearing on food packs, restaurant menus, startup pitch decks, export dossiers and investor presentations.

The journey of vegan food is no longer only about what is not present in the product. It is increasingly about what is present behind the product: science, traceability, compliance, integrity and consumer trust.

For India, this is especially interesting. We are not new to plant-based eating. We are not new to food choices shaped by ethics, spirituality, restraint, compassion and respect for life. In fact, the global vegan movement may use modern vocabulary, but the underlying spirit has deep cultural echoes in India. The question now is not whether vegan food has a future. The real question is: **Will vegan food grow as a credible, science-backed category â?? or remain another loosely used marketing claim?**

That answer will depend on how seriously food businesses treat formulation, supplier controls, manufacturing hygiene, label claims and laboratory verification. **The future of Vegan claims will depend on Trust, Traceability and Testing.**

The origin of vegan: old philosophy, new vocabulary

The word **â??veganâ?•** is modern, but the idea behind it is ancient. The term â??veganâ?• was coined in 1944 by Donald Watson and early members of The Vegan Society in the United Kingdom, to describe a lifestyle that avoided not only meat but also dairy, eggs and other animal-derived products. The word itself was created from the beginning and end of â??vegetarianâ?• â?? almost symbolically suggesting a complete extension of vegetarianism. The broader history of meatless and animal-conscious eating, however, goes much further back. Ancient Indian and eastern Mediterranean traditions, including the teachings associated with Jainism, Buddhism, Hindu thought and Pythagorean philosophy, promoted ideas of compassion, non-violence and restraint in relation to animals.

In India, the cultural foundation is even richer. The principle of **Ahimsa** â?? non-violence towards living beings â?? has long influenced food choices. Jain food traditions, many Hindu practices, Buddhist discipline, and several regional dietary customs have encouraged restraint in the use of animal-derived foods. While traditional Indian vegetarianism is not the same as modern veganism, both are connected by a deeper question: Can food be more than consumption? Can food also be conscience? This is where veganism becomes more than a trend. **Vegan today is an intersection of ethics, culture, science, sustainability and consumer choice.**

Vegetarian, plant-based and vegan: similar words, different meanings

For many consumers, these words are often used interchangeably. But for regulators and food businesses, they cannot be. A **vegetarian** product may still contain milk, ghee, butter, paneer, curd, honey or certain additives of animal origin. A **plant-based** product may be primarily made from plant ingredients, but that does not automatically mean it is vegan. A plant-based snack may still contain milk solids, honey, animal-origin enzymes, dairy-derived flavour carriers or shared-line contamination.

A **vegan** product, under a strict interpretation, must avoid ingredients, additives, flavourings, enzymes, carriers and processing aids of animal origin. FSSAIâ??s vegan framework defines vegan food around this principle: the food or ingredient, including additives, flavourings, enzymes, carriers or processing aids, should not be of animal origin, and animal-origin material should not be used at any stage of production and processing. This distinction is not academic. It is the difference between a good marketing idea and a compliant food claim.

Why consumers are choosing vegan

Consumer demand for vegan and plant-based food is driven by multiple motivations. Not every vegan product buyer is a strict vegan. Many are flexitarians, health-conscious consumers, sustainability-aware consumers, urban millennials, Gen Z buyers, lactose-intolerant consumers, or simply curious food explorers. The demand drivers are broadly five-fold:

1. **Ethics and animal welfare**

Consumers increasingly want to know whether animals were used, harmed or exploited in the making of a product.

- **Health and wellness**

Many consumers associate plant-based foods with lighter, cleaner or more mindful eating. This does not mean every vegan product is automatically healthy. A vegan cookie is still a cookie. But the health perception is a powerful market driver.

- **Sustainability**

Climate, water use, land use and resource efficiency are shaping consumer choices. Plant-forward diets are increasingly part of the sustainability conversation.

- **Religious and cultural comfort**

In India, several consumers are sensitive to hidden animal-origin ingredients. Vegan verification can give confidence to consumers who avoid animal-derived substances for ethical, religious or cultural reasons.

- **Innovation and lifestyle**

Vegan cheese, plant-based beverages, egg alternatives, meat alternatives, vegan desserts and protein-rich foods are no longer fringe products. They are becoming part of food innovation.

But there is also an important reality check. Consumers are becoming more informed and more demanding. They do not only ask, **â??Is it vegan?â?•** They now ask, **â??How do you know?â?• That is where documentation and testing come in.**

Global vegan and plant-based market: growth with correction

The global vegan and plant-based food market is growing, but it is also maturing. According to IMARC Group, the global vegan food market was valued at USD 21.7 billion in 2025 and is projected to reach USD 44.1 billion by 2034, growing at a CAGR of 8.23% during 2026â??2034. The Good Food Institute and Plant Based Foods Association reported that the U.S. retail plant-based food market was worth USD 8.1 billion in 2024, with 59% of U.S. households purchasing plant-based foods in 2024. However, the same data also shows that sales were down compared to the previous year, indicating that the sector is moving from hype to performance-based competition.

Globally, plant-based retail sales were reported at approximately USD 28.6 billion, with modest growth even as some major markets slowed. The future will belong to brands that solve the real consumer questions:

- Does it taste goodâ?¦
- Is it affordableâ?¦
- Is it nutritionally sensibleâ?¦
- Is the claim genuineâ?¦
- Is it compliantâ?¦
- Can the brand prove what it saysâ?¦

This is important for Indian businesses. **The future of vegan is not simply â??launch and grow.â?•** The first wave of vegan growth was about novelty. The next wave will be about **credibility**.

World standards and regulatory approaches: where vegan is heading

Across the world, vegan claims are moving from soft branding to structured claim management. One important international reference is **ISO 23662:2021**, which specifies definitions and technical criteria for foods and food ingredients suitable for vegetarians and vegans, and for related labelling and claims. The standard applies to business-to-business communication, food trade, food labelling and claims, and focuses on post-harvest/collection stages. ISO 23662 is important because it brings discipline to terminology. It recognises that vegetarian and vegan claims require technical criteria, not just brand intent. It also makes clear that such standards do not automatically cover all aspects of human safety, environmental safety, socio-economic considerations, religious beliefs or packaging materials.

In India, FSSAI has taken a significant step by notifying the **Food Safety and Standards (Vegan Foods) Regulations, 2022** FSSAIâ??s official vegan food page states that once a vegan product is approved, the FBO can submit the approval to the Licensing Authority for endorsement of the vegan logo on the product. The Indian framework places emphasis on:

- Product definition
- Avoidance of animal-origin ingredients and processing aids
- GMP-based precautions to prevent unintended presence of non-vegan substances
- Traceability up to manufacturer level
- Packaging compliance
- Logo endorsement
- Storage and display distinguishable from non-vegan food
- Restrictions on imports unless supported by appropriate certificates from exporting country authorities

This is a powerful regulatory signal. Vegan is no longer a casual claim. It is a claim that must be built, verified and defended.

FSSAI vegan endorsement: what food businesses must understand

FSSAI recently issued a revised FAQs clarifying several practical points that every FBO and startup should understand before making vegan claims. Raw agricultural commodities and minimally processed plant-source products without added ingredients, such as rice, cereals, pulses, oilseeds, dry fruits, oil and wheat flour, generally need not apply for vegan logo endorsement. However, processed, formulated, multi-ingredient products are different. A vegan chocolate, plant-based drink, cookie, sauce, protein bar, dessert, ready-to-eat product or dairy alternative may contain multiple ingredients, compound ingredients, flavours, emulsifiers, enzymes, carriers and processing aids. The compliance risk increases with formulation complexity. The FAQs also clarify that separate applications are required for different variants or products. For example, if a plant-based beverage has chocolate, strawberry and mango variants, each variant needs separate application. For multiple manufacturing sites, vegan logo endorsement is product-site specific. A retailer or marketer using multiple manufacturing units

must apply separately for each manufacturing site. FSSAIâ??s application format asks for details such as product name, food category, list of ingredients, source of each ingredient, manufacturing process, technical specifications and Certificate of Analysis of each ingredient procured from the supplier. This tells us one thing very clearly: **vegan compliance begins much before the final product reaches the lab. It begins at formulation.**

The hidden complexity of vegan food

The most common mistake is to assume that if the main ingredient is plant-based, the product is vegan. That is not always true.

- A bakery product may contain dairy-derived enzymes or milk solids.
- A confectionery product may contain shellac, gelatin or carmine.
- A beverage may contain animal-origin vitamin D3 or flavour carriers.
- A sugar ingredient may have been processed using animal-origin aids in some supply chains.
- A plant-based product may be made on a line used for dairy, egg or meat products.
- A vegetarian product may still contain honey, whey, casein, lactose, ghee, butter fat or egg proteins.

This is why vegan verification is not a one-document exercise. It needs a layered approach:

- Ingredient review
- Supplier declaration
- CoA review
- Manufacturing process review
- Cross-contact assessment
- Label review
- Laboratory testing
- Traceability
- Final application documentation

A vegan claim is like a chain. It is only as strong as the weakest ingredient, weakest supplier, weakest cleaning step or weakest document.

Can vegan and non-vegan products be made on the same line?

Yes, but with controls. FSSAI FAQs clarify that if the same production line is shared with non-vegan products or ingredients, thorough cleaning or comparable GMP measures must be carried out before vegan production starts. This must extend to machinery, equipment, utensils and surfaces. The label must also clearly mention that the product is processed on the same line where other non-vegan products are processed. This is one of the most important points for Indian food manufacturers and contract manufacturers. Many startups do not own their production facilities. They depend on third-party or shared manufacturing. In such cases, vegan integrity depends not only on formulation but also on the discipline of the manufacturing site. Important controls include:

- Line clearance before vegan production
- Validated cleaning procedure
- Segregated storage of vegan and non-vegan ingredients
- Dedicated utensils where possible
- Batch traceability
- Allergen and cross-contact controls
- Personnel training
- Packaging control
- Recall readiness

In the vegan category, factory discipline is brand protection.

Testing requirements: why no single test is enough

One of the most important scientific points in vegan verification is: **There is no single universal test that can prove every possible vegan risk.** A product may need different tests depending on its formulation, ingredients, processing history and risk profile. A scientifically responsible approach combines molecular, immunological and chemical methods for detecting animal DNA, milk proteins, egg proteins and cholesterol markers. A multi-parameter verification approach typically includes:

Risk to be checked	Testing approach	What it helps detect
Animal tissue / animal species DNA	Real-Time PCR	Mammalian, fish or avian DNA markers
Dairy ingredients	ELISA	Milk proteins such as casein, whey proteins or Î²-lactoglobulin
Egg ingredients	ELISA	Egg proteins such as ovalbumin
Animal fat markers	Gas Chromatography	Cholesterol as an animal fat marker

This is where food testing laboratories play a strategic role. A weak lab report can create false confidence. A good lab does not merely test; it helps select the right test based on product risk. For example:

- A vegan cookie may need milk and egg protein testing.
- A plant-based meat alternative may need animal DNA testing.
- A fat-rich product may need cholesterol testing.
- A complex processed food may need a combination of tests.
- A product with imported ingredients may need stronger documentation and ingredient-level CoAs.

Quality, safety and certification: vegan does not automatically mean safe

A very important consumer education point the we need to understand : **Vegan is a source claim. It is not automatically a safety claim.** A vegan food must still comply with all applicable food safety requirements: microbiological safety, chemical contaminants, pesticide residues, heavy metals, mycotoxins, food additives, nutritional declarations, allergen labelling, packaging safety and shelf-life validation.

- A vegan product can still be unsafe if it has microbial contamination.
- A vegan product can still be non-compliant if additives exceed limits.
- A vegan product can still carry undeclared allergens.
- A vegan product can still fail shelf-life.
- A vegan product can still mislead consumers through exaggerated claims.

This is where quality systems matter. For a serious vegan food business, the compliance framework should include:

- FSSAI licence and product category mapping
- FSSAI vegan endorsement readiness
- Ingredient specifications
- Supplier approval programme
- GMP and GHP controls
- HACCP / food safety plan
- Allergen management
- Label and claim review
- Shelf-life study
- Microbiological and chemical testing
- Vegan marker testing
- Traceability and recall system
- Consumer complaint monitoring

A vegan logo may open the door for the food business operator, but it is only Quality Compliance that will keep the door open for continual business.

Label claims: where marketing must meet regulation

The vegan category attracts bold marketing. But label claims must be handled carefully. FSSAI FAQs state that terms such as vegan salami, vegan sausages, vegan bacon, chicken-like, veg meat and similar meat-linked sensory comparisons should not be used for vegan logo endorsement. The term vegan cannot be clubbed with meat and meat-based products, and no sensory comparison claim to meat products should be used. This is an important caution for product developers and marketing teams. The language of innovation must not become the language of regulatory risk. Instead of using potentially risky meat-linked terms, brands should develop compliant category descriptions that are truthful, non-misleading and aligned with FSSAI requirements. Consumers will always appreciate creativity, but regulators would always need clarity and

successful brands would need balancing of both.

What business owners should do before applying for vegan approval

Food businesses and startups should not treat vegan approval as a final-stage activity. It should be built into the product development process. Here is a 8 stage practical roadmap that would help every Vegan FBO:

Stage 1: Product concept screening

Check whether the product is truly intended to be vegan or merely plant-forward.

Stage 2: Ingredient risk review

Review all ingredients, additives, colours, flavours, enzymes, carriers, fortificants and processing aids.

Stage 3: Supplier documentation

Collect supplier declarations, ingredient specifications, CoAs, allergen declarations and source declarations.

Stage 4: Manufacturing process mapping

Identify shared-line risks, cleaning controls, storage controls and cross-contact points.

Stage 5: Testing plan

Select tests based on product risk: animal DNA, milk proteins, egg proteins, cholesterol or other relevant parameters including the safety parameters required by FSSAI as part of 6 monthly compliance.

Stage 6: Label and claim review

Ensure the product name, category, claims, logo use and declarations are compliant.

Stage 7: Application file preparation

Prepare Form-A, self-declaration, payment receipt, label, manufacturing details, CoAs and other supporting documents.

Stage 8: Post-approval control

Maintain batch records, testing frequency, supplier revalidation, change control and recall readiness.

This approach helps businesses avoid one of the most painful regulatory problems: launching first and correcting later. In food compliance, prevention is always cheaper than correction. And definitely less dramatic than a product recall.

The future of vegan food

As we look into the crystal ball - the future of vegan food does not appear linear. The future Vegan is not only about replacing milk, meat or eggs. It would evolve into multiple sub-categories.

1. Cleaner-label vegan products

Consumers are becoming cautious about ultra-processed foods. The future will favour products with recognisable ingredients, better nutrition and transparent labels.

2. Protein-rich plant-based foods

Protein will remain a major innovation area. Pea, soy, chickpea, mung bean, millet, rice and other plant proteins will see stronger formulation work.

3. Fermentation-derived ingredients

Precision fermentation and microbial fermentation may create new vegan-compatible proteins, flavours, fats and functional ingredients.

4. Better dairy alternatives

Plant-based milk, yogurt, cheese and desserts will continue to grow, but taste, texture, nutrition and affordability will decide success.

5. Export-led vegan certification

Indian brands looking at global markets will need stronger alignment with international expectations, including ISO-based criteria, private certification schemes, allergen controls and importing country requirements.

6. Testing-led consumer trust

As claims multiply, testing and traceability will become stronger differentiators. Brands that can prove their claims with help of accredited labs will stand apart.

7. India as a plant-based innovation hub

India has cultural familiarity with vegetarian foods, strong agricultural diversity, pulses, millets, oilseeds, spices and food innovation capacity. With the right science and quality infrastructure, India can become a strong player in the global vegan and plant-based category.

The future of vegan will not be built only in marketing rooms. It will be built in R&D kitchens, supplier audits, manufacturing lines, testing laboratories and regulatory files.

Conclusion: vegan is a promise that must be proven

Vegan food sits at a unique intersection of ancient wisdom and modern science. Its emotional roots are in compassion. Its cultural roots are in restraint and respect for life. Its commercial roots are in consumer demand. Its regulatory future is in traceability and compliance. Its credibility will depend on testing.

For food businesses, the message is clear: do not treat vegan as a decorative claim. Treat it as a responsibility. For consumers, the message is equally clear: read beyond the front label. Look for credible brands, transparent ingredients, appropriate declarations and responsible claims. For the food ecosystem, the larger opportunity is to build a category where innovation and integrity grow together.

Because the future of vegan food will not belong to the loudest claim. **It will belong to the most trusted claim.**

Disclaimer:
The author has been associated with Envirocare Labs for over two decades as a food safety and testing professional. This article is based on his professional experience, regulatory understanding, and industry insights. It is intended for general awareness only, and Food Business Operators should refer to the latest FSSAI regulations and official guidance for specific compliance decisions.