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FROM THE DESK OF CHAIRPERSON, NUTRIFYTODAY

PRIYANKA SRIVASTAVA

Chairperson, NutrifyToday



India at the Helm: Why the Global Nutraceutical Industry's Next Chapter Will Be Written in the Subcontinent

The global nutraceutical industry stands at a rare inflection point—where rising chronic disease, consumer demand for preventive health, and tightening regulatory expectations are converging to redraw the boundaries of the sector. No longer a “vitamins and botanicals” niche, the category is evolving into a serious, evidence-backed extension of mainstream healthcare. And as this transformation accelerates, one truth is becoming increasingly clear: **India is not just participating in this shift but India is uniquely positioned to lead it.**

The New Rules of the Game

The nutraceutical market, once driven by trends and testimonials, is now governed by a rising bar of scientific legitimacy. Regulators across the world are pushing for clarity in claims, identity of ingredients, and real-world evidence. India has already moved decisively in this direction. The introduction of comprehensive nutraceutical regulations in recent years has brought the structure and predictability that global players expect.

Equally significant is the formalization of Ayurveda Aahara as a distinct regulatory category. This single move blends classical wellness intelligence with modern food safety—sending a signal to the world that India intends to industrialize and globalize traditional science responsibly. With the WHO Global Traditional Medicine Centre headquartered in Jamnagar, India also gains something priceless: international alignment on methodologies, standardization, and cross-border validation.

Shifting Demand: From Nice-to-Have to Essential

Consumers are no longer satisfied with generic supplements. The demand is now for precision, personalization, and products that deliver measurable outcomes—whether for metabolic health, stress and sleep, healthy aging, or women’s hormonal well-being. As clinical substantiation becomes non-negotiable, the companies that understand evidence generation, transparent supply chains, and clean manufacturing will own the future.

In this landscape, India’s competitive advantages stand out. The country already powers a major share of the world’s generic drugs, enjoys a vast botanical biodiversity, and is home to one of the strongest analytical and manufacturing ecosystems in the global South. It is a combination no other market can replicate at scale.

Where Future Growth Will Be Forged

Over the next five years, four engines will drive sector expansion:

1. Clinical-grade botanicals for chronic conditions

Advanced extracts for glycemic control, women's wellness, cognitive performance and inflammation will see rapid adoption—as long as they are backed by validated studies and consistent quality.

2. Personalized nutraceutical regimens

The era of one-size-fits-all is ending. Companies that integrate phenotypic assessments, wearables, and adaptive dosing will differentiate themselves in loyalty and outcomes.

3. Functional food formats

Gummies, shots, beverages, dairy-free blends and medical nutrition will dominate due to convenience and adherence. As the lines blur between nutrition and therapy, food-as-delivery becomes an advantage.

4. Hyper-traceable, sustainable supply chains

Global buyers now demand doping-risk-free ingredients, contamination-free processing, and verifiable origins. India's agronomy-to-industry ecosystem can deliver this with unmatched cost-effectiveness.

The Strategic Imperatives for Industry Leaders

Boardrooms cannot view nutraceuticals as a marketing-led category anymore. The winners will institutionalize three capabilities:

- **A scientific flywheel:** in-house R&D, multi-site clinical trials, digital health monitoring, and transparent publication practices.
- **A global-quality manufacturing backbone:** facilities aligned with NSF, TGA, and EFSA expectations; rapid tech transfer; and strong analytical method validation.
- **A clinician-integrated model:** partnering with endocrinologists, gynecologists, sports scientists and mental-health specialists to build program-based solutions rather than isolated SKUs.

The biggest shift, however, lies in mindset. Nutra-ceutical companies must think like health-tech companies with data as an asset, outcomes as a promise, and consumer trust as a measurable KPI.

Why India Will Shape the Next Decade

India's leadership is not aspirational ; it's structural.

- **Regulatory clarity** now enables global-grade product development.
- **Cultural and scientific heritage** gives India a proprietary wellspring of botanical knowledge ready for modern validation.
- **Manufacturing scale and cost competitiveness** provide a decisive advantage in supplying the world.
- **A massive domestic health-conscious population** ensures a robust home market to test, refine and scale innovation.

With the global nutraceutical market projected to cross US\$400 billion in the coming years, India's current sub-2% share is less a weakness and more a runway. As demand for safe, science-backed, plant-based solutions skyrockets, India has the opportunity to become the world's nutraceutical innovation and manufacturing hub—the way it already is for pharmaceuticals.

The Road Ahead

The nutraceutical industry is entering a maturity phase; one defined by accountability, data, and integrated wellness. For companies willing to invest in science and transparency, the next decade promises both scale and global relevance.

India has all the ingredients: heritage, infrastructure, regulatory clarity, and scientific talent. What remains is the collective will to convert potential into leadership.

If the pharmaceutical revolution of the 1990s and 2000s was India's first big global health story, the nutraceutical revolution could very well be its second. And this time, the world is not just watching but it's ready to follow.

Welcome to the November 2025 issue of Nutrify Today Magazine. May this edition offer you sharp insights and strategic clarity for the fast-evolving world of nutraceuticals.



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When Will the Nutraceutical Industry Grow Up?

From “Supplement” Thinking to Quantifiable Prevention and True Adjuvants

NutrifyToday Editorial Team

“Supplement” is a word that has unintentionally shaped an entire industry and not for the better. It sounds like the tissue paper at a buffet: nice to have, occasionally useful, but never essential. Something you may pick up, may toss aside, or may forget altogether. That very framing has created one of the lowest entry barriers in any health-related category. When something is “supplemental,” the brain interprets it as optional. And optional things rarely carry scientific discipline, dosage boundaries, or measurable expectations.

But the reality is very different. Nutraceuticals deal with bioactive compounds, molecules that interact with receptors, enzymes, and metabolic pathways. They influence inflammatory cascades, mitochondrial energetics, neurotransmission, insulin signaling, lipid balance, and cellular redox states. These are not casual interactions. They are biological interventions, and prolonged use has consequences. Sometimes beneficial, sometimes harmful, but almost always measurable.

Yet the industry keeps calling these products “supplements.” And that mindset has prevented the field from maturing into what it could be: a quantifiable pillar of preventive health and an evidence-anchored adjuvant system alongside mainstream care.

The Problem With “Forever Dosing”

Unlike pharmaceuticals, supplements rarely come with end dates. You can take them for weeks, years, or decades, and no one checks in. Some countries allow doses up to 100 times the recommended daily allowance. Why? Have people stopped eating food? Have physiology and homeostasis suddenly become negotiable?

High-dose vitamins and antioxidants, for example, are often marketed as universally beneficial. But several major trials have shown otherwise. Extremely high antioxidant intake can blunt the body’s adaptive stress signaling paradoxically weakening the mitochondrial and cellular resilience that moderate oxidative cues help build. Other studies reveal that certain vitamins in high-risk groups can increase disease incidence instead of reducing it.



This is where the concept of “cellular /receptor fatigue” becomes relevant not as a formal medical term but as a metaphor for homeostatic push-back. If you flood the system indefinitely, the body adapts. Receptors downregulate. Signaling pathways recalibrate. Sometimes the intended effect simply stops working; sometimes the opposite effect unfolds.

This is not how a mature healthcare category behaves.

Nutraceuticals are not inert. Omega-3 ethyl esters can lower triglycerides significantly. Curcumin influences NF- κ B pathways. Ashwagandha shifts cortisol curves. Berberine modulates AMPK. Sleep botanicals impact GABAergic and serotonergic circuits. Polyphenols alter endothelial signaling.

If a molecule behaves like interacting with body biochemistry then it deserves serious respect: dosing boundaries, biomarkers, defined populations, contraindications, and outcome tracking.

This is where the nutraceutical industry needs to grow up.

The New Model: Quantifiable Nutrition, Not Wishful Support

Preventive health is not about taking “supportive” products forever. It is about measurable improvements.

Modern consumers increasingly expect:

- **Biomarker-linked recommendations** (vitamin D levels, inflammatory markers, lipid fractions, sleep quality metrics).
- **Defined durations** (“12 weeks, then reassess”).
- **Personalized dosing** based on deficiency, risk profiles, genetics, microbiome, or metabolic behavior.
- **Proof of effect**, not marketing language.

This shift from general supplementation to precision nutraceuticals parallels the transformation seen in oncology, cardiometabolic science, and lifestyle medicine: targeted interventions, monitored changes, and evidence-based continuation or discontinuation.

Examples of Science-First Nutraceutical Maturation

A wave of companies and clinical initiatives is signaling that the industry is ready to evolve:

Thorne

Integrates diagnostics at-home panels for thyroid, stress hormones, cardiovascular markers, sleep biomarkers enabling practitioners and consumers to treat nutraceuticals as measurable interventions rather than long-term guesswork.

Designs for Health

Invests deeply in clinician education and mechanistic research, creating practitioner protocols rather than mere product lists. Their approach treats bioactives as tools within structured health programs.

True Healthy Initiative

Unites preventive medicine and nutrition researchers around evidence standards, pushing for interventions that truly reduce chronic disease risk; not just sound good in marketing narratives.

Esperer Onco Nutrition

Operates at the intersection of oncology and clinical nutrition, addressing malnutrition, cachexia, and treatment recovery in cancer care. This is nutraceutical functionality at its highest level: targeted, monitored, and medically relevant.

Sloom Labs

Builds a science-based sleep ecosystem—devices, rituals, and formulations validated against sleep-architecture metrics. Sleep supplements must now compete with quantifiable outcomes, not aesthetics.

These models demonstrate that science, structure, and purpose can coexist with consumer wellness. They represent what the nutraceutical future should look like: measurable, accountable, personalized, and outcome-driven.



What Growing Up Looks Like

If the industry is to evolve, it must embrace five pillars:

1. Define measurable endpoints

Every product should link to a biomarker or validated outcome.

2. Specify duration and retesting

Supplements should not be infinity loops. Everything should have a reassessment point.

3. Respect evidence-based dosing

High doesn't mean better; boundaries matter.

4. Target the right population

Not everyone needs everything. Precision beats indiscriminate prophylaxis.

5. Graduate from “supports” to “improves by X% in Y weeks”

Only after reproducible evidence.

The Bottom Line

The supplement mindset says:
“It might help. Take it anyway.”

The preventive-health mindset says:
“Here is the measurable benefit, for this specific person, within this timeframe.”

Until the industry adopts the second mindset, nutraceuticals will remain the tissue paper at the buffet useful, but never taken seriously. The science exists. The purpose exists. The need exists.

It's time for the industry to grow up.



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Women's Health Nutraceuticals Need a Wider Lens: Far Beyond PCOS and Menopause

NutrifyToday Editorial Team

For more than a decade, the commercial narrative around women's health has been reduced to just a few visible touchpoints: PCOS, skin and hair concerns, and the menopause transition. These categories are important and often underserved, but they have inadvertently overshadowed the larger, more life-altering health threats that affect women across their lifespan.

Hidden beneath the surface are conditions that begin earlier, progress silently, and ultimately cause far greater long-term harm. Cardiovascular disease, for example, is the number-one cause of death among women worldwide. Dementia disproportionately affects women beginning as early as their mid-40s. Sleep disturbances, anxiety, and metabolic shifts uniquely shape female health at every hormonal stage from puberty to pregnancy, postpartum, perimenopause, and beyond.

If the nutraceutical sector is to truly serve women, it must broaden its framework. Women's health is not a marketing segment. It is a complex, evolving physiology that requires science-driven solutions and a life-course perspective.

The Unseen Crisis: Cardiovascular Disease in Women

It surprises many readers to learn that cardiovascular disease kills more women than all cancers combined. Yet heart disease remains framed as a "male" condition in public health messaging. Women's symptom profiles differ—often presenting as jaw pain, back discomfort, nausea, fatigue, or shortness of breath rather than the classic crushing chest pain. These subtler patterns lead to delayed recognition and poorer outcomes.

Pregnancy adds another layer of risk. Complications such as preeclampsia, gestational diabetes, and preterm birth are now recognized as powerful predictors of future cardiovascular disease. They are not temporary events—they are early warning signs. Women who experience them need structured follow-up and prevention strategies long after delivery.



Here, evidence-based nutraceutical approaches play an important role. Ingredients like plant sterols and stanols, certain soluble fibers such as beta-glucan, and clinically validated omega-3 formulations have shown measurable impact on markers such as LDL-cholesterol and triglycerides. These tools become especially relevant for women who may not yet qualify for prescription therapies or for whom certain medications are delayed due to pregnancy or breastfeeding.

The Cognitive Burden: Dementia's Gender Gap

Nearly two-thirds of individuals living with Alzheimer's disease are women. Longevity alone does not explain this. Increasing research suggests that the menopause transition itself characterized by shifts in estrogen, brain energy metabolism, and neural network connectivity—creates a vulnerability window years before symptoms appear.

Women who undergo early menopause or surgical removal of the ovaries face even higher long-term cognitive risks. For them, proactive cardiovascular monitoring, metabolic support, and brain-focused lifestyle interventions are not optional—they are essential.

Nutraceuticals cannot treat dementia, but they can support underlying cardiometabolic health, which heavily influences long-term brain function. Ingredients that help maintain lipid balance, reduce inflammation, stabilize glucose metabolism, and support neuronal energy pathways are increasingly part of a preventive framework built for midlife women.

Sleep, Anxiety, and the Hormonal Landscape

Sleep disturbances are often dismissed as lifestyle issues, yet they are deeply intertwined with hormonal physiology. Girls report more sleep problems than boys after puberty. Pregnant and postpartum women face profound circadian disruption. Perimenopausal women experience night awakenings, hot-flash-linked sleep fragmentation, and rising anxiety rates.

Research shows that insomnia itself amplifies the risk of cardiometabolic problems. This makes sleep a foundational pillar of women's health—not a secondary concern.

The nutraceutical market for sleep and stress is booming, but not all solutions are grounded in evidence. Melatonin, for example, is effective for certain circadian rhythm disorders but is not recommended for chronic insomnia in adults.

Magnesium may help a subset of individuals. Ingredients such as L-theanine, glycine, and standardized lavender extracts have shown anxiolytic or sleep-quality benefits in controlled studies, but dose, purity, and formulation matter substantially.

What remains non-negotiable is safety. Widely marketed botanicals like ashwagandha and kava have documented hepatotoxicity risks. Women navigating pregnancy, postpartum recovery, or perimenopause need products with conservative dosing, clinical substantiation, and clear safety communication.

A Life-Course Framework for Women's Nutraceutical Health

If women's health is to be taken seriously, the industry needs a structural shift in how it designs and communicates nutraceutical strategies.

1. Focus on the real disease burden.

Cardiovascular disease, metabolic dysfunction, cognitive aging, and sleep-anxiety cycles must become central pillars of innovation—not afterthoughts behind hair, skin, or hormone-balance products.

2. Design for hormonal transitions.

Each hormonal milestone—menarche, reproductive years, pregnancy, postpartum, perimenopause, and postmenopause—has distinct biochemical needs. Tailored nutraceutical solutions should reflect these evolving stages.

3. Demand evidence, not marketing.

Standardized actives, clinically relevant dosages, transparent safety warnings, and responsible claims are essential. Women are increasingly research-literate and expect scientific rigor.

4. Close the research gap.

Clinical studies should include adequate female participation, analyze outcomes by life stage, and prioritize metrics relevant to women, such as vascular function, sleep quality, cognitive markers, and postpartum metabolic health.

A Call for a New Narrative

Women are not a niche category. They are 50% of the world's population and they experience distinct biological rhythms that shape every aspect of health. When conversations reduce women's health to appearance, cycles, and menopause, we obscure the larger battles hiding in plain sight.

A journalist's responsibility and the nutraceutical industry's opportunity is to reshape the narrative. To illuminate the real risks. To broaden the science. And to ensure that solutions for women reflect the depth and complexity of their biology.

The future of women's health depends on widening the lens. Not because the familiar issues are unimportant, but because the unspoken ones are far more dangerous and far more deserving of our collective attention.

Functional and sustainable hydration supplement



Food intake is not just for satisfying the appetite or supplying the basic nutrition. Now a days, people suffer from many Health problems because they not providing their body with the necessary nutrients they need. Functional and sustainable hydration supplements can provide necessary nutrients that the body requires and can decrease health concerns and improve health.

The idea of functional foods was born out of the observation that some foods and drinks have positive health impacts that cannot be attributed to their nutritional value. The origin of many diseases is gut. Certain supplements like probiotics improve the gut's health which in turn improves digestion. Probiotics are living micro-organisms that can be beneficial for health benefits when taken. Prebiotics are the food for gut bacteria.

The combination of probiotics and prebiotics can reduce the risk of chronic diseases. Functional drinks like energy drinks, beauty drinks and immune system enhancers also provide additional benefits more than hydration. Enhancing biological immune systems, recovering from certain illnesses, preventing certain diseases, slowing down the aging process are some of the most advantageous impacts of functional meals.

The future of functional foods and hydration supplements is likely to involve the combination of several ingredients to achieve specific health goals. Rather than focusing on the potential benefits of a single food source, future innovations will aim to create synergistic blends that maximize health benefits.

This holistic approach can address multiple health concerns simultaneously, providing comprehensive support for overall well-being. In summary, functional and sustainable hydration supplements play a crucial role in modern health and wellness.

By providing essential nutrients, improving gut health, and offering additional benefits beyond hydration, these supplements can help prevent and manage various health conditions. As the field continues to evolve, the focus will be on creating effective, sustainable, and multi-functional products that support long-term health and environmental sustainability.





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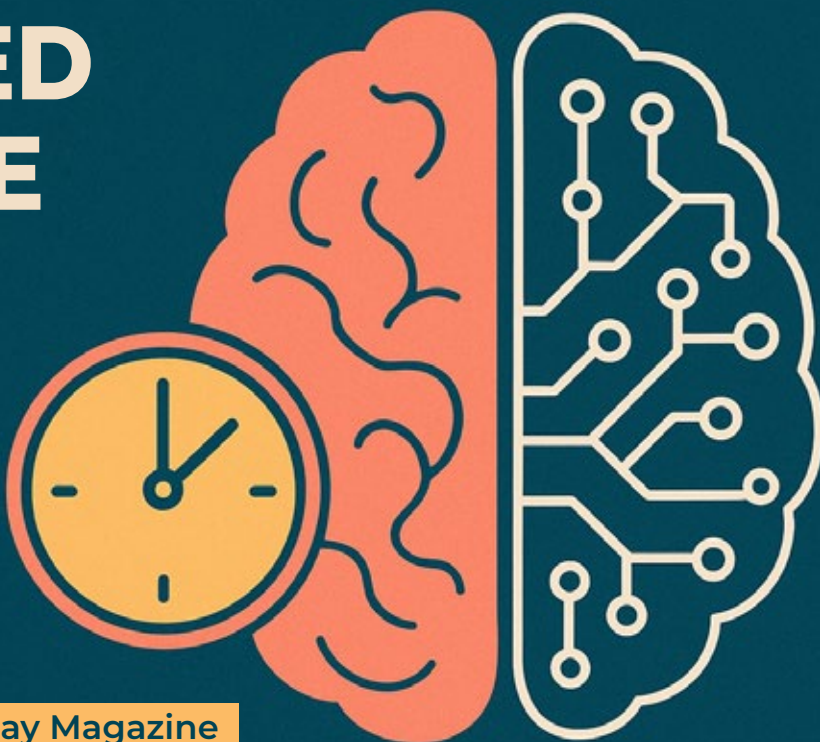
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TIMED RELEASE IS NOT TIMED EXPERIENCE

A BRAIN-TEASER FOR THE FUTURE OF FORMULATION INNOVATION



By the Editorial Desk, Nutrify Today Magazine

The nutraceutical industry is no stranger to timed delivery. We understand immediate-release, sustained-release, delayed-release, and even pulsatile profiles with almost pharmaceutical precision. But here is a provocative question for formulators, product strategists, and innovation leaders: **If we can choreograph the release of molecules, why can't we choreograph the timeline of human perception?**

This is where the idea of **Timed Sensorial Engagement (TSE)** enters the conversation—not as fantasy, but as the next serious frontier of formulation science.

Traditionally, timed delivery systems are engineered for what happens in the bloodstream or tissues. But consumers don't experience release curves. They experience moments—cooling, warmth, aroma, tingling, freshness, comfort, relief. These sensations occur on different timelines, through different biological pathways, and are interpreted through a rich blend of taste, smell, touch, and expectation.

Sensory science has long shown that perception is not static. Techniques like Time-Intensity and Temporal Dominance of Sensations reveal that the “main” sensation shifts as time passes.

Our brain selects a dominant note every second—sometimes taste, sometimes aroma, sometimes trigeminal cues like cooling or tingling. If our brains already operate on a timeline, the real opportunity is clear: **designing formulations that speak the brain's language time.**

A Living Timeline: The Antacid Thought Experiment

Picture this. A person with acidity drops an effervescent antacid into water, drinks it, and the sensory journey begins:

- **Seconds later:** Tiny carbonation explosions trigger a burp and a sparkling sensation.
- **At 15 seconds:** A cooling wave blooms—perhaps from menthol or other trigeminal stimulants.
- **At 10 minutes:** A lingering citrus breath emerges, carrying freshness and reassurance for nearly half an hour.

The acid relief wasn't the only outcome. The experience was a sequence—micro-events occurring through oromucosal channels, gastric activity, retro-nasal aroma, and even breath-phase volatiles. The physiology itself became the stage.

In this example, there was no advanced TSE engineering involved yet nature accidentally created a sensorial timeline. Imagine what deliberate science could do.

Why Timed Delivery Cannot Deliver Timed Experience

Timed release systems focus on chemical concentration changes—not sensory modulation. Perception depends on:

- Retronasal aroma movement
- Trigeminal receptor activation
- Mucoadhesion and oral residence
- Volatile compound persistence
- Attention, memory, and expectation

These are not linear or monotonic. For example, cooling sensations adapt quickly meaning a slow sustained release becomes invisible to the brain. Pulsed micro-delivery, on the other hand, renews attention and refreshes perception.

In sensory science, **discontinuity** is often more effective than slow release. This alone shows why conventional pharmaceutical delivery curves cannot achieve what TSE demands.

What a TSE-Enabled Formulation Could Look Like

A future-ready sensorial design would follow a three-act structure:

Act 1: The Prologue (0–30 seconds)

Effervescence, micro-pulses of cooling, gentle tingling anything that says “this product is working” and activates early attention.

Act 2: The Experience (1–10 minutes)

Mucoadhesive carriers that linger on oral surfaces, delivering subtle bursts of flavor or sensation. Not a slow fade—but strategic sensory reminders.

Act 3: The Echo (10–40 minutes)

Encapsulated hydrophobic notes like citrus released slowly to create a memorable after-signature that connects emotionally with the user.

This isn't merely flavor enhancement. It's perception architecture.

The Case for Bringing Technology into ‘Serious’ Formats

Gummies, shots, and innovative food formats continue to dominate the narrative of fun and convenience. But when consumers seek credibility—efficacy, seriousness, trust—they still gravitate toward tablets, capsules, powders, and liquids.

These formats need innovation just as much as the playful ones.

Imagine:

- A tablet that begins with a subtle cooling bloom,
- shifts into a warm herbal note minutes later,
- and leaves a gentle aromatic echo long after ingestion.

Or a sachet powder designed not only to dissolve well, but to offer a staged multisensory journey that becomes a consumer ritual. Technology can do this. Our current limitations are conceptual, not chemical.

Why This Matters: From Transaction to Relationship

Today, most products offer a single sensorial hit—taste, cooling, sweetness, or an exotic format. These moments are transactional. They do not build attachment, emotion, or recall.

A timed sensory sequence, however, becomes:

- A **story** that unfolds
- A **signature** the brain remembers
- A **ritual** the consumer trusts
- A **relationship** rather than an event

Timed Sensorial Engagement can transform a commodity supplement into a sensory experience; one that remains top of mind long after ingestion.

A Challenge for the Industry

Here is the brain-teaser we pose to formulators and innovators:

If you can design Cmax and half-life, why not design sensation peaks and perceptual half-lives?
If you can stage molecule release, why not stage meaning?

As we push into 2026 and beyond, the next breakthrough in nutraceutical innovation may not be in ingredients or formats, but in time itself.

Welcome to a future where formulation science meets sensory storytelling.

“The Vanilla Fenugreek Tango” R&D Grail Webinar Illuminates Nutraceutical Formulation Sensory, Science, and Balance at Center Stage

In the inaugural edition of R&D Grail, themed “The Vanilla Fenugreek Tango,” leading industry experts gathered on October 17, 2025 to unravel the synergy between sensory perception and bioactive science in nutraceutical formulation design. Moderated by Dr. Balkumar Marthi, the session featured insightful commentary from Dr. Yashawant Kumar, Dr. Antony JIX, and Dr. Sreeraj Gopi, each bringing multifaceted expertise to the table.

Opening the session, Dr. Balkumar Marthi declared, “Vanilla, often thought of as a simple flavour, is in fact a foundational component in formulation science. Much like salt in culinary arts, it does not dominate but enhances palatability by softening bitterness and balancing sensory notes. The theme ‘The Vanilla Fenugreek Tango’ captures this idea of balance between powerful actives and gentle harmonisers. As we look ahead, such pairings will redefine compliance-driven nutraceutical innovation by aligning taste, efficacy, and consumer experience.” He further explained, “Vanilla functions as a baseline flavour enhancer. It reduces bitterness from potent bioactives and adds sensory smoothness without overwhelming other ingredients. Its ability to harmonize taste makes it indispensable for improving adherence in long-term nutraceutical use”.

Vanilla’s History and Market Influence

During the discussion, Dr. Marthi posed a pivotal question about vanilla’s market relevance. “Vanilla’s historical safety and pleasant aroma have made it a consumer favourite. Interestingly, in India, vanilla has overtaken chocolate as the top ice cream flavour,” noted Dr. Yashawant Kumar. “This acceptance can be leveraged for nutraceuticals, especially where flavour familiarity encourages compliance over 45–90 day cycles.” Addressing economic and supply concerns, Dr. Yashawant Kumar elaborated, “Natural vanilla is one of the most expensive spices after saffron and difficult to cultivate. However, about 90% of the global market uses natural-identical or synthetic vanilla, which remains safe and effective at concentrations around 0.5–1%”.



Beyond Taste: Vanilla’s Functional

Turning from palatability to physiology, Dr. Antony JIX clarified, “Yes. Vanilla imparts short-term calming, antioxidant, and stress-reducing effects, but these benefits last only 1–2 hours. Importantly, holistic natural extracts deliver better outcomes compared to isolated vanillin, as synergistic compounds in natural vanilla contribute to its functional activity”.

Fenugreek: Potency Versus Sensory Barriers

The conversation shifted focus to fenugreek, a celebrated nutraceutical compound. “Fenugreek is recognized for glucose-regulating and insulin-modulating properties, supported by long-term studies such as the 2007–2015 Louisiana State University trial. These findings establish its role in metabolic health and functional food design,” commented Dr. Antony JIX. Yet, as Dr. Sreeraj Gopi cautioned, “Palatability remains a major obstacle. Fenugreek’s bitterness and earthy aftertaste linger, especially in formats like gummies or functional bars. Many users discontinue after 14–28 days due to taste fatigue, despite its proven efficacy.” Dr. Gopi further advised, “Clinically effective doses range from 5–10 grams per day in food form, or 0.5–1 gram as an extract. Hence, strategic formulation is critical to ensure both efficacy and sensory appeal”.

Bridging Efficacy with Experience: Formulation Strategies

“Vanilla can act as a partial bitterness masker and compliance enhancer when blended with Fenugreek. It neutralizes bitterness without obscuring the ingredient’s efficacy-related sensory cues,” affirmed Dr. Marthi. When asked about advanced formulation techniques, Dr. Sreeraj Gopi responded, “Techniques like liposomal and thermal encapsulation can mask bitter saponins effectively while retaining bioactivity. Synergistic use of vanilla with cocoa, fats, millets, dates, stevia, or monk fruit enhances creaminess and reduces bitterness by up to 50–60%. However, a mild earthy note is intentionally retained to signal efficacy perception.”

Dr. Yashawant Kumar highlighted the subtleties of product stability: “Both flavour and bitterness profiles evolve during storage. Smaller batch runs and fresher productions maintain product integrity and prevent sensory drift. Shelf-life management thus becomes integral to consumer consistency and brand trust.” Cultural bridges were also identified. “Indian cooking traditions, where strong spices are harmonized through natural balancing agents, provide inspiration for modern nutraceutical design. Engaging chefs and food technologists can bridge culinary wisdom with R&D,” remarked Dr. Antony JIX.

Regulation, Economics, and the Future

Regulatory and economic hurdles were not ignored. “Both Vanilla and Fenugreek face restricted health claims despite strong scientific validation, particularly in FDA and EFSA frameworks. Natural vanilla’s high cost and limited supply add to scalability challenges. Still, rising consumer demand for multisensory, palatable nutraceuticals has made taste innovation a strategic differentiator,” stressed Dr. Yashawant Kumar. Dr. Antony JIX added, “Consumers often equate mild pungency or bitterness with medicinal authenticity. Therefore, masking should be nuanced blunting discomfort without erasing these cues entirely. Achieving this sensory balance is critical for maintaining perceived efficacy”.

Technology, Tradition, and Transformation

Looking forward, Dr. Marthi summarized the panel’s vision for deeper integration between sensory research, culinary heritage, and encapsulation innovation. “Collaborative initiatives like Nutrify Today Academy aim to foster this knowledge exchange and establish formulation guidelines for sensory-balanced nutraceuticals.”

On digital transformation, Dr. Yashawant Kumar explained, “AI platforms like Nutrify Genie can model taste-masking synergies, accelerate formulation trials, and optimise ingredient pairing. This approach saves time, reduces development costs, and enhances predictability in sensory outcomes”.

As the session closed, panelists united around a shared goal: blending tradition, cutting-edge technology, and taste to propel consumer-friendly, compliance-driven nutraceuticals. “The Vanilla Fenugreek Tango” marks the beginning of a new era where science, experience, and essence combine for truly experiential and effective products.

MODERATOR



Dr. Balkumar Marthi

President, NutrifyToday Academy
(ex-Unilever R&D; former Dean of Innovation, GITAM University)

PANELISTS



Dr. Sreeraj Gopi

PhD, FRSC, FACN, FRSA,
CChem — 100+ papers, 75+ patents;
founder, Molecules Biolabs



Dr. Yashawant Kumar

Founder & CEO, Benefic
Nutrition; ex-Nestlé,
Mondelēz, PepsiCo,
Almarai



Dr. Antony JIX

Global Head, Ingredients & Partner-
ships, Olam Food Ingredients (ofi),
Netherlands

INGREDIENTS OF THE MONTH

"A powerhouse combination of two antioxidant-rich fruits persimmon and karonda, this blend delivers a concentrated dose of natural polyphenols that target both metabolic and inflammatory pathways. Recent clinical findings show that supplementing with this microencapsulated polyphenol complex can significantly improve fasting blood glucose, insulin sensitivity, and reduce inflammation when paired with regular exercise.

This synergistic duo not only helps in balancing blood sugar but also enhances adiponectin levels, supporting fat metabolism and cardiovascular health. Perfect for those looking to strengthen metabolic health and delay the onset of type 2 diabetes naturally."

Wondering how? Ask NutrifyGenie now



"Hydroxytyrosol (HT) is one of nature's most powerful phenolic antioxidants and it's now gaining attention as a science-backed ally against aging-related metabolic decline. A recent clinical trial in overweight adults with prediabetes revealed that just 15 mg/day of HT for 16 weeks significantly lowered oxidized LDL and markers of oxidative DNA damage, while boosting antioxidant defenses like GPx and total antioxidant status.

Beyond its potent antioxidant action, HT also reduced inflammatory cytokines such as IL-6, reinforcing its role in protecting the body from chronic, low-grade inflammation that accelerates aging and disease risk."

Wondering how? Ask NutrifyGenie now

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 <https://nutrifygenie.com/>

 wow@nutrifytoday.com

 +91 - 9538011662

INGREDIENTS OF THE MONTH

“Sourced from the tiny Arctic zooplankton *Calanus finmarchicus*, Calanus oil is emerging as a powerful next-generation omega-3 source, rich in EPA, DHA, and unique wax esters that support both cardiac and metabolic health. In a recent 12-week clinical study in prediabetic women, daily supplementation with 4 g of Calanus oil significantly improved diastolic heart function (E/A ratio), reduced metabolic syndrome severity, and enhanced insulin sensitivity. Beyond traditional fish oils, Calanus oil's bioactive profile helps lower diastolic blood pressure and resting heart rate, promoting smoother cardiovascular function. These findings suggest Calanus oil may be an ideal functional lipid for women at metabolic risk supporting a healthier heart, better glucose metabolism, and overall metabolic balance from the inside out.”



Wondering how? Ask NutrifyGenie now



“Spinach harbors a potent bioactive treasure called thylakoids, the photosynthetic membranes that play a surprising role in metabolic regulation and appetite control. In a groundbreaking clinical study, supplementing 5 g/day of spinach thylakoid extract alongside high-intensity functional training (HIFT) for 12 weeks produced powerful metabolic benefits in obese men. The combination significantly reduced LDL, triglycerides, and total cholesterol, while increasing HDL levels and modulating key metabolic regulators like CTRP-12 (adipolin), KLF-15, and furin, which together improve insulin sensitivity and lipid metabolism.”

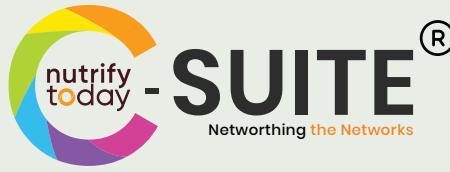
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Email: akansha@nutrifytoday.com / csuite@nutrifytoday.com, Chat/Call at +919538011662



EVENT OF THE MONTH

THE R&D GRAIL

2nd Edition

THE RHYTHMIC CHOREOGRAPHY OF FOOD SENSORIALS

21st November - 4:00 PM IST

MODERATOR



Dr. Balkumar Marthi

President, NutrifyToday Academy
(ex-Unilever R&D; former Dean of Innovation,
GITAM University)

PANELISTS



Dr. Kantha Shelke

Principal of Corvus Blue LLC and Senior
Lecturer at Johns Hopkins University,
Food scientist specializing in ingredient
science and regulatory compliance



Dr. Pirthi Pal Singh

President & Group R&D Head,
Tirupati Groups



Dr. Gourinandan Tonpe

Co-founder at Thinking Forks Consulting Pvt
Ltd, X-Mars, X- Unilever. 32-years of
experience as Food Scientist



Dr. Pankaj Bhatt

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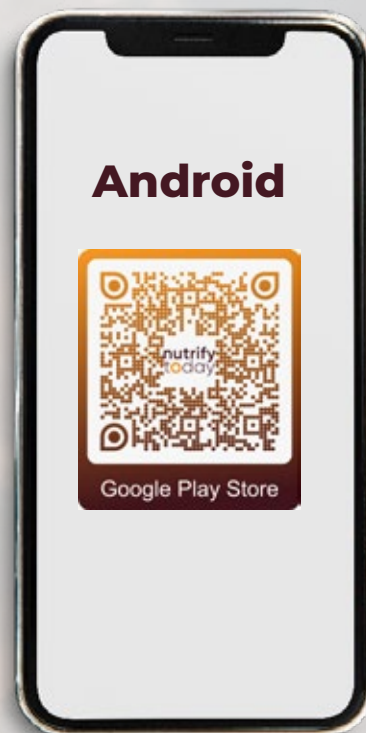
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Contact our team

Speaking/ Partnership/Delegate Opportunity

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