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National Grape Summit 2025

**From Vines to Value:
Transforming the Grape Industry**

4th MARCH, 2025 || 10:00 am Onwards

Amanora The Fern, Pune



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1. Introduction

The National Grape Summit 2025, organized by The Bengal Chamber of Commerce & Industry (BCC&I) in collaboration with ICAR-National Research Centre for Grapes (ICAR NRCG), aims to bring together key stakeholders from across the grape value chain. As one of the most commercially significant fruit crops in India, grapes contribute substantially to both domestic consumption and exports. However, challenges such as compliance with food safety standards, post-harvest losses, and limited market linkages continue to impact industry growth.

Under the theme "From Vines to Value – Transforming the Grape Industry," the summit will serve as a platform for farmers, exporters, policymakers, researchers, and entrepreneurs to engage in meaningful discussions on sustainable grape production, advanced value addition strategies, and the promotion of India's grape and wine industries. Pune, Maharashtra, serves as the ideal venue for the summit, given its prominence in India's grape and wine sector, proximity to ICAR-NRCG, and thriving agro-tourism presence. Extending this experience, the Grape and Wine Tour will provide hands-on exposure to vineyard management and winemaking, offering participants a deeper understanding of industry innovations.

2. Objective

- **Highlight Advancements in Grape Farming and Post-Harvest Management:** Showcase innovative farming techniques and solutions to minimize post-harvest losses.
- **Explore Opportunities in Grape-Based Industries:** Discuss emerging trends and business prospects in wine production, food processing, and value-added grape products.
- **Promote Sustainable Practices and Export Potential:** Encourage sustainable farming methods and strategies to strengthen India's position in the global market.
- **Facilitate Dialogue Among Stakeholders:** Provide a platform for policymakers, entrepreneurs, and industry experts to collaborate and develop actionable strategies for the growth of the grape industry.
- **Encourage Viti-Tourism:** Organize a guided visit to select vineyards, demonstrating the integration of tourism with grape cultivation and wine production.

3. Inaugural Session

The honourable speakers of this session were:

- **Shri Jayanta Chakraborty**, Chairperson, Agri Horti-Food Processing-Rural Development National Committee, The Bengal Chamber
- **Mr. Subhodip Ghosh**, Director General, The Bengal Chamber of Commerce & Industry
- **Dr. Kaushik Banerjee**, Director, ICAR-National Research Centre for Grapes (NRCG)
- **Mr. Simon Wiebusch**, President, Bayer South Asia; Country Divisional Head, Crop Science Division, Bayer India, Bangladesh & Sri Lanka
- **Dr. Nilanjan Sanyal**, Head R&D, South Asia, BASF India Ltd
- **Dr. Subrata Gupta (IAS)**, Secretary, Ministry of Food Processing Industries, Govt. of India



Transforming the Grape Industry from Cultivation to Value Creation: Mr. Jayanta Chakraborty, Chairperson, Agriculture & Rural Development Committee, The Bengal Chamber of Commerce and Industry

India's agricultural landscape is vast and diverse, making it challenging to address all aspects of farming within a single forum. To create a more impactful dialogue, The Bengal Chamber of Commerce & Industry has identified key high-value crops that significantly contribute to India's agricultural economy. Continuing its strategic initiatives in focused agricultural discussions, the Chamber has previously organized significant events, including the Smart Agriculture Summit in Telangana and the FPO Conclave in Delhi. The National Grape Summit 2025 in Pune is part of this initiative, bringing attention to a high-value crop that plays a significant role in Indian agriculture. This summit in Pune marks the beginning of a series of crop-focused events, with planned engagements on apples in Kashmir, potatoes in Bengal and Uttar Pradesh, and chilies in Andhra Pradesh. This targeted approach allows us to address sector specific challenges and create a more impactful engagement.

The theme of the summit, "From Vines to Values," is not just about grape cultivation. It is about how we can leverage value addition to unlock new opportunities. The summit is structured around four key sessions. The first session on Good Agricultural Practices (GAP) highlights the foundation of successful cultivation, emphasizing that without GAP, crops cannot thrive. The second session on Market Intelligence & Linkages focuses on how Indian grapes can expand their presence in both domestic and international markets while addressing regulatory challenges and the necessary policy support. The third session on Marketing of Value-Added Products explores the immense potential of grapes beyond fresh consumption, such as raisins and wineries, and discusses ways to expand these opportunities. The final session on Grape Tourism draws inspiration from tea tourism, emphasizing how grape tourism can attract global visitors, showcase hospitality, and highlight cultivation excellence, leading to business collaborations.

This platform serves as an opportunity to collaborate, exchange ideas, and shape the future of India's grape industry. Stakeholder's suggestions, advice, and success stories will be compiled into recommendations for submission to the ministry, ensuring concrete steps for industry growth.



Shri Jayanta Chakraborty, Chairperson, Agri-Horti-Food Processing-Rural Development National Committee of The Bengal Chamber

Strengthening Value Chains for a Sustainable Future: Mr. Subhodip Ghosh, Director General, The Bengal Chamber of Commerce & Industry

The Bengal Chamber has always been an advocate for sustainable development and believes in walking the talk. We have actively participated in Conference of Parties for several years and presented sessions at COP26 in Glasgow. Right now, we are leading a full-fledged carbon project in the Sundarbans under blue carbon ecosystem. This project focuses on mangrove restoration, fisheries generation, and livelihood creation. We are currently working across 200 hectares, with plans to restore 2,000 hectares of mangroves deep inside the Sundarbans and develop 1,000 hectares of silvofishery projects. The objective is not just to tackle climate change but also to generate livelihoods. Additionally, under PMKVY 4.0, the program of the Ministry of Skill Development & Entrepreneurship, Government of India, Bengal Chamber of Commerce and Industry is implementing extensive training and skills development program for 5,000 nursery workers in the Sundarbans.

This background has led us to move up the value chain, making this summit an essential platform to focus on the grape industry's value chain. As a Chamber of Commerce, we serve as a platform to take forward the queries, demands, and suggestions to the larger ecosystem to use these discussions to drive meaningful outcomes. The summit examines the value chain from multiple perspectives—competitiveness, inclusivity, sustainability, scalability, and access to finance—all of which form the core of the sessions. Additionally, the discussions explore exports and market expansion strategies.

Growers continue to face challenges, especially during the harvest season, including climate-induced issues like unseasonal rains. Many discussions have revolved Around introducing protective covers for vineyards, but the cost remains a major concern, along with insurance-related issues.

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Maharashtra, the grape capital of the country, produces 67–70% of India's total grape output, yet growers continue to face challenges, especially during the harvest season, including climate-induced issues like unseasonal rains. Many discussions have revolved around introducing protective covers for vineyards, but the cost remains a major concern, along with insurance-related issues. There are also export-related concerns, particularly high import duties in key markets like Bangladesh. India is entering multiple Free Trade Agreements (FTAs), which can significantly boost grape exports by lowering tariffs in partner countries. While these agreements increase market access and price competitiveness, there are also challenges related to quality standards, global competition, market diversification, and non-tariff barriers. The summit serves as a platform to enable collaboration, take forward learnings, and drive industry-wide impact.



Mr. Subhodip Ghosh
Director General, The Bengal Chamber of Commerce & Industry

India is entering multiple Free Trade Agreements (FTAs), which can significantly boost grape exports by lowering tariffs in partner countries.

Building a Competitive and Sustainable Future for India's Grape Sector: Dr. Kaushik Banerjee, Director ICAR-National Research Centre for Grapes (NRCG)

This summit specifically focuses on value addition in grapes and income generation. This is perhaps the first of its kind, where representatives from all key stakeholder organizations are coming together to improve the marketability of grapes and grape-derived products, including raisins, juice, and wine.

This summit is structured around panel discussions rather than just technical presentations, as we wanted to take a different approach—one that focuses on grape quality, food safety, and creating a self-sustaining venture for all stakeholders. The first technical session focuses on Good Agricultural Practices (GAP), ICAR-NRCG has been serving the role of National Reference Laboratory since 2004 and has played the pivotal role in designing and implementing India's first food safety traceability system, GrapeNet—which monitors the entire grape export process by ensuring compliance with quality standards and full traceability across every stage of grape production, from harvesting and testing to packing and export, effectively covering the entire supply chain. This system has received global recognition. The second session will focus on Market Intelligence & Linkages, where panellists discuss how to improve market access and trade linkages.

The third session focuses on establishing wineries as profitable ventures, discussing efforts to identify indigenous grape germplasm for wine production. This aligns with the Make in India initiative, promoting locally developed wines. Young entrepreneurs have already shown interest, and through our agri-business incubation, we are helping them explore opportunities in juice, raisin, and wine industries promoting income generation. The final session explores Grape and Wine Tourism, an emerging sector in India that holds significant growth potential. While some wineries in Nashik have already begun wine tourism, the concept is still in its early stages. Recently, we organized a Great Grape Day at our institute, and the overwhelming response from visitors demonstrated a rising interest in grape-based tourism and research.

Over the years, we have also engaged in Northeast India, Jammu & Kashmir, and various other states, including Himachal Pradesh, Rajasthan, and Madhya Pradesh, with the goal of expanding grape cultivation. Significant improvements and growing interest have been observed in this endeavour.

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Dr. Kaushik Banerjee
Director, ICAR-National Research Centre for Grapes (NRCG)

Branding Indian Grapes for Global Recognition: Mr. Simon Wiebusch, President Bayer South Asia, Country Divisional Head, Crop Science Division, Bayer India, Bangladesh & Sri Lanka)

The significance of grapes in India's agricultural and economic landscape is often overlooked. When I arrived in India six and a half years ago, one of my first visits was to a grape-growing region. Having worked extensively in agriculture across grape producing countries like Macedonia, Croatia, the Czech Republic, and Slovakia, I was surprised to learn that India's grape production exceeds that of these countries combined.

In many countries, grapes are deeply embedded in cultural traditions, but in India, this recognition remains limited to specific regions. If you ask someone in Mumbai, they might not even be aware that India is a large producer of grapes. However, grapes are critical for India as the country moves towards becoming a developed nation by 2047. agriculture in India is often viewed through the lens of feeding 1.4 billion people, primarily through the production of arable crops. While this has been achieved successfully, much of the focus remains on caloric intake rather than nutritional diversity. A large part of the population today does not have adequate access to nutritious food beyond just calories. The opportunity lies in horticulture, particularly in grapes.

India is already the second-largest producer of horticultural goods in the world, and it is only a matter of time before it becomes the largest. Beyond production, India also has the potential to become the leading exporter of horticultural products, given its fundamental resources.

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The recent budget also acknowledged this, highlighting horticulture as a priority sector. Today, India is already the second-largest producer of horticultural goods in the world, and it is only a matter of time before it becomes the largest. Beyond production, India also has the potential to become the leading exporter of horticultural products, given its fundamental resources. It is essential to build on successes, and this brings us back to grapes. India's horticultural exports, which are recognized globally, are often limited to apples and, to some extent, mangoes. However, among these, grapes have made the impact in international markets.

This success is partly due to India's strategic advantage in timing. grapes are as perishable as they are so therefore there is Windows for a country like India to grow where other countries which might be closer to Consumers are not doing so. However, this also means that grapes are treated as a commodity, this raises important questions—do grapes hold cultural significance in India? As a country, do we recognize their importance and assign value to their quality? More importantly, do we establish a distinct identity for Indian grapes in global markets? Are we willing to brand them with 'Made in India' labels in international supermarkets?

Branding is critical, but it can only be successful when backed by consistent quality and strong consumer perception. Currently, if Indian grapes and Italian grapes are placed side by side in a European market, consumers are more likely to pick the Italian grapes. This is not necessarily because of quality but because of brand perception. India needs to build a strong brand identity for its grapes, ensuring that consumers associate them with premium quality. However, branding can only succeed when it is supported by quality assurance. This is where Good Agricultural Practices (GAP), and residue management play a crucial role. In European markets, grapes are one of the products most associated with pesticide residue concerns. Indian grapes must work twice as hard to build trust in global markets. The focus must be on strengthening residue management practices, ensuring compliance with international food safety standards, and preventing rejections in export markets.

While exports remain important, India's biggest opportunity lies within its domestic market. A strong local demand for grapes will ensure price stability, scale up production, and make Indian grapes more competitive globally. Many globally dominant industries—such as Germany's automobile industry—gained strength because of a strong

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domestic consumer base, which helped them refine their products before expanding globally. Similarly, India must build a robust local market for grapes while simultaneously expanding exports.

India has the advantage of available labour, which remains a major challenge in many European grape-growing regions. Additionally, there is a fundamental demand opportunity—as domestic grape production increases, the relative cost per grape decreases, making it more competitive in international markets, where production is often limited to smaller areas that are becoming increasingly expensive to cultivate over time.

Grapes are, in essence, one of the key pathways to India's progress toward becoming a developed nation. They contribute to the availability of nutritious food for all, the growth of a strong export business especially if we build a brand around it and the establishment of a robust production, distribution, and consumption network within the country. At the same time, they offer an opportunity to expand into global markets with the Make in India label.



Mr. Simon Wiebusch, President Bayer South Asia, Country Divisional Head, Crop Science Division, Bayer India, Bangladesh & Sri Lanka)

Strengthening India's Grape Industry Through Innovation and Collaboration: Dr. Nilanjan Sanyal, Head R&D, South Asia, BASF India Ltd

The discussions today will focus not only on addressing challenges but also on leveraging opportunities to ensure sustainable growth in India's grape industry. It is truly incredible to be part of this significant event, where stakeholders from across the value chain have come together to foster cross learning, collaboration, and innovation.

BASF is not just about agricultural solutions; we operate across multiple divisions, including chemicals, materials, surface technologies, and nutrition care. We take pride in saying that wherever you look, you will find a touch of BASF, though it often goes unnoticed because many of our businesses are B2B models rather than direct-to-consumer brands.

BASF is a 160-year-old company, and we have been present in India for 130 years through several partnerships. In alignment with the Make in India vision, we have been investing heavily in the country over the past 10-15 years. Our Innovation Centre in Mumbai is dedicated to insecticide research, conceptualizing and synthesizing new global solutions. Additionally, we have several regional and country-level research establishments, including one of our largest global research stations in Pune. We are not only investing in R&D but also significantly enhancing our production capabilities in India.

India's agriculture exports are valued at approximately \$50 billion, with fresh fruits and vegetables contributing \$1.8 billion. Grapes alone account for nearly 25% of this share, amounting to \$400 million, making them one of the most revenue-efficient crops. More significantly, this 0.4 billion export value comes from just 6 million hectares of land, highlighting the high economic importance of grape cultivation.

Over the past ten years, global grape exports have seen a decline in major producing countries like the U.S., Italy, and Chile. In contrast, India's grape exports have been steadily growing year on-year, which is truly fascinating to observe.

The future outlook for global grape exports suggests that success will depend on four key factors: Quality, Yield, Cost efficiency, Proprietary grape varieties. Countries that can excel in these areas will dominate the global supply chain.

India must assess its position across these four parameters to ensure its competitiveness in the international market.

Currently, India ranks seventh in global grape production, with an output of 3.4 million tons and a productivity around 20 tons per hectare—closely following China. The reason for high productivity in India and China is the dominance of table grapes, which have a higher yield compared to wine grapes. Wine grapes require intensive pruning to maintain quality standards, while table grape production maximizes volume, making it a high-value commercial crop.

India's grape industry holds enormous potential, but we must ask ourselves: Are we fully realizing it? If we can increase our productivity to 25 tons per hectare, India could surpass Turkey and the U.S., moving up to the fifth position in global grape production. However, before setting such aspirations, we must ensure that the right fundamentals are in place.

Several factors are working in India's favour. The demand for table and wine grapes is increasing, and the domestic market is also expanding due to economic growth and rising consumer demand. However, in recent reports, grape exports declined by 25% compared to last year. The reason? Stronger domestic demand and higher prices in the local market, which shifted export trends.

The retail landscape is also changing. Due to price fluctuations, markets are shifting towards green seedless grape varieties, which now dominate 75% of India's production—led by Sonaka and Thompson varieties. Another key factor is productivity. Do Indian grape varieties have the biological potential to produce more than 25 tons per hectare? The answer is yes. Most of our commercial varieties already have a biological yield potential of 25–40 tons per hectare. Additionally, the capability to introduce proprietary grape varieties is strong. It was remarkable to see Sayadri Farm launching new grape varieties that capture three times the value of conventional grapes, demonstrating the potential for premium-grade cultivars.

Grape cultivation is no longer limited to Maharashtra and Karnataka. It is now expanding across new regions, growing at a 6–7% CAGR annually.

Challenges in grape production are not unique to India. The constraints faced globally are quite similar, and if we believe the fundamentals are strong, we must ask ourselves—can India aspire to become the fifth-largest grape producer globally? I urge the organizing committee to take note of this and deliberate on how we can achieve this goal. However, this cannot happen in silos. We must come together, prepare a positioning paper under the leadership of ICAR-NRCG, and form a consortium that includes all stakeholders to develop a strategic roadmap. Key challenges in grape production include climate change, rising production costs, frequent pest infestations, and disease outbreaks. These issues lead to compromised quality, affecting both domestic and export markets. As Simon mentioned, consumers are willing to pay a premium for residue-free grapes if they meet quality and taste expectations. Addressing these concerns is critical to maintaining India's competitive edge. Labor shortages are another major challenge, not just in grape production but across the entire agricultural sector. However, grape farming has unique dynamics, requiring both skilled labour and technical expertise. Maharashtra, with its long history of grape cultivation, has an established ecosystem, but the newer grape-growing regions may not yet have the necessary skilled workforce. Grape farming is also highly investment-intensive, which becomes a significant barrier to expansion. Another concern is the proliferation of unverified agricultural consultants. In many villages of Maharashtra, multiple consultants operate, but not all are equipped with the right knowledge or training. It is uncertain whether they are effectively relaying the recommendations from ICAR-NRCG and other recognized sources to farmers. Ensuring that farmers receive accurate guidance is crucial. Beyond these, other pressing issues include policy gaps, contingency planning, post-harvest losses, and trade barriers. These must be addressed collectively to support sustainable growth in India's grape industry.

Coming from the crop protection industry, I would like to highlight specific challenges in this area. Extensive surveys across major grape-growing regions reveal key issues related to insect management, disease control, and plant physiology. One major concern is the lack of new modes of action. BASF introduced the last major innovation nearly two decades ago, and currently, they do not have new mode of actions. At the same time, while there is a growing demand for residue-free grapes, climate change is leading to more virulent pest and disease attacks. However, the industry still lacks a comprehensive biological portfolio to address this issue. Neither BASF nor other industry players currently have a strong enough biological solution to replace conventional pesticides.

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Despite these challenges, BASF remains committed to providing solutions for grape growers. We are developing new fungicides, insecticides, and biological solutions, as well as value-added services such as digital tools to support farmers. In 2025, we will launch Revysol, a next-generation fungicide for powdery mildew, featuring an isopropanol-azole structure that improves efficacy against resistant fungal strains. Additionally, Axalion, a new insecticide with a completely unique mode of action, will be introduced. This molecule is highly effective, environmentally safe, and suitable for controlling major grape pests. Beyond chemicals, BASF is also investing in digital solutions for grape growers. The Xarvio Field Manager, acquired in 2018. Prior to this, we had an existing digital solution named Horta, which has now been integrated with Xarvio Field Manager. This combined system is evolving into a powerful decision-support tool for growers. This decision-support system integrates weather forecasting, agronomic guidance, and precise spray recommendations, helping farmers optimize their crop management. In Europe, we are piloting an AI-based smart residue management system, which will provide residue compliant recommendations for EU exports. The system is equipped with a comprehensive digital library and remote sensing capabilities, enabling highly reliable weather forecasts and accurate agronomic recommendations. It provides guidance on irrigation, pruning, spraying schedules, and other essential agricultural practices to help farmers. Further, we are piloting AI integration. This AI-driven model will offer smart residue management recommendations, ensuring compliance with European Union regulations. Whether through innovation or digital solutions, we remain committed to enhancing the success of grape growers.



Dr. Nilanjan Sanyal
Head R&D, South Asia, BASF India Ltd

Expanding Opportunities in the Grape Sector: Dr. Subrata Gupta (IAS), Secretary, Ministry of Food Processing Industries, Govt. of India

It is fascinating that grapes have been in cultivation for 6,000 to 8,000 years, with the oldest known winery discovered in Georgia dating back 8,000 years. While this may seem like an extensive history, if we consider the combined experience of this audience—assuming an average of 10 years per attendee—this hall alone holds over 1,000 years of expertise in grape cultivation and trade. This exchange of knowledge and experiences is essential for driving further improvements in the sector.

Globally, approximately 76,000 square kilometres of land is under grape cultivation. About 71% of the production goes into winemaking, 27% is consumed as table grapes, and around 2% is processed into raisins and sultanas. However, in India, the trend is reversed less than 2% of grape production is processed into wine. Thirty years ago, the idea of Indian wine in restaurants seemed improbable. Today, thanks to the efforts of grape farmers and winery entrepreneurs, India has established a footprint in wine production.

Despite this progress, there is still a long way to go. The sector faces multiple challenges, from the quality of planting materials to the adoption of Good Agricultural Practices (GAP), especially by small farmers. Research on grape varieties suited to India's diverse 15 agro-climatic zones need to be intensified. If we aim to establish an Indian brand identity in international markets, we must focus on improving agronomic practices and enhancing the quality of grape production.

In my experience, grape cultivation has also shown promise in unconventional regions. In Bankura, West Bengal, a dry tropical region, grape cultivation was initiated five years ago. Now, I have learned that similar trials are being conducted in high rainfall areas of Northeast India. There is a significant need for research and varietal development tailored to these climatic conditions. Grapes hold tremendous potential for rural economies, offering small farmers an opportunity for high returns. If proper value addition mechanisms are in place, they can serve as a major source of rural income generation.

Drawing a parallel to the tea sector, particularly Darjeeling tea, which now enjoys Geographical Indication (GI) status and global recognition, a similar model could work for Indian grapes. In Darjeeling, small farmers embraced tea cultivation,

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supported by high-quality planting materials and government initiatives, leading to widespread economic benefits. If grape farmers receive similar support in terms of technology, inputs, and processing infrastructure, the sector could witness significant growth.

A key challenge is encouraging value addition and processing. While 1 kg of grapes can produce about 600 ml of wine, less than 2% of Indian grapes are processed into wine. There is enormous potential for value-added products, and even the by-products—skins, pulp, and seeds—hold commercial value. Supporting small processing units to develop by-product utilization facilities could unlock new revenue streams. Another significant opportunity lies in wine and grape tourism, which has been highly successful in the tea sector. Tea tourism has become a major income source for small growers in regions like Darjeeling and Assam. A similar potential exists in Nashik, where over 350,000 visitors toured wineries last year alone. This demonstrates the economic potential of an integrated grape ecosystem that includes cultivation, processing, and tourism.

As far as the Ministry of Food Processing Industries is concerned, we offer various schemes to support the grape industry. The Production Linked Incentive scheme may not be highly relevant here, but two other schemes offer substantial support. The Pradhan Mantri Formalization of Micro Enterprises (PM-FME) scheme targets small rural and urban entrepreneurs, enabling them to set up processing units and add value to agricultural products. It provides subsidies covering up to 35% of the capital cost, directly benefiting farmers and entrepreneurs. Similarly, the Pradhan Mantri Kisan Sampada Yojana (PMKSY) supports the development of cold chain infrastructure, fruit and vegetable processing, and storage facilities. Under this scheme, general entrepreneurs are eligible for 35% capital support, while SC/ST entrepreneurs can receive up to 50% subsidy, with funding of up to INR5 crore per unit. Currently, the expression of interest is open, and interested applicants are encouraged to apply for processing units. The Ministry of Food Processing Industries remains committed to supporting the grape sector.

This summit has the potential to revolutionize India's grape sector, positioning India alongside Australia, South Africa, and Chile in the global wine industry. However, quality remains a major challenge across India's agricultural sector. Awareness about Maximum Residue Limits (MRLs) and quality standards needs to reach farmers at the grassroots level. Addressing this gap will be crucial in establishing India's reputation in global markets.



Dr. Subrata Gupta (IAS)
Secretary, Ministry of Food Processing Industries, Govt. of India

4. Panel Discussion I- Good Agricultural Practices

Panellists

- **Mr. Sanjay Dave**, Former Chairman, Codex Alimentarius Commission, Former Advisor of FSSAI
- **Ms. Sandeepa Kanitkar**, Managing Director, Kan Biosys
- **Mr. Prakash Mohanlal**, Bafna Grape grower & Exporter CHD, Bafna group
- **Mr. Ranganatha MC**, Chief Technical Manager, Indofil Industries Limited
- **Dr. Pranjib Kumar Chakraborty**, Chief Scientific Adviser, Dhanuka Agritech Ltd
- **Dr Sujoy Saha**, Principal Scientist, NRCG
- **Dr Sujoy Saha**, Principal Scientist, National Research Centre for Grapes (NRCG)
- **Session Moderator: Dr. Kaushik Banerjee**, Director, ICAR National Research Centre for Grapes (NRCG)



Context setting on GAP for food safety and trade facilitation

Context setting on GAP for food safety and trade facilitation: Mr. Sanjay Dave, Former Chairman, Codex Alimentarius Commission, Former Advisor of FSSAI

Our success in the grape industry, particularly in overcoming challenges related to pesticide residues, was possible only through a collective effort. Farmers, exporters, laboratories, industry experts, and the support of the state governments— Maharashtra, Karnataka, and Andhra Pradesh, now Telangana— all played a crucial role. The foundation of our success was rooted in the implementation of Good Agricultural Practices (GAP), which were essential in ensuring our grapes met international standards.

At that time, during my tenure in Brussels, the European Commission consistently emphasized the need for India to improve its grape production standards. There were genuine concerns that if changes weren't made, we could face a ban. The only solution to this was the strict adoption of GAP. The industry responded proactively, and I vividly recall how farmers took up the challenge and implemented the necessary practices to achieve compliance. Today, I am pleased to hear that Indian grape, thanks to initiatives like GrapeNet, are recognized globally, even as far as South America. This is a testament to our hard work.

However, that is history. As we look to the future, we must acknowledge that the world is changing rapidly. Globally, the focus is shifting toward sustainability, climate change, and carbon neutrality. As we speak, these concepts are being integrated into the global standards under the new Codex Alimentarius Strategic Plan, set to take effect in 2026. It is crucial that we start adapting now. Whether at the field level, processing stage, or in laboratories, everything we do needs to align with sustainability principles and contribute to carbon neutrality.

The future of agriculture, and the grape industry in particular, is not just about producing quality crops but ensuring that these are produced in a way that adheres to global standards of sustainability. If we fail to address these challenges, they could become barriers to trade in the future, and food safety issues will likely arise as technical barriers to trade.

Our journey with GAP must continue, but it needs to evolve. The work we have done in the grape industry has shown the way, but now we must integrate new technologies. Blockchain, for instance, can play a key role in ensuring transparency and traceability, critical components of both good agricultural practices and record-keeping.

In closing, I urge all stakeholders, including the state governments and the industry, to support initiatives that promote IND GAP and ensure the entire value chain—from the field to exports—adheres to the highest standards of food safety and sustainability. Let us use this summit as an opportunity to identify specific steps that can be taken to continue our progress in the grape industry and shape the future of Indian agriculture.



Mr. Sanjay Dave, Former Chairman, Codex Alimentarius Commission, Former Advisor of FSSAI

NRCG's contributions in implementing GAP: Dr Sujoy Saha, Principal Scientist, National Research Centre for Grapes (NRCG)

I am deeply honoured to have this opportunity to share with you the work that the National Research Centre for Grapes, Pune, has done over the years in implementing Good Agricultural Practices (GAP) in viticulture.

NRC Grapes has played a pivotal role in driving the success of India's grape industry through research, innovation, and partnerships with farmers. GAP is the cornerstone of sustainable agriculture, ensuring that crops are cultivated in a way that benefits both producers and consumers. However, today, I won't dwell too much on the definition of GAP, as many of you are already well-versed in

its importance. Instead, I would like to walk you through some of our key contributions in applying GAP to grape cultivation and its impact on the broader industry.

One of our major achievements has been the development and implementation of a Decision Support System (DSS). This system has helped optimize critical areas such as nutrition, irrigation, and disease management. We have worked hard to ensure that grape farmers can catch potential biotic stresses, such as diseases and pests, early, which is crucial for minimizing losses and improving crop quality. Our DSS has been instrumental in reducing the use of pesticides and addressing concerns related to pesticide residues—a significant issue in the viticulture sector.

For instance, in the town of Bankura in West Bengal, we implemented an automated weather system that provides real-time data on humidity, wetness, and other climate factors. This allowed us to effectively combat a disease known as Downy mildew, which is prevalent in that region. Small interventions like this have demonstrated how technology can significantly enhance disease management, even in regions where such diseases are not commonly found.

Perhaps one of our most groundbreaking contributions is GrapeNet, a robust traceability system that has set the benchmark for ensuring quality and compliance. GrapeNet allows us to track the entire grape supply chain—from the farm to the final consumer. Through state, district, and sub-district codes, we can pinpoint which farmer used which pesticide and at what time. This traceability has been essential in reducing rejections due to pesticide residues, both in domestic and export markets, making our grape industry globally competitive.

A critical tool that underpins our work is in a dynamic document that ensures that only the correct, label-claimed pesticides are used on grapes. NRC Grapes has meticulously worked on this to ensure compliance with maximum residue limits (MRLs) and pre harvest intervals, thus preventing any trade barriers that could arise due to non-compliance. This system has helped us maintain high standards while protecting the marketability of Indian grapes.

We have also taken significant steps to engage directly with farmers. Our regular advisory meetings, YouTube videos, and social media outreach have made it possible to disseminate information quickly and effectively.

Whether it is canopy management or nutrient application, we ensure that every piece of information reaches the growers, empowering them to make informed decisions.

In conclusion, the work we have done in promoting Good Agricultural Practices is only the beginning. The challenges we face are evolving, but I am confident that, through continued collaboration and innovation, we can overcome them and elevate India's grape industry to even greater heights.



Dr. Sujoy Saha, Principal Scientist, ICAR NRCG

Dr. Kaushik Banerjee, Director, ICAR-National Research Centre for Grapes (NRCG)

The Bengal Chamber of Commerce & Industry has once again taken a significant step towards strengthening India's agricultural economy by organizing this event, and I am delighted to represent the National Research Centre for Grapes here today.

India's agricultural landscape is rapidly evolving, and as we focus on high-value crops like grapes, we are also embracing the need for innovation, sustainability, and market intelligence. Today, I have the opportunity to discuss one of the most critical elements of grape cultivation—Good Agricultural Practices (GAP)—which forms the foundation of any successful crop. Without GAP, our efforts to improve yield, quality, and marketability would be incomplete.

Today's panel discussion will centre around the practical aspects of GAP and its implementation. We are fortunate to have with us highly knowledgeable panellists who have made remarkable contributions in this area.

To begin this discussion, I would like to invite Dr. P. K. Chakrabarti, who has a wealth of experience in plant protection, to share his insights. During his tenure as ADG of Plant Protection, we witnessed substantial progress in expanding the label claim concept, crop grouping, and addressing the use of minor pesticides. Dr. Chakrabarti has been instrumental in steering these conversations, and I believe his insights today will further our understanding of how GAP can be strengthened for commercial crops like grapes.

As you know, minimizing pesticide residues in grapes is one of our primary goals. Over the years, we have been working diligently to optimize pesticide application rates and maintain appropriate pre-harvest intervals. However, despite these efforts, we continue to detect off-label compounds such as triazoles in our produce. These chemicals do not have a label claim for grapes, yet they persist in our residue reports. This issue highlights the importance of strict adherence to GAP, especially in reducing pesticide residues.

At the same time, we are observing a growing interest in bio stimulants, which are gaining traction as a sustainable alternative in grape cultivation. Farmers and researchers alike are appreciating their positive impact on crop health and productivity. The question we now face is how we can effectively integrate bio stimulants into our current farming practices to further reduce pesticide residues while improving overall crop performance.

To address this, I turn to Dr. Pranjib Kumar Chakraborty, based on your experience in plant protection and your work with label claim expansion, how do you envision improving Integrated Pest Management (IPM) strategies for grapes? What steps can we take to reduce pesticide residues in grapes while promoting sustainable practices through GAP and IPM? Additionally, how do you see the role of bio stimulants evolving in this context?

**Dr. Pranjib Kumar Chakraborty, Chief Scientific Adviser,
Dhanuka Agritech Ltd**

Agriculture in India, with its vast diversity, presents numerous challenges but also offers immense opportunities for growth and innovation. Today, as we gather to focus on the grape industry under the theme of "Vines to Values," I believe we have a unique platform to unlock the potential of this high-value crop.

As we delve into discussions on Good Agricultural Practices (GAP) and the importance of these protocols for successful cultivation, I must acknowledge the pivotal work of professionals like Dr. Banerjee and Dr. Saha, who have been instrumental in ensuring adherence to GAP standards. Wherever grapes are grown or discussed, these practices are essential, particularly in reducing pesticide residue and ensuring sustainable farming methods. I believe the future of our country is bright in this area.

Reflecting on the state of horticultural production in India, we are among the top producers globally. However, despite this high production, our export numbers tell a different story.

One of the challenges I have observed is the limited registration of pesticides for specific crops. Out of 554 crops grown in India, only 15% are covered by registered pesticide use, with the rest relying on off-label pesticides. While off-label use is not inherently harmful—it happens even in countries like the USA and EU—we need to ensure safe usage through initiatives like crop grouping. Crop grouping, which follows Codex classification, allows for better regulation and ensures the safe use of pesticides across similar crops.

Another critical area that is gaining attention is the use of bio stimulants. I had the privilege of chairing the subcommittee on bio-stimulants, and we have made significant progress in developing guidelines for their registration. Bio-stimulants differ from biofertilizers and biopesticides. They are not a source of nutrition or pesticides but work to enhance the plant's resistance to both abiotic and biotic stresses. They improve root development, nutrient use efficiency, and overall plant health, without having a pesticidal effect.

India now has well-developed guidelines for bio-stimulants, and we have come a long way in regulating this sector. The third amendment to these guidelines was recently introduced in May 2024, marking another milestone in our journey. Bio-stimulants are increasingly being recognized for their role in sustainable agriculture, and their usage is only set to expand in the coming years.

In conclusion, as we discuss ways to enhance the value of grapes through GAP, market intelligence, value-added products, and grape tourism, I encourage all of us to consider the role of bio stimulants and crop grouping in achieving sustainable growth. Together, we can shape a future where India's grape industry thrives, both domestically and internationally.

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Dr. Kaushik Banerjee, Director, ICAR-National Research Centre for Grapes (NRCG)

The journey of bio stimulants has a long way to go, and I believe that an integrated approach is key. Through such an approach, we can effectively reduce the usage of pesticides while introducing microbial applications that not only manage pest control but also contribute to reducing pesticide residues by helping degrade them.

Now, my question to Ms. Sandeepa Kanitkar is rives your concept of developing such innovative products? I believe these products are pivotal in promoting Good Agricultural Practices. In the context of GAP, what is your vision, and how are you proceeding to ensure the widespread adoption of these practices?

Ms. Sandeepa Kanitkar, Managing Director, Kan Biosys

Some of the farmers are even better than scientists when it comes to observing issues in the field that impact grape cultivation.

As an industrial microbiologist with over 32 years of experience, I have been working extensively in the field of biofertilizers and biopesticides. Long before the Bio Stimulant Act came into effect, our team at Kan Biosys was already working on formulating microbes for biotic stress management. We have been focusing on developing solutions for both biotic and abiotic stress in agriculture. Our journey began when grape farmers, particularly those involved in exports, approached us with concerns about residues in their crops. They sought alternatives like biopesticides to be integrated into their pest management practices.

At Kan Biosys, we started with bio fungicides, particularly focusing on formulations based on *Bacillus subtilis* and *Bacillus amyloliquefaciens*. These were developed for use as intermittent sprays alongside conventional fungicides. Farmers often had concerns about mixing chemicals, so we carried out extensive compatibility tests to ensure our biopesticides could be safely integrated into their existing practices. Through our collaboration with NRCG, which dates back to 2006, we have systematically worked towards incorporating these biopesticides into grape cultivation practices. I am proud to say that we were the first to register our bio fungicide product under section 9(3) at the Central Insecticide Board (CIB).

I would also like to urge NRCG to work towards creating a residue-free label to help both farmers and entrepreneurs bring more bio-based products to market.

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Today, we continue to work with grape farmers, tackling not just fungi but also insect pests like mealybugs, which are particularly challenging during the late stages of grape cultivation. Our microbial formulations, based on *Beauveria bassiana* and *Metarhizium anisopliae*, have proven effective in pest management, reducing the need for chemical residues. However, it has taken us many years—over seven years of data collection and more than INR 1.5 to INR 2 crores in costs—to bring our products to the market. Reaching out to India's 600 districts is no easy task, requiring a large, dedicated team. But I am pleased to say that our products are now being marketed through partnerships, such as with Bayer. Today, these products are used across 40,000 acres of grape cultivation in India.

While the journey has been long, the future of microbiology in agriculture looks promising. In conclusion, it is important for us to continue this dialogue on sustainability and safe food production. As consumers grow more affluent, they are placing greater importance on food safety, and it is our responsibility to support farmers in meeting these demands. I would also like to urge NRCG to work towards creating a residue-free label to help both farmers and entrepreneurs bring more bio-based products to market. This would encourage not just export growth but also benefit the domestic market.

Dr. Kaushik Banerjee, Director, ICAR-National Research Centre for Grapes (NRCG)

In recent years, India has made remarkable strides in promoting high-quality produce in the global market. A significant milestone has been achieved in the grape industry, where farmers have reported receiving impressive prices, with some fetching as much as INR 170-180 per kg in regions like Nashik and Pune. These figures reflect the growing demand for premium, residue free produce, emphasizing that consumers are willing to pay a premium for quality. The Maharashtra State Grape Growers Association has played a pivotal role in ensuring this success, working tirelessly to enhance standards, quality, and market reach. Such developments signify India's potential to dominate in the production of high-grade agricultural exports.

Mr. Ranganatha, the main challenge facing farmers today is related to the mango crop. Mangoes are crucial for both domestic and export markets, and Indofill is synonymous with this fruit.

We observe in our GAP (Good Agricultural Practices) document that mango is often applied alone as a standard operating procedure (SOP) and is also used in combination with other fungicides. Under such circumstances, if mango-related products are suddenly banned or restricted, growers face considerable concerns about managing diseases. What steps is Indofil, or the pesticide industry in India at large, taking to address this potential issue and protect mango crops?

Mr. Ranganatha MC, chief technical manager, indofil industries limited: These sessions are essential for the growth and development of any crop, especially when it comes to innovation and sustainability in agriculture.

Now, moving on to the topic at hand—Mancozeb. This product, as many of you may know, has been a part of agricultural practices for the past 60 years. Mancozeb is used globally on nearly 70 crops and helps manage around 400 pathogens and diseases. It is a broad-spectrum, multi-site fungicide that has proven to be highly effective and safe, making it cost-effective for both today and tomorrow.

There have been regulatory developments in recent years, which is understandable as regulators have a duty to ask manufacturers to submit certain data. Earlier, when Mancozeb was first introduced, regulations and data submission were not required. But over time, as new standards have been introduced, regulators have identified some data gaps. This isn't just limited to Mancozeb but applies to around 27 other products, according to notifications from the authorities. However, we are working diligently to address these gaps.

The regulatory authorities, along with NRC and leading pathologists across India, have been guiding and supporting us on how to improve our practices. We respect the laws and regulations that are in place. With the guidance of experts like Dr. P. Chi, we have developed the necessary data and submitted it to the regulatory body. Except for the removal of the label claims on guava, sorghum, and tephrosia, the rest of the claims have been reestablished, and there is no problem in the usage of Mancozeb in India.

Mancozeb is not only one of the best products for grapes but also ranks high in usage for crops like potatoes and tomatoes. It is among the top fungicides in the Indian crop protection market.

One of its key advantages is its compatibility with various chemical partners such as triazoles, strobilurins, Bendor chemistries, and copper formulations. Mancozeb enhances the effectiveness of these partners, helping in better disease and resistance management. It even extends the life of partner chemicals due to its synergistic multi-site action.

On the global front, we are aware that the European Union has discontinued the use of this product. However, we recently received some positive developments from European courts, and we are working on addressing certain toxicological gray areas to defend its usage at the global level. As of now, in India, there is no issue with the usage of Mancozeb, and it can be applied as a solo product or in formulations like WP, WDG, or SC, including in tank mix or ready-mix combinations.

Dr. Kaushik Banerjee, Director, ICAR-National Research Centre for Grapes (NRCG)

From NRCG, particularly regarding grapes, we have provided several technical justifications to safeguard this fungicide, which remains crucial for managing diseases effectively. It is important that farmers continue to have access to this fungicide as it plays a vital role in disease management for crops, especially grapes.

Now, I would like to introduce our next and last panellist for this session, Mr. Prakash Monal Bapna. Mr. Bapna is an exemplary farmer and exporter with vast experience in grape cultivation. Over the years, Indian grape exports have faced multiple challenges. For instance, in 2003, residues of Methil and Mango were detected, followed by incidents involving Fluconazole. These issues resulted in the failure of hundreds of samples during internal residue monitoring. However, Mr. Bafna's expertise and keen observations stand out.

Mr. Bafna, who is both a farmer and exporter. His methods have resulted in successful grape exports, with no pesticide residue detections above the MRL (Maximum Residue Limit) during testing at our National Residue Lab (NRL). This is truly remarkable.

So, my question to Mr. Bafna is: What is the secret behind your success in achieving consistently residue-free grape exports, even after multiple tests at NRL? Could you please share your unique practices and insights with us?

Mr. Prakash Mohanlal Bafna Grape grower & Exporter CHD, Bafna group

As someone who has been exporting grapes since the year 2000, I have had the privilege of witnessing first-hand the evolution of monitoring and regulatory practices in the industry. One of the greatest resources we have had over the years is GRAPENET. Every year, I made it a point to closely monitor which samples failed and identify the chemicals responsible. This vigilance became an essential part of my farming practice.

Whenever a new chemical entered the market, I was careful not to adopt it immediately. Instead, I took the time to observe its effects over a period of three years. For example, when a certain chemical was introduced, it was noted that a 7-day waiting period was required after application. However, I found that even at high temperatures—up to 1200 degrees—this chemical did not degrade easily, nor did it wash off with water. One of my plots even faced issues due to this. But I didn't give up.

Through persistence, after 17 sprays, I finally achieved success, and the sample passed the quality test. This meticulous approach became my standard practice. Before any grape shipment is prepared, we always take a random sample for testing. This allows us to detect any chemicals and assess their levels. Based on these results, we plan our strategy, often switching to biological treatments, ensuring that the samples never fail.

Nonetheless, through careful planning and persistent effort, we continue to ensure that our produce meets the highest standards, as it has always been our commitment to deliver safe and quality products.

Dr. Kaushik Banerjee, Director, ICAR-National Research Centre for Grapes (NRCG)

One particular topic I would like to bring into focus today is the use of Mancozeb, which has been a crucial part of crop protection strategies, especially for grapes. In various forms—whether applied as a solo fungicide or as part of a tank mix with systemic fungicides—Mancozeb features prominently in good agricultural practice documentation. In fact, it is mentioned nearly six or seven times in various combinations, demonstrating how integral it has become.

However, the number of applications of Mancozeb is often higher because of its use in these combinations, whether as a tank mix or as a combination formulation.

One of the greatest resources we have had over the years is GRAPENET. Every year, I made it a point to closely monitor which samples failed and identify the chemicals responsible. This vigilance became an essential part of my farming practice.

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However, in recent years—especially over the past 6–7 years—we have encountered new challenges. Supermarkets have started imposing their own standards, and now they want 30% of the total valuation to adhere to their norms. But their percentage calculation is flawed, as pesticide residue percentages vary depending on the chemical in question. This inconsistency has added new layers of complexity to our work.

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As a result, the chances of its detection in residue tests increase. Fortunately, even though Mancozeb is detected in many cases, the residues have consistently been found below the current Maximum Residue Limit (MRL). But if this MRL is suddenly lowered, it could pose a significant challenge for farmers who rely on this product for disease management.

Now, I would like to invite Dr. Chakraborty to share his insights on this matter. Dr. Chakraborty, considering that Mancozeb is a critical fungicide, what would be the potential impact on disease management if the MRL were to be reduced? Could you elaborate on how we can continue to ensure safe and effective use while adhering to evolving regulations?

**Dr. Pranjib Kumar Chakraborty, Chief Scientific Adviser,
Dhanuka Agritech Ltd**

As we all know, the use of crop protection products is essential in ensuring the health and safety of our crops, and it is our responsibility to ensure that these products are both effective and safe.

One such product is Mancozeb, which has been used in agriculture for many years. It is widely regarded as a safe fungicide when used properly, and its efficacy in protecting crops from various diseases is well-documented. I have had the privilege of attending the Codex Committee on Pesticide Residue for six consecutive years, where we discussed this product extensively.

However, there are differing views on how residues and Maximum Residue Limits (MRL) should be regulated. The European Union, for example, categorizes Mancozeb under the endocrine disruption group, based on its hazard potential rather than a risk-based assessment. Many other countries, including the United States and several developing nations, believe that MRLs should be established through a risk-based approach. This means that the actual risk posed by residues, rather than potential hazards, should guide regulatory decisions.

The concern with hazard-based regulation, as seen in the European Union, is that it does not fully account for the actual risk posed to consumers and the environment. For example, many countries argue that if a potential hazard is contained or controlled—like a tiger in a cage—it does not pose a risk unless the conditions change, and the hazard is released. This is the fundamental difference between a hazard-based and a risk based approach.

I believe the push to discontinue the use of important fungicides like Mancozeb is, to some extent, exaggerated. Mancozeb has proven to be safe and effective when used according to established guidelines, and it remains reasonably priced for farmers, making it an accessible and vital tool in disease management.

Recommendation

By Audience

Information related to farming practices should be presented in a simplified manner. Farmers use various tested and NRCG recommended molecules while adhering to regulations. However, concerns about chemical hazards are being raised on public platforms. NRCG should ensure consumer awareness regarding compliance with safety norms and pesticide residue limits.

There is a misconception that export-quality grapes are safer than those for the domestic market, which needs to be addressed. With increasing use of biological pesticides, consumer awareness of fruit safety is essential. Strict international regulations, such as those from the EU, pose challenges. Past issues, like in 2010, highlight the need for vigilance from farmers, NRCG, and the government to prevent future disruptions.

Q&A Session:

Question From Mr. Bimal Das to the panellists:

How can traditional agricultural knowledge be integrated with Good Agricultural Practices (GAP) to enhance sustainability, profitability, and safety?

Dr. Kaushik Banerjee, Director, ICAR-National Research Centre for Grapes (NRCG)

Integrating traditional knowledge with modern agricultural practices is essential for sustainability. Traditional wisdom, developed over generations, helps farmers understand crop responses to agroclimatic conditions. However, with climate change and evolving market demands, a balanced approach is necessary. Sole reliance on traditional methods can leave crops vulnerable to sudden pest outbreaks, while natural and organic farming may lack immediate control measures.

Bio-intensive agriculture integrates biological and chemical solutions to enhance resilience. Soil regeneration efforts are also gaining momentum. In grape farming, residue monitoring failures dropped from 24% in 2004 to below 2% in recent years, reflecting the adoption of Good Agricultural Practices (GAP).

**Dr. Pranjib Kumar Chakraborty, Chief Scientific Adviser,
Dhanuka Agritech Ltd**

Only 42% of farmers in India have access to the latest agricultural technologies, despite the presence of 14 crore farming families and 6.65 lakh villages. Farmers possess traditional cultivation knowledge, but they must stay updated and integrate it with modern advancements. India has 731 Krishi Vigyan Kendras (KVKs) catering to 700 districts, providing essential training and technical guidance, and farmers should engage with these specialists to refine their practices. The Insecticide Act does not penalize farmers for improper pesticide mixing, leading to frequent misuse, particularly in high-pesticide-use crops like rice and cotton. Many farmers misunderstand trade names of pesticides, leading to excessive spraying and resistance buildup. Soil pH variations impact pesticide effectiveness, which remains unknown to many farmers. Regulatory boards are being advised to improve farmer education on pesticide usage, ensuring they recognize chemical properties rather than relying solely on brand names.

Question from Mr. Kailash Bhosale, President MRDBS to Mr. Sanjay Dave, Former Chairman, Codex Alimentarius Commission, Former Advisor of FSSAI

Why are residue-free grapes and high-quality Indian agricultural products primarily exported while Indian consumers do not have similar access? What measures should be taken to ensure that safe and high-quality Indian produce is available to domestic consumers?

Mr. Sanjay Dave, Former Chairman, Codex Alimentarius Commission, Former Advisor of FSSAI

The European Union (EU) follows a hazard-based approach rather than a risk-based approach, unlike Codex, which sets international standards based on risk assessment. While EU member countries are part of Codex, they consistently note reservations on pesticide Maximum Residue Limits (MRLs) to create a non-tariff trade barrier. They establish strict standards ahead of Codex, making it difficult for WTO countries to challenge them.

To address this, India needs to increase research on MRLs and proactively participate in Codex discussions to counter these trade barriers. Additionally, Indian consumers must be made aware that domestic agricultural products meet global safety standards. Imported products are often perceived as safer and are sold at a higher price, while Indian products are undervalued. Branding and certification, such as GAP (Good Agricultural Practices), should be promoted to enhance consumer trust. The Indian government, ICAR, and the Ministry of Agriculture need to support these efforts to ensure that high-quality Indian produce gains acceptance in both domestic and international markets.



Dr. Pranjib Kumar Chakraborty, Chief Scientific Adviser, Dhanuka Agritech Ltd is addressing



Ms. Sandeepa Kanitkar, Managing Director, Kan Biosys is addressing the Panel Discussion



Mr. Ranganatha MC, Chief Technical Manager, Indofil Industries Limited is addressing



Success story by Mr. Prakash Mohanlal Bafna Grape grower & Exporter CHD, Bafna group



5. Technical Session II- Market Intelligence and Linkages

Panellists

- **Mr. Kailash Bhosale**, President MRDBS
- **Mr. Azhar Tambuwala**, Marketing Director, Sahyadri Farms
- **Mr. Papu Ranjan Sahoo**, Branch Manager, ECGC Limited
- **Mr. Anand Dani**, Biologicals Lead, Corteva Agriscience India.
- **Dr. Narendra Gangavar**, Senior Manager - Products development, IPL Biologicals
- **Session Moderator: Dr. Jagat Shah**, Advisor, International Business – Export



Theme Presentation by Dr Sharmistha Naik, Scientist, ICAR NRCG, Pune

I shall be presenting here the theme for Market Intelligence and Linkage. I have some very interesting slides, and I just want you all to go through the numbers I am about to project. This will give you an idea of what market intelligence and linkage mean.

Currently, our grape production stands at 3.9 million tons from an area of 0.18 million hectares. However, if we observe the compound annual growth rate (CAGR), the area under cultivation has increased by 3.88%, and production has grown by 3.30%. However, the alarming fact is that productivity has shown a negative growth of -0.56%. This indicates that although the area under grape cultivation is increasing, productivity per hectare is declining, which is a concern that needs to be addressed.

The major grape-producing states in India are Maharashtra and Karnataka, with the leading grape varieties being Thompson Seedless, followed by Bangalore Blue. In terms of utilization, fresh grapes dominate the market, followed by raisins and wine, with a small percentage used for juice production. The typical supply chain involves farmers supplying to wholesalers, exporters, traders, and finally, retailers.

One significant aspect to highlight is the grape calendar. The peak production period in Maharashtra and Karnataka is during February and March, while in Tamil Nadu and Punjab, it is from August to October. Similarly, in Kashmir, the peak production period is from September to November. If we analyse price trends, grape prices drop to around INR48 per kg in February March but rise significantly to INR107 per kg in September October. This period coincides with the festive season, including Diwali and New Year, making it a crucial market window.

Looking at export-import trends over the last 10 years, the CAGR for exports has been 13.78%, whereas imports have risen by 16.28%. This means India is importing more grapes, which calls for measures to control further import growth. In the case of dried grapes (raisins), production stands at 0.27 million tons, with nearly 0.23 million tons exported and a similar amount imported. While exports have grown at a CAGR of 14.46%, imports have increased at 6%, indicating a good market opportunity for India's raisin industry. Examining the month-wise export and import trends, we see that fresh grape exports occur primarily in January

Currently, our grape production stands at 3.9 million tons from an area of 0.18 million hectares. However, if we observe the compound annual growth rate (CAGR), the area under cultivation has increased by 3.88%, and production has grown by 3.30%. However, the alarming fact is that productivity has shown a negative growth of -0.56%. This indicates that although the area under grape cultivation is increasing, productivity per hectare is declining, which is a concern that needs to be addressed.

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and February, while imports peak during September and October. This presents a window of opportunity for grape production in Punjab, Tamil Nadu, and Kashmir, where domestic supply could potentially replace imports. For raisins, however, there is a mismatch—India imports raisins during the January–March and festive season (September–November) but exports them in May, which is when domestic demand is lower. A more strategic approach is needed to balance production and exports. India's major grape export destinations include the Netherlands, Bangladesh, Germany, and Russia, while imports primarily come from China and the USA. Various quality standards regulate the industry, such as Codex, and FSSAI.

Backward linkages in the industry include government institutions, research organizations, and farmer associations, while forward linkages comprise marketing and distribution agencies like APEDA, FSSAI, and export houses.

A crucial issue in market linkage is observed in regions like Ladakh, where grapes are grown in Aryan villages. A bottle of locally produced wine is sold for INR 1,300 to INR 2,000 (750ml), and if tourists visit, fresh grapes are sold for INR400 per kg. However, despite this potential, the quality is poor, and market connectivity is weak. Similarly, in Kargil, good-quality grapes are produced, but farmers lack access to market linkages. In Srinagar, high-quality grapes are grown, yet farmers do not know how to connect to the market or export their produce due to a lack of technical know-how. Thus, our focus in this session is to analyse market intelligence and develop strategies for effective market linkage.

I thank you all and now hand over the session to Dr. Jagat Shah for further proceedings.

Dr. Jagat Shah, Advisor, International Business – Export

Export acts as a backpack for businesses. Entering the export market provides exposure to global best practices in business and product standards. Bringing these insights back to India and implementing them drives the growth of Indian businesses. This is why doing business in India requires a global perspective, rather than just treating it as an exchange market. Today, a lot of knowledge is being used in business, and much of it comes from international markets, helping to shape the way business is conducted in India. Let me give you an example. Today, the global economy is worth trillions of dollars, and India's economy is

moving towards three to four trillion dollars. This is all about mathematics—understanding the scale of opportunities and tapping into them.

Now, as we move into our panel discussion, I would like to ask Mr. Azhar: Where should we start? How can we gather marketing insights, both for export and the domestic market? What key elements should be considered in market intelligence?

Mr. Azhar Tambuwala, Marketing Director, Sahyadri Farms

Before discussing market intelligence, the first priority should be establishing one's capability. If you have a strong foundation, then marketing becomes the next step. Many businesses jump directly into marketing, especially export, which often carries a glamorous appeal. People imagine traveling abroad, exploring international markets, and building a global presence. However, at the core, it is just business. The real question is: Which market are you catering to? Do you truly understand it?

Market intelligence depends on multiple architectural factors. One of the primary sources is the internet but filtering accurate and relevant information is crucial. The internet provides an abundance of data, but not all of it is useful or correct. The first step is identifying your strengths, competitive advantages, and suitable target markets. Market intelligence varies by region. For example, doing business in the US, Canada, Europe, the Middle East, or the Far East presents unique consumer behaviours and market dynamics. Each country has distinct consumption patterns.

For instance, in the UK, grapes must be perfectly green. In India, we understand that slightly yellowish grapes are sweeter, and we consume them accordingly. However, in the UK, if grapes turn slightly yellow, consumers assume they have gone bad. This kind of market intelligence can only be gained through direct customer interaction and first-hand market experience. There is a vast amount of data available today—paid databases, customs reports, and company insights—but true market intelligence goes beyond just data. It requires an understanding of consumer preferences and identifying gaps in the market.

Jumping into a market without studying consumer demand or preferences is a mistake. The first step is to assess what the market requires and whether your product aligns with it. Intelligence is not just about knowing where the buyers are; it is about understanding their pain points and how your product can add value.

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To gain accurate insights, attending international exhibitions is one of the best ways. Exhibitions provide exposure to global trends and help businesses benchmark their position in the industry. They allow businesses to determine whether they are ahead, behind, or missing out on opportunities. While paid data sources can provide useful market information, face-to-face interactions with buyers in their own markets offer a deeper understanding of real customer needs. Simply having access to data is not enough; intelligence also involves understanding commercial terms, pricing strategies, and trade regulations in different markets.

Additionally, businesses need to consider sanctioned country policies, regulatory restrictions, and trade challenges. Market intelligence includes all these aspects, and while some of it is available online, real insights come from physically visiting customers, observing markets, and analyzing distribution models. In India, approximately 98% of sales happen through street markets, where vendors negotiate prices with buyers. However, in Western countries, 98% of sales occur through supermarkets, which follow fixed pricing and standardized distribution systems. For example, in India, consumers are accustomed to bargaining—they might ask for discounts or extra quantities. In Western supermarkets, there is zero interaction with a seller. Instead, products must compete against hundreds of other brands on the same shelf based purely on packaging, pricing, and perceived quality.

Similarly, in India, vendors adjust prices based on demand and customer interaction. In contrast, Western markets have fixed pricing structures driven by supply chain economics. Understanding logistics and supply chain management is another critical aspect of market intelligence. Different markets require specific packaging and storage solutions. Some regions rely on cold chain infrastructure for perishable goods, while others require specialized packaging to ensure product longevity.

Market intelligence is a multi-dimensional skill. Understanding it correctly helps businesses grow efficiently and expand into global markets with greater success.

Dr. Jagat Shah, Advisor, International Business – Export

Many people approach me asking, "Do you know any buyers?" I share contact numbers, but they must understand that there is a difference between having data and securing actual orders. It is not just about obtaining

buyer information; the real question is whether they are prepared to fulfil orders. Preparation is key.

I analysed data from the Ministry of Commerce, Government of India, and found that India's fresh grape exports for 2023-24 reached INR3,467 crore, a 75% increase from the previous year. However, most exports are concentrated in the Netherlands, highlighting the need to diversify market linkages. Since many Indian businesses are already exporting, the key lies in better preparation and strategy.

Meanwhile, India's fresh grape exports to Russia have declined by 73%, but dried grape demand has risen by 34%, signalling Russia as an emerging market. Given that business practices in Russia differ from those in the Netherlands, exporters must adapt their strategies accordingly.

Now, let's address the challenges faced by farmers and exporters. Farmers and producers primarily depend on the mandi system, while exporters rely on merchant exporters or traders, creating different levels of dependency in the supply chain. Given these complexities, my question to Mr. Kailash is: What key challenges do farmers and producers encounter in market intelligence and linkages? According to you, what are the most effective solutions to overcome these obstacles?

Mr. Kailash Bhosale, President MRDBS

Farmers face major challenges, starting with climate change, which affects production. Most of their energy goes into just producing the crop, leaving little time or resources for marketing. We need a better model that allows farmers to produce with minimal pesticide use while ensuring quality.

Now, when it comes to selling the produce, farmers struggle because they do not have the right marketing channels. We saw how GrapeNet system helped farmers work alongside exporters, labs, and traders to improve quality and market access. But why is this only applied to grapes? This system needs to be used for other crops like vegetables and pomegranates too.

Another big issue is branding, for instance Amul in Gujarat—all the milk farmers bring their produce to a centralized system where it is processed, branded, and sold. This way, the farmer does not have to worry about marketing. If we apply this model to grapes, we can eliminate middlemen and ensure fair pricing.

I analysed data from the Ministry of Commerce, Government of India, and found that India's fresh grape exports for 2023-24 reached ₹3,467 crore, a 75% increase from the previous year. However, most exports are concentrated in the Netherlands, highlighting the need to diversify market linkages.

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If we talk about payments, this is where things get bad. Every season, hundreds of farmers do not get paid for their produce. In Nasik alone, INR70 crore worth of payments remain stuck because traders do not pay on time. Some exporters delay payments for 30, 50, even 70 days, while some just disappear after a season. There is no strong regulation to stop this. Just like we have GrapeNet, we need a trader net system where only registered traders can buy from farmers. If they default, they should be blacklisted. And then there's export issues—for example, when the Suez Canal crisis happened, freight rates shot up from \$1,800 to \$4,500. Who suffered? The farmers. Exporters simply reduced the price they paid for grapes, cutting INR 20 to INR 25 per kg from farmers' payments. This shouldn't happen. There needs to be a system where cost fluctuations do not come out of farmers' pockets.

Then there is GST related issue. Farmers are paying INR 50,000 to INR 70,000 in GST per acre on inputs like fertilizers and pesticides, but they do not get any tax refunds like other businesses do. Meanwhile, big companies get benefits under export schemes, but nothing is done for domestic sales. Why do not we ever see policies focused on selling grapes within India? Every big meeting talks about exports, but India has 1.4 billion consumers. We need investment in cold chains so grapes can reach South India and other markets before they spoil. Packaging another challenge, right now, grapes sent to Bangladesh in 20 kg crates suffer 3-4 kg losses per crate. The farmer pays for this loss, not the trader or exporter. Proper packaging standards need to be set so that losses are minimized.

At the end of the day, farmers are paying taxes, dealing with climate risks, facing non-payment issues, and struggling with branding—while everyone else in the chain profits. We need better policies, branding strategies, payment security, and domestic market focus to ensure farmers earn what they deserve.

Dr. Jagat Shah, Advisor, International Business – Export

In my ten years of work in Afghanistan, I observed how farmers, particularly those growing grapes and producing raisins, adapted to market needs. Comparing this with India, I see that many rural farming families have young members who do not want to continue in agriculture. However, with the rise of digitalization and smartphones—now in the hands of over 800 million people in India—there is an opportunity to re-engage them. Digital literacy is at nearly 100%, which means market intelligence and buyer information can be accessed easily.

IPL Biologicals has over 45 products in its portfolio and has collaborated with NRCG in a long-term study from 2019 to 2021. The study found that through biological interventions, farmers could reduce the number of chemical applications by 50%, bringing them down to 10–15 applications.

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If we encourage young farmers to use these tools for understanding market trends and direct sales, they might reconsider their role in farming.

Now, moving on to Dr. Narendra. Since you are in product development, I want to ask—while fresh grapes and raisins dominate the industry, what other value-added products can be developed from grapes? How can we diversify beyond just fresh and dried grapes for the export market? What additional processing innovations can be explored to expand the industry beyond raw material sales?

Dr. Narendra Gangavar, Senior Manager - Products development, IPL Biologicals

The core theme of this summit revolves around sustainability. I was listening to discussion on residue-free exports and four critical aspects: quality, yield, cost efficiency, and the limited availability of biological products in the market. This is precisely where IPL Biologicals Limited plays a crucial role.

IPL Biologicals has over 45 products in its portfolio and has collaborated with NRCG in a long-term study from 2019 to 2021. Study found that through biological interventions, farmers could reduce the number of chemical applications by 50%, bringing them down to 10–15 applications. This is a significant achievement.

One of the key findings was that pesticide residue detections were almost negligible, and pest loads significantly declined over the three-year study. Moving forward, we are developing new microbial consortiums that provide better pest and disease control. IPL Biologicals has been working in this field for 30 years and currently offers over 50 fully science-based products. These products are rigorously tested across different agroclimatic zones and farming conditions to ensure their effectiveness. However, awareness about biological solutions remains low, and we are actively working to educate farmers.

Our R&D facility in Gurgaon is world-class, and we have a manufacturing plant in Haryana, with a fully automated facility coming up in Gujarat, where we are investing over INR400 crore in the next two to three years. We have also doubled our field workforce in the past year, now employing 800–900 professionals who are dedicated to spreading awareness about bio-intensive farming practices.

Dr. Jagat Shah, Advisor, International Business – Export

Sustainability is a great concept, and I would like to share a definition of competitiveness. Competitiveness is about efficiently creating goods and services that meet global market demand, leading to rising living standards for everyone in society, and ensuring sustainability for the future. If you incorporate these four elements into your business, you will be competitive.

Now, I would like to invite Mr. Ranjan Sahoo from ECGC. As Mr. Kailash mentioned earlier, many exporters face issues with receiving payments—sometimes payments are delayed or deducted. Since ECGC provides insurance for exports, I would like to ask what services ECGC offers to provide market intelligence and help entrepreneurs assess the credibility of their importers?

Mr. Papu Ranjan Sahoo, Branch Manager, ECGC Limited

Export Credit Guarantee Corporation of India Limited (ECGC) primarily covers export credit risk insurance. Our coverage includes defaults, insolvency, and non-acceptance by foreign buyers. In cases where a Letter of Credit is involved, we cover the insolvency or default of the issuing bank. Additionally, we cover political risks such as import restrictions and disruptions due to political factors.

We provide coverage in two ways. First, we underwrite risk at the country level, covering more than 200 countries. We conduct thorough research to assess the risks associated with each country. Second, we assess the risk at the buyer level. For this, we have an internal and physics-based risk model, where we collect reports from global agencies. We currently have a database of around 400,000 buyers. We analyse their past payment behaviour with other exporters, their financial statements, and balance sheets to create a credibility score and assign them a credit limit. This combination of country and buyer-level risk assessment allows us to provide comprehensive coverage. Apart from just insuring receivables, this service also acts as a marketing tool. Suppose an exporter is expanding into an unknown market or wants to offer better credit terms to a buyer so this tool can help them.

Dr. Jagat Shah, Advisor, International Business – Export

In fact, I encourage everyone to consider ECGC insurance, especially when exporting for the first time or dealing with a new buyer. My philosophy is that when exporting for the first time, always take ECGC insurance because the primary goal is to protect your principal amount—profit comes later.

People often say that they got 100% advance payment, so no need of do insurance. But I suggest that even in such cases, checking the buyer's credibility beforehand is crucial. ECGC plays a great role in this. They have offices across the country, and exporters should reach out to them to understand their offerings and secure their businesses.

Now, I would like to ask Mr. Anand Bani a question. Your organization is involved in market linkages and intelligence— could you share the work you are doing in this area?

Mr. Anand Dani, Biologicals Lead, Corteva Agriscience India

Corteva is a young company, just five years old, but it carries a rich legacy of over 300 years, with DuPont's 200 years of history, 100 years of Dow, and Corteva itself established about five to six years ago. I often call it a young old company with vast experience.

On a global scale, Corteva is a \$17 billion company, present in over 100 countries, reaching around 10 million farmers worldwide, and employing over 22,000 people. Our purpose is simple: to enrich the lives of those who produce and those who consume. We work closely with farmers and customers to achieve this goal. Now, coming specifically to market linkages and intelligence, I see that most panellists and participants have focused on the downstream aspects, which may not be Corteva's area of expertise. However, we bring in the upstream perspective, which is equally critical. Our goal is to strengthen the plant itself—ensuring healthier, more resilient crops through innovative solutions.

Corteva Biologicals is built around three key objectives: focusing on the plant, ensuring it gets the right inputs and protection from challenges such as herbicide resistance, climate stress, and underperformance due to genetic limitations; collaborating with NRCG, farmers, FPOs, and research institutes to develop sustainable solutions; and using market insights and trends to anticipate future needs. While many discussions focus on exports, I want to highlight upstream trends. Globally, the biologicals market is worth \$15 billion as of 2025 and is expected to double to \$30 billion by 2030. In India, the crop protection market is valued at \$3 billion and is expected to grow to \$3.5 billion by 2025. Similarly, the seed market is expected to grow from \$3.5 billion to \$3.8 billion. However, biologicals—including bio-stimulants, bio-fertilizers, and bio-controls—are currently a \$600 million market in India and will double to \$1.2 billion by 2030.

In India, the crop protection market is valued at \$3 billion and is expected to grow to \$3.5 billion by 2025.

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Corteva is focusing on boosting plant performance by offering globally proven biological solutions, building crop resilience to withstand climate stress, and protecting its potential with bio controls. Biological solutions will play a major role in reducing chemical dependency. Currently, 30% of crop protection chemicals are expected to be replaced by biologicals soon, and Corteva is positioned to play a significant role in this transition. One of our key biological products, Utrisha N, is a global innovation, which fixes atmospheric nitrogen and makes it available to plants in a more sustainable way. This could drastically reduce dependence on synthetic nitrogen fertilizers and subsidies. However, due to regulatory challenges, we are unable to import it into India now, but it has significant potential for the future.

Dr. Jagat Shah, Advisor, International Business – Export

I conclude today's session by emphasizing that every product has a market somewhere. We discussed market linkages and market intelligence, highlighting the importance of gathering information first. Until we enter the market and truly understand it, we cannot fully grasp the challenges from a production standpoint. If we follow this approach and proactively address challenges, marketing opportunities will come naturally.

Recommendation

By Mr. Sanjay Dave, Former Chairman, Codex Alimentarius Commission, Former Advisor of FSSAI:

There needs to be greater awareness about ECGC, as many people are still unfamiliar with it. Efforts should be made to educate and inform people about its benefits and services.



Address by Mr. Azhar Tambuwala, Marketing Director, Sahyadri Farms



Mr. Kailash Bhosale, President MRDBS



Address by Dr. Narendra Gangavar, Senior Manager – Products development, IPL Biologicals



Address by Mr. Papu Ranjan Sahoo, Branch Manager, ECGC Limited



Mr. Anand Dani, Biologicals Lead, Corteva Agriscience India is addressing



Q&A Session

6. Technical Session III- Marketing of Value- added products

Panellists

- **Mr. Ashwin Rodrigues**, Founder & Wine Maker, Good Drop Wine Cellars
- **Mr. Subhash Arve**, Raisin Grower
- **Mr. Baburao Kabade**, Raisin Grower



NRCG's Contribution in Promoting agri-business of grapes: Dr. Ajay Kumar Sharma – Principal Scientist ICAR-National Research Centre for Grapes (NRCG)

This is the third theme, and it is regarding the marketing of value added products. Value addition and marketing are different aspects. In the case of grapes, worldwide, 50% of grapes are converted into wines, 8% into raisins, and the rest are consumed as table grapes. Different types of wines are available in the market, such as red wines, white wines, sparkling wines, special wines, and dessert wines. According to demand, winemakers produce different types of wines, catering to specific consumers. Regarding raisins, there are black raisins made from black grapes and white raisins from white grapes. India also produces raisins, with about 30% of total grape production converted into raisins. Grape juice has very limited scope as different types of juices are available in the market. Very few brands produce grape juice because it is easily converted into wine. Other than this, there are small markets for products like jam and jelly.

Wine juice is also a product derived from grapes.

When talking about marketing, during 2004, the wine policy was declared by the Maharashtra state government. Many incentives were provided to individuals interested in establishing wineries. As a result, many people registered and started wineries, and at one point, there were more than 100 wineries in Maharashtra. However, many people assumed it was a simple process—harvesting grapes, fermenting them, and producing wine—but they overlooked the importance of quality. Quality is crucial when marketing a product. Factors like packaging materials and marketing strategies play a key role. Nowadays, social media influencers are also helping capture consumers' attention for specific products.

The first presentation is mine, which covers NRCG's contribution in promoting agribusiness of grapes.

In India, grape cultivation is primarily concentrated in Maharashtra, followed by Karnataka and Andhra Pradesh. Other states have very limited grape cultivation. There has been tremendous growth in grape production, and currently, about 3.9 million tons of grapes are produced in India, covering an area of 175,000 hectares. New areas are emerging, and during the morning session, there was a discussion about expansion into Northeast India and West Bengal. The demand for grapes in the Indian market is huge, separate from export demand. The main grape processing products include wines, dried grapes (raisins), juices, and other small-scale products. These have already been discussed. The Indian wine industry is primarily concentrated in Maharashtra, particularly in Nashik, Pune, and Sangli, and in some regions of Karnataka. Earlier, there were many wineries, but now only a few serious players remain in the business. While wineries in other countries earn significant revenue, many Indian wineries shut down due to quality issues. Nashik Valley wines have a Geographical Indication (GI) tag.

Red and white wines are made from different grape varieties, and Riesling is known for producing various types of wines, including ice wine. Under Indian conditions, good-quality wines are produced from Riesling grapes. During wine and juice production, a lot of waste is generated, such as pomace, leaves, and stalks. Red and white wines generate different quantities of waste. In advanced countries, not more than 20–30% of this waste is utilized. In India, the utilization of waste from the wine industry is very limited. However, there are several possibilities. Ethanol production is one such avenue where fermentation of

waste can produce ethanol, which has a high demand as a biofuel. Various by-products can be used in the food industry, and natural colours can be extracted, which have significant demand in the food and cosmetic industries. If no other use is possible, waste can be repurposed for cattle feed. Some of our work includes improving the quality of ice cream and yogurt by using wine lees, which enhanced the sensory properties and slowed down the melting of ice cream.

India produces about 2 to 2.5 lakh tons of raisins every year. Under the One District One Product (ODOP) scheme, some districts have been identified for raisin production. India exports about 27,000 tons of raisins, earning INR 266.7 crore. The major production areas include Sangli, Solapur, and limited production in Nashik. Although raisins from Solapur have a GI tag, it is not widely used for marketing.

Raisin production in Solapur and Sangli occurs in dry areas where water scarcity is a major issue. In 2015-16, severe water shortages in Latur led to water being supplied by railways from Sangli, Miraj. A significant amount of water, about 14-15 crore liters, is used in the dipping process during raisin production. Additional water is used for washing, which is not included in this estimate. To reduce water consumption, we collaborated with the Central Institute of Agricultural Engineering (CIAE) to develop two machines. One machine de-bunch grape, and the second machine creates abrasions on the grape surface for efficient drying. This technology has been demonstrated, patented, and licensed to a company in Sangli.

Farmers and industry players expressed the need for diversification in the snacks sector. In response, we developed chocolate-coated raisins infused with rose petals for added aroma and enhanced nutraceutical properties. Another product developed was grape juice from thinned-out grapes. Medika is a game-changing grape variety due to its high fruitfulness, low disease pressure, and high juice recovery, which is more than 70%. The variety has been tested in Tamil Nadu, Maharashtra, and Karnataka. Unlike other grapes, where colour is in the skin, Medika grapes have coloured juice, making them suitable for zero-waste processing. High-quality juice can be produced directly for the market or blended with other juices. The leftover pomace can be dried and used in bakery and dairy products. High-quality grape seed oil can also be extracted. Anthocyanin extraction is another possibility, where 5-6 grams per kg of grapes can be extracted and used in various products.

NRCG has an Agribusiness Incubation Centre, established in 2020, to nurture innovative ideas and support agribusiness. The centre offers office and lab space, high-end analytical facilities, mentorship and capacity building, scientific services, and business facilitation. Some startups supported by NRCG include Agriloties Technologies Private Limited, which provides sensor based solutions and precision farming advisories, helping farmers save input costs. AgroZee Organise Private limited focuses on millet-based products and human resource development in agriculture. One-Stop Digital Agri solutions provides advisory services for sustainable farming. SoilSens has developed small sensors for real-time soil analysis. Rajyog Agro Industries has commercialized Medika grape juice technology. A Farmers Producer Company has been established to utilize grape waste for raisin and juice production. Several business opportunities exist, including grape-based cookies and chocolates, pomace seed extract and grape seed oil, bio pesticides, chocolate-coated raisins, active nanoparticles from grapes, and more. We have actively engaged in print and digital media. Last year, we organized a major Agri Startup Conclave 2024, bringing together innovators, startups, and funding agencies under one roof.

Indian Wine Industry – Challenges and Opportunities:
Mr. Ashwin Rodrigues, Founder & Wine Maker, Good Drop Wine Cellars

Today, I am going to present a very interesting and perhaps even hard-hitting discussion about the challenges faced by the Indian wine industry. We will discuss both the obstacles and the opportunities that exist within this industry. How many of you are associated with the wine industry? Or perhaps you are wine drinkers? Some of you might have attended wine industry related events. If so, I believe this presentation will be of great interest to you.

The Indian wine industry has potential and opportunities. However, many feel that despite being in existence for 25–30 years, it is still in its initial stages. The question we must ask, when we will move beyond this starting phase? What is preventing the industry from truly taking off and achieving global recognition? This is the core issue I aim to address today. India has entrepreneurs, companies, farmers, and intelligent professionals, yet why is it that only about 50,000 tons of wine grapes are cultivated annually? Why is the wine market share in India's alcohol industry still less than 1%? In fact, rather than growing, the Indian wine market has declined over the last two years, whereas beer and spirits have seen an increase in sales. This is a major concern, and unless we take collective action, we cannot overcome this challenge.

The Indian wine industry has potential and opportunities. However, many feel that despite being in existence for 25–30 years, it is still in its initial stages.

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One key fact is that wine provides the highest revenue per liter of alcohol produced for farmers compared to other spirits. In Europe and other countries, governments have strongly supported the wine industry because it benefits farmers. However, in India, the situation is quite different. If we could convert even 10% of the alcohol industry from molasses-based spirits to wine, it could significantly improve rural development and increase farmers' income by INR 18,000 crores. Currently, most of India's alcohol consumption comes from molasses-based spirits, which provide minimal financial benefits to farmers. However, a shift to wine production could drastically change this, benefiting not only farmers but also the rural economy as a whole. Wine tourism is another area that can contribute to this growth. Wine is also known to be less harmful to health when consumed in moderation. In countries like France, wine consumption is around 30%, in the US, it is 20%, while in India, it is still less than 1%. This stagnation is a concern, and we need to explore the reasons behind it.

One of the biggest obstacles in India is over-regulation. Different states have their own unique regulations, making it difficult for small and medium-sized producers to survive. The licensing process is complex, and retailers demand high discounts, which reduces the budget available for marketing and consumer awareness. This lack of awareness is one of the main reasons why the wine industry has struggled to grow in India. Another major concern is the adulteration of wine with molasses spirits in Maharashtra. This practice is misleading consumers and damaging the credibility of the industry. Diluting wine with spirits and selling it as authentic wine not only affects quality but also the reputation of Indian wine producers.

In Maharashtra, several positive initiatives have been introduced to support the industry. For example, Maharashtra has introduced wine-only outlets, where a license to sell wine can be obtained for just INR 9,000. Unlike regular liquor stores, these outlets can exclusively sell wine, which helps promote the industry. Furthermore, the Maharashtra government provides benefits for setting up wineries and promoting wine tourism. Under the Maharashtra Tourism Policy, entrepreneurs can receive up to a 20% capital investment subsidy, 75% GST refunds, and electricity exemptions. Additionally, the 2020 Maharashtra Agri-Tourism Policy allows the establishment of small wine tourism units without the need for extensive building permissions.

Despite these efforts, inter-state trade remains a challenge. For example, Maharashtra has increased taxes on out-of-state wines, leading other states to retaliate with similar protectionist policies. To truly grow the industry, we need a movement advocating for lower taxes across all states, ensuring that India becomes a viable market for wine producers. The Wine Growers Association of India consists of small and medium wine producers who aim to expand the wine grape industry in India. While countries like France and Australia have thousands of wine grape varieties, India has only a handful. Expanding the number of cultivated varieties is crucial for the industry's growth.

To address this, we have partnered with the National Research Centre for Grapes (NRCG) to identify and develop new grape varieties suitable for wine production. Until now, most of the wine grapes used in India were repurposed from table grape varieties, which are not ideal for winemaking. By developing high-yield commercial wine grape varieties, we can significantly boost production and quality. Additionally, as part of the India Australia Free Trade Agreement, both countries have agreed to collaborate on wine industry development. The Australian Wine Research Institute will provide technical support and advisory services to help improve India's wine production. We regularly engage with NRCG and winemakers to share knowledge and solutions for the industry. We collaborate with FSSAI to ensure regulatory compliance, advocate for lower excise duties and tax reductions across all states, promote wine tourism as a major opportunity, and support new entrepreneurs by providing guidance on setting up wineries and obtaining the necessary licenses.

The Indian wine industry faces significant challenges, but it also has immense potential. If we collaborate with the government, research institutions, and industry stakeholders, we can overcome these challenges and unlock the true potential of the sector.

Mr. Subhash Arve, Raisin Grower

There are various challenges and opportunities in the agricultural market, particularly in states like Maharashtra and Karnataka. There is a growing effort to expand markets, including exports to Europe and the Middle East, but certain trade barriers and limitations exist. While open markets offer secure payments, they also come with challenges. Several businesses, such as Sanghvi Sudhakar, have invested lakhs of rupees to boost agricultural production. There is also a focus on adopting modern techniques, possibly inspired by the Australian agricultural model, to improve yields and

efficiency. A significant issue highlighted is price fluctuations in wholesale and retail markets. For example, while Biryani prices reach INR1,400 per plate in some areas, agricultural produce sells for just INR300 per kg elsewhere. There is a need to stabilize prices and make markets more predictable. Additionally, infrastructure development is crucial, particularly for sorting, drying, and cold storage facilities, to ensure better supply chain management. Another major concern is government regulations and certification processes, which can slow down trade and market expansion. Establishing industry standards and simplifying compliance requirements could help businesses and farmers navigate these challenges more effectively. Overall, there is a pressing need for better guidance and a strategic approach to create a stable, high-quality market that benefits producers, traders, and consumers alike.

Mr. Baburao Kabade, Raisin Grower

One of the biggest challenges we face is climate change, and we need better treatment methods to address its impact. But moving forward, we need to enhance our processing techniques. We must work on developing new recipes and refining our existing products. Production needs to increase, but at the same time, we must ensure that customers get high-quality products. The right treatment must be applied so that the end consumers benefit directly. We need to analyse market demand, pricing, and supply chain efficiency to reduce production costs and make products more accessible.

There is also the issue of research and innovation. We have different regional boards and research teams working on solutions. However, we need greater government support and more structured research efforts. The government has made some announcements, but we need to push for further funding and implementation. Another crucial aspect is seed quality and crop varieties. We are working on improving regional crops, drying processes, and reducing overall production costs. The European market has significant potential for expansion, but there are logistical and regulatory challenges. We must improve our regional trade networks to make our products more competitive internationally.

Recommendations:

By Audience:

Strengthening viticulture and enology research is essential, as the current research lacks a dedicated enology focus.

Establishing a Department of Grape and Enology Research at NRC and collaborating with UC Davis, known for its expertise in viticulture and enology, would enhance research and development. A formal recommendation should be made to DDG-ICAR and DG-ICAR to facilitate this change. To expand market access, integrating wine sales with Swiggy, Zomato, and grocery delivery platforms could be beneficial, as urban consumers, especially senior citizens, increasingly rely on home delivery services. Additionally, focusing on smart marketing strategies is essential to target young consumers who prefer convenience and premium experiences. Positioning wine as an accessible and aspirational product can help drive its acceptance and growth in the Indian market.

By Mr. Bimal Das:

Selling wine and grapes as commodities limits profitability, whereas positioning wine as a lifestyle product can significantly increase its value. Value addition, as seen in industries like skincare, where a basic INR 100 moisturizer infused with grape seed extract is sold for INR 1,800, demonstrates how branding and premiumization drive higher pricing. Similarly, red wine infused bathing solutions are sold at INR950, showcasing the potential of perceived value. The wine industry should explore cross-industry collaborations, incorporating experts from food processing and lifestyle sectors to develop innovative, high margin products. Premiumization is key to industry viability, as a few high-profit products can sustain overall business profitability. Increasing consumer awareness and repositioning wine as a household staple, rather than a luxury, will further boost domestic adoption, benefiting both entrepreneurs and farmers.



Mr. Ashwin Rodrigues, Founder & Wine Maker, Good Drop Wine Cellars (Presentation)



NRCG's contributions in promoting agri-business of grapes - Dr Ajay Sharma, Pr. Scientist, ICAR NRCG is presenting



Mr. Subhash Arve Raisin Grower



Mr. Baburao Kabade, Raisin Grower



Panel Discussion on Marketing of Value- added products



Panel Discussion on Marketing of Value- added products

7. Technical Session IV- Advancing Viticulture – Wine & Grape-Tourism

Panellists

- **Mr. Kevin Joyce**, Co-founder, Aussan Laboratories India
- **Mr. Abhay Rajoria**, General Manager, Sula Wines
- **Mr Kunal Chug**, Virgin Hills
- **Dr Nishant Deshmukh**, Senior Scientist, ICAR NRCG, Pune
- **Ms. Shraddha More**, Enologist, V.M. Agrosoft Wine (Sailo Wines)
- **Dr Sharmistha Naik**, Scientist ICAR-NRCG, Pune
- **Ms. Mugdha Deepak Chaturvedi**, Regional Manager – West, Balmer Lawrie
- **Session Moderator: Mr. Ashwin Rodrigues**, Founder & Wine Maker, Good Drop Wine Cellars



Dr Nishant Deshmukh, Senior Scientist, ICAR NRCG, Pune

We are moving toward one of the most important sessions, which is tourism. We have talked about tourism many times, and I have been asked to give a brief introduction about this session. I have three figures that I would like to bring to your attention. First, 1,731 million domestic tourists and 9.6 million foreign tourists visit the country every year.

The contribution of the tourism and hospitality industry to India's GDP is significant. We always talk about events like the Kumbh Mela, exports, and our GDP. Tourism alone has contributed \$231 billion to the economy. According to estimates, this figure is expected to double and reach \$532 billion in the near future.

Tourism is not just about generating revenue; it also creates employment. In 2023, the tourism industry provided jobs to a significant number of people, both in organized and unorganized sectors, directly and indirectly. The estimated value of India's travel market in 2023 was \$78 billion, which is projected to reach \$131 billion by 2030. As we work towards the goal of Viksit Bharat, aiming to become a developed nation, we are organizing events like the National Grape Summit to drive progress. When I considered the theme of Advancing Viticulture, Wine, and Grape Tourism, three key points came to mind—economic sustainability, social sustainability, and environmental sustainability. To our esteemed guests and panellists, my request is that we must focus on achieving all three of these targets. Our tourism must be economically sustainable, socially sustainable, and environmentally sustainable. Before this program, I spoke to my family and friends to understand the preferences of tourists. Many of them now seek short-term trips and have already visited many beaches. They are now looking for calm, quiet, and unique destinations. The number of such tourists is expected to increase significantly. Finally, I want to share an example from Northeast India. In the hill regions, there is a concept called a Trust Shop. This is a shop where products are displayed with price tags, but there is no seller. Customers take what they want, leave the payment in a box, and walk away. This reflects the trust within the community. Similarly, we need to build trust—trust among ourselves, trust in our nation, and trust in the future of the viticulture business in the country.

With this background, I would now like to hand over the mic to our moderator, Mr. Mr. Ashwin Rodrigues – Founder and Wine Maker good drop Wine sellers Good Drop Wine Cellars, so that he can take the session forward.

Mr. Ashwin Rodrigues, Founder & Wine Maker, Good Drop Wine Cellars

I would like to start by providing some background on tourism, not just in India but globally. Wine tourism is a massive, multi billion-dollar industry worldwide.

Countries like France, the U.S., and Italy have well established wine tourism industries. People travel halfway across the world just to visit wineries, often touring 15 to 20 wineries in a single trip before returning home. However, wine tourism is not just about the wine itself; it encompasses the culture, the place, the people, and the food. That is the beauty of wine tourism—it is not only about what is in the bottle but also about everything that surrounds it. Grapes are cultivated in some of the most beautiful regions globally, including the Mediterranean, California, and many others. These locations naturally attract tourists because of their scenic landscapes, pleasant weather, and immersive experiences. In India, a significant number of people have visited Sula Vineyards. However, when it comes to exploring other wineries across the country, the numbers drop noticeably. This response highlights something crucial. There is no doubt that Sula is a success story, but that success needs to be replicated across the industry. We need many more wineries offering wine tourism experiences so that people can visit Nashik or other wine regions and spend several days or even a week enjoying the wine culture.

With that, I will begin the session with Mr. Abhay Rajoria, about his experience, what are tourists looking for when they visit your vineyard? What kind of experience do you offer them?

Mr. Abhay Rajoria, General Manager, Sula Wines

What Mr. Ashwin Rodrigues – Founder and Wine Maker good drop Wine sellers Good Drop Wine Cellars said is correct—it is not just about the wine bottle and the wine itself, but also about everything surrounding it. A holistic approach must be taken to enhance the experience for tourists. It is not just that Sula makes good wine; there are other producers who are equally capable of producing high-quality wines.

However, Sula has successfully leveraged its tourism potential by effectively showcasing its viticulture practices, innovations, and the efforts involved in bringing wine from the vineyard to the bottle. Everything is presented in a well-structured and organized manner, allowing visitors to gain a complete picture of the entire winemaking process. This approach should also be adopted by smaller producers. The main concern, however, is differentiation. In regions like Burgundy, France, each producer knows exactly what they are offering, and Burgundy's wine tourism is well-supported by the government. It has been strategically developed and promoted, ensuring that visitors know exactly what to expect when they visit.

In contrast, when we look at regions like Dindori and Solapur in India, we are unable to clearly differentiate between them in the context of wine tourism. There is no distinct identity linking these grape-growing regions to their wines, making it difficult to showcase the unique aspects of each area. Instead of just focusing on what is inside the bottle, we need to highlight the entire story and environment around it. This is where small producers are currently lagging behind.

Mr. Ashwin Rodrigues, Founder & Wine Maker, Good Drop Wine Cellars

Now, moving on to Shraddha More, could you share your experience regarding wine tourism? Have you already ventured into it, or are you considering incorporating wine tourism at your winery in Nashik?

Ms. Shraddha More, Enologist, V.M. Agrosoft Wine

This is indeed a very interesting question. Wine tourism has gained significant momentum, and Sula has set a remarkable example in this field. For small and medium-sized producers, Sula serves as a role model. Inspired by this, we plan to introduce wine tourism at our winery starting next year. However, even before formally launching it, we ensure that every visitor who comes to our winery gains a deep understanding of where the wine originates. Wine tourism is not just about showcasing wine elegantly in a glass; it must also highlight the hard work of the farmers. Without a strong connection to farmers, wine tourism in India cannot be truly sustainable. As both a winemaker and a grape grower, I always prioritize connecting visitors with the farmers behind the wine. When tourists visit, I make it a point to introduce them to the producers, explain the soil characteristics of the vineyard, and discuss viticultural practices, including trellis systems and canopy management. It is crucial for them to grasp the journey of the grape from the vineyard to the bottle. Every bottle of wine tells a story, and it should be conveyed in a way that captivates people, making them fall in love with it. This approach is essential for the growth of the wine industry, and I strongly believe it will be a successful model. I come from a lineage of grape farmers, and I am proud to continue my family's legacy as a third-generation winemaker. My grandfather had a vision that every grape farmer should have their own winery, and I am committed to carrying that dream forward. For me, wine tourism is not just about promoting the wine industry; it is also about ensuring that farmers receive equal, if not more, recognition. By doing so, we can build a truly sustainable wine tourism model in India. This is the vision I have for the future growth of my winery.

Mr. Ashwin Rodrigues, Founder & Wine Maker, Good Drop Wine Cellars

It is often said that wine is made in the vineyard. In fact, around 85% of the quality of wine is determined by the grapes themselves. The role of the winery is primarily to preserve and enhance the flavors that already exist in the grapes. As Shraddha rightly pointed out, educating visitors about how grapes are cultivated for the purpose of winemaking. I now turn to Ms. Mugdha Deepak Chaturvedi, could you share your insights on the demand for wine tourism, both from international visitors and within India?

Ms. Mugdha Deepak Chaturvedi, Regional Manager – West, Balmer Lawrie

Globally, there is significant demand for wine tourism. Apart from group tours and international travel, many people are willing to pay a premium for an exclusive wine tour experience, whether in Vienna, France, or California's Napa Valley. However, within India, the interest in wine tourism is still limited. A small segment of travellers is eager to explore it, particularly in Maharashtra, but beyond Maharashtra, it takes time to gain traction. When we organize meetings and events, we encourage clients to experience wine tourism, but it often takes time for them to consider it. Typically, when people visit Maharashtra, they prioritize destinations like Lonavala, Khandala, and Mahabaleshwar before considering Nasik. To address this, we have been working on creating a circuit where tourists can visit Igatpuri, explore nearby wineries, or stay in Nasik to experience wine tours as part of their itinerary.

Mr. Ashwin Rodrigues, Founder & Wine Maker, Good Drop Wine Cellars

This approach will greatly benefit the industry by collaborating with tour operators to highlight these lesser known yet enriching experiences. Maharashtra has much more to offer beyond its conventional tourist spots.

Ms. Mugdha Deepak Chaturvedi, Regional Manager – West, Balmer Lawrie

I would also like to add one point if you see most of the celebrities, they like to go to Niche places and most of the times they go to Italy which is a very big Hub of Vineyards. This reflects the growing global appeal of wine destinations, something India has the potential to develop further.

However, within India, the interest in wine tourism is still limited. A small segment of travellers is eager to explore it, particularly in Maharashtra, but beyond Maharashtra, it takes time to gain traction.

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Mr. Ashwin Rodrigues, Founder & Wine Maker, Good Drop Wine Cellars

Now, I turn to Mr. Kevin Joyce. We would like to hear from you about how important it is to grow grapes sustainably and how we can leverage the sustainability aspect as an advantage in wine tourism?

Mr. Kevin Joyce, Co-founder, Aussan Laboratories India

That's a good question. You mentioned sustainability in terms of ecology and the environment, which is ecology. I guess the one thing that's always left out of sustainability is the sustainability of the farmer's income. Profitability needs to be sustained in all of this.

You can spend a great deal of money trying to be sustainable, trying to use different chemicals to grow wine, but sustainability really starts—there's a movement going around the world now called regenerative farming. I use my little demo bunch here. It is a silly question, really, but if you think about it—what made that? It grew on a vine, but it is made from nutrients, it is made from sugar, it is made from water. So, the very beginning of it is carbon dioxide, water, and sunlight, which through photosynthesis creates glucose, and glucose is the sugar molecule that starts it all. And if you can improve the way each vine can metabolize that nutrient—which is a segue into my product, that's what my product does, it helps metabolism—but you can start the reaction between the soil and the soil health and the plant's health. In growing value in wine in India, I think the big thing is really awards. Somebody told me earlier that there are some vineyards in India that have won world awards. They've won awards on the world stage. So, by winning awards, by being able to put those little gold stickers on your labels, that improves the value of the wine. And to throw in a comment about wine tourism, since that's part of this, I think wine regions are some of the most beautiful regions in the world. People would like to go there—the climates are nice; it is usually very green. And India has something quite unique that isn't found anywhere else in the world—you have a culture as well. So, you can join that culture to your wine tourism, and people will come from all over the world to experience the culture and experience the way you grow wine.

Mr. Ashwin Rodrigues, Founder & Wine Maker, Good Drop Wine Cellars

Now, coming to Dr. Nishant. We have been discussing Nashik and Maharashtra, but do you think it is possible to develop

wine tourism outside of Maharashtra? If so, where do you see the potential?

Dr Nishant Deshmukh, Senior Scientist, ICAR NRCG, Pune

It is a very nice question that he has asked. We are in the capital of grapes, the wine capital, we call this Nashik, we call this Maharashtra. Other than Maharashtra, for the last ten years, NRC Grapes has been striving hard to establish grapes in other parts of the country. In the last two to three years, the work of establishing new vineyards and varieties has intensified in a larger way. I will give you an example. I am telling the name of the state. In 2019, there was an agitation from farmers in that state demanding the opportunity to sell wine. Till that time, the government had no licensing laws, no opportunity for selling wines. Many of you may have already understood, this is Mizoram, and I am talking about Champhai wine. Champhai is a village, it is a district block, and wine is growing there. As Mr. Ashwin Rodrigues - Founder and Wine Maker good drop Wine sellers Good Drop Wine Cellars may correct me, if you go to the hills, the wine quality will improve. This is one point. In that area, they are now commercially producing wines, and vineyards are in the mid-hills, at high altitudes, with a picturesque appearance when you visit that place. This will probably be the next place in the country where wine tourism can be explored. I am sure one message I got from the Mizoram state government is that they are planning to organize similar events where we can invite all of you to taste the wine in their vineyard at Mizoram.

Mr. Ashwin Rodrigues, Founder & Wine Maker, Good Drop Wine Cellars

Now, let's hear from Dr. Sharmista, I have two questions for you. First, as a consumer, what was your experience when you visited the wineries? Second, as a research scientist, how do you think you or NRCG can contribute to this sector? When you visited the winery, what thoughts came to your mind?

Dr Sharmistha Naik, Scientist ICAR-NRCG, Pune

When I visited Nashik for the first time, the hospitality was great, thanks to Sula and others. What I saw specifically at Sula was a huge crowd, a well-planned vineyard, and a step-by-step experience. They have a vineyard, a place to sit, they show how wine is made, and then they conduct wine tastings. Everything is systematically planned. Now, for us who are working in this industry, this is a day-to-day thing.

But imagine a person sitting in a cubicle or in a IT office, experiencing this for the first time. The experience can be quite overwhelming and exciting. The wooden barrels and the way wine is stored were very fascinating to see for the first time. It was all meticulously planned, and one thing I must say about Sula is their marketing strategy—it is very well done. This is something that can be adopted by other wineries as well. As a scientist, research is different, but if we focus on the tourism aspect, like Nishant Sir mentioned, we have visited places like Kashmir, Himachal Pradesh, and Ladakh. In the Northeast, there is something called a Living Root Bridge. When you check MakeMyTrip or other travel packages, you will find that visiting the Living Root Bridge is included in an INR 59,000 package. Imagine, just a bridge made of roots, and it is being marketed so well. This is the strategy they use. Now imagine a vineyard visit in Nashik, a vineyard visits in Himachal, or a vineyard visit in Kashmir, where vineyards already exist. We can develop homestays and create an experience around it. In Himachal, they are working with the government, setting up vineyards with hotels, just like in international wine tourism. For the first time, such tourism is being promoted, and they are even signing MOUs for it. The Northeast is also seeing similar developments. And one more thing—there is still a taboo around wine. I was discussing this earlier. When people go out, they prefer beer over wine because of the price difference. Beer costs INR300, whereas wine is INR 700 to INR 1,800 per bottle. This perception needs to change. Another taboo is that women drinking wine is still not widely accepted due to societal barriers. Until we remove these taboos, the wine industry won't grow to its full potential. We need to think strategically and incorporate social media platforms because marketing is required for wine tourism in India.

Mr. Ashwin Rodrigues, Founder & Wine Maker, Good Drop Wine Cellars

I would like to wrap up by emphasizing Dr. Sharmista's point about the importance of marketing. We are generally wine producers, we are generally farmers, and sometimes we forget about this. We need to learn about this extra new angle, which is that of tourism and hospitality. That's something, again, which our association does. We have online training sessions for our members. One of the sessions that is coming up is about marketing, brand marketing, and how to start your own wine tourism business. There's a lot that we can learn.

Another taboo is that women drinking wine is still not widely accepted due to societal barriers. Until we remove these taboos, the wine industry won't grow to its full potential.

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Recommendation:

By Mr. Bimal Das:

You can consider adding wellness centres as an additional revenue stream. I have experience in setting up a wellness centre, and it has proven to bring in extra profit. If you are interested, I can help with designing treatments and sourcing the necessary products. I have been involved in this from the very beginning and understand the various aspects of wellness treatments. This could be a great opportunity to increase revenue. If needed, I can also share this information with members, so those interested in partnering can explore the possibilities. I am happy to provide guidance and educate others on how to integrate wellness into their business model.

Q&A Session:

Question From Audience Member to the panellist:

Do you have any awareness programs for wine? Because in our society, we do not really have much awareness about wine.

Mr. Ashwin Rodrigues – Founder and Wine Maker good drop Wine sellers

Yes, we do have awareness programs. Both individual wineries and industry associations conduct wine education and awareness initiatives. Many wineries organize sessions in major cities and at their own locations to educate people about wine. From an association level, we also conduct activities. Just two weeks ago, we organized a major wine festival in Bandra, Mumbai, which attracted around 1,000 attendees. The event centred around wine, providing a platform for winemakers to share their stories—not just about what's in the glass, but also about their journey into winemaking and the industry itself. There were various activities, including food and wine pairings, cooking with wine, blind tasting competitions, and grape stomping. These engaging experiences helped generate excitement and interest in wine, encouraging people to learn more. Additionally, such initiatives make people feel more comfortable ordering wine in restaurants. Since wine selection can sometimes be confusing, we aim to make it easier and more accessible.



Mr. Abhay Rajoria, General Manager, Sula Wines, addressing the Panel Discussion on Advancing Viticulture- Wine & Grape-Tourism



Ms. Shraddha More, Enologist, V.M. Agrosoft Wine (Sailo Wines) was addressing



Ms. Mugdha Deepak Chaturvedi, Regional Manager – West, Balmer Lawrie speaking



Dr Nishant Deshmukh, Senior Scientist, ICAR NRCCG, Pune

8. Vote of Thanks

Dr. Sujoy Saha, principal scientist NRC Grapes

As all good things must come to an end, we conclude the National Grape Summit 2025. I have been entrusted with the honour of delivering the formal vote of thanks. First and foremost, I extend our heartfelt gratitude to Dr. Subrata Gupta (IAS), Secretary, Ministry of Food Processing Industries, Government of India, for gracing us with his presence and insightful address. Our sincere thanks to the Bengal Chamber of Commerce and Industry, particularly Jayanta Chakraborty, Chairperson, Agri Horti-Food Processing-Rural Development National Committee of The Bengal Chamber, and Mr. Subhodip Ghosh, Director General, for their instrumental role in organizing this summit. Their dedication over the past months has been pivotal in bringing this event to fruition. We are deeply appreciative of our industry partners and esteemed panellists. Special mentions to Mr. Abhay Rajoria and Mr. Ashwin Rodrigues for their unwavering support. Our gratitude extends to the media personnel and all attendees who have contributed to the success of this summit. I would also like to acknowledge Dr. Sarmistha for his excellent anchoring and the entire staff and colleagues at ICAR-NRCG, including Dr. Nishant, Dr. Prashant, and Dr. Sharma, for their invaluable contributions.

Lastly, but most importantly, I express our profound gratitude to our Director, Dr. Kaushik Banerjee, whose visionary leadership and guidance have been the cornerstone of this summit's success. His initiative and unwavering support have been instrumental in bringing together stakeholders on a unified platform. In closing, this summit marks just the beginning. We look forward to future gatherings and continued collaboration to advance the grape industry.



Vote of Thanks by Dr Sujoy Saha, Principal Scientist ICAR-NRCG

9. Recommendations

Enhancing Grape Quality and Production:

- **Promote Good Agricultural Practices (GAP):**
 - Emphasize the foundational importance of GAP for successful cultivation.
 - Expand and strengthen the implementation of GrapeNet, India's food safety traceability system.
 - Increase farmer education and training on residue management and international food safety standards.
- **Focus on Varietal Development and Research:**
 - Intensify research on grape varieties suited to India's diverse agro-climatic zones.
 - Identify and promote indigenous grape germplasm for wine production.
 - Support the development of proprietary grape varieties to enhance value.
 - Increase research into grape cultivation in nontraditional areas such as the Northeast, and arid regions.
- **Improve Pest and Disease Management:**
 - Address the lack of new modes of action in crop protection.
 - Develop and promote biological solutions to reduce reliance on conventional pesticides.
 - Implement comprehensive integrated pest management systems.
 - Increase farmer access to accurate and up to date information regarding pest and disease control.
- **Address Climate-Related Challenges:**
 - Promote the use of protective covers for vineyards, addressing cost and insurance concerns.
 - Develop strategies to mitigate the impact of unseasonal rains and other climate-induced issues.
- **Enhance Productivity:**
 - Aim to increase grape productivity to 25 tons per hectare, surpassing current levels.
 - Ensure that Indian grape varieties reach their full biological yield potential.

- **Improve access to skilled labour:**

- Develop training programs for grape farm workers.
- Combat the proliferation of unverified agricultural consultants.

Strengthening Market Access and Value Addition:

- **Expand Market Intelligence and Linkages:**

- Improve market access and trade linkages for Indian grapes.
- Address regulatory challenges and secure necessary policy support.
- Leverage Free Trade Agreements (FTAs) to boost grape exports.
- Focus on both domestic and international market expansion.

- **Promote Value-Added Products:**

- Expand the production and marketing of grape-derived products, such as raisins, juice, and wine.
- Support the establishment of wineries as profitable ventures.
- Develop by-product utilization facilities to maximize value.

- **Enhance Branding and Recognition:**

- Build a strong brand identity for Indian grapes in global markets.
- Promote "Made in India" labels in international supermarkets.
- Focus on consistent quality and strong consumer perception to support branding efforts.

- **Develop Grape and Wine Tourism:**

- Promote grape and wine tourism to attract global visitors and showcase cultivation excellence.
- Learn from successful tea tourism models.
- Support the development of an integrated grape tourism ecosystem.

Circular Economy in Grape Production:

- **Improve Pest and Disease Management:**

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- **Improve access to skilled labour:**

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- Combat the proliferation of unverified agricultural consultants.

Enhancing Market Understanding and Access:

- **Prioritize Capability Building:**

- Businesses should focus on establishing strong foundational capabilities before aggressively pursuing marketing and export opportunities.

- **Refine Market Intelligence Gathering:**

- Move beyond reliance on internet data and engage in direct customer interactions and first-hand market experiences.
- Utilize international exhibitions to benchmark positions and understand global trends.
- Analyse consumer behaviours and identify market gaps to tailor products and strategies.

- Understand commercial terms, pricing strategies, and trade regulations across different markets.
- Gather intelligence on logistical and supply chain requirements, including packaging and storage solutions.

- **Diversify Export Markets:**

- Reduce reliance on single export destinations by actively seeking and developing new markets.
- Adapt export strategies to suit the specific requirements and business practices of different countries.
- Capitalize on emerging markets by responding to their specific demands.

- **Empower Farmers Through Digitalization:**

- Encourage young farmers to utilize digital tools for market intelligence and direct sales.
- Leverage the high digital literacy rates in rural areas to improve market access and knowledge.

- **Improve Domestic Market Focus:**

- Shift the focus from solely export-oriented strategies to include a stronger emphasis on the domestic market.
- Invest in cold chain infrastructure to expand the reach of perishable goods within India.
- Develop policies that support domestic sales and market penetration.

Strengthening Farmer and Producer Support:

- **Establish a Trader Net System:**

- Blacklist traders who default on payments to protect farmers' interests.

- **Ensure Fair Payment Practices:**

- Develop and enforce regulations to prevent payment delays and defaults by traders and exporters.
- Establish mechanisms to protect farmers from bearing the brunt of cost fluctuations in the supply chain.

- **Implement Effective Branding and Aggregation:**

- Adopt models like Amul, where farmers aggregate their produce for centralized processing, branding, and marketing.
- This would remove the marketing burden from the farmers.

- **Reduce Input Cost Burden:**

- Reduce GST burden on farmers regarding input costs.

- **Improve Packaging Standards:**

- Create packaging standards that reduce product loss during transportation.

Enhancing Trade and Financial Security:

- **Promote ECGC Insurance:**

- Encourage exporters, especially those new to the market, to utilize ECGC insurance to protect their principal amounts.
- Educate exporters on the benefits of checking buyer credibility through ECGC services.

- **Utilize ECGC's Buyer Credibility Assessments:**

- Leverage ECGC's database and risk assessment models to evaluate the credibility of potential importers.
- Use these assessments to mitigate risks and make informed decisions regarding credit terms.

Fostering Innovation and Value Addition:

- **Expand Value-Added Product Development:**

- Diversify beyond fresh and dried grapes by developing a wider range of value-added products.
- Explore innovative processing techniques to expand the industry's potential.

- **Promote Biological Solutions:**

- Increase awareness and adoption of biological solutions in agriculture to reduce chemical dependency.

- Support the development and availability of bio-stimulants, bio-fertilizers, and biocontrols.
- Reduce regulatory hurdles regarding the import of beneficial biological products.

- **Foster Upstream Collaboration:**

- Increase collaboration between research institutions, and private companies to develop sustainable solutions.
- Focus on plant health and resilience through innovative upstream solutions.

Optimizing Production and Addressing Productivity Decline:

- **Reverse Productivity Decline:**

- Address the alarming trend of negative productivity growth (-0.56% CAGR) despite increasing cultivation area.
- Investigate and implement strategies to improve yield per hectare.

- **Strategic Grape Calendar Utilization:**

- Capitalize on regional production variations to meet domestic demand and reduce imports during peak import periods (September-October).
- Align raisin export timings with domestic demand patterns to optimize market opportunities.

- **Regional Market Linkage Improvement:**

- Develop market linkages for grape growers in regions like Ladakh, Kargil, and Srinagar, providing them with access to markets and technical know-how.
- Improve the quality of produce from regions that have market access, but low quality.

Enhancing Trade Dynamics and Market Diversification:

- **Control Import Growth:**

- Implement measures to curb the rising import of grapes, focusing on enhancing domestic production to meet demand.

- **Balance Export-Import Strategies:**

- Develop a more strategic approach to balancing grape and raisin exports and imports, aligning with domestic demand.

- **Market Diversification:**

- Reduce export concentration in the Netherlands by actively diversifying into other markets, such as Russia.
- Adapt to the different business practices of each country.

- **Address Trade Fluctuations:**

- Create systems that protect farmers from bearing the cost of sudden trade fluctuation, such as the rise in freight cost during the Suez Canal crisis.

Empowering Farmers and Strengthening Supply Chains:

- **Expand GrapeNet Model:**

- Extend the successful GrapeNet model to other crops like vegetables and pomegranates to improve quality and market access.

- **Farmer Payment Security:**

- Establish robust mechanisms to ensure timely and secure payments to farmers, preventing financial losses due to trader defaults.

- **GST Relief for Farmers:**

- Review and revise GST policies to provide tax refunds or relief to farmers on input costs, similar to other businesses.

- **Domestic Market Development:**

- Prioritize policies and investments that support the development of the domestic grape market, catering to India's vast consumer base.

- **Packaging Standardization:**

- Implement standardized packaging solutions to minimize product losses during transportation, reducing financial burdens on farmers.

Promoting Innovation and Biological Solutions:

- **Biological Solution Awareness:**

- Increase awareness and adoption of biological solutions among farmers through education and outreach programs.

- **Biological Product Development:**

- Support the development of new microbial consortiums for improved pest and disease control, reducing reliance on chemical applications.

- **Upstream Innovation:**

- Increase focus on upstream solutions, which strengthen the plants themselves.

Leveraging Technology and Knowledge Dissemination:

- **Digital Literacy Utilization:**

- Leverage the high digital literacy rates among rural youth to promote the use of digital tools for market intelligence and direct sales.

- **Knowledge Transfer:**

- Transfer knowledge of global best practices to Indian farmers and businesses.

Enhancing Wine Tourism Experiences and Infrastructure:

- **Develop Holistic Wine Tourism Experiences:**

- Move beyond simply showcasing wine and focus on creating immersive experiences that encompass the culture, people, food, and scenic landscapes of wine regions.
- Showcase viticulture practices, innovations, and the journey of wine from vineyard to bottle in a well-structured and organized manner.

- **Create Distinct Regional Wine Tourism Identities:**

- Develop unique identities for different wine-growing regions to differentiate them and attract tourists.
- Highlight the unique aspects of each region, linking them to their wines.

- **Integrate Farmer Experiences into Wine Tourism:**

- Connect visitors with the farmers behind the wine, educating them about soil characteristics, viticultural practices, and the hard work involved in grape cultivation.
- Ensure farmers receive recognition for their contributions to the wine industry.

- **Develop Wine Tourism Circuits:**

- Create tourism circuits that combine wine tourism with other regional attractions, such as historical sites, natural landmarks, and cultural experiences.
- Collaborate with tour operators to promote these circuits and attract a wider range of tourists.

- **Improve Wine Tourism Infrastructure:**

- Develop homestays and other accommodation options near vineyards to enhance the visitor experience.
- Establish partnerships with hotels and other tourism businesses to create integrated wine tourism packages.

- **Promote Niche Wine Tourism Experiences:**

- Cater to the growing demand for exclusive and unique travel experiences by offering premium wine tours and personalized itineraries.

Promoting Sustainable and Ethical Wine Tourism:

- **Focus on Economic, Social, and Environmental Sustainability:**

- Ensure that wine tourism is economically viable, socially responsible, and environmentally sustainable.
- Prioritize the sustainability of farmers' incomes alongside ecological and environmental considerations.

- **Promote Regenerative Farming Practices:**

- Encourage the adoption of regenerative farming practices to improve soil health and plant health, enhancing the quality and sustainability of grape production.
- Educate the public regarding these practices.

- **Leverage Cultural Heritage:**

- Integrate India's rich cultural heritage into wine tourism experiences to attract international visitors.
- Showcase the unique cultural aspects of wine-growing regions.

- **Build Trust and Community:**

- Foster a culture of trust among stakeholders in the wine industry and tourism sector.

Enhancing Marketing and Market Penetration:

- **Implement Effective Marketing Strategies:**

- Develop and implement comprehensive marketing strategies to promote wine tourism in India.
- Utilize social media platforms and other digital marketing tools to reach a wider audience.
- Emulate successful marketing strategies used by established wineries like Sula.

- **Address Societal Taboos:**

- Work to change societal perceptions and remove taboos surrounding wine consumption, particularly among women.
- Promote wine as an accessible and enjoyable beverage for all.

- **Improve Price Competitiveness:**

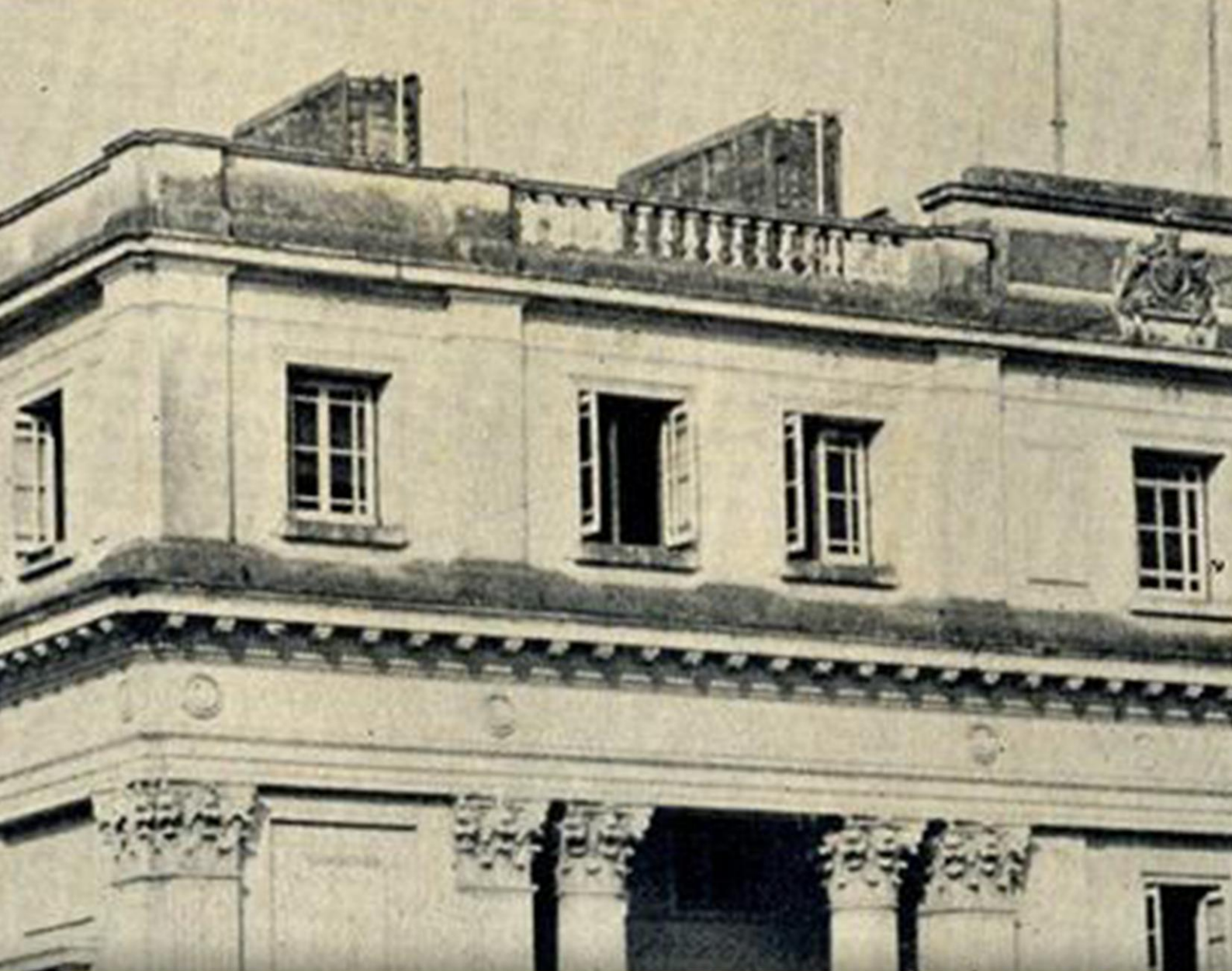
- Address the price difference between wine and other alcoholic beverages to make wine more accessible to a wider range of consumers.

- **Promote Award-Winning Wines:**

- Highlight and promote Indian wines that have won international awards to enhance their value and attract tourists.
- Increase the amount of wine award competitions held in India.

- **Increase Training Regarding Tourism and Hospitality:**

- Increase the amount of training that wine producers receive regarding tourism and hospitality.



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