REPORT

Workshop on
From Field to Fork: Ensuring Basmati Purity through Comprehensive Traceability in Punjab

16th April 2025

Kheti Bhawan, Punjab


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Workshop on **"From Field to Fork: Ensuring Basmati Purity through Comprehensive Traceability in Punjab"**

The Department of Agriculture & Farmers Welfare, Government of Punjab conducted a Workshop on **"From Field to Fork: Ensuring Basmati Purity through Comprehensive Traceability in Punjab" on 16th April 2025** at **Punjab Kheti Bhawan**.

The objective of the workshop was to identify the role of each stakeholder in the creation and implementation of BasmatiNet in Punjab.

Key Speakers:

- **Dr. Satbir Singh Gosal**, Vice Chancellor, Punjab Agricultural University
- **Shri Jaswant Singh**, Director, Department of Agriculture, Government of Punjab
- **Dr. Kaushik Banerjee**, Director, ICAR-National Research Centre for Grapes
- **Shri Harpreet Singh**, State In-charge & Regional Head, APEDA
- **Dr. (Mrs.) Ajit Dua**, CEO, PBTI – Mohali

Dr. Kaushik Banerjee, Director, ICAR-National Research Centre for Grapes, Pune delivered an insightful address, highlighting the success of GrapeNET—a robust traceability system developed for grapes, a highly perishable commodity. He emphasized that if such a system can be implemented for grapes, it is both feasible and essential to replicate it for Basmati rice.

Dr. Kaushik Banerjee elaborated that GrapeNet was not the work of any single individual. It was a collective, collaborative effort. The State Departments of Agriculture from various States played a significant role in its development and success.

Back in 2003, India faced a major challenge. Seventeen consignments of grapes were rejected in New York due to the detection of crop protection products residues — some of which were banned in European markets. This sparked widespread concern and created a reputation crisis, with accusations that Indian grapes were highly contaminated. The European Commission issued a clear warning: if Indian grapes weren't thoroughly tested and traceable, imports would be banned. And not just grapes — other Indian agricultural exports would also be at risk.

This critical situation led to the birth of GrapeNet.

Since the problem centered around grapes, the National Research Centre for Grapes was identified as the National Referral Laboratory. What followed was the creation of a robust, digital traceability system to monitor and certify every consignment of grapes exported from India to the EU.

“BasmatiNET: A Digital Traceability Framework Inspired by GrapeNET to Safeguard Exports and Food Safety”

Key Concepts:

- **Traceability as per EU Regulation (EC No. 178/2002):** Ability to trace food and substances through all stages of production, processing, and distribution.
- **GrapeNET Model:**
  - Geographical traceability through unique plot IDs (state, district, sub-district, product, farm).
  - Integration with labs, certification bodies, and government authorities.
- **BasmatiNET Features:**
  - Stakeholder integration (farmers, labs, exporters, certification bodies).
  - **Access to 48 NABL-accredited labs across India.**
    Coordination by the National Referral Laboratory (NRL).

Role of NRL:

- Establishes Good Agricultural Practices (GAP).
- Sets and updates the priority list of 273 agrochemicals for monitoring.
- Standardizes testing procedures across labs (ISO/IEC 17025 compliance).
- Monitors labs through training, assessments, and random checks.
- Issues alerts for MRL (Maximum Residue Limit) non-compliance, halting exports.
- Verifies samples from farms, packhouses, and conducts counter checks.

Export Workflow (Post-MRL Compliance):

- Consignment creation.
- AGMARK and phyto-sanitary certification.
- Container loading.
- Requires a valid Import Export Code (IEC). and conducts counter checks.

Conclusion :

Replicating GrapeNET’s model in BasmatiNET can:

- Ensure traceability and compliance.
- Reduce export rejections.
- Enhance India’s image and ease of doing agri-exports via digital tools and conducts counter checks.

GrapeNet is a fully internet-based certification system. No export documentation is issued without going through this system. It is now even more secure, with block-chain integration.

Each one-hectare farm is assigned a unique 14-digit traceability code — like a postal code — based on State, District, Taluka, village, product and farm-specific identifiers. This code appears on every box of exported grapes. If crop protection products' residue is detected in any shipment, this code enables us to trace the problem back to the exact farm, talk to the grower, identify what went wrong and take both corrective and preventive actions.

We've been discussing the need for BasmatiNET, a traceability and certification system modelled after GrapeNet. Like grapes, Basmati rice is also a high-value, export-oriented commodity. It deserves the same rigorous approach to safety, quality, and traceability.

In Europe, traceability is not just a concept — it is a legal requirement. EU 2002 regulations define traceability as the ability to track a product through every stage of production, processing and distribution. Basmati rice must meet these standards too, if we have to maintain and expand our markets.

To make this vision of BasmatiNET a reality, we need to bring together all stakeholders — farmers, traders, millers, exporters, laboratories, and government agencies. Just as the NRC for Grapes played the role of technical authority in GrapeNet, an organization like PBTI (Punjab Biotechnology Incubator) can serve as the National Referral Laboratory for Basmati rice.

We already have the infrastructure: 48 authorized labs under APEDA for cereal crops. These labs are equipped, accredited, and capable. The challenge now is coordination, capacity building, and integration into one digital, transparent system.

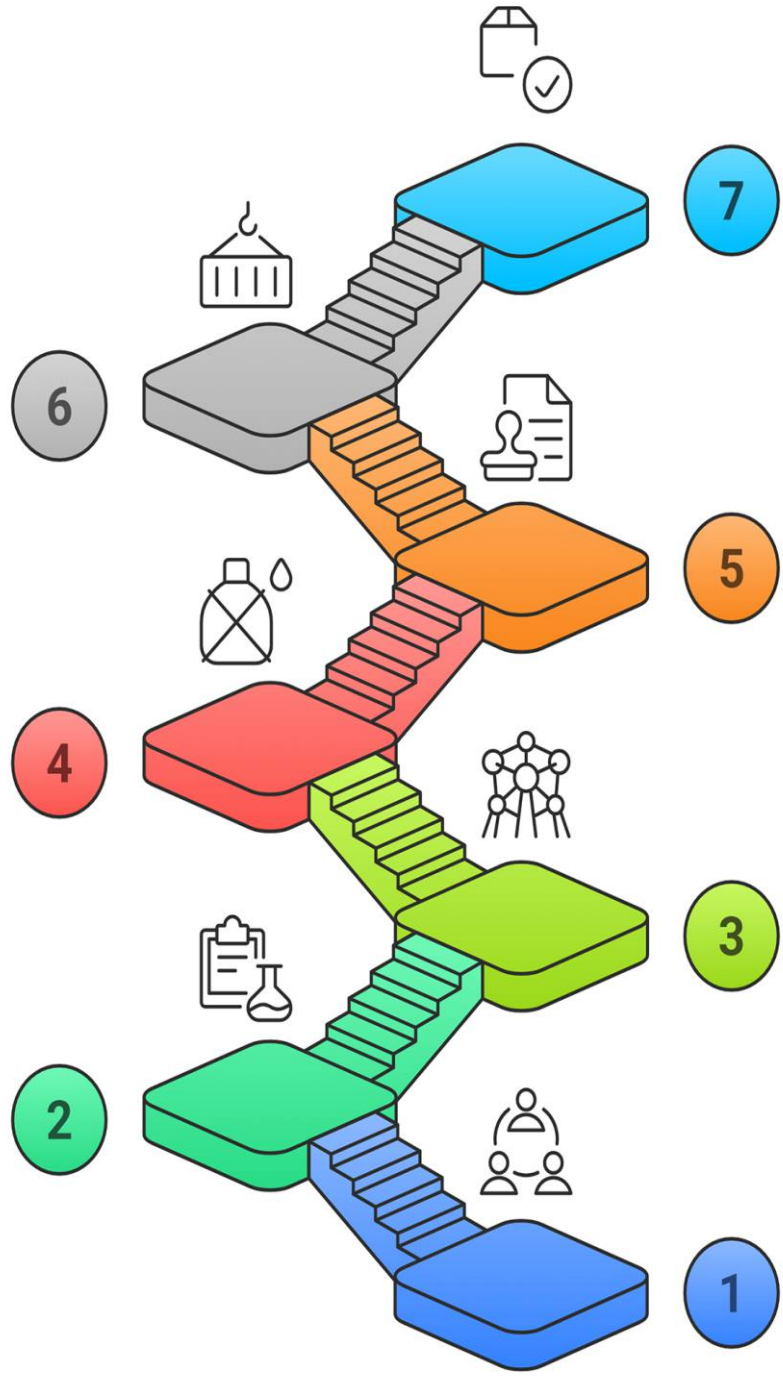
Dr. Kaushik Banerjee concluded with request to move forward together - to build a traceable, reliable, and globally trusted system for India's Basmati rice.

Shri Jaswant Singh, Director, Department of Agriculture, Punjab, shared that in 2023–24, the Department launched a pilot project in Chugawan village, aimed at enhancing traceability and compliance in Basmati cultivation. The results of the pilot have been extremely encouraging, and based on its success and strong acceptance among stakeholders, plans are now underway to scale the initiative across a wider area.

Reflecting on the journey, Shri Singh noted that the department has been working steadily for nearly a year to facilitate this level of multi-stakeholder interaction—and today's collaboration marks a significant milestone in that effort.

He emphasized the indispensable role each stakeholder plays in supporting farmers through the BasmatiNET initiative, stating that Punjab's Basmati is globally recognized for its quality and aroma.

BasmatiNET: A Digital Traceability Framework Inspired by GrapeNET to Safeguard Exports and Food Safety



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Export Approval

Final approval is granted, ensuring smooth export processes.

6

Container Loading

Consignments are loaded into containers for export.

5

Export Certification

AGMARK and phyto-sanitary certifications are obtained for export readiness.

4

MRL Compliance

Monitoring and alerts ensure compliance with Maximum Residue Limits.

3

NRL Coordination

The National Referral Laboratory coordinates and standardizes testing procedures.

2

Lab Accreditation

48 NABL-accredited labs across India provide reliable testing services.

1

Stakeholder Integration

Farmers, labs, exporters, and certification bodies are connected to ensure seamless communication and data flow.

To maintain and enhance this reputation, he stressed the need to reduce chemical residues and increase export readiness through rigorous systems and collaboration.

By uniting under this initiative, stakeholders across the value chain—from Government to industry to academia—can drive meaningful impact, not just for exports, but for the long-term sustainability and prosperity of Punjab's agricultural community.

Dr. Satbir Singh Gosal, Vice Chancellor, Punjab Agricultural University, emphasized the power of collaboration between academia, industry, and government in advancing the BasmatiNet initiative. He highlighted that Punjab holds a unique and intrinsic connection to Basmati rice, owing to its ideal combination of climate, temperature, and soil quality. Notably, regions around Amritsar possess specific temperature conditions that help retain the signature aroma in the grain—something not found in other parts of the state.

Currently, rice is cultivated across approximately 32 lakh hectares in Punjab, with Basmati accounting for about 15–18% of this area, peaking at 29% in certain years. In the previous year alone, Basmati was grown over 6.8 lakh hectares. However, Dr. Gosal pointed out that the absence of a Minimum Support Price (MSP) for Basmati rice remains a major deterrent. In contrast, Parmal rice, which has an assured MSP, continues to be the preferred choice for many farmers due to guaranteed returns.

Drawing a parallel with the GrapeNet model, Dr. Gosal underscored that a similar initiative was successfully implemented when Indian grapes were facing stringent residue issues in international markets. That success, he said, was due to the dedicated efforts of scientists and coordinated stakeholder action. Rather than starting from scratch, he recommended that BasmatiNet should leverage the learnings and best practices from GrapeNet to accelerate implementation and results.

Punjab Agricultural University is proactively working on developing high-yielding, pest- and disease-resistant Basmati varieties with enhanced processing attributes. These advanced strains are designed to require fewer pesticide applications thanks to their genetic resilience, contributing to residue-free cultivation. Key characteristics under development include longer grain elongation (without excessive breadth expansion), reduced chaffiness, and better milling qualities.

While institutions like IARI, New Delhi also focus on new Basmati varieties, PAU ensures thorough evaluation against local climatic suitability before recommending them for cultivation in Punjab. Additionally, the university is promoting integrated pest management (IPM) and weedicide control technologies to further support sustainable Basmati farming.

In conclusion, Dr. Gosal reaffirmed Punjab Agricultural University's unwavering commitment to elevating the quality and global export potential of the state's iconic Basmati rice. He expressed optimism that with united efforts, Punjab can continue to lead in producing world-class Basmati that meets international standards while supporting farmers' livelihoods.

Shri Harpreet Singh, State In-charge of APEDA highlighted export promotion and industry collaboration, emphasizing export requirements and quality standards for traceability technology. Mr. Singh emphasized the ongoing collaborations between Food Commissions in Punjab agriculture and horticulture departments and the upcoming international buyer meets; which would yield in better stakeholder coordination.

Dr. (Mrs.) Ajit Dua, CEO of PBTI – Mohali, expressed her honour at being a part of the committee constituted by the State Government under the Chairmanship of **Dr. Gosal, Vice-Chancellor, Punjab Agricultural University (PAU)**, for evaluating processes to promote **Residue-Free Basmati**.

She shared that the initiative began a few years ago in **Chugawan, Punjab**, where it was closely monitored by all stakeholders. The project yielded highly encouraging results, with residue levels found to be extremely low. Dr. Dua proposed that this model could be successfully scaled across Punjab, drawing inspiration from the well-regarded **GrapeNet** model used in grape exports.

Initially, **20–25 samples were analysed daily**, but with the support of the State Government, PBTI's infrastructure was significantly strengthened—doubling its testing capacity. Further expanding this vision, a new **testing laboratory is under development in Jalandhar**, expected to **increase testing capabilities fourfold**. Dr. Dua highlighted the future implementation of **BasmatiNET**, which will enable **NABL-accredited labs across India** to participate in testing. This expansion will eliminate doubts surrounding testing capabilities and standardization.

She further emphasized Punjab's strength in agricultural excellence, particularly the presence of the **globally renowned Punjab Agricultural University (PAU)**, which actively promotes **Good Agricultural Practices (GAP)**. The **State Agriculture Department** also maintains close engagement with farmers and has shown strong support for the rollout of BasmatiNET, embracing lessons learned from the GrapeNet experience. In conclusion, **Dr. Dua stressed the critical importance of collaborative efforts** among all stakeholders for the successful implementation of BasmatiNET.

She underlined the urgent need to **produce residue-free Basmati rice**; noting that **Government-led initiatives to make Punjab residue-free;** will significantly enhance the **global reputation of both Punjab and India** in the years to come.

Mr. Durgesh Chandra, Secretary General, CropLife India shared that CropLife India has been advocating for the establishment of a Basmati Research Centre in Punjab since 2020—adopting best practices from GrapeNET. This centre aims to offer a collaborative platform for farmers, scientists, policymakers, industry, and exporters—ensuring Punjab remains a trusted and leading source of authentic Basmati rice. In its continuous endeavour to promote sustainable crop protection solutions for Indian agriculture, CropLife India actively engages with a wide range of stakeholders across key areas including Progressive Regulations, Product Stewardship, Anti-Counterfeiting, Policy Advocacy, and Communications & Outreach.

CropLife India and its member companies remain deeply committed to supporting farmers through responsible stewardship of agricultural technologies. In this context, we respectfully urge the State Government to refrain from implementing ad-hoc bans on crop protection products. Such actions disrupt agricultural operations, negatively impact the business environment, and undermine the broader objective of enhancing the *Ease of Doing Business* in the State. We advocate for science-based, transparent, and consultative regulatory processes that ensure both farmer safety and agricultural productivity.

The crop protection industry was present in full fervour with representatives from **Bayer**, **BASF, Corteva, Crystal, Dhanuka, Indofil, PI Industries, Rallis, Swal, UPL, Syngenta, T-Stanes**, to name a few. **Ms. Nirmala Pathrawal** from **CCFI** and **Mr. Kalyan Goswami** from **ACFI** were present and shared their willingness to collaborate in this initiative.

Views shared by participants –

Mr. Rajesh Dhawan, Lead-CropLife India Regulatory Affairs Committee & Head-CP Regulatory and Senior Regulatory Expert, Syngenta India shared that it is truly a privilege to have the august presence of Dr. Gosal & Dr. Kaushik Banerjee with us today. We deeply appreciate the insights shared by Dr. Kaushik, particularly on the mechanisms of traceability. His perspective reinforces our belief that robust traceability may well be the definitive path forward in resolving many of the challenges we currently face.

Mr. Dhawan highlighted –

- **Gaps in Pre-Shipment Residue Verification**

Pre-shipment residue verification is absolutely critical. Let's consider a hypothetical but realistic scenario: suppose a grower has made an operational error and has not adhered to the recommended pre-harvest interval, and even ends up using an off-label pesticide. Even in such a case, the residue issue should be caught during the pre-shipment verification—long before the product moves into export channels. Each export consignment must be rigorously tested to ensure it remains within the residue thresholds—typically 0.1 ppm or 0.2 ppm for the EU.

- **Strategy Around Codex MRLs.**

If Codex MRLs are not accessible or not accepted in key markets, we are then left to comply with the far more stringent EU standards—often pegged at 0.2 ppm or even at the Limit of Quantification (LOQ). Could the **establishment or adoption of Codex MRLs in regions like the Middle East** offer some strategic buffer for our exporters? This could be especially important given the emergence of new pest threats that sometimes require higher residue tolerance, even up to 3 ppm.

- **Managing the Transition, Away from Red Triangle Products**

While it's commendable that the industry is proactively phasing out certain molecules-sometimes even ahead of regulatory mandates—we must also recognize that some of these chemicals have unique modes of action. In cases of exotic or resistant pests like fall armyworm or whitefly, alternatives are not always readily available.

The Government's phased withdrawal of WHO Class 1B pesticides is a responsible move, but we must ensure that farmers aren't left without practical or effective alternatives during this transition. Otherwise, we risk creating operational blind spots.

These aren't merely technical hurdles—they're deeply systemic and require cohesive, collaborative solutions. One encouraging example is **GrapeNet**, which successfully links residue analysis certification with customs clearance. That level of integration should serve as the **Gold Standard**, and it's high time we expanded such models across other agri-export categories like Basmati.

Dr. Vishal Bector, Associate Professor, Punjab Agricultural University shared that by profession, I am a **Professor of Engineering** and through this lens, I see **tremendous scope for technological enhancement** in the agricultural crop production system.

When it comes to **BasmatiNET**, we are fortunate to already have **two strong success stories** to draw from. One is the well-known **GrapeNet**, and the other, is the **State Government's initiative**, which has yielded very encouraging results.

With two proven models in place, it becomes not only **easier to envision the implementation of BasmatiNET**, but also very **doable**. And as it's often said—**the farmer wins** in such frameworks. But more importantly, the **consumer should win as well**. In today's environment, consumers often live with a certain **fear or uncertainty** regarding what they're consuming. Addressing this concern is vital, and it can only be achieved through the **collective efforts of all stakeholders**.

I'm not just hopeful—I'm confident that BasmatiNET has the potential to bring **tangible benefits** across the board. From an **economic perspective**, the Basmati community—already part of a robust **global market**—stands to gain significantly. If we can assure that Basmati is **free from pesticide residues**, we eliminate potential market issues and we **can** assure this; it's achievable.

To begin with, **motivating the farmers is the key**. After all, they are the ones growing the crop. In this context, the issue of **cross-contamination** is also critical. But with a strategic and scalable approach in place, **minimizing and ultimately eliminating cross-contamination** is entirely within reach.

If we look across the country, we already see successful examples in **commercial crops**—be it **grapes, sugarcane in Maharashtra and Tamil Nadu**, or others. These are not just crops—they represent entire **networks tied to international trade**. Similarly, in our region, **Basmati represents a tremendous opportunity**. Unlike staple grains like wheat or rice, **Basmati is a commercial crop with significant export potential**. For the **State's economy**, and more importantly, for **farmer profitability**, Basmati holds **immense value**. It is a strategic asset we must nurture and promote.

Mr. Vikram, Manager, Agribusiness & Sustainability, LT Foods Limited highlighted two critical issues that continue to impact the operations and the broader agricultural export landscape:

- **Inconsistencies in Maximum Residue Levels (MRLs) Across Regions**
  There is considerable confusion and inconsistency regarding Maximum Residue Levels (MRLs) across different markets. For instance, Propiconazole is permitted in the U.S. but is subject to different regulations in Europe and the UK. Similarly, Tricyclazole is approved for use in the UK and U.S., yet it is banned in Europe.

This fragmented regulatory landscape presents a major challenge for farmers. A farmer may apply a molecule legally in one region, unaware of where the crop will eventually be exported. If that crop is sent to a region where the molecule is restricted, it could trigger compliance failures and export rejections. These divergent standards create uncertainty and risk, often blocking exports during the testing phase.

- **The Need for Robust Traceability Systems**

In markets like Europe, meeting MRL thresholds is only the beginning. Buyers also demand comprehensive traceability — from the origin of the crop and the chemicals used to the precise geo-location of the farm. These records must be updated annually and verified by third-party auditors.

To meet these stringent requirements, LT Foods has invested in internal systems and infrastructure. LT Foods' in-house laboratory enables rapid testing, helping to analyse samples and deliver results within hours.

- **Improving Outcomes through Direct Farmer Engagement**

LT Foods also implemented systems to engage farmers directly, especially around harvest. Our teams provide weekly guidance, assist with paddy preparation and coordinate export logistics.

Despite these efforts, practical challenges continue to remain. For example, if a farmer redirects paddy intended for one market to another, it can lead to residue non-compliance or quality issues. In some cases, we've even encountered batches mixed with damaged grain from external sources.

To address this, the controls are significantly tightened. When harvest samples are collected, we now handle procurement and loading directly. The moment a truck arrives at our facility, samples are tested on-site and categorized as compliant or non-compliant for each target market. Only batches that meet the necessary standards are processed and exported.

This rigorous approach has dramatically improved our success rate. Although the process is resource-intensive, it ensures the quality and compliance of our exports, protecting both our partners and our brand. While this model is replicable, it demands a significant investment in systems, personnel, and oversight.

Dr. P. K. Chakrabarty, Former Member ASRB, Former ADG (PP&B) and Chief Scientific Advisor Dhanuka shared - India can feed its projected 1.6 billion population by 2050 **without increasing agricultural productivity**, simply by **reducing crop losses** caused by pests and diseases. However, **emerging plant threats and limited crop protection products options** are putting this at risk.

Though India has registered **339 crop protection products until now**, only about **40–50 technical (s) are in regular use**, compared to **600–900 used** in developed nations. It is imperative that highly exorbitant cost for manufacture and registration makes it un-affordable for developing countries like India thus making them dependable on **old and post-patented crop protection products.** Many of them face potential ban pressed by the **EU, merely suspecting them to possess endocrine disruption concerns** rather than their risk-based assessment followed globally including the CAC. Reliance upon EU's whimsical standards threaten Indian farmers' access to vital crop protection tools, despite the **international law that allows sovereign decisions** based on national bio-safety assessments. Emerging threats from new species of **rice root-knot nematode, blast, false smut, bacterial glume blotch, bakanae disease** etc., particularly endanger **rice**, which now consumes the highest volume of crop protection products.

Calls to ban key crop protection products in Punjab should be reconsidered. The imposition of ban on crop protection products popular among the farmers due to their efficacy and reasonable cost, one after the other is not a solution. India needs **judicious, regulated crop protection products use**, **better farmer awareness and training** and **Government oversight**, as exemplified by the **BasmatiNET initiative**. These chemicals meet **Maximum Residue Limit (MRL)** standards and are **essential for food security.** Notably, the **EU is not a major importer** of Indian Basmati, so India shouldn't be pressured by its unilateral restrictions. To protect Indian agriculture, we must focus on **science-based policies, responsible crop protection products' use and national sovereignty** in regulatory decisions.

Dr. Mandeep Singh Hunjan, Principal Plant Bacteriologist, Punjab Agricultural University extended his full support for Mr. Vikram's observations—small, strategic changes in our system can indeed trigger a ripple effect across the entire agri-value chain. From farmers to exporters, every stakeholder feels the impact. The model currently being implemented is not only promising but already achieving commendable results—with up to 90% residue-free compliance.

Now the critical question is: **How do we move from 90% to 100%?**
Achieving this final leap involves considerable cost implications. For example, the tight 24-hour window between harvest and testing, which increases operational pressure and cost; needs to be considered. If we can identify ways to streamline these processes or reduce costs, the benefits will directly reach the farmers.

GrapeNet can be taken as a benchmark. Grapes, being highly perishable, required a system designed for speed and accuracy. With rice, we have some time leverage since it is non-perishable—but the scale poses a different challenge. In some cases, rice exports are **15 times** the volume of grape exports, making systematization more complex.

One major concern is **sampling practices**. Currently, samples are collected randomly, which can result in highly variable readings—one spot may show 0.01 ppm while another might register 0.2 or even 0.3 ppm. Such inconsistencies highlight the urgent need for harmonized and standardized sampling protocols.

Additionally, we must acknowledge that **MRLs differ widely across export destinations**:

- The U.S. allows up to 0.09 ppm,
- Japan has gone as low as 0.01 ppm,
- The UAE, UK, and Eastern Europe permit up to 0.3 ppm.

Despite this variance, we are often forced to operate at the **lowest common denominator**, typically 0.01 ppm, to ensure universal compliance. This has significant implications for farmers and exporters alike.

Dr. Mandeep supported the point raised by Dr. Chakrabarty on the **need for access to affordable fungicides**. Many of the more affordable options have been phased out, particularly after COVID-related regulatory shifts, while the newer alternatives are frequently under patent and come with high costs. There's a pressing need to **promote generic or off-patent options** and provide targeted education to farmers on their correct usage. At Punjab Agricultural University, we advise a **pre-harvest interval (PHI) of 35–40 days**, especially in managing diseases like blast. Fungicides like Cyclozone, which have a PHI of over 40 days, have proven to be both safe and effective when applied correctly. We've had encouraging results with **hybrid application strategies**.

However, **cross-contamination** continues to be a significant challenge. Even with internal bans and regulatory protocols in place, residues still occasionally find their way into consignments. This is particularly frustrating for exporters and producers. In fact, despite structured interventions under past CSR-sponsored initiatives, the final outcomes were often compromised due to unsafe or non-compliant practices at the field level.

Dr. Mandeep insisted to revisit the **CSR framework**, this time with a **stronger alignment between industry, exporters, and academic institutions**. What's needed is a **multi-stakeholder, collaborative model**—not just funding, but meaningful partnerships that drive change on the ground.
Lastly, let's not forget the **issue of sample volume**. Even in pilot stages, managing over 500 samples is logistically overwhelming. As we scale, we need to build more testing infrastructure, **diversify sampling techniques**, and ensure **local procurement channels** are tightly integrated into the traceability system. Until we establish a fully **connected, end-to-end ecosystem**, these issues will continue to resurface. The time to act collaboratively is now.

Mr. P.P.S. Pangli, President, Borlaug Farmers Association for South Asia shared deep sense of heritage tied to this place—it was established in **1927**, and its legacy carries forward to this day. There's a powerful quote by **Jawaharlal Nehru** that resonates strongly here: **"Everything else can wait, but not agriculture."** This has become more than just a slogan for the town—it's a guiding principle that still lives on.

Today, this message holds even greater relevance. We have a tremendous opportunity to **work collectively for the cause of Basmati rice**, both as a global export and as a source of pride for our domestic youth. At the core, **we all share the same spirit and purpose**—whether in the EU, the US, or right here in India. Even when we talk about Indian Dal, it carries the same soul and cultural significance. That shared soul should inspire us to move forward with **a unified vision**—one that aligns our **export strategies, domestic policies, and market standards**. Not just for Basmati, but for **all our key crops**, because the **challenge of nutritional hunger is growing across the globe**.

We must innovate and prepare ourselves to tackle **emerging threats—be it through new crops, shifting climates, or evolving global demands**. Institutions like **Punjab Agricultural University (PAU)** are already doing commendable work in developing **climate-resilient crop varieties** to meet these challenges head-on. At the same time, **APEDA** is shouldering a major responsibility in pushing India forward on the global agri-export map. The challenges are significant, but so are the opportunities.

There's so much more I would like to share, but given the time constraints, I'll keep it brief. **Let's keep this dialogue open**, especially with APEDA, and work together toward a future where Indian agriculture leads with both strength and soul.

Ms. Nirmala Pathrawal, Executive Director, Crop Care Federation of India shared: We've delved deep into the many facets of **Basmati rice—how we must work together, and more importantly, what outcomes we should strive for**.

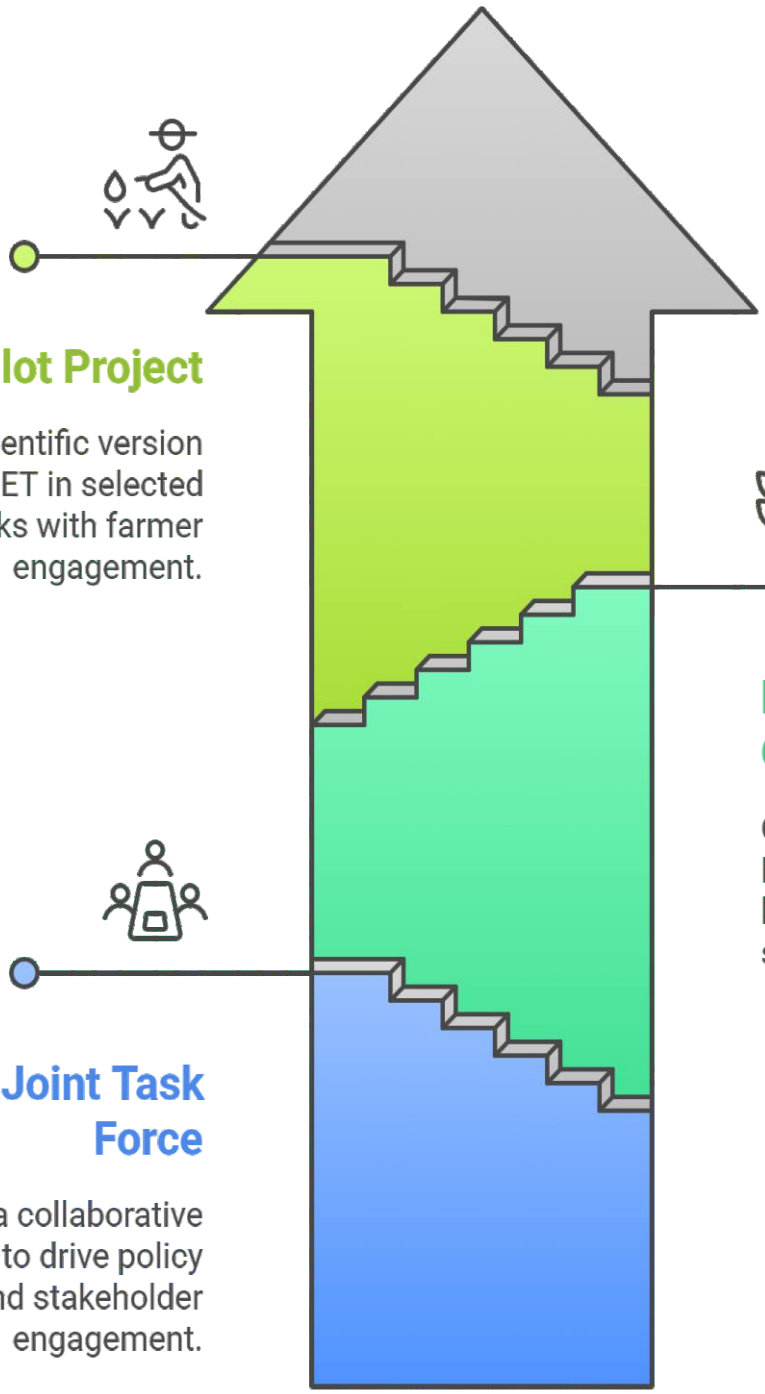
A key theme that emerged was **how to connect meaningfully with our farmers** to ensure the right practices are followed, leading to the right produce. As rightly pointed out by **Dr. P.K. Chakrabarti**, simply resorting to bans is not the solution. The path forward requires thoughtful engagement, not restrictions.

Let's also remember, as discussed, that **only 2% of our Basmati rice is exported to the EU**. So, while EU standards are important, we must keep in mind that **India has a much larger domestic and global market**. Our approach must not disproportionately focus on one region to the detriment of the entire ecosystem. We need to define **practical, scalable parameters** that work across the board.

At this stage, there's still much to be done. It is **imperative that more workshops are conducted**, especially on the **correct and safe use of agrochemicals**. Many industry players are already on the ground, working closely with farmers. **Let's amplify that effort—together.**

As Harpreet highlighted, they are already running several farmer workshops. Let's **join hands across industry, institutions, and associations**. Many of us are already deeply involved in **stewardship initiatives**, and we must now expand those efforts.

Enhancing Basmati Purity and Traceability



Launch Pilot Project

Initiate a scientific version of BasmatiNET in selected blocks with farmer engagement.

Exposure Visit to GrapeNET

Conduct a visit to NRCG Pune to understand and learn from the GrapeNET system.

Form Joint Task Force

Establish a collaborative body to drive policy alignment and stakeholder engagement.

RECOMMENDATIONS

Formation of a Joint Task Force

The Government of Punjab should create a Joint Task Force comprising representatives from:

- Department of Agriculture, Punjab
- Punjab Agricultural University (PAU)
- Punjab Biotechnology Incubator (PBTI)
- Agricultural and Processed Food Products Export Development Authority (APEDA)
- Crop protection industry

This collaborative body will help drive policy alignment, scientific guidance, and stakeholder engagement for ensuring Basmati purity and traceability.

Exposure Visit to Understand GrapeNET

To build technical understanding and explore best practices, an exposure visit to NRCG Pune should be planned for members from:

- Department of Agriculture, Punjab
- PAU
- PBTI
- APEDA

The visit will provide in-depth insights into the functioning and implementation of the GrapeNET system, which can inform the development of BasmatiNET.'

Launch of a Pilot Project at Chugawan

Initiating a scientific version of **BasmatiNET** in at least two blocks, aligned with APEDA protocols. Key elements will include:

- **Implementation Site:** Chugawan and at least one additional block
- **Basmati Rice Exporter Collaboration:** Partnership with LT Foods
- **Farmer Engagement:** Awareness and capacity-building activities led by CropLife India to ensure farmer participation and understanding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Kheti Bhawan, Punjab
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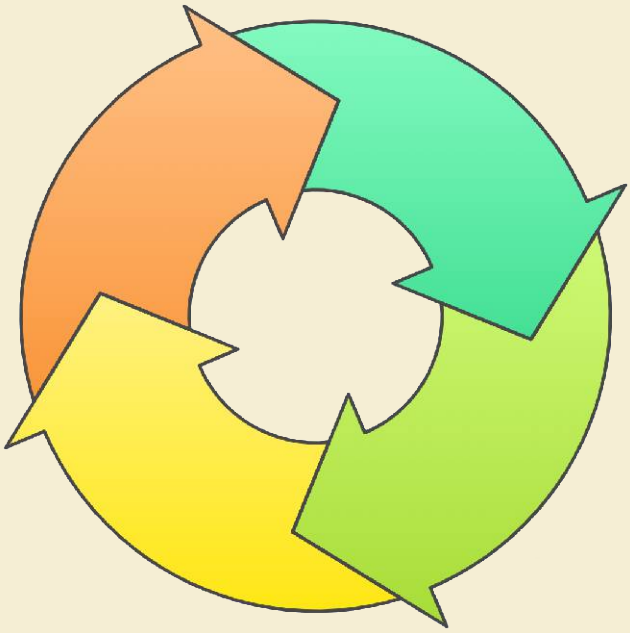
From Field to Fork: Ensuring Basmati Purity through Comprehensive Traceability in Punjab

Ensure Authenticity

Maintain Punjab's reputation for Basmati

Implement Best Practices

Adopt Best Practices from GrapeNET



Establish Centre

Initiate the research centre in Punjab

Collaborate with Stakeholders

Engage farmers, scientists, and policymakers

Presented by

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