



RESIDUE-FREE FARMING FOR PROFITABLE FUTURE

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Abstract

The quality of agricultural produce is no longer just a domestic concern but a decisive factor in global trade. Uttar Pradesh recent ban on eleven harmful pesticides—effective from August 2025—is a crucial step in safeguarding India's basmati rice exports, particularly to high-value international markets. This article examines the rationale behind the ban, its impact on farmers, the global policy environment, and sustainable pathways toward residue-free farming. It highlights the interconnection between farmer practices, consumer safety, and India's economic strength, while suggesting actionable strategies for stakeholders to ensure long-term profitability through safe farming.

1. Introduction

Agriculture is the backbone of India's economy, and rice holds a special place in both domestic consumption and export revenue. Among rice varieties, Basmati rice is the crown jewel, commanding premium prices in the global market due to its aroma, grain quality, and cultural heritage. However, stringent international residue limits on pesticides pose significant challenges for farmers. Shipments contaminated with banned pesticides have faced rejection, leading to huge financial losses.

The Uttar Pradesh government, recognizing this threat, has taken decisive action by banning eleven pesticides that compromise rice quality. This initiative not only protects exports but also strengthens the image of Indian agriculture globally.

2. Background of the Ban

On **August 18, 2025**, the Uttar Pradesh Agriculture Department officially banned the use of eleven pesticides, including acephate, buprofezin, chlorpyrifos, propiconazole, thiamethoxam, profenofos, carbendazim, tricyclazole, tebuconazole, carbofuran and imidacloprid.

These pesticides, although widely used for pest management, have been found to leave residues above the Maximum Residue Limit (MRL) prescribed by importing countries. Such contamination reduces rice quality and results in shipment rejection, especially in markets such as:

- European Union
- United States
- Saudi Arabia, Kuwait, Qatar, and Bahrain

According to Agriculture Protection Officer, Moradabad, the persistence of residues even after husking leads to quality deterioration. This in turn blocks India's access to lucrative markets, causing both monetary and reputational losses.

3. Global Standards and Trade Challenges

3.1 Maximum Residue Limits (MRLs)

International buyers impose strict MRLs to ensure food safety. The EU, in particular, enforces near-zero tolerance for several chemical residues. Exceeding these limits results in:

- Rejection of consignments at ports
- Blacklisting of exporters
- Erosion of buyer trust

3.2 WTO and Sanitary-Phytosanitary Measures

As part of the WTO's SPS Agreement, importing nations can demand adherence to safety standards. For India, this means aligning domestic farming practices with global norms.

3.3 Economic Consequences

Rejected shipments cost exporters millions of dollars, while farmers are forced to sell produce at lower domestic rates. The long-term consequence is reduced competitiveness of Indian rice in international markets.

4. Farmer Awareness and Response

4.1 Awareness Drives

The UP Agriculture Department has:

- Released press notes
- Circulated official letters to farmers
- Conducted field-level awareness meetings

4.2 Farmer Adaptation

Farmers in Moradabad and other districts have stopped using the banned pesticides. Instead, they are exploring:

- Bio-pesticides
- Neem-based formulations
- Integrated Pest Management (IPM) techniques

4.3 Risks of Non-Compliance

Farmers who continue to use banned chemicals face two risks:

- Restricted sales to domestic markets only
- Lower prices for contaminated crops

5. Pathways to Residue-Free Farming

5.1 Integrated Pest Management (IPM)

Combining biological, cultural, and mechanical practices can reduce pesticide use drastically. Examples:

- Use of pheromone traps

- Crop rotation
- Resistant varieties

5.2 Bio-Pesticides and Natural Alternatives

Products derived from neem, *Bacillus thuringiensis*, and *Trichoderma* are gaining acceptance as safe, eco-friendly alternatives.

5.3 Farmer Training & Capacity Building

Regular workshops, farmer field schools, and NGO interventions can ensure knowledge transfer.

5.4 Role of Cooperatives

Cooperatives and Farmer Producer Organizations (FPOs) can bulk-purchase safe inputs and negotiate better export contracts for compliant produce.

6. Case Example: Moradabad District

In Moradabad, farmers quickly shifted to **chemical-free practices** after the awareness campaign. The district stands as a pilot model where:

- Pesticide-free basmati is being promoted
- Farmers are hopeful for better returns
- Authorities ensure urea and input supply via cooperatives

7. Long-Term Implications

7.1 For Farmers

- Higher export-linked income
- Lower risk of rejection
- Improved soil health and sustainability

7.2 For India's Economy

- Stronger global reputation for basmati rice
- Access to premium markets
- Alignment with Sustainable Development Goals (SDGs)

7.3 For Consumers

- Safer, healthier food

- Increased trust in Indian agricultural products

8. Policy Recommendations

1. **Strengthen Monitoring** – Strict enforcement of pesticide bans at mandi and warehouse levels.
2. **Incentives for Compliance** – Price premiums or subsidies for residue-free produce.
3. **Research & Development** – Investment in bio-pesticides and pest-resistant varieties.
4. **Export Facilitation** – Testing labs at district level to certify produce before shipment.
5. **Public-Private Partnerships** – Collaboration between exporters, cooperatives, and NGOs for awareness.

9. Conclusion

Residue-free farming is not just an environmental imperative but an economic necessity. Uttar Pradesh's ban on harmful pesticides is a bold step in aligning Indian agriculture with global standards. For farmers, this is an opportunity to adopt sustainable practices that ensure profitability and safeguard livelihoods.

The future of India's rice exports depends on one principle: **"Clean Grain, Green Gain."** Farmers, policymakers, and industry must work together to ensure that Indian Basmati retains its global crown through residue-free farming.

References

1. ANI News Report (25 August 2025). *UP government bans the use of 11 pesticides damaging India's rice quality.*
2. WTO (1995). *Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement).*
3. FAO (2011). *International Code of Conduct on Pesticide Management.*
4. APEDA (2024). *Basmati Export Statistics.*
5. Ministry of Agriculture & Farmers Welfare, Govt. of India (2023–25). *Pesticide Use Regulations.*