

Proceedings of the Visit to CIMMYT by UPCAR Delegation



Uttar Pradesh Council of Agricultural Research (UPCAR), Lucknow, Uttar Pradesh



International Maize and Wheat Improvement Center, Patancheru, Telangana State



Date of Visit: 5th September, 2025



Delegation Members:

- Dr. Sanjay Singh, Director General, UPCAR
- Dr. Permendra Singh, Deputy Director General, UPCAR
- Dr. Rajarshi Gaur, Deputy Director General, UPCAR
- Dr. Rinni Singh, Scientific Officer, UPCAR

Background

A Standard Collaboration Agreement for field trials was signed between **Uttar Pradesh Council of Agricultural Research (UPCAR), Lucknow, Uttar Pradesh** and the **International Maize and Wheat Improvement Center (CIMMYT), Patancheru, Telangana State** in January 2024. The activities to be performed under this Agreement:

“Execution of field trials which includes but not limited to the following activities according to research protocols determined by CIMMYT: weeding, agronomic management, guarding, harvesting, data collection, and in the case of nurseries, seed shipment”.

In continuation of this collaboration, a four-member delegation from UPCAR undertook an official visit to CIMMYT.

The visit was co-ordinated by Dr. P.H Zaidi, Principal Scientist, CIMMYT, along with his dedicated team, who ensured that the visit was both productive and strategically aligned with ongoing research efforts.

INSTITUTIONAL OVERVIEW & TECHNICAL DISCUSSIONS

Key Discussions and Outcomes:

1. Exchange of Maize Breeding Material and Germplasm Evaluation

The delegation held in-depth discussions on the exchange of maize breeding materials, with a particular focus on:

- Selection and evaluation of breeding lines under diverse agro-climatic environments representative of Uttar Pradesh.
- Identification and adoption of fixed breeding lines that show promise for drought tolerance, disease resistance and high yield potential.
- Leveraging CIMMYT's global germplasm bank to introduce climate-resilient maize hybrids suitable for local adaptation in Uttar Pradesh.

2. Project Proposal for Enhanced Maize Production and Quality and also biofuel production

The two teams deliberated on a comprehensive project proposal aimed at:

- Improving maize productivity and grain quality in Uttar Pradesh through improved agronomic practices, hybrid development, and farmer capacity building.
- Exploring the use of maize for ethanol production, in line with India's increasing focus on renewable energy and biofuel targets.
- Integration of value chain components, including post-harvest handling, storage, and market linkage, to ensure better returns for maize growers.

This proposal is expected to be jointly developed and submitted for funding under RKVY (Rashtriya Kisan Vikas Yojana)

MAJOR FOCUS AREAS FOR FUTURE COLLABORATION

Based on mutual interests and the scope of the field trials agreement, the following areas were identified as priority focus areas for future collaboration:

- **Abiotic stress breeding:** Development of maize hybrids tolerant to heat and drought stress particularly suited for Eastern Uttar Pradesh.
- **Biotic stress management:** Collaborative research on resistance breeding for major pests and diseases affecting maize in the region.
- **Capacity building and knowledge exchange:** Regular training programs, workshops, and exchange visits for scientists, technical staff, and field personnel from both organizations.
- **Seed systems strengthening:** Support for the development of robust seed production and distribution systems to ensure timely access to quality seed for farmers.
- **Mechanization and precision agronomy:** Introduction of mechanized solutions and digital tools for improving planting, nutrient management, and harvesting efficiency.
- **Artificial Intelligence in Maize Farming:** Deployment of AI-driven tools and models for pest and disease forecasting, crop growth monitoring, yield prediction, and decision-support systems to enable real-time, data-backed agronomic advisories for farmers.

CONCLUSION

The visit of the UPCAR team to CIMMYT served to strengthen the ongoing partnership and set the stage for more targeted and impactful collaboration. With shared objectives in enhancing maize productivity and promoting sustainable agriculture in Uttar Pradesh, both institutions reaffirmed their commitment to working together in the years ahead. The outcomes of this visit are expected to contribute meaningfully to maize research, policy, and farmer livelihoods across the state.