

VISHAL KUMAR AGRAWAL, Ph.D.

Plant Breeder | Watermelon R&D Expert | Hybrid & Trait Innovation Specialist | Global Breeding Portfolio Delivery

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PROFILE SUMMARY

Strategic Plant Breeder with 12 years of global experience spanning hybrid development, breeding program management, and market-driven R&D for major crops. Breeder-of-record for six commercial watermelon hybrids. Spearheaded programs that expanded market share and delivered high-impact, high-yield products across India, Bangladesh, and East Africa. Expertise in ideotype breeding, germplasm enhancement, multi-location trials, market-aided selections (MAS), genomics, and digital breeding tools. Proven track record in product advancement, cross-functional collaboration (PD, seed production, QA, sales, regulatory), and cost reduction. Committed to continual professional growth (30+ certifications) and delivering innovations for smallholder success. Open to global relocation and new challenges, I leverage transferable skills and adaptability to drive immediate impact and align breeding innovation with market-driven outcomes across crops and geographies.

CORE COMPETENCIES & TECHNICAL EXPERTISE

Hybrid Development | Breeding Program Management | Trial Design & Analysis (R, Excel, Phenome) | MAS & Genomics | Ideotype & Germplasm Enhancement | Digital Breeding Tools | Generative AI Applications | Cross-Functional Collaboration | Market-Driven Product Advancement | Global Market Insight | Cost Optimization | Crop Agronomy | Data Visualization | Stakeholder Alignment | Team Leadership | Transferable Skills across Crops and Global Markets

GLOBAL BREEDING IMPACT

- Commercialized 6 hybrids, expanding East-West Seed India watermelon market share from <1% to ~5%.
- Advanced 2 launch-ready watermelon hybrids (>20% yield gain) for dominant market segments in Asia & Africa.
- Achieved >10% consistent annual operating cost reduction in breeding programs.
- Successfully aligned breeding with market needs through collaboration across India, SEA, Africa and Latin America.

PROFESSIONAL EXPERIENCE & KEY ACHIEVEMENTS

East-West Seeds (India) Pvt. Ltd.

Aurangabad, India | Sep 2019 – Jun 2025

Senior Associate Breeder – Watermelon (Global Role)

May 2020 – Jun 2025

- Managed a **15–18-acre, three-cycle/year** breeding program, leading end-to-end commercial hybrid development
- Increased EWS's watermelon seed market **share in India from <1% to ~5% (2020–2025)** by commercializing six hybrids and creating a robust pipeline, directly **addressing a \$50M cross-region market** (India, Bangladesh & E. Africa).
- Developed and advanced 2 launch-ready hybrids with **20% higher yield**, superior eating and shipping quality.
- Delivered hybrids tailored to >75% of the Indian market segment (**Icebox Sugar Baby Oblong**) and >95% segment fit in Bangladesh/East Africa (**Family Striped Oblong**).
- Initiated **ideotype breeding**, developing novel inbred lines suitable for high-density planting (**+50% plant population**) and smallholder adoption, using conventional and **MAS** approaches.
- Consistently achieved **>10% annual reduction in operational costs** while maintaining research excellence and pipeline delivery.
- Orchestrated multinational and **cross-functional collaboration** (e.g., with Thailand, Philippines), **implemented digital breeding and phenotypic data management systems**, and **mentored** diverse technical teams.
- Conducted **strategic market visits in India, Bangladesh, Thailand, and the Philippines** to align breeding objectives with **farmer preferences, local adaptation, and commercial fit**.
- Strengthened regional alignment through **annual working visits and collaborative hybrid evaluation with Thailand**.
- Actively contributed to **pre-breeding programmes** in collaboration with teams in the Philippines.

Associate Breeder – Okra

Sep 2019 – Apr 2020

- Managed yield and disease-resistance trials; advanced hybrids in collaboration with cross-functional teams.
- Gathered field and market insights to refine breeding goals for smallholder adoption and evolving market demands.

Breeder – Marigold, Country Crop Team (Additional Assignment)

Apr 2022 – Mar 2023

- Appointed R&D representative for India Marigold Country Crop Team; **coordinated product trials and advancement** between commercial, seed production, and Thai breeding teams.

ICAR – Indian Institute of Vegetable Research (IIVR)**Research Associate – Tomato (NICRA Project)**

Varanasi, India | Sep 2017 – Sep 2019

- Coordinated climate-resilient tomato product development (abiotic stress tolerance) using conventional breeding, molecular methods, and interspecific grafting to deliver robust, adaptable varieties.
- Managed end-to-end project lifecycle—including operational planning, resource allocation, and annual budget oversight (~ ₹40 lakhs)—while centrally coordinating a team of 8–10 research staff under direct supervision of the PI and Co-PIs.
- Led biochemical analysis, biotech lab work (genotyping), data analysis, and grafting programme, generating actionable insights for breeding advancement.
- Developed mapping populations for GBS (Genotyping-by-Sequencing) targeting heat stress tolerance, and advanced two novel tomato hybrids to field deployment (released post-tenure).
- Prepared detailed technical reports & presentations and contributed to scientific documentations.

Namdhari Seeds Pvt. Ltd.**Assistant Breeder – Cabbage**

Sirsa/Kullu, India | Jun 2016 – Mar 2017

- Led evaluations, maintenance and advancement of germplasm for suitability through comprehensive field testing and phenotyping; performed selections, planned crossing programme and supported advancements in breeding trials.

Monsanto Holdings Pvt. Ltd. (now part of Bayer Crop Science)**Research Associate – Cotton Breeding**

Gandhinagar/Udaipur, India | May 2014 – May 2016

- Independently managed end-to-end breeding operations for a 40-acre cotton line development breeding program.
- Led in-field selections for senior breeder, ensuring robust genetic advancement and trait development.
- Drove key projects on photoperiod response to flowering, disease and sucking pest resistance, mapping population development and high-density cotton ideotype development.
- Leveraged advanced digital breeding tools for efficient data management and decision-making; trained technical staff, established breeding best practices and safety protocols (ESH policies) among technical teams.

Nuziveedu Seeds Pvt. Ltd.**Management Trainee – Millet Breeding**

Hyderabad, India | Jun 2008 – Mar 2009

- Supported germplasm maintenance, breeding, field trials, and data analysis for sorghum and pearl millet programs.
- Executed foundational breeding tasks, report writing, and crop management, gaining comprehensive exposure to seed industry practices.

EDUCATION

- **Ph.D. Genetics & Plant Breeding** – Banaras Hindu University (BHU), Varanasi, IN | **GPA 8.22/10** | 2009 – 2014
- **M.Sc. (Ag.) Genetics & Plant Breeding** – BHU | **GPA 8.65/10** | 2006 – 2008
- **B.Sc. (Agriculture)** – BHU | **GPA 8.15/10** | 2002 – 2006

PUBLICATIONS

11 peer reviewed publications & 2 theses. ([Full list available here](#))

CERTIFICATIONS & CONTINUOUS LEARNING

- **Council for Scientific and Industrial Research (CSIR)** – NET (JRF) in Life Science | 2010
 - 30+ LinkedIn Learning certifications on **technical, organizational, interpersonal & leadership skills** | 2021 – 2025
 - Participated in **EWS's Advanced Plant Breeding (APB) Program** (completed four of six modules) | 2023 – 2025
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LANGUAGES

- English (Fluent/Professional Working Proficiency)
- Hindi (Native/Bilingual Proficiency)