

Output and Outcomes

1. Most significant outputs (2025-26)

1. Cost-Effective Feed Formulations

Standardized and economical feed formulations developed specifically for CARINIRBHEEK and CARISHYAMA breeds.

2. Genetic Stabilization of Native Crosses

Successfully stabilized the improved native crosses CARINIRBHEEK and CARISHYAMA up to the **third generation**.

3. Phytobiotic Feed Additives

Formulated phytobiotic products that improve stability, solubility, and targeted delivery of essential oils, effectively replacing antibiotic growth promoters in poultry diets.

4. Innovative Egg-Based Protein Drink

Launched India's first egg-based protein drink in two variants: whole egg and egg albumin (white-only). Each 100 ml provides **8.9 g protein** with a balanced mineral profile, offering a natural alternative to commercial protein shakes.

5. Gene-Edited Chickens for Avian Influenza Resistance

Initiated development of gene-edited chickens using **CRISPR/Cas9** technology, targeting the **ANP32A** host gene to reduce viral replication and shedding, building on promising proof-of-concept studies.

6. Natural Anticoccidial Product

Developed a phytogenic formulation effective against coccidiosis, enhancing growth and immunity in poultry while providing a natural substitute for conventional anticoccidial drugs.

7. Stress-Mitigating Gel for Quail Chicks

Formulated a gel to reduce stress in quail chicks during the critical neonatal period, improving early survival and welfare.

2. Most significant outcomes (2025-26)

- **Reduced Feed Costs for Native Poultry Farmers**-Standardized cost-effective feed formulations for CARINIRBHEEK and CARISHYAMA, enabling farmers to lower production expenses while maintaining optimal growth and productivity in native breeds.
- **Enhanced Breed Stability and Genetic Purity**-Achieved genetic stabilization of CARINIRBHEEK and CARISHYAMA up to the third generation, ensuring consistent traits, better predictability in performance, and reliable supply of improved germplasm to poultry rearers.
- **Antibiotic-Free Poultry Production Enabled**-Developed phytobiotic feed additives that improve the delivery and efficacy of essential oils, allowing commercial and backyard farms to completely replace antibiotic growth promoters, thereby producing safer, residue-free poultry products.
- **New High-Protein Beverage for Health-Conscious Consumers**- Launched egg-based protein drink (whole egg and albumin variants), providing 8.9g protein per 100ml with balanced minerals—offering a natural, affordable alternative to synthetic protein shakes and creating new value-added opportunities for the egg industry.
- **Long-Term Preparedness Against Avian Influenza**- Initiated CRISPR/Cas9-based gene editing in chickens targeting the ANP32A gene, aiming to develop flocks with inherent resistance to avian influenza—reducing future disease outbreaks, economic losses, and public health risks.
- **Natural Disease Control Replacing Synthetic Drugs** -Developed a phytogenic anticoccidial product that effectively controls coccidiosis while boosting growth and immunity, providing poultry farmers with a natural, non-residue-forming alternative to conventional chemical drugs.
- **Improved Early Survival and Welfare in Quail Farming**- Formulated a stress-mitigating gel for quail chicks during the neonatal period, reducing early mortality, improving growth start, and enhancing overall flock welfare—directly benefiting quail farmers with higher survival rates.