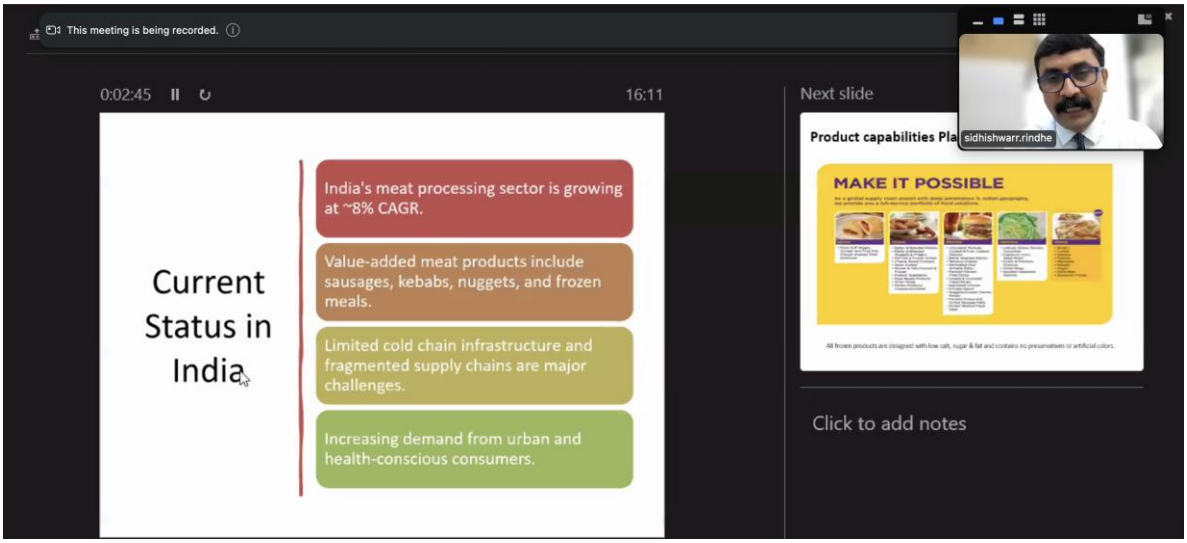
Proceedings of MeatUp – 2/2025

Webinar Title: ***Value Addition of Meat – Current Status and Future Perspectives***
Date & Time: 13th June 2025, 4:00 PM IST
Platform: Zoom
Organized by: Indian Meat Science Association (IMSA), Hyderabad
In Association with: Centre for AgriBusiness Incubation, ICAR-NMRI, Hyderabad
Resource Person: ***Dr. Sidhishwarr N Rindhe***
Director, Food Safety and Quality, Vista Foods Pvt. Ltd., Mumbai

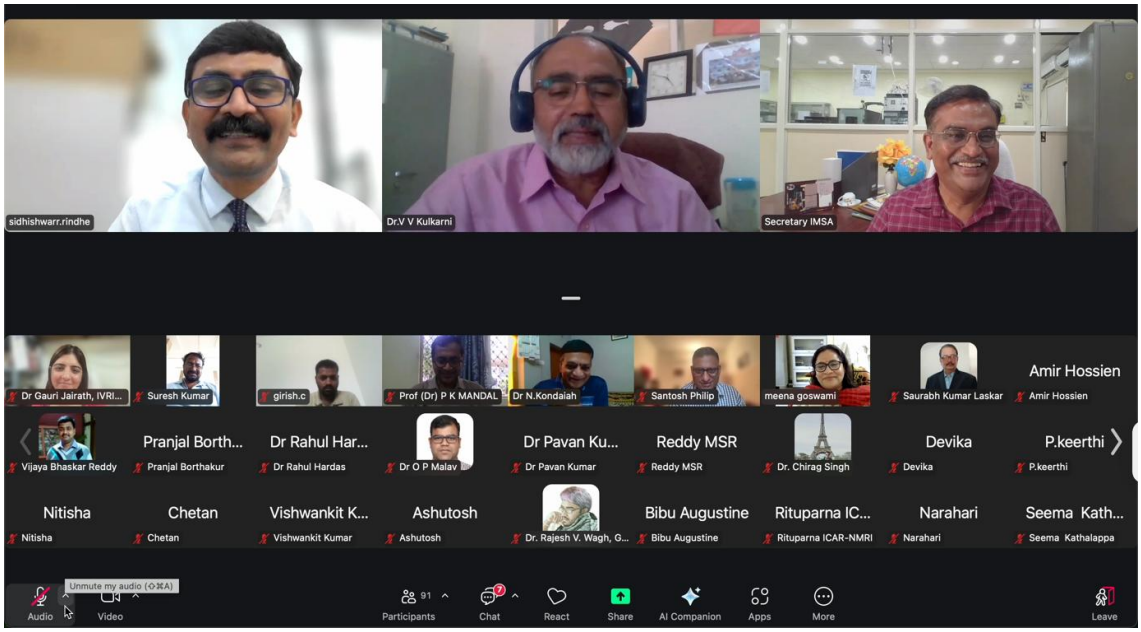
The webinar began with the brief remarks of Dr. P. K. Mandal, President, IMSA, who appreciated the role of webinars like *MeatUp* in promoting industry-academia interactions and disseminating cutting-edge knowledge to researchers, students, and professionals across India. He then introduced the distinguished speaker, ***Dr. Sidhishwarr N Rindhe***, Director of Food Safety and Quality at Vista Foods Pvt. Ltd., Mumbai. Dr. Rindhe was warmly welcomed for his longstanding contributions to food safety, meat processing innovations, and consumer-centric product development. Participants from academia and research institutions joined the webinar in large numbers, reflecting keen interest in contemporary developments and future possibilities in meat value addition.

Dr. Rindhe began his presentation by defining meat value addition as a set of processing techniques aimed at enhancing the functional, nutritional, economic, and sensory qualities of meat to improve marketability and shelf-life. He emphasized that in the modern meat industry, value addition is not just an economic opportunity but a strategic requirement to address the demands of evolving consumer preferences, health trends, and sustainability considerations. He elaborated on the current scenario of the Indian meat sector, highlighting that although the country ranks among the top meat producers globally, the proportion of value-added meat remains low. Dr. Rindhe pointed out that only 5–10% of total meat is processed into RTE (Ready-To-Eat) or RTC (Ready-To-Cook) products, with the rest sold as fresh or raw meat. However, changing consumer behaviour—driven by urbanization, time constraints, increased purchasing power, and awareness about food safety—is creating strong demand for hygienically processed, conveniently packaged, and functionally superior meat products. Dr. Rindhe provided insights into Vista Foods' diversified portfolio, illustrating the wide array of value-added meat products available in the market today. These included marinated and seasoned cuts, coated and battered chicken products (such as nuggets, strips, fingers, and wings), Indian ethnic specialties like kebabs and koftas, grilled and premium

options, and functional meat items with reduced fat and sodium content. He emphasized that product lines are now catering to multiple consumer segments—including health-conscious, quick-service, gourmet, and ethnic markets—through customized formulations and flavour innovations. One of the key strengths of the lecture was the international perspective presented through global consumer behaviour trends. Dr. Rindhe noted that over 70% of American consumers now prefer pre-marinated or pre-cooked meat products, with flavor profiles like Nashville Hot, Honey Sriracha, and Korean BBQ growing in popularity. Similarly, the global RTE meat market is expected to grow from USD 432 billion in 2024 to USD 664 billion by 2033, signaling strong export potential for Indian processors willing to meet international standards. The speaker also emphasized the importance of emerging technologies in value addition. Techniques such as high-pressure processing (HPP), modified atmosphere packaging (MAP), and advanced cold chain logistics were discussed in the context of improving product safety, extending shelf life, and retaining nutritional quality. Furthermore, Dr. Rindhe stressed the critical role of automation, clean-label formulations, and natural preservatives like plant extracts and essential oils in aligning with contemporary market demands. A particularly insightful segment of the presentation focused on innovation through cultural inspiration. Dr. Rindhe shared global examples such as Polish Kielbasa, Italian Mortadella, and Chinese Bakkwa, suggesting that similar regional Indian meat dishes—if standardized, packaged, and marketed effectively—could tap into the growing ethnic and gourmet markets, both domestically and internationally. Concluding his lecture, Dr. Rindhe advocated for collaborative action between academia, industry, and policymakers to overcome infrastructure bottlenecks, regulatory burdens, and consumer skepticism. He urged institutions to focus on product development, quality assurance, traceability, and export facilitation. He emphasized that sustainability in meat processing should be seen not as a challenge, but as an opportunity—where economic viability, environmental responsibility, and consumer well-being can co-exist through science-based, innovation-driven strategies.



Dr. Rindhe giving presentation



Interaction after presentation

Following the insightful lecture, Dr. M. Muthukumar, General Secretary of IMSA, expressed sincere gratitude to ***Dr. Sidhishwarr N Rindhe*** for his valuable time and the comprehensive knowledge shared, particularly the practical insights into value-added meat product models. Dr. V. V. Kulkarni, Former Director of ICAR-NRC on Meat, appreciated the presentation and engaged the speaker with a pertinent query regarding challenges related to food safety, including instances of food recalls and food poisoning. In response, Dr. Rindhe explained that food safety hazards typically fall under three broad categories: physical, chemical, and microbiological. Physical hazards include food-related items such as feathers and bones, and non-food-related elements like plastic fragments. While microbiological risks are minimal in their operations due to strict adherence to critical control points (CCPs), the company has well-trained quality assurance teams that rigorously monitor temperature and hygiene across the supply chain. Products are released only after thorough testing, particularly for pathogens. He identified foreign matter detection as the most frequent challenge.

Regarding chemical hazards, Dr. Rindhe stated that antibiotic residues are strictly managed at the procurement stage. Suppliers are instructed to use antibiotics only when absolutely necessary, and the company conducts biannual testing for antibiotics and pesticides. Dr. Kulkarni further inquired whether the company had encountered any CCP violations. Dr. Rindhe shared that while earlier only metal detectors were in place, the company has since installed X-ray detection systems—the first of which was implemented four years ago specifically for chilled meat and bone detection. The X-ray system can identify metal particles (0.6–0.8 mm), glass fragments (2–3 mm), and calcified bones (up to 3 mm). However, he acknowledged that detecting plastic and hair remains a challenge, though

strict Good Manufacturing Practices (GMPs) are in place to minimize such risks. Dr. N. Kondaiah, Ex-Director NRC, Hyderabad praised the speaker, describing the lecture as "flavorful" and highly relevant from the industry perspective. He noted that the future of meat processing lies in semi-convenience products, such as pre-minced or emulsion-based items, which can be easily customized for various needs. Dr. Rindhe concurred, citing examples like chilled marinated chicken, and affirmed that such products are already under development. Dr. A. R. Sen, HD LPT, ICAR-IVRI, Izatnagar raised the topic of designer meat products, asking about their future potential. Dr. Rindhe responded that convenience, affordability, and taste are the major influencing factors. While the idea is gaining traction, high cost remains a barrier to widespread consumer adoption. Dr. Sen also asked whether consumers are shifting toward high-sodium, nitrite-cured meat products. Dr. Rindhe acknowledged that such products are available, but adoption remains limited and niche.

Additional discussions included the role of blockchain technology in enhancing traceability and the safety implications of frozen foods with regard to acrylamide formation. Dr. Rindhe emphasized that minimal frying, frequent oil changes, and strict control of total polar compounds (TPC)—ensuring it remains below 25%—are key strategies for minimizing acrylamide. The reuse of cooking oil was also addressed, with emphasis on the need to avoid multiple frying cycles and instead divert used oil towards biodiesel synthesis.

The session concluded with Dr. P. K. Mandal, President of IMSA, extending heartfelt appreciation to Dr. Rindhe, stating that his presentation not only did full justice to the theme but also offered valuable insights into the current challenges and future prospects of meat value addition. Dr. M. Muthukumar closed the session with a formal vote of thanks to the speaker and all participants.

(Gauri Jairath)
MeatUp Co-odinator

(Meena Goswami Awasthi)
MeatUp Co-odinator