EDITORIAL

PIONEERING GLOBAL ADVANCES IN CAMEL CHEESE TECHNOLOGY AND COMMERCIALISATION

The development of camel cheese technology represents one of the most remarkable achievements in camel dairy science over the past four decades. Once considered technically impractical because of the unique physicochemical properties of camel milk, camel cheese has evolved into a commercially successful dairy product through the pioneering efforts of visionary scientists and entrepreneurs.

Among these pioneers, Jean-Paul Ramet is universally acknowledged as the scientific architect of modern camel cheese technology. During his work with the Food and Agriculture Organisation (FAO) in the late 1980s and early 1990s, he developed practical methods for coagulating camel milk, overcoming a long-standing technological barrier to cheese manufacture. His pioneering work culminated in the FAO manual ''The Technology of Making Cheese from Camel Milk (*Camelus dromedarius*)'', which remains a landmark reference in camel dairy science.

The commercialisation of camel cheese was subsequently pioneered by Nancy Jones Abeiderrahmane, founder of Tiviski Dairy in Mauritania. Working in close collaboration with the FAO and Jean-Paul Ramet, she established the world's first successful commercial camel cheese production unit and introduced Caravane (Camelbert), the first internationally recognised camel milk cheese. This achievement demonstrated the commercial feasibility of camel cheese and opened new avenues for value addition in the camel dairy sector.

Another landmark contribution was made by Dr. Stefan R. Kappeler (Switzerland). During his doctoral research at ETH Zurich under the supervision of Prof. Zakaria Farah, Dr. Kappeler characterised recombinant camel chymosin and demonstrated its superior milk-clotting properties. This breakthrough provided the scientific basis for the development of the commercial camel rennet Chy-MAX® M by Chr. Hansen, making reliable industrial-scale production of camel cheese possible and revolutionising camel cheese manufacture worldwide.

In recent years, Prof. Gaukhar Konuspayeva and Dr. Bernard Faye have emerged as the leading international authorities in camel cheese research and technology development. Their collaborative studies have significantly advanced the understanding of camel milk composition, coagulation properties, and cheese-making processes. Through systematic investigations involving camel chymosin, calcium supplementation, controlled acidification, starter cultures, and optimised processing conditions, they have substantially improved cheese yield, texture, sensory quality, and production efficiency.

Beyond research, Prof. Konuspayeva and Dr. Faye have made outstanding contributions to knowledge dissemination through numerous scientific publications, book chapters, and the Springer volume 'Large Camel Farming' (2023). Their practical training workshops on camel milk processing and cheese manufacture, conducted across Africa, Europe, the Middle East, and Central Asia under the auspices of the FAO and the European Union-funded CAMELMILK Project, have played a pivotal role in strengthening technical capacity and promoting sustainable camel dairy industries worldwide.

Collectively, the pioneering contributions of Jean-Paul Ramet, Nancy Jones Abeiderrahmane, Stefan R. Kappeler, Gaukhar Konuspayeva, and Bernard Faye have transformed camel cheese production from an experimental concept into a scientifically robust and commercially successful enterprise. Their combined efforts have established the technological foundation for the modern camel dairy industry, facilitated global technology transfer, improved product quality, and created new economic opportunities for camel pastoralists and dairy entrepreneurs.

The August issue of the Journal of Camel Practice and Research presents another diverse and scientifically rich collection of articles. It features the continuing series "Journey to Camel Science" by Dr.

Alex Tinson and Dr. Mohammed Bengoumi, together with contributions from researchers representing the United Arab Emirates, Ethiopia, Morocco, Algeria, Saudi Arabia, Sudan, Tunisia, and Australia.

The issue covers a broad spectrum of contemporary camel research, including the anatomy, histology and electrophysiology of the dromedary heart; camel-centric proverbs from the Berhale District of Ethiopia; the effects of camel and cow milk powder on camel soft white cheese; nutritional supplementation and milk quality; the influence of ginger and acetic acid marinades on the Biceps femoris muscle; multimodal diagnostic imaging and electromyographic assessment of cosmetic tampering in camels; indigenous knowledge systems and traditional camel meat preservation; the pro-apoptotic and anti-proliferative antilarval effects of ivermectin on camel nasal bots; proximate analysis of rangeland plants grazed by camels in the Butana Plain; and the relationship between drought severity and camel population dynamics in Ethiopia.

On behalf of the Editorial Board, I express my sincere gratitude to all authors, reviewers, editorial board members, and readers for their continued support and commitment to the Journal of Camel Practice and Research. Their dedication has established JCPR as one of the leading international forums for disseminating high-quality camel research. I am confident that, with your continued cooperation, the journal will further strengthen its contribution to advancing global camel science.

(Dr. Tarun Kumar Gahlot)
Editor