



REPORT ON PARTICIPATION

by the SA organized dairy industry in the
World Dairy Summit and business meetings
of the International Dairy Federation

**HELD IN DELHI, INDIA
SEPTEMBER 2022**



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Women waiting to have their milk production weighed and analyzed

The IDF is funded by membership fees collected from member countries. South Africa's dairy industry is a full member through SANCIDF and has to pay the fee as determined by IDF General Assembly at the yearly World Dairy Summit.

South Africa is also a full member of the International Milk Promotion (IMP) group of IDF which specializes in marketing and advertising and has to pay its separate membership fee. The benefits of IDF membership are:

- The IDF can deal with challenges which cannot be dealt with by individual countries or by competition in the markets and must be dealt with collectively to achieve growth and development of the international dairy industry.
- The IDF can deal with food standards relating to safety and composition, nutrition and health issues, methods of analysis and sampling, dairy science and technology, animal health and welfare, sustainability, the Goal 1 - To maintain membership of IDF by paying the membership fees of IDF and IMP before 31 March 2022 at the best possible exchange rates, environment and economics, policies and marketing.
- International issues demand expert scientific knowledge and research and the best expertise of the member countries including South Africa, is used.
- IDF's science based approach and reputation is highly regarded by international organizations whose work strongly influence actions of countries in respect of quality and properties of the dairy products. The relevant international organizations include the WHO, FAO, OIE, Codex Alimentarius and ISO.
- The SA dairy industry is linked to the IDF through SANCIDF whose members are the MPO, SAMPRO and the Department of Agriculture, Land reform and Rural development who's membership fees finances part of the work of this committee.
- The opportunity to meet and exchange ideas with fellow specialists in other countries is an invaluable resource when confronted with new problems requiring solution.
- The opportunity to be part of a dairy organisation which has 39 countries as members which produce 74% of the world's milk production and 85% of milk powder exports.
- The understanding of a global vision of issues, opportunities and challenges facing the global dairy sector.
- The opportunity to be part of an organisation whose members export the bulk of cross border traded dairy products.

- The opportunity to partake in discussions on international dairy product marketing campaigns via the IMP.
- Involvement in the Federation's almost 140 separate work items in the Work Programme.

The projects and activities of Milk South Africa are aligned with that of the International Dairy Federation. The South African dairy industry is well represented on most of the IDF Standing Committees and through its Primaria Members of the local Standing Committees, the SA National Committee actively contributes to the work programmes of the IDF.

Milk South Africa and the SA National Committee of the IDF are proud to present this combined report of the attendees to the 2022 World Dairy Summit which was held in Delhi, India.



Front: Dr. Mark Chimes, Dr. Ndumiso Mazibuko, Maretha Vermaak; Back: Dr Colin Ohlhoff, Rainer Bertsch (Germany), and Mrs Bertsch.

AN INTRODUCTION

"IDF World Dairy Summit 2022 was the occasion for the global dairy sector actors and stakeholders to meet and discuss in person the world dairy agenda, share knowledge and innovations, identify patterns and trends for the future and generate networking and business opportunities", said Ms. Caroline Emond, IDF Director General. "It was also an opportunity to get to know learn about the Indian Dairy sector and learn from its experience", she stated.

In this respect, Mr. Piercristiano Brazzale, added that he was "particularly impressed by the sophistication and technology that Indian dairy value chain has incorporated". "This is reflected upon the breath-taking metrics that Indian Dairy shows today and its projected future growth which will surely consolidate it as the largest on a global scale", he explained.

Some of the most relevant figures of IDF World Dairy Summit 2022 are:

- 925 Farmers
- 776 Delegates
- 114 national and international exhibitors (6,900 sq. meters space showcasing latest technologies and innovations in the dairy sector)
- 6900 trade visitors to exhibition area
- 169 artists and artisans
- 30 sponsors, including AMUL, Nandini and Mother Dairy

Also, during the event, IDF released significant publications such as the IDF World Dairy Situation Report 2022, the IDF Annual Report 2021-2022, and two Bulletins on The IDF global Carbon Footprint standard for the dairy sector and the C-Sequ LCA guidelines for calculating carbon sequestration in cattle production systems. It granted special awards such as the IDF Dairy Innovation Awards, the IDF Award, the IDF Prize of Excellence, the IDF Professor Pavel Jelen Early Career Scientist Prize, the Standing Committee Leader Recognition and Yves Boutonnat International Milk Promotion (see the Recognition section on IDF corporate website).

Agriculture & Food in India

India is the seventh largest country in the world with an area of about 329 million hectares. It has diverse agro-ecological zones that enable production of wide range of crops like cereals, pulses, fruits, vegetables, spices & condiments, fiber, plantation crops, flowers, etc. India, known as the home of spices and given their exquisite aroma, taste and medicinal value, has a large demand of spices globally. Agriculture and allied sectors play a vital role in India's economy as more than half of the total workforce is engaged in these sectors that account for about 18 percent of the country's Gross Value Added (GVA). India is the largest producer of milk, jute and

pulses, and second largest producer of rice, wheat, groundnut, sugarcane, tea and fruits & vegetables. India exports an extensive range of products like rice (including the popular Basmati rice), fresh fruits & vegetables, buffalo meat, marine products etc.

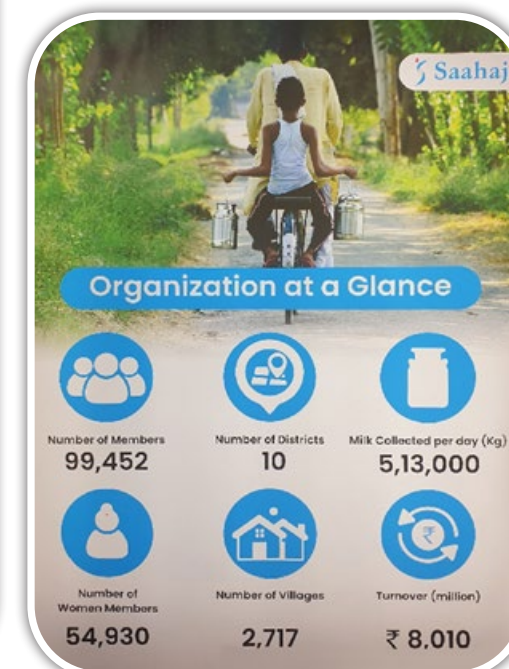
Indian Dairy Sector

India is self sufficient in milk and the world's top milk producer as well as consumer. India's dairy sector is unique in many aspects. It has a unique smallholder milk production system, wherein more than 70 percent of dairy farmers own either 1 or 2 animals. Dairying in India is more about livelihoods to about 80 million rural households than simply a business. It provides a stable cash flow as compared to crop cultivation. There is a large network of dairy institutions, providing market access to the dairy farmers. Around 60-70 percent of consumer rupee flows back to producers, which is highest in the world. Milk is India's single largest agricultural commodity in terms of value amounting to approximately USD 118 billion.

India is home to about 19 percent of in-milk cattle and 63 percent of in-milk buffaloes in the world. It has a very rich reservoir of genetic diversity and possesses some of the best breeds of cattle and buffaloes in the world. 50 well-defined breeds of cattle and 19 of buffaloes are well adapted to the local environment. Milk and milk products are important constituents of Indian food basket. Due to a number of factors like growing population, rising income and increasing urbanization, the demand for milk and milk products is steadily growing. India's efforts are aimed at meeting this increasing demand to continue to maintain self sufficiency and nutritional security in a sustainable way – socially, economically and environmentally.



The Conference Centre



More than 100 million dairy farmers are grouped into villages to form production co-operatives



DELEGATES

to the 2022 World Dairy Summit held in Delhi, India



Christine Leighton

(Participated virtually)

- Vice-Chairperson of the Standing Committee of Marketing
- Member of the International Milk Promotion Group (IMP)
- Project Manager: Milk SA Consumer Education Project



Maretha Vermaak

- Member of IDF Science and Program Co-ordinating Committee
- Member of IDF Standing Committee on Nutrition and Health
- Dietitian: Milk SA Consumer Education Project

Jompie Burger

IDF



- Member of IDF Standing Committee on Standards of Identity and Labeling
- Member of IDF Standing Committee on Animal Health and Welfare
- Member of IDF Standing Committee: Microbiological Hygiene
- Coordinator: Technical Secretary Standing Committee activities

Dairy Standard Agency (DSA)

- Managing Director: DSA
- DSA Member representative of the Consumer Council of South Africa - Food Safety Initiative
- DSA Member representative of the South African Consumer Union
- DSA Member representative of the South African Association for Food Science and Technology
- DSA Member of the SA European Hygienic Engineering and Design Group
- Member of the Department of Health – Food Legislative Advisory Group (FLAG)
- Member of the African Organization for Standardization's (ARSO)
- Chairman of the SABS/TC 034/SC05 Milk and Milk Products
- Member of the African Organization for Standardisation (ARSO) TC 034/SC04 Milk and Milk Products.
- Member of the South African Society of Dairy Technology (SASDT) management committee of the Northern region.
- Member of the Advisory Boards of the Departments of Environmental Health of the Tshwane University of Technology (TUT) as well as Nelson Mandela Metropolitan University.

Milk SA

- Project Manager: Regulation and Standards Project of Milk SA
- Member of the Dairy Research and Development Project of Milk SA (DRDC - Mancom)
- Member of the Management Committee DRDC – Mancom
- Member of the Milk SA Project Coordinating Committee

Dr Mark Chimes

- Milk SA Project Manager: Animal Health and Welfare
- DSA: Dairy auditor and Veterinary advisor
- Member of the Dairy Research & Development Committee of Milk SA
- Milk SA representative to the National Animal Health Forum (NAHF)



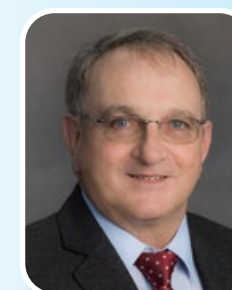
Dr Ndumiso Mazibuko

- Senior Economist: SA Milk Processors' Organisation (SAMPRO)
- Member of the Milk SA Advisory Committee: Economies & Markets
- Member of the Milk SA Work Group: Economies & Markets
- Member of the Milk SA Advisory Committee: Customs Duties and Market Access
- Observer at the IDF Standing Committee on Dairy Policies & Economics



Fanie Ferreira

- Vice-President of the SA National Committee of the IDF
- Director of Milk SA
- CEO of the Milk Producers' Organisation (MPO)
- Chairperson of the Milk SA Subcommittee on Skills & Knowledge Development, Primary Dairy Industry Sector
- Member of the Dairy Research & Development Committee of Milk SA



Dr Colin Ohlhoff

- Milk SA Project Manager: Environmental Sustainability
- Member of the Dairy Research & Development Committee of Milk SA
- Vice-Chairperson: IDF Standing Committee on the Environment
- Committee Member: South African Society of Dairy Technology (WC Division)



REPORT

by Christine Leighton

The World Dairy Summit was attended virtually.

This report deals with the following:

- Standing Committee on Marketing (SCM)
- International Milk Promotion Group (IMP)
- Joint meeting of SCM and Standing Committee Dairy Policies and Economics
- WDS marketing sessions

1. STANDING COMMITTEE ON MARKETING (SCM)

▪ The SCM liaises with other standing committees

- SCAHW/ENV and an update was provided by Richard Walton of Japan. It was agreed that an action team would be selected from SCEN, SCM and SCNH with the aim to provide the communication plan as a guide; and that different countries could use the communication plan according to their needs. A survey must be conducted among standing committees to find out what the priority topics are that need to be included in the discussion. It was agreed that animal health and welfare can be a sensitive topic and must be addressed with caution.
- Laurent Damiens reported on the European Milk Forum (EMF). EMF consists of eight European countries and the work conducted by EMF includes:
 - Development of a video on the Dairy Matrix to show the concept; and
 - Work on environmental issues and how to develop a communication plan.

▪ A Joint Country Update was shared by Richard Walton and Ida Berg Hauge (Norway)

As not all countries submitted their country reports, a gap was left in the final report. Countries were encouraged to participate in this activity. The format of reporting would change to an online submission so that information can be better collated and shared with other standing committees. It was also requested that links be included in the reports. The collation of reports will be rotated among different countries and the country that is reporting for SCDPE will be the same country as for SCM.

▪ Global Marketing Trends (GMT) report 2022

The GMT survey was conducted in 2022 and the data was processed by CNIel. The report was also developed by CNIel. The survey was still open for countries to complete, and the data could be added to the final report. The trends report was presented at the IDF summit 2022 in India.

The next GMT survey is planned for 2024 and a new Action Team (AT) is to be appointed for the next GMT survey in 2024.

▪ Task Force on Plant based beverages (PBB) - discussion on next steps, L Damiens

Plant-based beverages (PBB): The AT decided to go to phase 2. In 2017 (five years ago) the AT looked at PBB (milk) in terms of nutrition, processing, and the environment. A communication plan was developed with 18 targets. At the next IMP meeting in Ireland (June 2023), it will be decided how to track implementation of phase 1 of the communication plan by different countries.

Further work involves understanding differences between real dairy products and the alternatives i.e. plant-based products (milk, cheese, yoghurt, cream and butter).

For the next communication framework (phase 2), a list of products will be identified that will be compared in terms of nutrition, environment and processing. A second communication framework, similar to that for milk, will be developed but will focus on all dairy products (yoghurt and cheese (cream and butter to be confirmed)).

Laboratory-produced products will be addressed in phase 3.

▪ School Milk Programme (SMP) Joint Action Team with SCNH - Update by R Walton (JP)

SMP provides a good opportunity for the dairy sector to talk about milk. At the food systems summit, it was made a priority project for IDF for 2022. A SMP hub was developed on the IDF website to showcase other countries' campaigns and focusing on SMP and World School Milk Day (WSMD). During the summit there will be a session on SMP, chaired by Richard Walton.

Priorities of SCM for 2023

▪ IMP Group

Stephan Arnold presented an update on the IMP group which is a permanent task force of SCM. It consists of 23 members of which Canada and Germany are the newest members. The IMP trophy presentation would take place during the summit, with France, USA and Switzerland as finalists.

As climate change is a serious matter for younger generations, much of the IMP work focusses on the generation Z; however, a broad spectrum of other target audiences forms part of the IMP outputs.

A full-day workshop was held in Switzerland (June 2022) to discuss the 'purpose of dairy' in order to develop a communication framework that will communicate 'how to live a sustainable lifestyle'.

As per previous years, IMP developed a showcasing video which would be shown at the summit during lunch-breaks. The video was prepared by Denmark.

▪ Summary of priority items

- Track the implementation of the communication framework for Plant-based beverages from different countries.
- Plan the second phase of Plant-based beverages, to include yoghurt and cheese (cream and butter to be confirmed).
- The AT to be appointed for the collaboration of SCM with SC Environment and SCNH.
- IDF priority item is to appoint more members and experts.

▪ Elections for Deputy Chair

The CEP Project Manager, Christine Leighton, was appointed deputy chair; and Laurent Damiens would step down as chair of SCM, to be replaced by Zoe Kavanagh.

2. International Milk Promotion Group (IMP)

- IMP is a permanent taskforce of the Standing Committee on Marketing. The main purpose of the business meeting of IMP is to plan the midyear meeting of the following year and the IDF WDS conference on marketing.
- Following the IMP mid-year meeting where the strategy was developed regarding the 'global dairy purpose', the meeting at IDF focussed on the development of a document that would form the foundation of the communication framework for the 'purpose of dairy'. A presentation was developed by Norway and shared with the delegates. A task team was formed to explore the development of a communication strategy for the 'purpose of dairy' to be presented at IMP 2023 and IDF 2023.
- The author is a member of this task team.
- Discussion points for the communication framework:
 - What makes a good **purpose**.
 - Importance of the **purpose** to be unique and distinct for dairy.
- The statement must be underpinned by proof points by market.
- The statement must be culturally flexibility and transferable.
- The purpose statement that was agreed upon is: "Providing nutritious and sustainable dairy to the world today and for the future"

In the task team that followed IDF, the following were discussion points:

- Importance of health, nutritious, natural, and pleasure / satisfaction messages to be discussed and each element to the defined.
- Importance of livelihood to be discussed.
- Proof points for each element of the statement.

3. Joint meeting of SCM and SC Dairy Policies and Economics

Feedback was provided on SPCC by Richard Walton who presented the SPCC update focusing on the 2021- 2022 IDF programme of work delivered and the four priority items of work for 2023: Alignment of food additives provisions between dairy standards and the Codex General Standard for Food Additives; Knowledge platform on Contaminants – IDF Guidance on detergents and disinfectants; School milk as part of school feeding programmes in sustainable food systems; and IDF guidelines and IDF input to CCFH guidelines on use and reuse of water.

Gilles Froment presented the joint country reports, as a joint effort between SCM and SCDPE, that has been done for the past 7 - 8 years to understand trends and the market and where they are going. Last year the compilation was done by Brazil and this year by Canada.

When it comes to environment, there were numerous comments on Dairy Net Zero. Dairy Farmers of Canada are really committed to this. Chile is concerned about green-house gas (GHG) and methane reduction. France is worried about environmental labelling. Single use plastic has been banned. New Zealand mentioned an extensive report on regulation and climate action. The Netherlands indicated a concern about the introduction of new policies aiming for a 30% reduction on livestock production to achieve GHG neutrality by 2050.

Ida Berg Hauge and Richard Walton presented the results from marketing questions. It was noted that not all countries answered that part, as 10 countries were missing. After dividing all the answers into categories, like Health, Pleasure, Taste, Enjoyment, etc. it is worth mentioning that Sustainability climbs up to number 3.

During a presentation by Euromonitor, attendees expressed deep concern about the use of the term 'plant-based beverages'. This led to the confirmation that the Action Team on Plant Based Products (PBP) will continue its work and launch the second phase of the study comparing Dairy products with PBP.

4. World Dairy Summit

Sessions were attended virtually. This reports only on the marketing session, as other sessions were covered in the reports by other attendees.

- Opening ceremony
- World Dairy Leaders Forum

- Dairy Innovation awards ceremony
- Dairying beyond milk
- IMP trophy winner
- Impact on dairy in nutritional security
- Consumer expectations
- School milk programmes
- Sustainable dairy for low environmental impact.
 - In this session the presentation by James Lomax: "Triple planetary crisis" was particularly interesting. The triple planetary crisis includes nature loss, climate change and pollution. Food systems are impacted by climate change.

Marketing session:

4.1 Over the next decade and beyond, changing global demographics will drive dairy market opportunities: Ms Ledman Mary Keough from Rabobank

Ms Keough said global demand would come from China, Asia and Africa. There will be a 0.6% growth in milk production and will be difficult to maintain. It is predicted that there will be a 20 million tonne shortage and it is unknown where the milk production will come from. There is also a greater demand for protein. By 2030, the population growth in India and China will demand more milk production. Africa will show a 50% growth.

- 2030, India will remain the largest milk producing and dairy consuming country. Government policies will continue to support self-sufficiency, leading to growing a formal market. Value-add segments like UHT milk - currently quite small - are expected to grow at double digits. Integration and consolidation of the sector will continue. India China South America EU 27 + UK US.
- Changing consumer demographics in China lead to rising per capita dairy consumption from expanded choices (cheese / butterfat) to more personal nutrition (nutrient-dense dairy products) for an aging population. While China will grow its domestic milk supply, it will remain the largest global dairy importer.
- South America has abundant natural resources to produce more milk and potentially become a more significant global market player. However, political and economic challenges have limited those opportunities. The demographic and income growth within the continent are expected to keep more products traded within South America.

- Europe will be a key market for dairy products that provide health and wellness benefits to an aging consumer. EU milk production and the exportable surplus will increase modestly. Granted, significant supply constraints may be placed on densely populated livestock areas. Under this scenario, production is anticipated to move to less densely populated regions within the EU 27.
- There is an acceleration in large-scale dairy operations (operations with more than 10,000 cows) driven by the economies of scale in the production of credits for the eco-system marketplaces (carbon/water/soil amendments). More vertical integration, under different regulations, should be looked at: a dairy farm + UHT milk + Amazon = 100% traceable, e-commerce.

4.2 Consumer expectations and dairy market, a global perspective: Dr Rangarajan Vasudevan

Edelman presentation: This presentation elaborated on consumers in different countries and the trust barometer. In India the government is well trusted. Fake news is a great concern, but scientists remain highly trusted.

4.3 Dynamic consumer requirements and new product development – India case study

Trends in India:

- Protein power
- Obsession with sugar
- Clean labels
- Demand for organic
- Love for the exotic
- Species that can provide milk:
 - Buffalo
 - Cow
 - Camel
- Probiotic range:
 - Buttermilk
- Unexpected dairy combinations e.g., fruit and dairy

4.4 Impact of food labelling – Melissa Cameron

- Although consumers look at food labels, they only spend about five to six seconds to check a label. Consumers are mostly interested in food labels on processed foods and less interested in labels on meat and whole foods.

- Consumers make decisions at a glance and labels seem to have minimal impact on the diet of consumers.
- Front of pack labelling can be confusing, as in the case of the 'star' rating system.
- Labelling on plant-based foods is also confusing to consumers. 40% of consumers thought that plant-based is healthier than dairy.
- Taste still remains most important.
- Overall, consumers like simplified labels and front of pack sign-posting that indicates the healthiness of the product.
- Consumers have limited time and find it difficult to interpret various nutrients and ingredients of the product.
- Nutrition information can make the consumer feel coerced or pushed to make decisions and this creates consumer resistance.
- Currently front-of-pack labelling is having no real impact on purchase behaviours.
- Labelling must align and evolve with evidence. Be truthful, accurate, impartial, and not misleading.

Take home messages from presentation

- Recognize the dietary contributions of nutrient dense foods, consider the health benefits from consuming whole foods - not just nutrients in isolation.
- Provide meaningful information to the consumer: Recognize the growth in off-label information – QR code, websites, point of sale.
- Be supported by education programmes, to enable consumers to choose healthy balanced sustainable diets.

4.5 Global Marketing Trends presentation (This presentation was of particular interest)

This IDF Internal study was conducted by SC Marketing and SC on DPE, and carried out during the first semester of 2022.

This is the third edition of the IDF Global Marketing Trends. This one is distinct, as we wanted to track the specific impacts of the COVID -19 crisis on DP Demand. Based on in-depth research conducted by IDF national experts, this study is intended to identify the main drivers and barriers of the food market – and especially dairy product consumption – in different countries around the world to understand the changes in market trends during the last three years:

2019: What were the trends before the Covid period?

2020: What were the trends during the Covid period?

2021: Are we back to normal? Or have things changed?

Effect of COVID-19 on dairy products

- High product availability as food stores remained opened.
- Changes in purchasing behaviour.
- More purchases in supermarkets.
- More online shopping.
- Evolution of meals
 - More meals at home
 - Return of breakfasts and snacks (Western Europe, North America)
 - More cooking (meals and desserts)
- Products considered essential: Basic, cheap, safe products (packaging), products enhancing immunity.
- Pleasure products for all the family.
- Economic situation
 - Inflation
 - Income decrease
- Closing of borders
 - Product availability
 - Supply chain disruption
- Behavioural changes with lockdown
 - Decline in out-of-home consumption

Consumers' expectations have changed considerably during the last 2 years. There has been a return of emotional and pleasure dimensions and cooking at home; an acceleration of local product demand and the development of online delivery and collection purchases.

Uncertainties affecting dairy products in the future

- Climate crisis: weather affecting dairy production (heat stress, water stress, decrease in fodder production, increase in input costs...).
- Geopolitical and economic instability, a source of market volatility (high risks in certain countries, protective customs barriers, etc.).
- Impact of agro-ecology policy.
- Employment and workforce disruptions.
- Increase in vegetarianism or vegan diets and higher consumption of plant-based drinks and dairy product substitutes.

The most significant driver of greater dairy consumption is population and income.

In 2022, the two new main concerns were:

- The Ukraine conflict: Its timing and size remain uncertain, but regardless, inflation will continue beyond 2023 (along with humanitarian, energy, agricultural and military issues).
- Inflation: All food categories have been facing sharp inflation since the end of 2021.

Nevertheless, FAO and OECD (Organisation for Economic Cooperation and Development) believe that dairy products will have the largest rate of consumption growth among all food categories over the next decade.

REPORT

by Christine Leighton

Consumer Education Project of Milk SA: Report on mid-year meetings of the Global Dairy Platform and the International Milk Promotion Group – July 2022

CHALLENGES IN COMMUNICATING DAIRY'S SUSTAINABILITY

Report on discussions at the International Dairy Federation's mid-year meetings, June 2022.

1. Introduction

The International Dairy Federation's (IDF) annual mid-year meetings for its various standing committees were hosted by Swiss Milk in Switzerland this year.

The Project Manager participated in the following meetings, which all focused on the challenges in communicating the message that dairy can – and should – be part of sustainable living:

- **Standing Committee on Marketing (SCM): 5 June, Zurich, Switzerland**

An SCM mid-year meeting was held to discuss issues such as the Global Marketing Survey, which was conducted by the SCM, work of EMF (European Milk Forum) and feedback on all work done in other task teams in which the SCM is involved. It serves as a feed-back session and to identify new work items for this standing committee.

- **Global Dairy Platform (GDP): 6–7 June, Zurich**

The aim of this meeting was for delegates to gain insight into sustainability goals of various organizations in the global industry, and how the associated initiatives are run. Representatives of international organizations such as Tyson Foods, Nestle, Arla Foods and Dairy Management Inc. shared their experiences.

- **International Milk Promotion (IMP) group: 8–9 June, Lucerne**

The IMP group is a permanent task force of the SCM. The meeting took the form of a two-day workshop, with sessions focusing on defining the 'purpose of dairy' as

an angle for addressing the challenges in communicating dairy's place in sustainability issues. A full-day strategy session was presented by Futerra, a 'change agency' that specializes in communication strategies on sustainability. The session helped the IMP group to explore factors that need to be considered in developing a framework along which sustainability messages can be communicated, tailored for different countries, and so directed the group's thinking in putting together an effective communication strategy.

More details on both the GDP and IMP meetings are captured in appendix I.

2. Summary of meeting outcomes

2.1 Meetings of GDP

The central message that emerged from discussions over the two days was that standards around sustainability should be defined urgently for the dairy industry. It is important for the dairy industry to commit to a set of standards, be accountable and 'get into the game' to show progress. Things do not have to be perfect from the outset, but the time is ripe for the industry to start showing committed action. Delegates agreed that what we do in the next five years will determine whether the industry will be able to meet net-zero commitments in the future – despite these being challenging.

The following were suggested as aspects around which messages regarding sustainability can be shaped:

- Farmers are important actors in dairy's sustainability story, as regenerative food systems are a key focus of mitigating climate change going forward. Although many farmers are already working towards more sustainable farming prac-

tices, their efforts are often focused on isolated aspects. Farmers should therefore be encouraged to think about the bigger system and be supported in implementing actions that span a wide reach, so that real progress can be shown.

- Consumer awareness around environmentally conscious practices is increasing. Because our choices today determine what future generations' world will look like, consumers are increasingly demanding products from companies that have adopted a sustainability culture. Being able to show progress in this regard is important for keeping the dairy industry relevant.
- Consumers want to know how to lead a more sustainable life, including how to make sustainable diet choices. Consumers expect brands to guide them in their choices.
- Messages around the nutritional value of dairy should remain central in developing a communication strategy, but these must be underpinned by clear examples of progress in sustainable practices. The industry is not expected to be perfect; instead, it is important that consumers should be able to see committed action and that the industry communicates sustainability issues, challenges and successes truthfully and authentically. It is important that content should be relevant and that messages should not simply amount to 'greenwashing'.

Suggestions for messages in conversations of how dairy can be incorporated into plant-based eating include focusing on dairy as:

- a nutritionally valuable and tasty complement to plant-based foods;
- being appropriate for inclusion in all plant-based (plant-rich diets) diets, except vegan diets; and
- a food source that contains essential nutrients and which cannot easily be replaced by supplements or other food sources.

The following were noted as being needed to address challenges in communicating dairy's place in the sustainability conversation:

- A unifying theme, underpinned by science and research, that articulates a higher purpose for the industry;
- A theme that aligns the dairy industry in promoting sustainable dairy nutrition as a vital component of sustainable diets; and
- Rebuilding consumers' emotional relationship with dairy.

2.2 Meetings of IMP

Delegates agreed that to address the challenges of communicating how dairy remains relevant as part of a sustainability culture, the industry should acknowledge issues (for example, methane gas emissions), speak openly about them and invite conversation. Consumers should be informed about the role of the dairy sector in actively addressing sustainability concerns, by showing decisive action and mapping out the route to achieving definitive goals. Short- and long-term goals, which can be realistically accomplished, should be identified and communicated.

Dairy should be positioned as a credible player in bringing about a more sustainable future. To be known for real commitment and trusted to deliver on sustainability goals, organizations need to develop cohesive plans that include tangible actions. To this end, an organization has to:

- **define** its role in the sustainability journey and have a clear set of associated priorities;
- **develop** a strategic framework that can house that vision in a simple, transferrable way;
- **codify** key pillars, bold goals and specific targets; and
- **provide** a holistic plan that is grounded in evidence, yet simple to understand and share with key audiences (e.g. industry peers, key opinion leaders, consumers) by using appropriate channels.

To engage effectively with consumers regarding sustainability, organizations' communication strategies should be built on committed and authentic buy-in. To achieve this, organizations should:

- **change the internal view of sustainability**, from its being seen as an operational expense to becoming an income generator;
- **integrate sustainability into the business model**, making it a core part of the business rather than a bolted-on sideshow;
- **be agile and be able to implement changes faster**, by moving from having an isolated team responsible for driving sustainability goals to making it an organization-wide responsibility;
- **build a reputation** for being trustworthy with regard to sustainability commitments, by moving away from 'greenwash' initiatives and lip-service to showing evidence of meaningful action; and
- **deliver on business values**, by aligning sustainability to core values and so attract and retain talent to drive innovation while also creating new streams, new customers, increase brand relevance and strengthen the customer journey.

In response to the discussions and insights gained during the two days' sessions, the IMP group decided to appoint a task team to develop a statement around the 'purpose of dairy', which can inspire the development of the communication framework in which to address the challenges around communicating dairy's contribution to fostering a sustainability culture.

3. Concluding thoughts

The Consumer Education Project of Milk SA communicates the health and nutritional benefits of dairy. With the change in the sustainability conversation (environment, animal health and diet), it is important that the health messages are underpinned by messages related to environmental management and animal health to reflect the committed actions by the dairy industry in South Africa.

The primary and secondary dairy industry is active in this space and CEP is positioned and skilled to gather the information about the work done by the industry in this area, and share it with members in the industry which could filter to consumers. In this way, work in sustainability can be showcased and over time it will show progress by this sector. Setting short and long term goals for communicating the sustainability efforts will allow progress to be tracked.

Meetings such as the GDP and IMP mid-year events, are valuable in equipping CEP with frameworks for communicating collective issues pertaining to sustainability and the dairy sector. This work is ongoing and progress will be shared with players in the South African dairy industry.

APPENDIX

The appendix provides a summary of the key factors captured from the different presentations.

▪ Definition of sustainability and sustainable diets

'Meeting the needs of the present without compromising the ability of future generations to meet their needs' Brundtland Report, Our Common Future, 1987

or

'Meeting the needs of the present while enhancing the next generation's ability to meet their needs' Futerra Edit, 2002

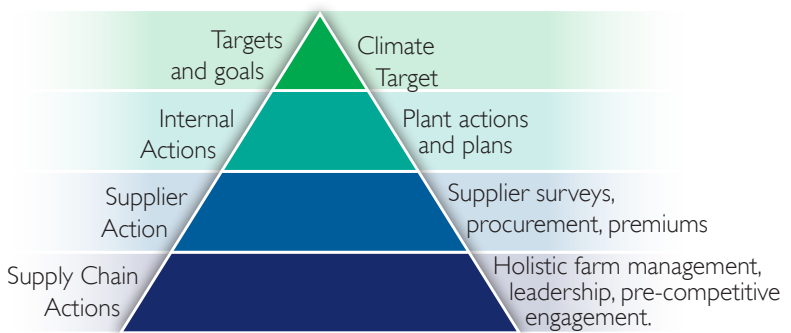
'Sustainable Diets are those diets with low environmental impacts which contribute to food and nutrition security and to healthy life for present and future generations. Sustainable diets are protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair and affordable; nutritionally adequate, safe and healthy; while optimizing natural and human resources.'

▪ GDP meeting insights (from meetings on 6 and 7 June)

- **Swiss Milk** opened the day with an in-depth overview of the country and its dairy industry
- **Karl Nilsson, McKinsey and Company:** The first presentation focussed on the conflict in Ukraine and the impact on crop production globally
- **Ian McConnel from Tyson Foods** explained that corporate's thinking is changing and that many suppliers are adopting targets to reach net-zero sustainability.

He shared an interesting pyramid to demonstrate actions and targets required from industry. He suggested that companies must investigate if their suppliers have sustainability targets, while being mindful that not everyone has the same ambition.

The following graph shows how targets and actions can be administered.



¹ Greenwashing: Disinformation disseminated by an organization etc., so as to present an environmentally responsible public image; a public image of environmental responsibility promulgated by or for an organization, etc., but perceived as being unfounded or intentionally misleading.

Pyramid of Actions and Targets

- Companies need to set goals to drive progress:
- Urgency and opportunity of climate change
 - Realize the value of ecological modernization
 - Demonstrate shared values with consumers

4. Rob Cameron of Nestle spoke of dairy's communication challenges in sustainability.

Rob stressed the commitment by Nestle toward sustainability on their farms and that they were accelerating their efforts globally.

He highlighted the needs to address dairy communication challenges in sustainability as formalized by the Global Dairy Platform (2012) i.e.

- A unifying theme, underpinned by science and research, that articulates a higher purpose for the industry;
- A theme that aligns the dairy industry in promoting sustainable dairy nutrition and a vital component of sustainable diets; and
- Rebuild consumers' emotional relationship with dairy.

Organizations should realize there is a need to change to food systems that are regenerative as a solution towards climate action. Nestle places the farmers at the centre of their attention and give farmers the opportunity to make the transition to regenerative farming by providing technical support, funding and paying premiums for regeneratively produced ingredients.

Rob also highlighted what needs to be done to address dairy's communication challenges in sustainability:

- Address net zero and embrace regeneration – use the terms with integrity;
- Work with each other; governments, authorities and communities to shape a net zero dairy industry fit for the future; and
- Rebuild emotional relationships with consumers with a simple narrative on net zero, nutrition and dairy's contribution to a sustainable future

Rob used the example of the Skimmelkrans farm as a Net zero plant by 2023, based in George, SA.

5. Hanne Sondergard and Lea Brader of Arla foods (Norway) spoke on the importance of nutrition in dairy's sustainability story.

The question asked was:

- *Is there a future for dairy? What is the role of dairy in the future in our food system?*

How can we change the conversation to steer it away from only speaking about CO2 emissions to the nutritional importance of dairy in the diet. She reminded the audience that years ago the role of dairy in the diet was not questioned, but now the role is being questioned and that we should remember that dairy makes a huge contribution to health and nutrition, but also a big contribution to the CO2 footprint.

She then spoke about the importance of the cow in the conversation.

Dairy farmers have many positive handprints:

- Cows are up-cyclers: grasslands not suitable for arable farming.
- Grazing cows benefit the eco-system: soil fertility, biodiversity, pollination, carbon sequestration, water purification, retention of nutrients.
- Renewable energy producers: wind, solar, biogas.

When speaking about production of dairy foods, we need to include the cow in the conversation: "It's not cow, it's the how?"

This gives reason for companies to support initiatives such as 'pathways to net-zero', that create an awareness of climate challenges and encourages organizations to take action toward more sustainable foods.

- *But what about plant-based diets?*

It was suggested that the conversation should focus on the goodness of dairy. But when we speak of sustainable diets, the conversation must include all the factors that influence a sustainable diet. An interactive and holistic approach is required when speaking about sustainable diets.

The factors that influence the conversation around sustainable diets are:

- Low impact on environment;
- biodiversity eco systems;
- nutritionally adequate;
- safe and health;
- affordable;
- accessible;
- culturally acceptable.

In reality, consumers do not see nutrition as part of a sustainable diet. Consumers often see a plant-based diet as a vegan diet. Consumers believe that when they cut dairy out of their diet, they are doing good for the planet. But dairy nutrients are difficult to replace in a vegetarian diet.

There should not be a battle between plants and dairy. More important is to talk about the role of plants and dairy – it's about a diverse food system that hero's dairy.

A consumer study conducted in Norway showed that the terms 'plant-rich' diets was better understood than plant-based diets/products.

Innovation in the dairy industry should retain credibility in terms of health, low sugar and not being too processed.

6. Serena Schaffner from USA, Dairy Management Inc shared the USA dairy strategy

From research conducted in the USA, the main global concern that consumers have is climate change, followed by plastic waste and water pollution. The dairy industry is encouraged to show progress in terms of sustainability. Perfection is not expected. Industry should highlight the work that is underway to improve sustainability, while acknowledging that there is more work to be done.

The three focus areas to consider are listed here and should be used to develop communication messaging. (source: research by DMI)

- Progress not perfection
- Dairy cows are superheroes
- Farmers love the earth too

6.1 Progress, Not Perfection

It demonstrates that the dairy industry is actively committed to improving sustainability while acknowledging that there is still more to be done. Such messages are authentic and straight forward and farmers and the industry talk about their achievements, while also appealing to consumers by acknowledging that the work is not yet done. Messaging within this content territory can take on an earnest tone that conveys sincerity and expertise.

Countries / organizations are encouraged to get into the game. There is an urgent need to accelerate and show progress of what is being done. This too goes for farmers – they can be told they are doing well, but need to increase their effort.

The messages regarding dairy in plant-based eating are:

- Dairy is nutritionally (and culinarily) a great complement to plants;
- Dairy is part of all plant-based diets, except vegan diets; and
- Dairy nutrients are not easily replaced.

6.2 Dairy Cows are Superheroes

It puts the cow front and centre and appeals to animal welfare enthusiasts as well as dairy fans and general consumers. It creates positive feelings about cows and ladders them up to the industry.

It gives reason to believe that cows are treated well and adds an educational element to the conversation.

6.3 Dairy Farmers Love the Earth

By talking about farmers, it humanizes the industry and makes it less corporate and more personal/local. It creates an emotional connection with farmers and puts human face on dairy sustainability. It can also help counteract big industry or conglomerate misperceptions and concerns.

In order to address Dairy's communication challenges, the following is required:

- Unifying theme
- Align industry to promote sustainable diets
- Build consumers emotional relationships

▪ International Milk Promotion meetings (meetings 8 and 9 June)

One full day was spent with Olly Lawder, Sustainability Planning Director at Futerra, United Kingdom. (source: presentation Futerra).

The day was spent working through the challenges of dairy in communicating sustainability and factors that should be taken into consideration when developing the 'purpose' of dairy and the subsequent communication framework.

▪ Background

The generation Z (born 1997-2012: 10-25 years): This generation has created awareness of the importance of looking after the planet and animals.

More than half of the 16 to 25 year-olds in the *Lancet* survey said they believe humanity is doomed. And close to 40 percent said that fears about the future have made them reluctant to have children of their own.

10 000 children and young people (aged 16–25 years) in ten countries (Australia, Brazil, Finland, France, India, Nigeria, Philippines, Portugal, the UK, and the USA; 1000 participants per country) were surveyed in this study. Invitations to complete the survey were sent via the platform Kantar between May 18 and June 7, 2021. In their article, they pointed to a 2020 survey of child psychiatrists in England showing that more than half (57%) are seeing children and young people distressed about the climate crisis and the state of the environment.

Respondents across all countries were worried about climate change (59% were very or extremely worried and 84% were at least moderately worried). More than

50% reported each of the following emotions: sad, anxious, angry, powerless, helpless, and guilty.

75% said that they think the future is frightening and 83% said that they think people have failed to take care of the planet.

Further insights showed that consumers want to live sustainably and are ready to make changes to address the issues they care about.

7. Insights from the presentation presented by Futerra

7.1 Opportunities of the moment:

7.1.1 The planetary diet

Statement: The low-carbon (more plant-based foods) diet was entering the mainstream consumer culture, encompassing what was once a polarizing animal rights movement.

Despite the importance of following a plant-based diet becoming understood, consumers have struggled to follow a plant-based diet in practice. This could be finding the right plant-based alternative to avoid the guilty pleasure of meat or changing daily habits – the fact is that eating for the planet is proving to be a challenge.

The vegan philosophy promotes excluding processed foods, but in reality many have turned to unhealthy processed plant-based foods because of the convenience, affordability and flexibility they offer.

The division in the conversation between vegans and meat-eaters has become less visible except for the conversations around documentaries that focus on the impact these films have on individuals.

However, critics of the dairy industry still call on consumers to ditch dairy over concerns of animal and ethics.

7.1.2 People behind our food

Statement: Exploitation of workers in the food system drew criticism and support was growing for small and vulnerable food producers.

People have become aware of everyone working in the food chain from production through to distribution, realizing the essential contribution to the society and that this contribution is undervalued – resulting in a demand for better wages and more rights.

Farmers continue to protest over wages and social protections and their struggles are finding support locally and internationally. Farmers are often seen as victims of unfair and precarious economic systems and difficult conditions.

In this context, female farmers are rising as role models and carry hope for the food system. Although they are promoted for their leadership in sustainable food production people believe they are overlooked.

7.1.3 End of waste

Statement: food waste was becoming a problem and consumers were looking for solutions

Reducing food waste is considered a key solution to addressing environmental, social and individual issues. It is important to learn ways to buy, store and cook to reduce food waste.

7.1.4 Innovation through technology

Statement: There was a tight focus on consumer needs, but the conversation is changing to include environmental and social improvements up the food chain.

Challenges in food production

- Food tech challenges are to make food more safe, plentiful and nutritious while preserving the environment
- Increase in plant-based product start-ups as well as ultra-convenient meal-kits and food delivery
- What can technology bring to make food production better, faster and stronger
- From lab or from field: innovations are key to address the food challenges

7.1.5 Food as medicine

Statement: People have become better informed about health, food has been recognised as one of the pillars of disease prevention and cure.

There is no dispute about the relationship between food and health; how food supports immunity; in a time of crisis, people became frustrated by the lack of knowledge on how to boost immunity. People are making the link between gut health and overall health (probiotics / anti inflammatory foods).

There is a rising trend to find wellness and health through an entire routine including healthy eating, exercising, sleep and meditation. Pandemic related stress has led to a renewed focus on mental wellness.

Facts, rumours and fears around food information have confused consumers leading them to seek better and more information.

7.2 How do we address dairy's communication challenges?

Principles

7.2.1 Acknowledge the problem

Recognize the specific challenge of methane emissions in agriculture and work together as the globe.

7.2.2 Embrace responsibility

Speak honestly to the dairy industry's role in methane emissions.

7.2.3 Pursue meaningful action

Identify a path for action and announce a commitment to change.

7.2.4 Commit to time horizon

Set near and far term time frames on when this can realistically be accomplished.

7.3 Essentially to reposition dairy as a credible player in bringing about a more sustainable future and to be known and trusted about sustainability, we need big plans and tangible actions:

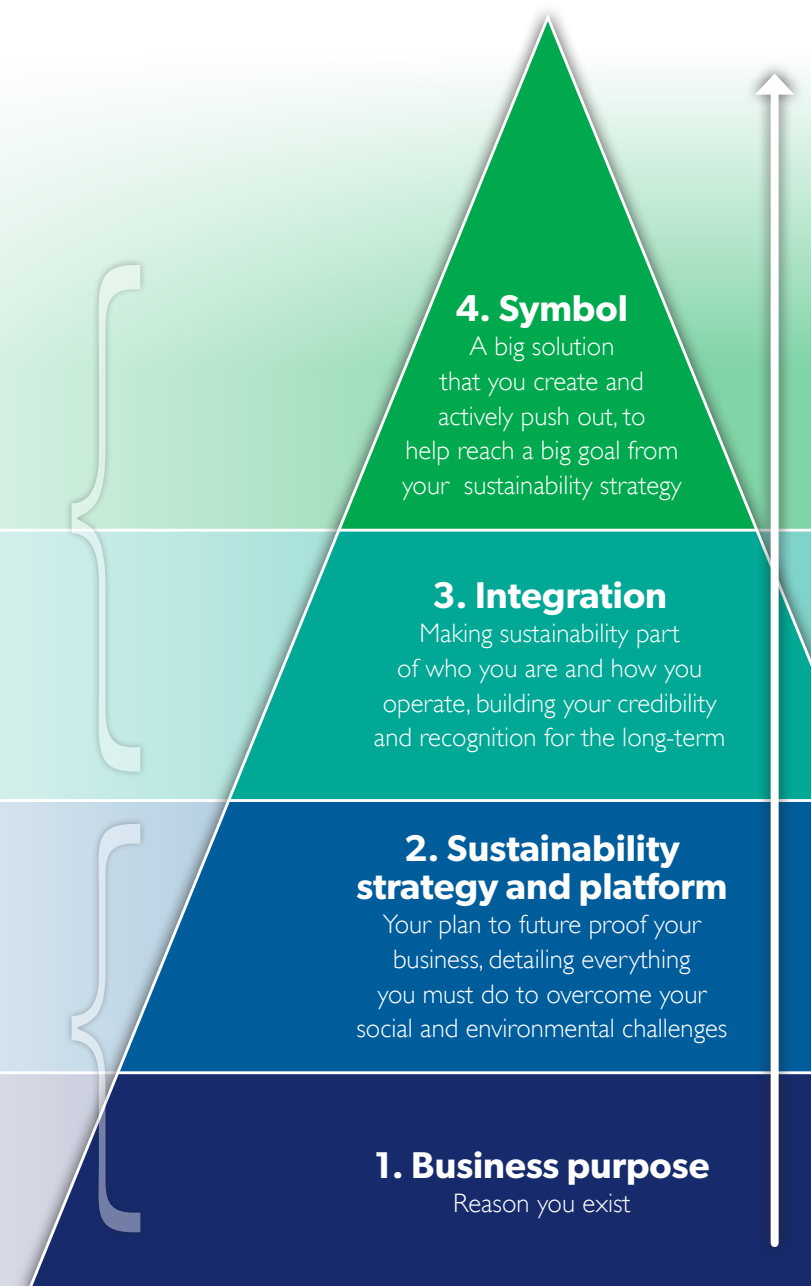
- Define** a clear set of priorities and a role for the organization.
- Develop** a strategic framework that can house that vision in a simple, portable way.
- Codify** key pillars, bold goals, and specific targets.
- Provide** a holistic plan that's solid, simple and easy to socialize with important audiences (B2B, KOL, B2C).

7.4 In business / organizations the view around sustainability needs to change:

- Change the internal view of sustainability** from being seen as an area of spending money to generating income / making money.
- Un-silo sustainability:** From a bolted-on side-show to a core part of the business.
- Make more change more quickly:** From being driven by a sustainability team only to being driven by the whole organization.
- Build a reputation:** From greenwash (non-truths) to being known and trusted on sustainability as evidence of meaningful action.
- Deliver business values:** Align and unite your company and attract and retain talent to drive innovation while

also creating new streams, new customers; increase brand relevance and strengthen the customer journey.

The **triangle model** can be used to assist in becoming known and trusted on sustainability



1 & 2 = plan; 3 & 4 = action Source: Futerra/ IMP 2022

Key principles for using the triangle model

- It's for all businesses
- Start from purpose and work up, ideally.
- Not all businesses have to do all parts of the triangle.
- The strategy and basic integration should be mandatory.

If you have a **purpose**, it should guide everything you do, including your sustainability offer.

7.5 A sustainability strategy is the bedrock of the entire sustainability offer

It guides the change the organization will make and gives the action and the content needed to unlock business value higher up in the triangle. Without it, any action that is taken on sustainability is vulnerable to accusations of greenwash.

7.6 Avoid greenwashing

Greenwashing refers to sharing information that is irrelevant, it is not only about lying, but communicating information that is perceived as unfounded.

Honesty is putting it out there with interpretation. Honesty and transparency are top requirements.

Health and sustainability are coming together. Consumers want the same product but the better version.

Definition of greenwashing: *Disinformation disseminated by an organization etc., so as to present an environmentally responsible public image; a public image of environmental responsibility promulgated by or for an organization, etc., but perceived as being unfounded or intentionally misleading.*

7.7 The way forward for the IMP group

The above insights were further discussed within the IMP group and it was decided that a task-team will be appointed. The task-team will use the insights and develop the 'purpose' of dairy which will inspire the development of the communication framework to address dairy's communication challenges in sustainability. The task-team has not been appointed.

8. IMP case studies and trophy entries - highlights

Five countries presented Yves Boutonnat Trophy entries:

8.1 Norway: ordinary food is good enough

The slogan of this campaign is: Ordinary food like milk, yoghurt and cheese is more than enough and aims to counter act the confusion among teens and mothers about the incorrect information that is communicated in the media.

8.2 United States: Reset yourself with dairy

This campaign is about food philosophy of mind and body: physical and mental wellness. The aim is to increase the consumption of dairy by showing how dairy fits into the lifestyle of GenZ (teens – 24yrs).

- The campaign aims to communicate to Gen Z that beyond dairy's taste, versatility and responsible production, dairy can help with the following:
- Immunity: protecting your health;
- Calm: providing emotional well-being to take on the day;
- Energy: Sustaining mind and body through the day; and
- Digestive health: A healthy gut and lactose free options

8.3 France: Conveying the benefits of dairy through the Milk Matrix,

France identified general practitioners (GPs) as a target market that talks to patients about nutrition and health. They targeted GPs, shared content on the Dairy Matrix and expanded this science into a relevant story for GPs in one single market to demonstrate the health benefits of milk. The aim was to renew the image of dairy in the consumer's mind via GP recommendations.

They used a French medical leader media group to produce scientific content and produced a mix of communication in print and online:

- Digital: online space for GPs, EMF video milk Matrix, video expert, infographic;
- Print : 3 advertorials; and
- Sponsoring : emailing, posts on Facebook, banners & display campaign.

8.4 Australia: Dairy matters – Aussie health

Enhance trust and support for the Australian Dairy Industry, our farmers and products. Targeted at health professionals, consumers and school students

8.5 Switzerland: Sustainability campaign

Switzerland used the food-based dietary guideline and developed a campaign aimed at health professionals and GenZ.

9. Case Studies

A variety of case-studies were presented. CEP presented a case study on 'taking science to consumers' showcasing the RediscoverDairy campaign and how to reach moms 25-55yrs.

REPORT

by Dr. Mark Chimes



I had the fortunate experience of attending the International Dairy Federation's World Dairy Summit in New Delhi, India in September 2022.

The theme of the summit was "Dairying for Livelihood" and focused on dairy production by small farmers, particularly the Indian model. Dairy production is extremely important in India. To the extent that the Hon. Prime Minister of India, Mr Shri Narendra Modi, considered it important enough to open the summit, despite a rebel uprising in other parts of the country requiring his attention at the time. The ministry in charge of dairy is even called the Department of Fisheries, Animal Husbandry and Dairying. The Minister of the Department also chaired one of the panel discussions. The reason why dairy is so important in India is that it is seen as a means to reduce poverty and malnutrition.

The world's largest milk producer

India produced 210 million metric tonnes of milk in 2021, making them the largest dairy producing country in the world. India has approximately one hundred million milk producers. The average herd size is four animals with an average daily production of four to six litres of milk per animal. 43% of the milk produced is buffalo milk and 53% is cow milk. Goat milk (3%), camel milk and sheep milk make up the balance of production. 45% of milk production is consumed as fresh milk and 55% is processed as dairy products (mainly ghee).

Empowering women

Dairy is seen as a means to assist household incomes. Since most households have small plots of land (average two hectares) they are limited to the number of animals that can be

kept. The dairy production programme has focused on empowering women. Production is organized on a village basis. Each village has a central collection point where women bring their daily production twice a day. The milk is then tested for protein and butterfat content, weighed and pooled through a filtering cloth, into a large milk cooling tank. Each farmer gets a printout of their milk's weight, protein and butterfat content and the amount they will be paid for each batch that they deliver. The milk processors collect the milk from each village on a daily basis. The farmers are paid for their milk based on the solids. Payment is made electronically into their bank accounts every 2 weeks.

They do not test somatic cell counts - probably because they would rather not know. SCC is generally 800 000 thousand to one million cells per ml and higher.

Improving the national herd

Animals generally feed on crop residues. Therefore the milk production is not very high. The government is providing agricultural support through nutritional and husbandry advice as well as veterinary services. In addition, they have inseminators that travel to the villages to inseminate cows on heat to improve the genetics of the national herd. Sexed semen is used a great deal, since bull calves have very little value. The Hindu religion prohibits the slaughter of cattle. As a result, bull calves are frequently "set free" after weaning and roam the countryside and roadways. The government has started to round up these animals and keep them in "cow shelters", where they will live until they die of old age. This is obviously a costly af-



Above: Farm Visit

Right: TV interview with Dr Mark Chimes at the IDF World Dairy Summit



fair. By contrast, buffalo are not considered holy and may be slaughtered. As a result, one does not see buffalo roaming the streets and countryside.

Trials are underway to test various crops to determine which grow best in the Indian climate and to improve milk production

Goat production

Goats are the second largest species (28%) in India, after cattle. India ranks first in goat milk and second in goat meat production in the world. Goats are seen as the "poor man's ATM" since they are easy to convert to cash through milk and meat production. Goats are also called "walking refrigerators" since their reproduction is quite good despite their poor diet, and they can be milked and slaughtered as needed to provide protein and energy-rich nutrition. As a result, the production of goats is being promoted by the government.

Environmental concerns

India is also focusing on reducing the carbon footprint of the dairy sector. The best way to do this is by improving nutrition and genetics of the dairy cows. In the USA dairy sector it was shown that in 1944, 25.6 million cows produced 14 billion gallons of milk. Currently 9.2 million cows are producing 22 billion gallons of milk. Through better efficiencies achieved by improved genetics and nutrition, the USA dairy farmers have

reduced their carbon footprint by 41%. Compared to 1944, modern milk production in the USA requires 21% of the animals, 23% of the feed, 35% of the water and 10% of the land to produce the same one billion kilograms of milk.

Apart from improving their production, India is also focusing very heavily on processing manure and slurry to produce fertilizer and biogas. On a small localized-scale, biogas production is working very well. However, there are challenges in centralizing manure and slurry collection to produce biogas and fertilizer production on a large scale.

Can this be done in South Africa?

I was particularly interested in trying to find ways to apply this model in South Africa to empower the poor rural communities. There are however major differences in the rural populations and markets of India and South Africa:

- The average small farmer in South Africa does not own any land as opposed to India, where most small farmers own their own piece of land. As a result, India does not have many large farms.
- The production and collection of milk in South Africa is highly formalized. Milk is generally produced on large farms, using state-of-the-art technology.
- The milk quality in South Africa is highly regulated and controlled. As a result, milk quality is of a very high standard. India does not test the Somatic Cell Count of their milk, which makes it easier for small farmers to supply milk.

Milking machine on wheels



Field milking machine

- India has a high population density with hundreds of farms in small areas, making the pooling and collection of milk feasible. Distances between production areas could limit the feasibility of this system in South Africa.
- It is illegal to sell fresh unpasteurized milk to the public in South Africa. Therefore, the milk would have to be pooled, collected, pasteurized and quality controlled through a centralized system.
- Unless the small farmers in South Africa agree to farm as a collective, they would have difficulty entering the market in terms of volumes and quality produced.
- It would be unwise to have a system that applies one set of standards to the small farmer and a different set of standards to the large producer. The quality of the milk produced would have to comply with the same standards across the board.

It is not that the model is unworkable in South Africa. But, we would need to adjust the model and find our own solutions. India has shown us that it is possible.

Special thanks to Milk SA for sponsoring my attendance at the conference.



REPORT

by Maretha Vermaak

Reporting as a member of:

- The IDF Standing Committee Nutrition and Health and
- Science and Programme Coordination Committee (SPCC)

SUMMARY

The following business meetings and Summit sessions were attended:

- IDF National Committees (9 September 2022);
- IDF New Members (9 September 2022) - Act as host and moderator on behalf of IDF head office staff;
- IDF Task Force on Plant-Based Beverages (10 September 2022);
- IDF Standing Committee (SC) Nutrition and Health joint meeting with SC Standards of Identity and Labelling (10 September 2022);
- IDF Action Team (AT) on the place of sweetened and flavoured dairy (10 September 2022);
- IDF meeting for Chairs and Deputy Chairs – SPCC member for SCNH (11 September 2022);
- IDF Standing Committee Nutrition and Health (11 September 2022);
- IDF Standing Committee Nutrition and Health joint meeting with Standing Committee Dairy Science and Technology (11 September 2022); and
- IDF Standing Committee Nutrition and Health joint meeting with SC Marketing (11 September 2022).
- Conference sessions attended:
 - Opening ceremony and address by the Prime Minister of India (Monday, 12 September 2022);
 - World Dairy Leaders' forum – Dairy in the Next 25 years (Monday, 12 September 2022);
 - World Dairy Outlook 2022 (Monday, 12 September 2022);
 - Various presentations in session 5 on Evolution of Dairying – A livelihood perspective (Tuesday, 13 September 2022);
 - Prize-giving session (Tuesday, 13 September);
 - Session 15: Impact of Dairy on Nutritional Security (Wednesday 14 September);
 - Session 16: Exploring Dairy Diets in the Global South (Wednesday 14 September);
 - Session 19: School Milk Programmes and Highlighting Other Public Nutrition Approaches - Reach and Impact (Wednesday, 14 September);
 - Session 23: Sustainable Dairy for Low Environmental Impact; and a
 - Technical tour to Agra: Saahaj Milk Producer Company.

REPORT AND FEEDBACK ON BUSINESS MEETINGS

The business meetings that preceded the WDS in India were characterized by members who greeted each other with great excitement. Networking with old and new colleagues within the various fields of interest also seemed to carry new enthusiasm. The excitement of seeing each other again face-to-face after almost three years was clearly noticeable.

Except for the normal SC meetings, the business meetings this time took another angle that showed a new approach to integration between several SCs. Because so much of the work done by SCs and different

ATs often requires the input of various experts, one often sees that more than one SC is involved in certain work items. So, apart from attending the SCNH meeting, I also attended joint meetings between the SC nutrition and health, and the SCs of marketing; standards, identity and labelling; and dairy technology. In some cases, this led to a repetition of certain discussions, but the advantage was that there was a perspective placed on work items that previously tended to have been grey areas. It gave a better understanding of the holistic approach to certain work items.

From a nutrition and health point of view, the following two topics in particular trended and provoked much discussion. The new work item that would be presented for approval, namely the Dairy Matrix, was discussed repeatedly and its importance was emphasized.

Dr Stephan Peters from the Netherlands introduced the topic of the dairy matrix and explained how the health effects of foods go beyond its nutrients and that foods have health effects that are not always attributable to their composition, for example saturated fat and salt in cheese versus the scientific literature known on cheese and health.

As a background to the work on this NWI, a team have reviewed the literature available on the dairy matrix and compiled two reports on:

- the food matrix – carried out by an external consultant to the IDF
- the dairy matrix – carried out by an IDF head office member and two members of the SCNH.

The review of the food matrix identified 70 articles - mostly about dairy - and the review of the dairy matrix identified a similar number of articles. Both these reviews highlight the concept or terminology of the food and / or dairy matrix that is not being used much in the scientific community. It emphasized the fact that there is still a great deal of work to do, to have the food / dairy matrix concept accepted.

The authors explained that the food / dairy matrix concept has benefits as well as limitations. Some benefits are particularly around topics such as the FBDGs; animal-sourced proteins versus plant-based proteins; and front-of-pack and ultra-processed food labelling. But there are also some limitations from a 'dairy ingredient' perspective. Dr Peters highlighted the importance of looking at the effects of whole foods on non-communicable diseases and assisting experts who write FBDGs and food policies to understand the concept of the food matrix.

Members of the meeting discussed the importance of including the food matrix concept within their work and communication with peers. This is to reduce bias and to help the term become more widely accepted within the scientific community.

Members reported that the matrix is like a 'black box' - there is a lot going on and we should first focus on what we know, for example bioavailability, the value of the protein of dairy (quality and quantity), bioactive compounds in dairy – and aspects that are not currently known as - or explained - as the matrix effects.

The meeting also highlighted the scoping exercise and identified several studies that discussed the dairy matrix without using the term 'matrix'; and how beneficial it would be to have the dairy matrix terminology accepted so that it appeared in more literature.

This work was repeatedly emphasized as very important and a high priority.

Another topic that received much attention was the NWI on Sustainable and healthy diets and new indicators. An update provided by the AT leader on this topic indicated the following points:

- A document will be written based on a report of FAO's review of nutritional LCAs
- (nLCAs). The FAO report emphasizes that LCA is not a good measure of nutrition and should be replaced by another metric.
- A report will be compiled outlining the effects of different functional units on foods and their impact on greenhouse gas emissions (GHGe).
- An informal meeting with external experts at the International Union of Nutritional Science that was held in Tokyo, Japan in December 2022, was set in place. The purpose of the proposed discussion was to discuss the understanding and views of the FAO report and nLCAs.

It was the opinion of the AT leader that the dairy sector should be warned against the use of LCA and rather use nLCAs to communicate with consumers and policymakers.

Members highlighted that they have communications (in their industries) which use LCAs and suggested IDF should provide a disclaimer or information about using LCA so that countries could be aligned with IDF. It was also stressed that there are nuances that current science overlooks and this would also be covered in the report of the AT on new indicators.

Lastly, IDF's work on School Milk Programmes was also an important topic to report on. During the business meetings, feedback on the work done by the action team on SMPs was provided during the joint meeting of SCNH and SCM.

After the publication of the second IDF SMP bulletin in 2020, it was decided to update the bulletin once every five years. SMPs and school meals are of particular importance to the dairy sector; especially in the future of sustainable nutrition for all. Therefore, IDF developed a school milk knowledge hub which the AT is responsible for keeping up-to-date. This

work is ongoing and is supported by the IDF head office as a priority item. As a result, a session on SMPs was part of the programme in Turkey in 2019 and once again during the WDS in India.

The aims and objectives of the SMP AT include:

- Establishing IDF as a global expert on SMPs;
- Contributing to SMPs globally & encouraging the inclusion of milk and dairy in school meal programmes; and
- Ensuring that SMPs are key in activities that arise from the UN School Meals Coalition's actions.

The deliverables include:

- Maintaining the knowledge hub:
 - Showcasing successful partnerships
 - Advising on data collection & evaluation methods
 - Highlighting economic development of school food ecosystems, job creation, cooperative private sector development & sustainability
 - Share case studies (4 to 5 per year).
- Amplifying WSMD communications to showcase the importance of school milk.
- Factsheets and communications.
- Reviewing of the impact of SMP on schools during the pandemic.
- A heat map of SMPs and school feeding programmes available around the world.
- Cost per nutrient analysis.
- Reviewing and updating IDF SM survey.
- Publishing a new bulletin (2025).

From a marketing perspective, school milk is one of the industry's best messages - school milk provides nutrition and an equal start for children.

The business meetings also included a presentation of the WDS 2023 hosts, the USA. They outlined what IDF members can expect and identified the theme as BE Dairy - Boundless Potential; Endless Possibilities. The IDF World Dairy Summit 2023 will be held in Chicago, from 16 to 19 October 2023.

REPORT AND FEEDBACK ON THE SUMMIT PRESENTATIONS

The **opening ceremony** was officially opened by the Prime Minister of India, the Hon. Narendra Modi. Other officials from India who participated, were the Minister of Fisheries, Animal Husbandry and Dairying of India, Shri Parshottam Rupala, the Minister of Home Affairs & Cooperation of India, Shri Amit Shah, and the Minister of Food Safety. Several other officials from India participated in the summit, including leaders in India's dairy industry and agricultural sector.

In his opening remarks, the Prime Minister highlighted that

India was self-reliant in terms of milk and dairy products. He stated that over the past eight years, milk production in India had grown by more than 40%, with an average growth of 6% per year. He explained that India has a National Dairy Development Plan and that dairy production has a very important influence on the rural economies of India.

He said milk production is largely done by small farmers who typically own between one and five cows. Funds are disbursed directly to the small farmer through a digital system and this system is proudly referred to as the 'strength' of the Indian dairy sector. He stated that this model can be presented as an example of a successful approach that may be considered by other smaller dairy-producing countries.

He also proudly presented India as a forerunner in the upliftment of women in the agricultural industry. Women play a crucial role in the Indian dairy sector where it can be seen that around 70% of the workforce consists of women. This is considered to be the driving force behind dairy development in India and illustrates their active participation in well-being and economic independence. About 100 million families - mostly rural farmers - in India depend on dairy for their livelihood.

During the **World Dairy Leaders' Forum** the prospects of dairy in the next 25 years were discussed. In the panel discussion and presentations, the focus was on the top dairy companies globally and how they had performed over the past few years.

The **World Dairy Outlook 2022** session showed that milk production had grown by 2.1% between 2020 and 2021. In terms of milk production from cows, it grew by 1.6% in 2020 / 21 and the Compound Annual Growth Rate by 2% (2010 / 21). In terms of different dairy products, their outputs were as follows, between 2020 and 2021:

- Butter grew by 0.9%;
- Cheese grew by 2.9%;
- Whole Milk Powder grew by 1.4%;
- Skim Milk Powder declined by 1.5%;
- Liquid milk declined by 0.4%;
- Condensed milk declined by 1.5%; and
- Whey powder grew by 2.8%.

In terms of dairy consumption, the per capita consumption of dairy increased by 1.4% between 2020 and 2021. It was indicated that milk supply was expected to increase slightly in 2022.

In general, the milk and dairy sector seemed to be optimistic. It was indicated that the dairy industry would in the near future be playing a role in terms of addressing food security and nutrition; enhancing resource use and sustainability; and fostering livelihoods and rural development.

Health and Nutrition sessions: These consist of presentations from the sessions on the 'Impact of Dairy on Nutritional Security' and 'Exploring Dairy Diets in the Global South'. There is a great interest in the dietary habits and eating patterns of people from the African continent as well as Latin American countries. There is a vast difference in the regular dietary intake of people from lower socio-economic countries compared to that of developed countries, due not only to lower income and capital, but also to cultural differences. Focus was also placed on the role of Food-based dietary guidelines and the role of dairy as part of FBDGs worldwide.

Dr Laurene Boateng from Ghana shared with the audience her perspective on the role of dairy in Ghanaian diets and the prospects for the sustainability thereof. She explained that the dairy industry is not large in Ghana and that the formal dairy sector only started in 1965, while the first industrialized milk production started in 1977. The current dairy industry in Ghana is dominated by imported processed products and the per capita milk consumption is as low as eight kilograms per capita per year, compared to Africa's average of 35 kilograms. Milk and dairy products are the least-consumed food group among the general Ghanaian population, but some good news is that nutrition education to Ghanaian mothers and household wealth showed that it is associated with an increase in dairy consumption. Fresh, boiled milk, evaporated, condensed milk and a local cheese, Wagashi, are some of the most commonly used products.

A Dairy Research, Improvement and Innovation Consortium (DRInC) was established in Ghana in 2016 with support from the Skills Development Fund. DRInC is made up of researchers and experts from across various units within the college of basic and applied science of the University of Ghana. Their vision is to be a one-stop shop for all dairy-related issues across the value chain in Ghana and the West Africa sub-region.

Rafael Cornes from the Pan-American Dairy Federation shared his view and research on dairy's place in the diet of Latin Americans. Milk and dairy intake are supported by the national FBDGs of almost all South American and Caribbean countries. The FBDGs generally recommend two to three portions of dairy a day - depending on the age group - and they mainly recommend full-cream milk. The per capita intake of milk and dairy in South America is 165L/capita/year while in the Caribbean, the per capita intake is much lower with an average of 70L/capita/year. Some reasons for the low consumption he gave were the origin of the population who historically did not consume much milk; lack of policies; and certain detractors and myths about drinking milk.

Lastly, as part of this session, Dr Connie Weaver presented a most interesting talk on the role of dairy during the life

course. She emphasized the role of the dairy matrix, the nutrient density of milk and dairy and the important role it plays in skeletal health. She referred to studies that illustrate how difficult it is to replace the nutrients in dairy foods within a healthy diet. These studies showed that non-dairy food combinations identified via linear programming are not reasonable substitutes for dairy foods in the diet. Whether replacing current intakes (about 1.8 servings of dairy per day) or the recommended three servings for those of nine years and older, the large amount of food needed to meet the needs, increased calories, and higher cost, seem untenable. Replacing dairy in the diet will surely require trade-offs that might be very costly health-wise.

A whole session, as mentioned earlier, was allocated to School Milk Programmes around the world. During this session, Ms Arlene Mitchell, the Executive Director of the Global Child Nutrition Foundation (GCNF) presented an excellent talk on School milk and / or dairy programmes for long-term food & nutrition security. GCNF's mission is to work together with government leaders and a diverse network of partners around the world in support of sustainable and nutritious school meal programmes that give every child the opportunity to learn and thrive. She emphasized some terminology, namely to explain and define 'Food and nutrition security' that exists when all people at all times have physical, social and economic access to food, which is consumed in sufficient quantity and quality to meet their dietary needs and food preferences...; while 'School meal programmes' involve meals served by a public or private school on a non-profit basis to children attending the school, including a programme under which federal assistance is received. Lastly, she defined 'School feeding programmes' as programmes that targeted social safety nets that provide both educational and health benefits to the most vulnerable children. In this context, school milk and dairy products refer to milk and any of the food made from milk - constituting a significant portion of (rather than a minor ingredient in) the school food menu. According to the GCNF Global Survey questionnaire, "dairy products" is an option on the food item list - giving children a choice between "unsweetened" or "sweetened" dairy milk and yoghurt, which are options on the beverages list.

She also stated current scenarios that influence nutrition security and mentioned that there was a dramatic worsening of world hunger in 2020. This was likely to be related to the fallout of COVID-19. A multi-agency report estimated that around a tenth of the global population (up to 811 million people) were undernourished during 2020. The number suggests that it will take a tremendous effort for the world to honour its pledge to end hunger by 2030. Another issue raised was the fact that according to the World Bank's Commodity Markets Outlook report in April 2022, the war in

Ukraine has altered global patterns of trade, production, and consumption of commodities in ways that will keep prices at historically high levels through to the end of 2024, exacerbating food insecurity and inflation.

She also reported on the three faces of malnutrition in 2021 that are reflected in the following statistics: 149 million children under five are affected by stunting (too short for their age); 45 million children under five are affected by wasting (too thin for their height); while 39 million children under five are affected by overweight.

She further referred to the Global Nutrition Report of 2021 which showed that our diets are increasingly harming our health and the planet. Diets worldwide are far from being healthy and have not improved over the last decade. The following points were highlighted:

- Fruit and vegetable intake is ~50% below the recommended five servings/day that is considered Healthy.
- Legume and nut intakes are over two-thirds below the recommended two servings/day.
- Red and processed meat intake is rising and at more or less five times the maximum level of one serving/week.
- Consumption of sugary drinks (not recommended in any amount) is also increasing. No region meets recommendations for healthy diets.
- Low-income countries still have the lowest intakes of key health-promoting foods (fruits and vegetables) and the highest levels of underweight.
- High-income countries have the highest intakes of foods with high health and environmental impacts, including red meat, processed meat and dairy, and the highest levels of overweight and obesity.

The report also showed that diet-related disease and mortality rates are large and increasing in most regions:

- Deaths due to poor diets have grown by 15% since 2010, which is quicker than the population growth.
- 26% of all adult deaths/year are diet-related. That is 12 million NCD deaths in adults (with the highest rates in Europe and North America).
- No region is on course to meet the SDG of reducing premature mortality from NCDs by 2030.
- Every region faces the immediate challenge of addressing dietary risk factors and reducing mortality from diet-related NCDs.

The harmful impacts of our diets on the planet are alarming and increasing. Global food demand is creating 35% of all greenhouse emissions and is using substantial and rising amounts of environmental resources.

What is the role of School Meal programmes in all of this?

The 2021 Global Survey of School Meal Programmes showed that ~330,283,870 children of all ages received school food in the school year that began in 2020. Excluding preschool, the school feeding coverage rate for school-aged children was 27%.

As part of the School Meal Programmes, the provision of milk and dairy (milk or yoghurt) in school meal programmes vary between different countries as follows:

- Low-income countries: 15%
- Lower middle-income countries: 23%
- Upper middle-income countries: 61%
- High-income countries: 71%

When looking at all the different types of dairy in School Meal Programmes, the picture looks as follows:

- Low-income countries: 35%
- Lower middle-income countries: 43%
- Upper middle-income countries: 82%
- High-income countries: 94%

Ms Mitchel however also pointed out that there are still many children worldwide who do not consistently receive the drink milk or consume dairy products regularly. Some of the gaps she mentioned were:

- 112 million school-aged children are currently receiving school meals, but not dairy products.
- >791 million school-aged children do not receive any school meals (whether out-of-school or enrolled).
- A significant portion of the >290 million preschool children (ages 2-5) in the world do not receive dairy products (175 million pre-schoolers are not enrolled in any pre-primary school).
- College students and other youths (aged 18-21) who do not consistently drink milk or consume dairy products.

School meal and milk programmes can be seen as the golden key for the dairy industry to remain part of the sustainable nutrition goals set for all. In this way, we can ensure that milk and dairy remain part of a healthy diet and nutrition security.

However, Ms Mitchel also pointed out some challenges that School Meal Programmes face:

- The need to identify sustainable funding models;
- The need to compete against political priorities;
- Looking at investments required for building human capacity and infrastructure;
- Handling the difficulty of establishing and enforcing standards and accountability;
- Looking at complexity and coordination needs due to the multi-sector nature of the programmes;
- Addressing the need for more compelling evidence of effectiveness across sectors;

- Addressing the lack of healthy, long-lasting public-private partnership models;
- Sustaining public and political support (especially in long-standing programmes);
- The lack of adequate local food supplies in many locations where children are in need;
- Increases in both programme costs and requirements (e.g., food, fuel, transport, food safety, diet diversity, reporting, etc.);
- Difficulty in reaching all children in need across their first 8,000 days via school-based programmes (examples: pre-schoolers, orphans, children out of school due to disabilities, child marriages, child soldiering, distances between home and school, etc.); and
- Lactose intolerance; cost of a product; transport of a product that is mostly water; packaging, cost and environmental impact; effect of dairy production on the environment; lack of dairy supplies in many locations; changing tastes (from liquid to solids); pushback regarding flavouring and—especially—sweetening; and food safety (both for milk liquid and dry milk).

But at the same time, Ms Mitchel also suggested some valuable solutions to the possible challenges which the dairy industry should focus on.

To develop new/different approaches, for example:

- Finding ways to reduce costs (especially product, packaging, transport, storage);
- Finding solutions to environmental issues (animal production, packaging, and transport);
- DO NOT PUSH sweetened, flavoured products;
- Is biofortification an option?
- Developing new partnerships (tech industry, creative bulk transport, political entities such as AU, regional economic groups, etc.);
- Looking into new/flexible business models (social enterprises, local franchising);
- Ensuring local economic development opportunities, especially for youth; and
- Developing models to introduce dairy at young ages (preschool).

One of the most interesting points she mentioned that is of specific value to the South African market, is the fact that one should not push for sweetened dairy products. Her point was that it is more important to look at the long-term goal. Do we want our product to feature now? Or do we in the long term want to remain on the right side of policymakers and the entities determining our national FBDGs? The value of keeping dairy on the radar and within the FBDGs may be more important than fighting for sugar-sweetened dairy now.

As the dietitian of Milk SA's CEP, I would like to express my sincere appreciation to the South African National Committee of IDF and Milk SA for the opportunity to once again attend this symposium. Not only is the knowledge gained of tremendous value, but also the ability to meet and network with one's peers in the international arena. Thank you!

Prepared by

Maretha Vermaak

Project Dietitian of the Consumer Education Project of Milk SA



REPORT

by Jompie Burger

Standing Committee (SC) meetings attended:

- **9 SEPTEMBER 2022**
IDF NATIONAL COMMITTEES (BY INVITATION ONLY)

The meeting was attended on behalf of Mr Edu Roux who also participated electronically.

- **9 SEPTEMBER 2022**
IDF SC ON MICROBIOLOGICAL HYGIENE

The meeting was attended as observer.

- **9 SEPTEMBER 2022**
IDF SC ON RESIDUES AND CHEMICAL CONTAMINANTS

The meeting was attended as observer.

- **10 SEPTEMBER 2022**
IDF SC ON STANDARD OF IDENTITY AND LABELLING

During the roundtable discussions on FOPNL and national regulatory developments and emerging issues, the South African situation was reported on, particularly that FOPNL is contentious due to a lack of consensus on user-friendly labelling. The prediction was noted that South Africa would likely end up with a warning label system. The endeavours were shared on how Milk SA had set up a specific team of nutritionists in South Africa to encourage the government to revisit their approach towards warning labels on dairy. Also, the importance of animal welfare was shared and that a Milk SA task team under the sustainability committee had been established to assess the way forward on animal welfare labelling and that Milk SA is currently revisiting compositional standards and misuse of labelling in the market, relating amongst others to dairy alternatives. Also noted was the work on compositional standards, that current regulations are challenging because of not being fully aligned with GSUDT and 30 years of a precedent of using the term “milk” if it is qualified by the plant source. The notion for support for position papers on animal welfare, environmental management, and CO2 emissions, particularly guideline information to inform national positioning, was noted.



Interview with
Jompie Burger

Programme of Work

1. CCEXEC 81 & 82 (CCEXEC. Executive Committee of the Codex Alimentarius Commission. Comments of the 28 Member States of the European Union)

The ongoing debates within CCEXEC around Codex process and science—specifically the work on the Codex Statements of Principle which dictate how Codex considers scientific evidence and risk assessment when advancing standards; and work on a veterinary drug compound not used in dairy production, have caused controversy. It was noted that IDF needs to monitor this work very closely as precedents set on these matters could impact future dairy priorities. Ongoing work in CCEXEC on new food sources and production methods was also noted. This work is intended to determine what Codex still needs to do to address new food sources, including plant-based foods and cell-based fermentation technologies, along with 3-d printing and insects. A consultation has been circulated to all members, which IDF responded to with a strong position to protect the GSUDT. IDF also met with CCEXEC via the Codex Vice-chairman from Chile. The outcome of this work remains unclear but will be discussed at CCEXEC 82.

2. CAC (Codex Alimentarius Commission or CAC is the body responsible for all matters regarding the implementation of the Joint FAO/WHO Food Standards Programme)

Members of SCIL were informed that many of the items noted about CCEXEC are also likely to spill over into CAC, including a possible vote on the veterinary drug issue. The meeting also took note of other IDF monitoring and participative activities of IDF in this regard.

3. CCFICS (Codex Committee on Food Import and Export Certification and Inspection)

3.1 Codex Food Fraud guideline

IDF has submitted comments that would benefit CCFICS from great SCSCIL involvement. Commenting on all further stages is to take place. Milk SA is represented on this IDF action team.

4. CCFL (Codex Committee on Food Labelling)

4.1 Trans fatty acid FA labelling

IDF has replied to Codex regarding developed positions in the past with a focus on distinguishing between ruminant and industrial trans fatty acids (ITFA).

5. CCFO (Codex Committee on Fats and Oils)

5.1 Ghee butter

A request for alignment of copper and iron for ghee in Codex Committees CCMMP and CCFO is under discussion.

6. ISO work on plant based products

The committee discussed the development of a new version of the draft which has been shared with the working group and circulated to SC members. It is clear that the work on the draft is to continue into 2023.

7. GSUDT and the use of dairy terms

The international influence of the Codex General Standard for Use of Dairy Terms (GSUDT) was discussed and that it is critical that the GSUDT be followed. A webinar was proposed to take a deeper dive on GSUDT with a focus on SCSCIL members and other technical experts.

Other matters that received attention included animal welfare labelling which will require more coordination with other standing committees. The lactose exemption from FOPNL and taxes / marketing restrictions is really important, so it should be an area of focus and there may be some countries where coordination is needed. A possible action is to develop a plan to better communicate the current IDF lactose document.

10 SEPTEMBER 2022: IDF SC ON FOOD ADDITIVES

The Standing Committee has on behalf of IDF, the main responsibility for adequately monitoring the additive work of CCFA and JECFA in so far as it affects additives, processing aids, carriers, flavours and colours and for providing advice on any implications for the work of other IDF SCs.

The programme of work dealt with amongst others:

- The Codex Committee on Food Additives (CCFA) alignment of dairy standards with GSFA. The IDF comments were discussed as well as the progress made with the below, being the third set of dairy standards to be reviewed:
 - The Standard for Mozzarella, (CXS 262-2006)
 - The Standard for Edible Casein Products, (CXS 290-1995)
 - The Standard for Milk Powders and Cream Powder, (CXS 207-1999)
 - The Standard for Fermented Milks, (CXS 243-2003)
 - The Standard for Evaporated Milks, (CXS 281-1971)
 - The Standard for Sweetened Condensed Milks, (CXS 282-1971)
 - The Standard for Dairy Fat Spreads, (CXS 253-2006)
 - The Standard for Cream and Prepared Creams, (CXS 288-1976)
 - The Standard for Dairy Permeate Powders (CXS 331-2017)

Additional matters that were discussed included:

- An explanatory document for CCMMP (Codex Committee of Milk Products) standards;
- Proposed amendments to the food additive provisions of the Codex Commodity Standards for Milk and Milk Products (CCMMP);
- Proposed amendments to Tables 1, 2 and 3 of GSFA (Codex General Standard for Food Additives)
- relating to the alignment of the Codex Commodity Standards for milk and milk products (CCMMP); and
- That of CCFO (Codex Committee for Fats and Oils) regarding dairy categories.

10 SEPTEMBER 2022: IDF SC ON NUTRITION & HEALTH AND SC ON STANDARD OF IDENTITY AND LABELLING

The joint meeting was attended as observer.

10 SEPTEMBER 2022: IDF SC ON ANIMAL HEALTH AND WELFARE

The objective of the Standing Committee of Animal Health and Welfare (SCAHW) is having dialogue and discussion on - and form consensus about - new developments in the dairy sector field of animal health and welfare through:

- Consideration and assessment of the effects of cattle diseases on animal welfare and vice-versa, public perception of milk production, costs of production and safety, quality and suitability of milk for human consumption;
- Maintaining relations and cooperation with intergovernmental bodies, like FAO and OIE, and non-governmental bodies, like IFAH, ICAR or EAAP, on behalf of the dairy sector in the field of animal health;
- Maintaining contact with other IDF bodies as appropriate, supporting their work with regard to animal health and in particular in the context of achieving an integrated food chain management approach throughout IDF activities; and
- Contributing to raising awareness of industry programmes regarding work items such as AMR in mastitis pathogens; animal health and sustainability; and animal welfare.

In respect of the programme of work, attention was given to the following:

▪ Reproductive technologies for dairy cattle

The Action Team has been working for a number of years, with the goal being to produce two factsheets per year. In the past two years, Artificial Insemination, Embryo Transfer, Reproductive Hormones, and Genomic Selection have been produced and drafted by an intern at NMP during June/July 2022.

▪ Fact sheets under review include:

- Reproduction - Fact Sheet: Sexed semen
- Reproduction - Fact Sheet: Gene editing

▪ Sensors for animal health and productivity: Novel ways to use sensor data to improve metabolic disease management.

After completion of the mastitis section, the Action Team decided to go disease by disease, starting with metabol-

ic diseases. The group has met virtually a few times, as well as physically in Copenhagen in October 2021. The discussions ended up diving into the definitions of metabolic disorders. The AT is now a very small group that understand metabolic disorders. They are not necessarily experts, but do know about sensor systems. The AT will liaise further with experts in this field.

▪ Factsheet on Management of calves from birth to weaning

The interest of this group started with cow calf separation, but now based on the committee input, it has become quite broad. The AT had a number of webinars on topics related to calf rearing which have been very well attended and, very well received. The first Factsheet on keeping calves in pairs was in the process of development at the time of the SC meeting.

▪ Management of calves from birth to weaning

The Action Team has been quite productive with regular meetings. There is still the issue of the sponsorship for the work of IFCN.

▪ New work items: Guidelines for novel approach to manage milk quality on farm.

It is the view of members of the action team that this initiative will help with the different protocols that exist worldwide, as a guideline on how to conduct better troubleshooting and how to support dairy farmers more constructively, is lacking. It would also help to prioritize and interpret the findings, during support to dairy farmers. The approach is inspired by the work with the sensor-based mastitis management and now the metabolic disease management. The project considers the goals, values, motivation, and available material for working with milk quality important. It is an interdisciplinary approach, which at first will be subjected to a desktop study to identify the most important areas and risk factors for milk quality and udder health.

South Africa is a member of the Action Team and has already presented all relevant guideline documentation published by the Dairy Standard Agency (DSA).

11 SEPTEMBER 2022: IDF SC ON DAIRY SCIENCE AND TECHNOLOGY

The meeting addressed the programme of work as provided for in the SC's objectives for the year which included:

- Engagement with SCDST members, newcomers and potential IDF AT experts;
- Development of a sustainable strategy on publications;
- Engagement with young scientists;
- Preparation and publication of additional Fact Sheets, in particular those that contribute to adding information to the Milk Tree;
- Reintroduction of regular symposia, such as fermented milks and dairy products structure (platform for young scientists and publications). Proposal of an action plan to find countries/National committees who are willing to host and organize such an event;
- SCDST participation on TF Ultra-processed foods;
- SCDST participation on AT Flavoured and sweetened dairy products;
- Digital dairy, molecular methods application, discussion on -omics;
- Novel use of milk and whey permeate;
- Exploring of future work on the area of non-animal sources milk;
- Exploring the relevance of microplastics for the dairy sector, the importance at farm and animal level, and the impact of processing; and
- Planning a virtual event on fermented milk and dairy

▪ Other work items under consideration including New Work Items

- Microplastics: Feedback from SPCC

The joint working group of SCDST and SC RCC on microplastics wrote an internal briefing sheet, which shows the knowledge gaps. It is a dynamic topic with a hesitance to highlight the issue in the dairy chain in public.

▪ Feed additives, influence on milk composition, stability, and flavour

The topic was proposed as a priority item for 2023 to the SPCC.

▪ Lab-produced proteins such as beta-lactoglobulin and others (including sustainability)

The SC DST discussed the topic of lab-produced proteins similar or equal to dairy proteins several times. A first internal IDF board guidance on the topic exists, dated 25 June 2021. At the Global Dairy Conference in

Copenhagen in October 2021, two presentations about lab-produced dairy-like proteins were given.

Significant investment is going into the sector. Often the technology is called "precision fermentation". IDF places importance on the use of dairy terms in accordance with Codex Alimentarius, that milk is mammal milk and dairy products made from natural mammal milk. Lab-produced proteins similar or identical to dairy proteins use known technology, for example for insulin or recombinant rennet production. For direct food production, this technology is new. Genetically-engineered microorganisms are used, with trans-gens from the bovine genome inserted into the genome of microorganisms (bacteria, yeast, mould), in order to produce the desired single protein or other milk constituent.

In continental Europe, and maybe other countries, consumers are sceptical towards such technologies for food applications. For dairy farmers and farmer-owned dairy co-operatives, it is a potentially disruptive technology.

Claims of the promoters of the technology are: It is animal-free, more sustainable, lactose-free, nature-identical, a possible way to feed 10 billion people, or that microorganisms were up to 20 times more efficient than cows converting feed into food. Studies exist on the possible cost-competitiveness and of the sustainability of the technology, with mixed results. About the consumer and societal acceptance of the GMO-produced proteins similar to dairy proteins, not much is known yet. As mentioned, differences between countries and continents are expected.

12-15 SEPTEMBER 2022: IDF WORLD DAIRY SUMMIT

The theme for the summit held in Delhi, India was "Dairy for Nutrition and Livelihood" with four days of conferences, panel discussions, side events, poster session, networking, cultural activities, and technical and social tours.

During four entire days, over 1,500 national and international dairy leaders, experts, farmers, processors and producers attended 24 sessions grouped into various thematic verticals, such as Global dairy situation and trends, Dairy Science and Farming techniques and innovations, Socioeconomic and Livelihood, Nutrition and Health, as well as Sustainability and Climate Action discussions, provided by speakers and specialists from all over the world. In addition to the in-person public, global audiences could participate in the sessions online.



Above left: Union Minister Singh Tomar addressing the conference



Above right: Tea Break



Right: Gala Dinner

The following sessions were attended :

- Dairy Farm Management - Opportunities & Approaches in Small Holder Dairy System;
- Animal Disease Management - One Health Approach;
- IDF - FAO Session on - Innovative Solutions for AMR Management;
- Importance of International and Local Regulations in Food Safety;
- Field Practices to Detect and Mitigate Risks;
- Sustainable Dairy for Low Environmental Impact; and
- Dairy and UN SDGs - A Strategy for the Next Quarter and Beyond - Countries' Perspective Global Dairy Expertise Panel Discussion.

Attendance of the IDF World Dairy Summit in India was very stimulating and an eye opener in respect of the diversity in the various dairy communities. The resilience of the Indian dairy industry and government to drive a unique system of milk production by millions of small-scale farmers and convert raw milk into a variety of dairy products is certainly very unique. The support of the Indian government to make the system work is definitely key in the process of understanding the principle of how to support individual households to generate income and create a dispensation where good nutrition reaches a vast part of Indian households.

It is however questionable how such a system will remain sustainable within a fast-growing nation and how sustainable development goals will be reached. One of the concerns noted is the levels of chemical residue (antibiotics) in milk destined for human consumption. The current situation however developed a vast field of opportunities and unlocked technology that supports the system in its uniqueness. Many of the technology developments could possibly be used successfully in other parts of the world, for example in developing countries subject to factors such as culture, economies and environmental issues and established dairy value chains.

As noted in a previous report, most important is the understanding gained of the dynamics of the multifaceted dairy sector and constant interaction between IDF, ISO, Codex Alimentarius, government institutions, other parastatals and industry stakeholders. I wish to express my gratitude towards Milk SA for making the attendance of the summit possible, knowing that it allows DSA to add even more value to the South African organized dairy industry in the context of its mandate, as well as international relationships, for example the African Standardisation Organisation and related institutions in Africa.

REPORT

by Dr. Ndumiso Mazibuko

1. Background

This report gives a glance at the 2022 International Dairy Federation (IDF) Business meetings and the World Dairy Summit (WDS). It is based on the IDF business meetings attended, the Sessions of the WDS attended and the technical tour attended.

The IDF WDS is an annual meeting of the global dairy sector, bringing together approximately 1 500 participants from all over the world. The summit is composed of a series of scientific and technical sessions. The days before the WDS, are normally reserved for the IDF Business meetings. This year, the meetings took place between 9 and 11 September 2022. This was followed by the WDS, which took place between 12 and 15 September 2022, followed by the IDF WDS technical tours between 15 and 17 September 2022.

The 2022 WDS was held under the theme "Dairy for Nutrition and Livelihood". The Summit also covered the conference, panel discussions, side events, posters session, networking, and technical tours. In terms of available information by the organizers, the 2022 WDS, was attended by 1 500 national and international dairy leaders, experts, farmers, processors, and producers. In terms of the WDS, there were 24 sessions grouped into various thematic verticals, such as Global dairy situation and trends, Dairy Science and Farming techniques and innovations, Socioeconomic and Livelihood, Nutrition and Health, as well as Sustainability and Climate action discussions, provided by speakers and specialists from all over the world.

The opening ceremony was officially opened by Prime Minister Narendra Modi. Other officials from India who participated, were the Minister of Fisheries, Animal Husbandry and Dairying of India, Shri Parshottam Rupala, the Minister of Home Affairs & Cooperation of India, Shri Amit Shah, and the Minister of Food Safety. There were also several other officials from India who participated in the summit, including leaders in India's dairy industry and the agricultural sector. The sections which follow, highlight some of the discussions and observations from the 2022 WDS, based on the meetings, sessions attended, and the technical tour attended.

2. IDF Business meetings which took place between 9 and 11 September 2022

2.1 IDF Joint Steering Committee on Dairy Policies and Economics and Steering Committee on Marketing

The first of the IDF Business meetings that I attended was on the "IDF Joint Steering Committee on Dairy Policies and Economics and Steering Committee on Marketing". In the meeting, it was highlighted that several webinars had been held in the recent past, especially because of COVID-19, which drove the approach of business meetings.

Updates were given on the joint country updates and it was highlighted that IDF will continue to rotate the compiling of the joint country update reports. In 2022, this was coordinated by Canada and only 22 countries reported, which included South Africa. The countries which had not yet reported were encouraged to do so. The report highlighted that in the last six months, production trends were down in some of the countries; that China's milk production was up by approximately 7%; and that imports in China were also up. Furthermore, China is currently promoting nutrition and protein and was more focused on women. What also emerged from the meeting was that production by Russia, had decreased by 13%.

There was also a discussion highlighting that there was a great deal of pressure in a number of countries, especially in terms of front-of-pack labelling; and that there was pressure by the government in Australia, in terms of sugar and labelling. On this topic, discussions also touched on the recommendations of



the World Health Organisation (WHO) on front-of-pack labelling and Codex. It was stated that Canada had been in the process of tracking consumer behaviour over the years. Work was being done in several countries around plant-based versus animal-based products, mainly relating to the nutritional component and the impact on the environment. It was emphasized that this steering committee should tap into the work done through the steering committee on the environment. Further discussions related to work conducted on the improvement of vitamin D in the UK population. It was noted that Norway had been focusing on nutrition and sustainability in the dairy industry; that Denmark was doing work on climate labelling; and that discussions were currently underway in this regard.

It was indicated that as from July 2022, India had banned single-use plastic and had moved to a more reusable approach; and that Ireland planned to reduce carbon with 25% by 2030. The Republic of Korea is looking at the purification of water used after milking and the UK and USA are in the process of - and planning - to reach carbon neutrality by 2050. It emerged further that climate labelling was part of the farm-to-fork exercise. It was indicated that the USA and Kenya were in trade discussions, on which a close eye was being kept. It was mentioned that the New Zealand government intended amending the dairy industry Restructuring Act by the end of 2022. In terms of discussions around consumption trends, it was noted that Chile's food prices were becoming a political issue; that in France there had been food price increases and that in Germany, expenditure on food had decreased. India, China, Russia, and New Zealand were however showing strong consumption trends. Australia and Poland showed some strong consumption numbers, while India's price increases for dairy products were below inflation.

It was highlighted that work around generic marketing was ongoing in several countries, looking at topics relating to healthy nutrition, taste and enjoyment, sustainability and the milk matrix. It was mentioned that good reports on campaigns were available from a number of countries.

From IDF global marketing trends, it was clear that there was a need to understand what the impact of COVID-19 was in changing food systems, more specifically in the dairy industry. However, it was clear from the discussions that COVID-19 had a positive impact on dairy products in many countries, in terms of demand for dairy products during lockdown. It was also clear that the main drives and barriers around food markets had been well-researched and well-positioned.

It was noted that the demand for food would be impacted, as consumers' disposable income had been affected because of food inflation in a number of countries. This was an indication that in other countries, dairy prices were on the rise - fuelled by soaring inputs costs. It was highlighted that from work conducted, plant-based dairy products have been growing rapidly; however, this was from a very low base. It was stated that cheese had registered the highest per capita growth; that this was mainly in Asia; and that the growth in terms of plant-based dairy products, was mostly dynamic globally. Indonesia and India were forecasted to be the most dynamic, in terms of dairy products.

IDF highlighted some of their key projects for 2023 as follows:

- CODEX – General Standards;
- Environmental programmes;
- School Nutrition Programmes; and
- IDF Guidelines.

Key take-home messages:

- Inflationary pressures in the short to medium term;
- Plant-based dairy products show strong pressure and are expected to continue over the years; and
- There is a need for further work on health and nutrition issues, in terms of dairy products globally.

2.2 Standing Committee on Dairy Policies and Economics

Discussions highlighted that OECD had conducted work on protein alternatives, looking mainly at meat protein alternatives. This work focused mainly on opportunities in areas of potential growth. In terms of world milk production, there had been sustained growth in 2022 - although slow in some countries - and world dairy exports had declined slowly. In certain countries, much work was being conducted on reusable packaging and how to treat waste in the dairy industry. It also emerged that there was an action team on resilience in the dairy industry. In conclusion, it was highlighted that several items were covered in the IDF Joint Steering Committee on Dairy Policies and Economics and Steering Committee on Marketing.

The following standing committees were attended with observer status:

- Standing Committee Meeting on Nutrition and Health jointly with Standing Committee Dairy Science and Technology;
- Standing Committee Meeting on Dairy Science and Technology;

3. World Dairy Summit 12 to 15 September 2022

On 12 September 2022, the World Dairy Summit commenced under the theme "Dairy for Nutrition and Livelihood". The summit also covered the conference, panel discussions, side events, posters session, networking, and technical tours. The opening session was attended and addressed by the Hon. Prime Minister of India, Shri Narendra Modi. The evolution of India's dairy industry and its impact on livelihoods in India were highlighted in the opening session. In his opening remarks, the Prime Minister said India was self-reliant in terms of milk and dairy products and had the capacity to be a future global player in exports.

There was also an indication that over the past eight years, milk production in India had grown by more than 40%, with an average growth of 6% per year. It was stated that India had a National Dairy Development Plan and that dairy production is very important to the rural economies of India. The Prime Minister also mentioned that milk production had over the years, been part of India's tradition. It is important to note that in India, milk production is done by the masses - by farmers with between one and three animals. It was noted that the funds go directly to the farmer and that this is done through a digital payment system. There was an indication that the government and the private sector are working together on a collective approach to sustainable food systems.

3.1 World Dairy Leaders' Forum – Dairy in the next 25 years

The Inauguration & address by the Prime Minister was followed by a session titled "World Dairy Leaders' Forum – Dairy in the next 25 years". The objective of this session was to envision the future of the dairy industry by listening to world dairy leaders' forecasts for the next 25 years; how they foresaw the sector developing; and their companies' strategies to keep nourishing the world with safe, nutritious, and sustainable products. In the panel discussion and presentations, the focus was on the top dairy companies globally and how they had performed over the past few years. The discussions also included the current location of these companies and inter-regional main purchasers of dairy companies. What clearly emerged was that some of the dairy companies had grown over the years; and that the top 20 world dairy companies had grown in 2019/20 by between 3% and 12%, with some having declined by between 1% and 4% - in terms of turnover.

3.2 World Dairy Outlook 2022

The session on the "World Dairy Leaders' Forum – Dairy in the next 25 years", was followed by the session on the "World Dairy Outlook 2022". The objective was to provide the Summit participants with an overview of the environment in which the dairy sector is operating around the world. In the discussions, it was noted that milk production had grown by 2.1% between 2020 and 2021.

Milk production from cows grew by 1.6% in 2020/21 and the Compound Annual Growth Rate by 2% (2010/21). In terms of buffalo milk, production grew by 5.2% in 2020/21 and the Compound Annual Growth Rate by 4.2% in 2010/21. In 2021, the world production of cow's milk was at around 749 billion kilograms, with the Asia share at 32%, the EU at 21%, North and Central America at 18%, South America at 9%, other European countries at 10% and Africa at 5%. Regional development of cow's milk production between 2010 and 2021 grew by 4.5% in Asia, 0.7% in EU 27, 1.5% in North and Central America, 0.2% in other European countries, 0.4% in South America, 1.8% in Africa and -0.4% for Oceania. Cow's milk delivery between 2020 and 2021 grew by 0.5%, and the Compound Annual Growth Rate between 2015 and 2021 by 1.1%. The outputs of different dairy products between 2020 and 2021 were as follows:

- Butter and butter grew by 0.9%;
- Cheese grew by 2.9%;
- Whole Milk Powder grew by 1.4%;
- Skim Milk Powder declined by 1.5%;
- Liquid milk declined by 0.4%;
- Condensed milk declined by 1.5%; and
- Whey powder grew by 2.8%.

The per capita consumption of dairy increased by 1.4% between 2020 and 2021 and the Compound Annual Growth Rate increased by 1.1% between 2010 and 2021. In terms of export share, the key exporters are the EU 27, New Zealand, the United States, Australia, the United Kingdom and the Rest of the World, amongst others. In the presentation above, the key take-home messages were as follows:

- "The below-average 2.1% growth of global milk reflected the difficult supply situation especially in the key exporting regions, caused by the sharply increased costs of energy, animal feed and fertilizer. The two underlying growth engines remained quite consistent over the past few years: production in the milk-deficient regions and buffalo milk production.
- Global cow's milk deliveries remained quite stable in 2021 (+0.5%) and were limited in the main exporting regions,

particularly in the second half of the year. The total output of dairy products showed a lower growth compared to the long-term trend for most of the product categories.

- Global per capita consumption increased by 1.4% to 118.2 kilograms in milk equivalents in 2021.
- Prices of dairy commodities were still impacted by restrictive measures to fight COVID-19 in the first half of the year and were driven by the economic recovery, limited supply and overloaded supply chains in the second half of 2021".

It also emerged from the discussions that milk supplies should increase slightly in 2022; and that the current slowdown in global milk output is directly related to higher costs of production and weather events. It was highlighted that, after withstanding the global COVID-19 pandemic, which changed how consumers shopped and where they ate, the dairy sector is facing a new challenge — inflation. Dairy trade is slowing down because of inflation and sluggish economic growth. It is also important to note that there is great uncertainty regarding the long-term impacts of inflation and geopolitical issues.

In Understanding changes in dairy consumption in the world presentation, it emerged the COVID-19 crisis created a strong increase in the demand for dairy products. After the period's increase, the situation is almost back to normal, but with a positive tail effect. In terms of 2022, inflation rates are creating new uncertainty for the near future. It also emerged that the uncertainty surrounding the Ukraine war might become an even bigger problem. In conclusion, the presentation highlighted that the long-term prospect for the milk and dairy sector is optimistic (even though some economic and political conflicts and issues remain a great concern for the near future). The dairy industry will be expected to contribute to the triple challenge by addressing food security and nutrition, enhancing resource use and sustainability and fostering livelihoods and rural development.

3.3 Evolution of Dairying – A livelihood perspective

The session on the “*Evolution of Dairying – A livelihood perspective*”, highlighted that some of the challenges facing the Indian dairy industry include climate change, blaming for GHG emissions, feed resources, poor infrastructure and storage facilities, lack of market access and information, lack of access to innovation, animal welfare and climate change. It was also mentioned that there is a need to strengthen the dairy sector's contribution to reducing food insecurity and malnutrition and invest in capacity building for farmers, bridg-

ing the gap with science and fostering Peer-to-Peer exchange. Furthermore, there is a need to adopt a holistic approach that puts agriculture at the centre, respecting the diversity of farming systems and farmers as people. From the panel discussions, it was clear that women play a critical role in the Indian dairy industry and that there is a need to increase their meaningful participation. The panel discussion also took us through the concept of milking for money. It was said that women can play a critical role in increasing the productivity of cows and buffalo in India.

From the presentations, it was noted that dairy impacts the livelihood of approximately one billion people globally. There are approximately 121 million farms and it was indicated that globally, there are three major dairy farm types:

- Small farms (household perspectives): These have one to nine cows, dairy is one income source, 50% of the milk is consumed on the farm, and 50% is sold;
- Medium-sized farms (family labour perspective): Work is mainly done by the family, the size in developed countries is 10 up to 100 (can go up to 300); and
- Larger farms (business perspective): Work is done mainly by employees, the size in developed countries is > 100 cows or more and the expected ROI is generated.

There was also an indication that since July 2021, there had been no growth in the world's milk supply - if we exclude India and Pakistan - and that Competitive farming systems are key globally, in any agricultural sector.

3.4 Dairying Beyond Milk

The next session attended was “*Dairying Beyond Milking*”. This panel commenced with discussions about ecosystems, followed by discussions about carbon sequestration, with an indication that there needs to be more research on carbon sequestration. There was also a presentation and discussions around addressing the challenges in the dairy sector of India, mainly focused on start-ups in India. With regard to cows in India, nothing goes to waste, as they are milked and the cow urine and dung are used, while some also focus on breeding.

Certain of the challenges faced by start-ups in India, include licences and compliances, competing with giants, supporting bulls and old cows and high fodder costs. In some areas in India, there were challenges such as high milk production costs, poor milk quality (antibiotic residue in milk) and high veterinary care costs. It was noted that India has approximately 50 million smallholder dairy farmers, with 80% of the farming done by women. In the discussions through FAO, delegates were taken through the Global Animal Disease Information

System. It was indicated that global challenges for global milk security, include AMR, Infectious Agents transmissible with milk and transboundary animal diseases (in terms of severe impact on milk production and trade limitations).

FAO indicated that they are supporting countries to build resilience & strengthen capacities to prevent, detect and respond to threats to agri-food systems. FAO is a neutral and specialized agency that collects, hosts and leverages disease information. It was said that there should be early warning frameworks, in terms of animal health issues. In addition, risk communication and the issue of collecting the right data are important.

3.5 The socio-economic perspective in a world of disruption

The session on “*The socio-economic perspective in a world of disruption*” covered a presentation by OECD, which was on “*Dairying in global agricultural commodities markets under uncertainty*”. The presentation was mainly about the OECD-FAO Agricultural Outlook 2022 – 2031, which highlights that dairy contributes substantially to global protein consumption. According to the outlook, the world population is expected to grow from 7.8 billion in 2021 to 8.6 billion people in 2031.

This corresponds to an average annual growth rate of 0.9%, a slowdown compared to the 1.1% p.a. rate experienced over the last decade. Population growth is concentrated in developing regions, particularly Sub-Saharan Africa, which is expected to have the fastest growth at 2.5% p.a. over the coming decade. Furthermore, Global demand for agricultural commodities (including for non-food uses) is projected to grow at 1.1% p.a. over the coming decade - well below the growth experienced over the last decade (2% p.a.). This is mainly due to an expected slowdown in demand growth in China (0.6% p.a. compared to 2.3% p.a. over the last decade) and other middle-income countries and in global demand for biofuels. Globally, the average food availability per person is projected to grow by 4% by 2031. Staples and animal products will account for 70% of additional calories. World milk production is projected to grow at 1.8% p.a. over the next decade (to 1 060 Mt in 2031), which is faster than most other main agricultural commodities.

The projected growth in the number of milk-producing animals is expected to be strong (1.1% p.a.), especially in regions with low yields such as Sub-Saharan Africa and in major milk-producing countries such as India and Pakistan. World dairy trade is projected to expand over the next decade to reach 14.2 Mt in 2031 - 15% higher than during the base

period. The growth rates vary across dairy products with the strongest growth at 1.7% p.a. for SMP, 1.6% p.a. for cheese, 1.5% p.a. for whey powder, 1.3% p.a. for butter and 0.9% p.a. for WMP. Most of this growth will be met by increased exports from the USA, the EU and New Zealand. These three countries are projected to jointly account for around 65% of cheese, 71% of WMP, 74% of butter, and 80% of SMP exports by 2031.

In the short term, projections may be affected by Russia's war against Ukraine which has significantly heightened the uncertainty of agricultural supply and demand conditions and will slow down economic growth. Market impacts could be felt in related sectors such as dairy, through increased input costs such as fertilizer and feed. Disruptions in the global fertilizer trade could lead to higher input costs across the world. It could also increase the interest in circular agriculture with a focus on less external inputs.

3.6 Impact of Dairy on Nutritional Security

The session on the “*Impact of Dairy on Nutritional Security*” was also attended. This included discussions around “*Sustainable Food Systems for Nutritious and Affordable Food: why they matter and how to get them*”. The presentation highlighted that there is a need for governments to prioritize healthy diets and that there is a need to build demand for nutritional food and generate supply. Current food systems are bad for human health and planetary health; they need to be transformed. Dairy foods remain essential for good health and are an excellent source of nutrients. It was emphasized that dairy is a major contributor to nutrient requirements at every age. Plant-forward diets are complemented by dairy to meet protein and micronutrient needs and to benefit health. It was noted that diet can have a major impact on skeletal growth, especially during childhood and that milk avoidance is associated with an increased risk of fracture.

3.7 Innovative Approaches to Improve Dairy Processing Efficiencies & Product Quality

The following session attended was on “*Innovative Approaches to Improve Dairy Processing Efficiencies & Product Quality*”. It was indicated that some of the basic components to consider towards Net Zero, include saving energy / water by not using it unnecessarily and that optimized efficiency / availability will have a positive impact on sustainability performance. It

was said that where energy and water consumption cannot be avoided, it should be recovered. It was highlighted that a move from fossil fuel to green energy will be a major step towards net zero greenhouse gas emissions. In addition, it was indicated that technology will go a long way towards energy saving and carbon water footprint reduction. This session also highlighted some of the innovations that countries like the USA have, to drive consumer demand. The activities, funded through the checkoff system in the USA dairy industry, were detailed. There were further discussions on innovative approaches to improving dairy products during processing, storage and transportation in India.

3.8 Feed, Food and Waste

Another session attended was on “Feed, Food and Waste”. This session focused on managing feed and looked into food and waste in the dairy industry. The discussions emphasized that feeding for the future, is about solving a major global problem. Sustainable dairy farming can push to Net Zero, so that dairy farms can supply highly nourishing and safe food, while sharply reducing their carbon footprint. The discussions also centred on addressing global food security and food safety, environmental sustainability, animal welfare, social ethical concerns and social sustainability farming and fair value chain. Globally, cropland area changed by +15% and the area of permanent pastures by +8% since the early 1960s. In contrast, cropland production increased about 3.5 times, the production of animal products 2.5 times, and forestry 1.5 times. Some of the things that were highlighted to reduce carbon footprint include increasing milk production per cow, reduction of age at first calving, reduction of the number of replacement heifers, choice of feeding materials and manure management.

The other presentation in this session was about “Biogas Vehicle Fuel for Rural Development and Net-Zero”. The discussions around this topic were mainly about how to promote biogas, including how to improve the financial viability of biogas plants. This included discussions on improving crop yields through the use of bio-manure and ensuring the quality of biogas for vehicle application. India's model on biogas was also highlighted. There were also discussions on circular economy in dairying, covered through examples of circular economy in the Indian dairy industry. In terms of manure management, it was highlighted that traditionally, Indian farming families have been managing dung in multiple ways including manure (raw and FYM), as a supplement to fuelwood, air purification, etc. It was stated that in India, there is a need to manage dung as a commodity; to address localized needs; and to keep farmers at the core. There is a need for collaboration between the fuel and fertilizer industries in India.

4. Technical Tour

To conclude the WDS, technical tours were organized. A visit to the Saahaj Milk Producer Company Ltd (SMPCL) was incorporated on 17 October with its headquarters located at Agra, in Uttar Pradesh. The company commenced its business operations on 12 December 2014. The main objective of SMPCL is to carry on the business of purchasing and processing the milk of its members. SMPCL's current products consist of poly-packed milk, buttermilk, curd, ghee, and Paneer, with different variants in different consumer pack sizes. SMPCL has a number of farmers in the surrounding areas, who deliver milk to the MPC. The tour also included the processes of how the farmers deliver the milk and interaction between the farmers and the SMPCL Management.

5. Concluding remarks and conclusion session

In terms of the overall sessions of the business meetings and WDS, the discussions were very robust and the speakers went into detail in terms of the areas presented and discussed. The meeting and sessions also involved interaction with experts globally involved in the dairy industry, which included economists at FAO and OECD. From the Business meetings attended, it was clear that there is continued inflationary pressure globally, which is expected to continue in the short to medium term. This will have an impact on the demand for agricultural products, including dairy products. It also emerged that COVID-19 and the invasion of Ukraine by Russia, have had an impact on global economies. It emerged further that plant-based dairy products show strong pressure and are expected to continue over the next years globally. However, it is important to take note that this is from a very low base. This was an indication of the need for further work related to the health and nutrition issues of dairy products globally, highlighting the benefits of dairy products in particular. The challenges that the dairy industry would have to address, are as follows:

- Social license to operate: environment, animal health & welfare.
- Food Policies on sugar, fat and salt: Front-of-pack labelling, sugar tax, marketing ban, review of government-issued dietary guidelines.
- Multiplication of protein offers.
- The perception that plant-based products are more sustainable.
- The importance of science-based facts in the world of social media.



A medium sized production facility that turns manure into fertilizer



Goats are considered the poor man's ATM

Acknowledgements

I would like to express my sincere appreciation to the South African National Committee of IDF for the funding and opportunity to attend the Business meetings and the World Dairy Summit.



REPORT

by Dr. Colin Ohlhoff

SUMMARY

The author attended and / or participated in the following business meetings and conference sessions:

- Standing Committee Meeting on Marketing and Environment – joint meeting (Saturday, 10 September 2022).
- Standing Committee Meeting on Environment (Saturday, 10 September 2022).
- Action Team Meeting on Nutritional Indicators for Sustainable Diets (Saturday, 10 September 2022).
- Standing Committee Meeting on Nutrition and Health jointly with Standing Committee Dairy Science and Technology (Sunday, 11 September 2022) – Observer.
- Standing Committee Meeting on Dairy Science and Technology (Sunday, 11 September 2022) – Observer.
- Conference Sessions Attended:
 - Opening ceremony and address by the Prime Minister of India (Monday, 12 September 2022).
 - World dairy leaders' forum – Dairy in the Next 25 years (Monday, 12 September 2022).
 - World Dairy Outlook 2022 (Monday, 12 September 2022).
 - Various presentations in session 5 “Evolution of Dairying – A livelihood perspective” (Tuesday, 13 September 2022).
 - Various presentations in session 8 “Dairying Beyond Milk” (Tuesday, 13 September 2022).
 - Various presentations in session 9 “Animal Disease Management – One Health Approach” (Tuesday, 13 September 2022).
 - Various presentations in session 12 “Improving Productivity and Efficiency Through Knowledge and Innovation” (Tuesday, 13 September 2022).
 - Various presentations in session 15 “Impact of Dairy on Nutritional Security” (Wednesday, 14 September 2022).
 - Various presentations in session 17 “Innovative Approaches to Improve Dairy processing Efficiencies and Product Quality” (Wednesday, 14 September 2022).
 - Various presentations in session 20 “Importance of International and Local Regulations in Food Safety” (Wednesday, 14 September 2022).
 - Various presentations in session 21 “Feed, Food and Waste” (Wednesday, 14 September 2022).
 - Various presentations in session 23 “Sustainable Dairy for Low Environmental Impact” (Thursday, 15 September 2022).



The Conference Venue

OBSERVATIONS AND IMPORTANT THEMES FROM THE BUSINESS MEETINGS

From discussions it emerged that scientists are advocating the integration of various topics which are currently receiving attention across the IDF Standing Committees (SCs). Central to these are the subject fields of sustainability, nutrition, and health. Due to cross-disciplinary overlap and shared interests, it necessitated that a few joint SC meetings be held.

From a marketing perspective, it was evident that an on-going challenge for the sector is our ability to deal with younger consumers (Generation Z and future Generation A) and how these age groups still associate with negative sentiments around 'dairy'. More focus shall be placed on the establishment of a communication framework which will connect to the 'environment' topic. The aim is to develop a central approach which can be applied to most countries, with marketers then being appropriately equipped to communicate the positive environmental impacts of dairy to the consumer. This additionally ties into work being done on 'environmental labelling', with an action team meeting having been held in May 2022 where approximately ten guiding principles are being tabled for the dairy sector. The European Milk Forum, established in 2011, and consisting of eight member countries, seem to interact frequently in this regard.

Their primary objective is to demonstrate how milk and dairy are part of a sustainable food system at the European level, while confirming that the European dairy sector is aware of

its impact on the planet and is actively engaged towards mitigating its footprint. Although environmental references are being increasingly used by nutritionists in their communication, it was agreed that this is mostly done selectively and that it would be beneficial to have environmental experts available to scrutinize information before being communicated in the public domain. A relevant statement was that the sector should not only focus on the environment, but rather on 'sustainability as a collective' which encompasses so much more. To this extent, an action team will be established with representatives from SC Marketing, SC Environment as well as SC Nutrition and Health.

The nutritional value of dairy remains a key subject area with much effort being directed towards establishing a nutritional indicator which could be accepted among the scientific community. This originates from the limitation that Life Cycle Assessments (LCAs) typically express results on a 'per kilogram' basis which is not always practical from a nutrition perspective. The notion is that a functional unit, rather than an indicator, would perhaps be a better way to represent environmental criteria in a dietary context. The development of a nutritional LCA (N-LCA) is therefore exciting work which will challenge systems' thinking and require a multi-discipline collaboration within the dairy sector. Interesting mention was made of the wholefood matrix effect of dairy, where the sector should focus more on the unique health effects of dairy while potentially linking these with environmental benefits.

From the round table feedback, it expectedly emerged that almost all representative countries have been severely im-



Opening ceremony address by Prime Minister Shri Narendra Modi

pacted by current global market conditions including the supply of natural gas from Russia, rising production costs driven by fertilizer price increases, supply chain disruptions and exponential fuel price increases. New Zealand appear to be less impacted by energy concerns due to their hydro-electric power supply, while countries including Switzerland and Australia, noted challenges around drought and climate change impacts on their agricultural productivity. The USA has set a net zero GHG emissions goal for 2050 with their modelling indicating that this can be achieved through the implementation of various technologies and best practices. It was noted that this would require significant government funding as there are insufficient funds in the dairy value chain to enable widespread adoption of the said practices.

OBSERVATIONS AND IMPORTANT THEMES FROM THE CONFERENCE SESSIONS

A glamorous, well-attended opening session of the conference was highlighted by the presence and address of the Indian Prime Minister, the Hon. Narendra Modi. Much focus was directed on the successes of the Indian dairy industry, with the country being credited as the largest producer of milk globally. The dairy sector in India is showing resilient growth at 6% versus the world average of 2% while it is contributing approximately 23% of global milk production. Small farmers, typically milking between one and five cows, were referred to as the 'strength of the Indian dairy sector' while the co-operative model used in this country was touted as a successful approach to be considered by other smaller dairy producing countries.

Women play a crucial role in the Indian dairy sector representing roughly 70% of the workforce while being credited

as the driving force behind dairy development in the country, with their active participation stimulating well-being and economic independence. Overall success of the dairy industry in India is attributed to their ability to harness the collective production of the vast smallholder dairy ecosystem whereby close to 100 million families, mostly rural farmers, depend on dairy for their livelihood.

Mr R.S. Sodhi from the Gujarat Cooperative Milk Marketing Federation stated that "sustainability begins when stomachs are full" and this perhaps encapsulates the role of dairy and the uniqueness of the milk production system in India. The author noted numerous limitations linked to this model including the availability of fodder to stimulate and improve feed conversion efficiencies, challenges around livestock welfare and veterinary access. Cold chain and product safety concerns as well as a significantly higher emissions footprint per kilogram of milk produced were raised. This contrasts strongly with typical high production farming systems where emphasis is instead placed on factors such as developing the genetic potential of cows, having high quality feed available, placing attention on calf and heifer rearing and cow comfort amongst others. Interestingly, much reference was made throughout the conference to the role of cow manure and how the National Dairy Board envisage the establishment of a 'dung to compressed natural gas' (CNG) value chain. It would be interesting to follow the development of this initiative as transporting waste usually has a negative financial impact on the viability of its conversion into energy.

As was referenced in the Standing Committee meetings, the role of dairy in nutritional security and the progression of sustainable food systems shall remain a core focus area for the sector. Threats from marketing campaigns around the world are negatively positioning nutritious foods which can result in lost ground in what was referred to as the 'consumer desira-

bility war'. To make progress, it is essential that Governments prioritize healthy diets through national dialogues, while consumer preferences could be shifted through strategic campaigns which tap into human aspirations.

Nutrition metrics are increasingly necessary when assessing environmental impact although some work is still required to scientifically validate appropriate functional units. While essential nutrients can be obtained from a variety of sources, including milk alternatives, nutrient bioavailability should also be placed into context. This is where the concept of the 'dairy matrix' and the role between dairy and health becomes very important. Dr Connie Weaver (Purdue University, USA) delivered an enlightening presentation where, using calcium as an interesting example, it was shown that although certain foods, such as broccoli and kale, have a higher availability of this nutrient than milk, calcium absorption from milk and other dairy products is significantly higher per serving. The nutritional complexity and holistic properties of milk are what set this food source apart and should remain at the forefront of future dairy research and communication.

Significant effort over the past few years has been invested by an IDF LCA action team to revise the IDF methodology titled 'A Common Carbon Footprint Approach for the Dairy Sector' which was first published in 2015. This updated guide was officially published at the conference and serves to support the dairy industry in mitigating GHG emissions towards reducing its potential impact on global climate change. The new guide covers the full dairy value chain, also referred to as 'cradle to grave', while it includes suggestions for the nutritional value of products. IDF plans to further develop this guideline in future through the inclusion of amongst others, a specific Carbon footprint tool for developing countries, manure allocation and mitigation options as well as further integration of nutritional values. This work will tie in with the C-Sequ project

and the guidelines for the calculation of Carbon sequestration in cattle production systems, which has been in development for about four years.

The summit theme "Dairy for Nutrition and Livelihood" was fitting for the conference programme and was prominent in several of the sessions attended by the author. It also resonated with the important role that the dairy sector has locally within India. It was evident that the organizing committee made a concerted effort to provide topical variety in the sessions although the scientific content was occasionally diluted due to the attendance of various Ministers and dignitaries which, at times, were not accounted for in the programme. This negatively impacted timekeeping and the transition between sessions.

The global dairy sector continues to display resilience despite facing the vicious cycles which are currently impacting food systems – increasing fertilizer prices, food price indices reaching record levels, crude oil and natural gas price escalations as well as challenges with maritime trade and rising interest rates. Looking forward, there is an ever-increasing need for cross disciplinary research within the dairy sector which will advance our ability to convey balanced and scientifically-sound messaging around the significant benefits of dairy in healthy, sustainable diets.



Round table, IDF Standing Committee on Environment

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The author expresses sincere appreciation to the South African National Committee of IDF for the opportunity and funding to attend this prestigious event.



REPORT

by Fanie Ferreira

I consider it a great privilege to have been able to attend this occasion on behalf of the South African National Committee of the International Dairy Federation.

I found the presentations at the congress to be enjoyable and informative. Almost all presentations were done from an Indian perspective. Possibly too much focus was placed on the involvement of politicians in their industry and much of the discussion time was in my opinion lost, as a result of all the time spent on boring political ideology.

What I did find extremely interesting, was the Indian perspective on their dairy industry. One of the presentations was about "Farm Economics and Milk Production" which dealt with the economic factors in small-scale dairy farming.

Some of the factors which stood out in terms of what I am accustomed to and aware of, were the following:

- The amount of milk produced per day and the amount used by the producer himself / herself. Percentage wise it is very high.
- The number of dairy farmers (50 million).
- The average herd size (two cows per farmer).
- The average production per farmer (six litres per farmer per day).
- Total production of 300 million litres per day.
- Indian production has been growing strongly over the last decade.
- Their aim is for production to grow at a constant rate of 5% per annum.

They do however also have their challenges:

- The size of the average herd makes it difficult to survive financially; and
- The possibility of earning more money in the cities, keeps young people out of the dairy industry.

The conclusion can thus be made that in most cases, milking on a small scale is still financially sustainable in India. During the discussions, there was a remark that Austria's average herd size consisted of only eight cows and that they could survive. The success of the small farmer in India is influenced by market access, area of production and the availability of natural pasture, as well as the costs of production.

We visited *Mother Dairies*, a large processing plant near Delhi. A million litres of milk is processed there per day. Approximately 800 000 litres of the milk is pasteurized and standardized daily at 3% fat and sold in vending machines. The machines work with a token, which can be purchased and then used in the machines. One token provides 500 ml of milk. Since the consumer provides his / her own container, no packaging costs are applicable.

As is known, the average butterfat of milk produced in India is 6.5%. This is as a result of the large percentage of water buffalo that are milked. According to one of the management members at *Mother Dairies*, they pay the farmer R10 per litre for milk with a 6.5% butterfat content and the milk is then standardized at 3% butterfat. The standardized milk is then sold to the public at almost R5 per litre. According to the official, this is economically possible as high-value products are manufactured from the remaining 3.5% fat.

The manufacturer in Delhi is also known for his yoghurt and ice cream products. Because of their production system, fresh milk's shelf life is considerably shorter than what are we are

accustomed to. It is impressive how good their infrastructure is when one takes into account that the average farmer produces only six litres per day and the processor handles one million litres per day.

We also visited a milk collection point of one of the large processors outside Agra. It was interesting to see how milk literally arrived there per litre in buckets and cans, on bicycles and motor cycles. The milk is then analyzed in a very well equipped reception area. Butterfat and proteins are determined within seconds by highly-specialized equipment and a price for the amount of milk delivered appears on a screen, together with the producer's delivery number. Following this, the milk is cooled in a mass cooling tank.

In addition, we visited a larger producer who adds value by processing his cows' waste matter, namely cow manure and urine. The urine is used as additives in traditional medication and cosmetics, while the cow manure is processed into ornaments which are sold to tourists. Little waste matter is therefore lost and an extra income is generated from this.

We concluded our tour with a visit to the well-known mausoleum outside Agra, the Taj Mahal. It was impressive to witness the craftsmanship.

Lastly, the opportunity to rub shoulders with fellow farmers from all over the world, was of inestimable value. During the "Farmers Round Table", we also had the chance to compare farm gate prices and to discuss each country's unique challenges. The opportunity definitely broadened my vision and knowledge of the international dairy situation.

43% of milk produced in India is from buffalo



Each batch is tested for protein and butterfat content



Trials are underway to test various crops to determine which grow best in the Indian climate and to improve milk production



Since cows are considered holy, bulls are left wandering in the streets and countryside

