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***New IDF President***



Dr. Jeremy Hill, Fonterra's Director for Research, Science, Technology and Development, has been elected as the new IDF President, replacing Richard Doyle, who has completed his four year term.

Jeremy has been extensively involved at a senior level in the work of the IDF for more than 20 years, including serving as a member of the Board of Directors from 2006 and, previously, on the Management Committee from 2002-2006. He has also been Chair of the NZ National Committee since 2000.

***IDF Award presented to George Davey***



The 2012 IDF Award, which recognises outstanding contributions to the advancement of the global dairy industry, has been awarded to George Davey AM, General Manager for Agriculture at the Royal Agricultural Society of New South Wales, Australia.



His involvement with the IDF for more than 25 years has been mainly in the marketing area, where he has served as

President of the IDF International Milk Promotions (IMP) Group, member of the IDF Programme Coordination Committee, and Chair of the IDF Standing Committee on Marketing (SCM).

The Award recognises his many contributions to food safety and public health, especially through the development of through-chain food safety systems that have delivered substantial benefits to the dairy farming and manufacturing sectors.

The 12 months since the Parma World Dairy Summit have been another successful period for the IDF with:

➤ **5 IDF international events**

- IDF Technical Workshop Towards a Standard Methodology for Water Footprint in the Dairy Sector
- IDF Regional Conference on Domestic Milk Supply and Demand Systems
- IDF Cheese Ripening & Technology Symposium
- IDF/ISO Analytical Week
- IDF/INRA International Symposium on Spray Dried Dairy Products

➤ **4 Scientific peer-review publications**

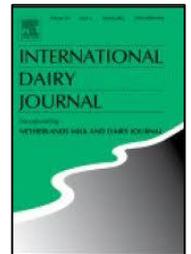


**International Journal of Food Microbiology**

- Review of Shiga-Toxin-Producing Escherichia Coli (STEC) and their Significance in Dairy Production
- Food Fermentations: Microorganisms with Technological Beneficial Use

**International Dairy Journal**

- Special Issue: Nutrition and health aspects of lactose and its derivatives
- Special Issue: IDF International Symposium on Sheep, Goat and other non-Cow Milk

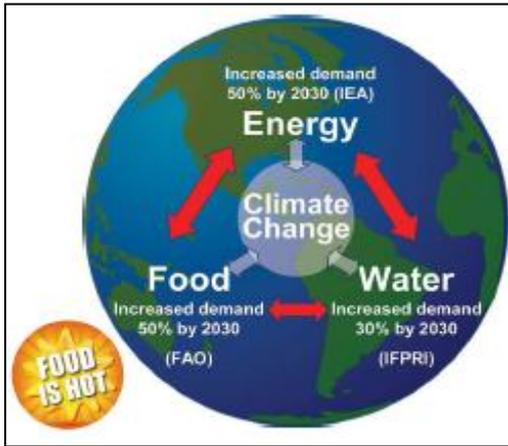


➤ **6 IDF Bulletins and Special Issues (see pages 17/18)**

- **Special Issue 1201** - IDF International Symposium on Sheep, Goat and other non-Cow Milk - 16-18 May 2011, Athens, Greece
- **Bulletin 452/2012** - Collaborative Study on Nitrate in Milk and Milk Products using a Method by Enzymatic Reduction and Photometric Determination after Griess Reaction (International Standard ISO 20541 | IDF 197)
- **Bulletin 453/2012** - Guidance for the evaluation of precision characteristics of physicochemical quantitative analytical methods for milk and milk products
- **Bulletin 454/2012** - Air Emissions from Dairy Processing and Energy Plants
- **Bulletin 455/2012** - Safety Demonstration of Microbial Food Cultures (MFC) in Fermented Food Products
- **Bulletin 458/2012** – World Dairy Situation 2012

- 10 joint IDF/ISO international Standards for methods of analysis and sampling
- 26 IDF submissions to Codex
- 3 IDF submissions to WHO – scoping on guidelines on saturated-fatty acid and *trans*-fatty acid consumption, consultation on calcium and vitamin D supplementation for pregnant women and a discussion paper on the development of a global monitoring framework for the prevention and control of Non-Communicable Diseases
- 1 FAO/IDF joint publication – Revised Guide to Good Dairy Farming Practices
- Input to the FAO Partnership on Environmental Benchmarking
- With ISO, new work on animal welfare standards, production of Standard ISO TC207 SC5/WG8 on water footprint and Standard ISO/TS 22002-3:2011 on prerequisite programmes on food safety - Part 2: Farming

**Ian Wakeling – UK-IDF Secretary**



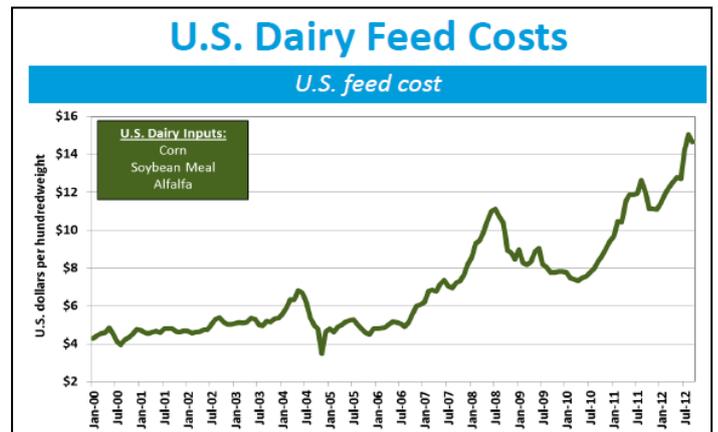
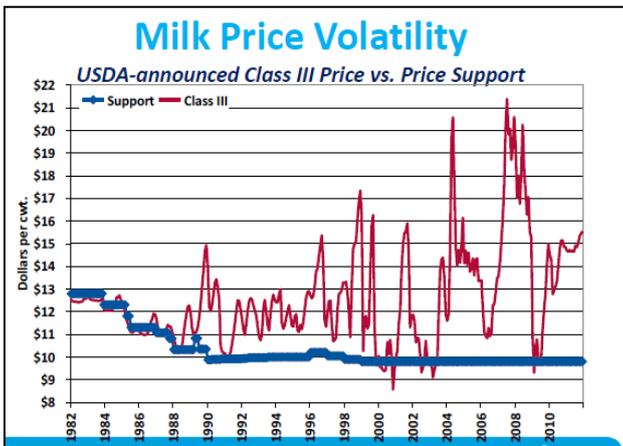
The theme of the 2012 Dairy Leaders Forum was “**Challenges to Meet Increased Demand for Dairy Products in the World in the Next Decade**” and how to achieve this by doing more with less.

The growing demand for dairy products (resulting from rising populations and growing urbanisation) has to be achieved despite the industry having less water and land to produce the milk, and this also has to be carried out whilst reducing environmental impacts.

Cees 't Hart, CEO of Freisland Campina, referred to this as “getting caught in the triangle of global constraints”, noting that, by 2030:

- Energy demand will have increased by 50%
- Demand for food will have increased by 50%
- Water use will have risen by 30%

Further problems were highlighted by Jay Waldvogel of Dairy Farmers of America. He demonstrated that, in **America**, annual production is approaching 90 million tonnes, growing at a CAGR of 1.5% and rising faster than consumption. There is increasing milk price volatility and the price of dairy feed has doubled in five years.



Production is moving from the east to the west of the country with farm sizes in the west rising from just over 500 in 2000 to almost 1,000 in 2011 but this has led to tighter margins and further volatility and Mr Waldvogel questioned whether this was sustainable, posing three questions:

- Is there a threat to milk as everyday nutrition?
- Does dairy risk becoming a niche, high-end protein?
- and
- Do we have sustainable global dairy supply?



Nicola Shadbolt (*left*) of Fonterra offered some optimism for the future by noting that the global outlook for dairy is good, with significant demand growth expected, especially from Asia and the Middle East / Africa, and there is also a growing awareness of nutrition. Cross border trade, currently \$54bn (8%) is forecast to rise to \$80bn by 2020 but the CAGR of between 4-6% is challenged by price and exchange rate volatility and differing government policies on trade.

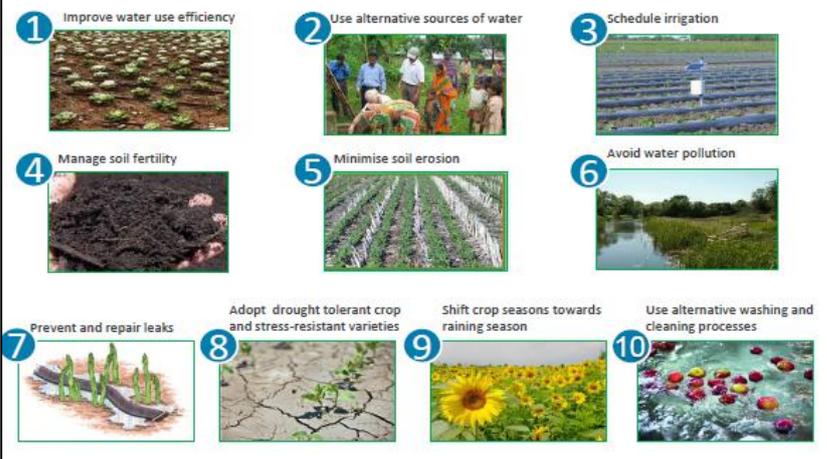
Thierry Philardeau from Nestlé (*right*) examined the **water** issue in more detail and noted that dairy products, compared to other foods, use less water to produce and are more nutrient dense. It is generally accepted that it takes about one litre per calorie of food grown so it takes between 2,000-6,000 litres of fresh water to grow the daily food of one person.



The water content of livestock products varies considerably with beef between 16,000-21,000 litres of water per kg, pork 4,600-5,900, poultry 2,800-4,500 and milk only 560-860.

He proposed that the industry should take action by encouraging investment and improving productivity, identifying 10 key principles for water savings in farms, and he showed Nestlé’s commitment to water saving as being:

## 10 Key principles for water savings in farms



Work to achieve water efficiency across our operations

Advocate for effective water policies and stewardship

Treat effectively the water we discharge

Engage with suppliers, especially those in agriculture

Raise awareness of water access and conservation

Further challenges are faced in **India** which, unlike the very large herds seen in the USA, has millions of milk producers, most of whom have two/three animals.

The industry is very labour intensive and production is growing around 4% per year whilst the population is increasing around 2% per year so consumption per head is rising. Around 45% of the milk is consumed/used where it is produced and the remaining 55% is sold with 70% going to the unorganised sector and 30% to the organised sector.

Deepak Tikku explained that the country is in the first 6 year phase of a 15 year National Dairy Plan, It began in 2012 and will increase milk production from 125 million tonnes to around 200 million tonnes, expand the size of the organised sector to handle about 60% of the milk, ensure quality and address environmental concerns.

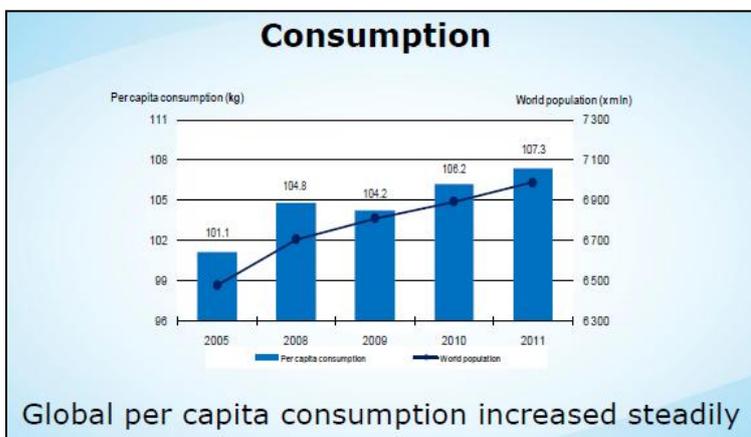
There are a number of ways that it hopes to accomplish this, which include:

- increasing the genetic potential of the animals (through using high genetic merit bulls, new semen stations and the expansion of AI delivery),
- using balanced rations to improve the nutritional value of the cow's diet
- increasing the number of milk collection points with fat/SNF testing equipment and introducing chilling facilities at strategic locations
- enrolling 50,000 people in a training and education programme.

### Overview of the international dairy industry – 5 November

Ian Wakeling – UK-IDF Secretary

The opening session of the Dairy Policies and Economics conference presented a general overview of the international dairy industry with two of the presentations reviewing the World Dairy Situation in 2011 and looking forward to the prospects for the next decade.



### Outlook

From 2000 to 2005		From 2005 to 2010	
World GNI growth	+ 13 940 Billion USD	World GNI growth	+ 16 340 Billion USD
Main contributors (%)		Main contributors (%)	
United States	24.1	China	21.2
China	7.9	United States	8.9
United Kingdom	5.9	Brazil	6.7
Germany	5.7	Russia	4.7
France	5.1	India	4.5
Italy	4.3	Germany	4.0
Japan	4.2	France	3.4
Spain	3.5	Canada	2.5

Good weather, strong markets and high demand combined to encourage farmers to produce more milk during 2011, which led to the year being one of **record output**, according to Adriaan Krijger who presented the main findings from the 2012 World Dairy Situation Bulletin.

Total milk production rose by 2.5% from 730 to 749 million tonnes, following on from a 2.4% increase between 2009 and 2010, with cow's milk up from 606 million tonnes to 621 million tonnes (+2.4%) as producers sought to extract the maximum benefit from the excellent conditions and higher prices.

The extra milk was used for the manufacture of dairy products, with all the major categories recording higher production, leading to consumption per head of dairy products increasing steadily from 106.2 to 107.3 kg/head. Cheese production moved up by 2.0% to 18.5 million tonnes, steady growth compared to the more dynamic increase of the previous year.

Both SMP and butter benefitted from the demand for protein from developing countries with SMP especially in demand, recording an 8.3% rise to 3.9 million tonnes, having fallen by 1.7% during 2010. WMP (+3.5%) and butter/butteroil were also higher with the latter showing a firm increase of 4.6%. The increased production led to global dairy trade rising by 10%, and this now represents 8% of the world's milk output.

Wholesale prices peaked in mid 2011 but then fell away with SMP moving above WMP. Over the course of the year the rises (in dollar terms) were:

SMP	17%
WMP	11%
Butter	11%
AMF	4%
Cheese	8%

The average EU milk price for the 18 major EU dairy companies was up by 11% in 2011 but is expected to fall between 5-10% during 2012.

Nestle maintained its position as the largest dairy company with US\$18.6bn turnover and the year was one of further industry consolidation with Lactalis very active in mergers and acquisitions.

Michael Griffin of the FAO looked forward to the **prospects for the dairy sector over the next decade** as he outlined the main highlights of FAO's Outlook for Dairy 2011-2021.

The next 10 years will see the rapid rise in population continuing with an estimated 680 million more people on the planet to feed. Higher incomes and rising urbanisation will add to the demand for dairy products and this will support product prices.

Dairy prices are expected to be above historical averages and milk production will rise further with a forecast growth rate of 1.9% per year with India leading the way and the USA also moving strongly forward. The contribution from developing countries will have a major influence with production from these areas expected to overtake that of developed countries during the period.

Demand will be the key driver for the sector over the forthcoming decade, both domestically and for export markets, and this will lead to a strong growth in trade, although the EU's share of the export market is forecast to fall. China's influence on dairy trade will continue with demand for powders remaining strong and New Zealand will become an important supplier of cheese to the world market.

The outlook for dairy overall is positive with the FAO predicting the sector will be amongst the fastest growing over the next decade.

*IDF Country Reports – 3 November*

***Jim Begg – Dairy UK - Member of the Standing Committee on Dairy Policies and Economics***

Members of the IDF Standing Committee on Dairy Policies and Economics (SC DPE) from 19 countries submitted country reports for November 2012. This report summarises the key points from a presentation outlining the main findings that I presented at the last SC DPE meeting held in Cape Town, South Africa on November 3, 2012.

### **Retail prices**

Except for Israel and Japan, that saw small reductions in their retail prices, most reporting countries noted increases in retail prices ranging from +0.6% in Australia to 6.3% in Finland with most other countries in the +1 to 3% range. Regarding the product category, in Germany, household consumption of butter and cheese is increasing, while purchases of milk and yogurt are decreasing with a similar trend for liquid milk in Italy, Japan and Sweden. Australia saw moderate growth in volume sales for liquid milk of +2.0% and +5.3% for modified milk. Finland and Germany are witnessing higher demand for butterfat.

## **Milk Production**

New Zealand recorded the highest production increase with 10.3%, followed by India, Australia, Israel and Norway with increases of 4.6%, 4.3%, 3.8% and 3% respectively. On the other hand, several countries reported decreasing production. It was the case for Ireland and the UK with respective decreases of 7% and 4.1% observed in the last year as well as Austria, Belgium and Denmark witnessing reductions around 1 to 1.5%. Most other countries saw their total milk production increasing by up to 2.6% including the US with 0.4%.

In various parts of the globe, milk production growth is being slowed down by higher feed costs, poor silage quality and adverse weather conditions. For example, droughts were reported in parts of the US, Japan, Italy and Germany.

## **Milk Prices**

Farm gate milk prices were mostly on the down side over the last year. The largest decreases were observed in the US, Germany, Belgium, NZ and the Netherlands with -17%, -15.5%, -14.4%, -12% and -11.8%, respectively, but also in Austria, Ireland and Sweden with each showing a 10% decline. New Zealand reported that ample global supply and a strong currency had a depressive effect on their farm gate milk prices. In Finland, the milk price is over €40cents/litre while it is running above €30cents/litre in France. In Israel, the milk price is regulated by Government and calculated based on production costs, which includes a compensation for farmers' labour and capital.

For the coming months, milk prices are expected to remain relatively higher than average in most milk producing regions. However, dairy farmers feel a margin squeeze as feed costs remain significantly higher than average. Dairy markets are reported to vary from stable to slightly tight in the coming months, which could contribute to maintaining prices at relatively high levels.

## **Industry developments**

Regarding industry restructuring, a new organisation was recently created in Australia - Dairy Connect NSW. It is a total supply chain group combining producers and processors. In France, Danone announced a \$700 M investment in Russia and several companies announced or finalised investment in dried dairy products (Lactalis, Isigny-Ste-Mère, Coralis, Ingredia, Sodiaal and Sill). In Germany, Arla merged with co-op Milch-Union while in the Netherlands; a Greenfield investment by A-Ware was announced. This new plant is expected to produce 50,000-60,000 MT of cheese annually and handle the associated whey.

## **Policy developments**

Denmark reported that their (since abolished) fat tax 16 DKK per kg has resulted in rising prices for high fat products, declining sales for butter and trade distortion with retail chains establishing shops across the border in Germany. In the UK, the government has proposed a traffic light system for labeling of consumer products.

In India, the first phase of the National Dairy Plan was launched to meet rapidly growing demand for milk. Funded with US\$450 M largely from the World Bank, the plan will be implemented over six years and is expected to increase cow productivity and give milk producers access to milk processing.

Austria reported that their entire dairy production is 100% GMO-free. However, the concerns about GMO's in certain countries and the disappearance of grass based systems appear to be contradictory.

In the United States, a new Food Safety Modernisation Act is being implemented to cover both domestic and imported food. It requires the Food and Drug Administration to focus its efforts using a risk-based model. Also, the trend toward the elimination of chocolate milk in schools results in a reduction in milk consumption. The US report also noted increasing activity by animal rights organisations at the state level to restrict farm practices. Finally, the 2012 Farm Bill should be passed following US elections.

The new Farm Bill will eliminate existing programs such as MILC and DIEP and replace them with voluntary participation by farmers in an Insurance Program focused on farmer's margin (feed/price ratio) and a Market Stabilisation Program that will provide incentives to dairy farmers to reduce production if national margin levels dip below specified amounts.

In Israel, Norway and Canada, the regulated market isolates these countries from global trends but also provides relatively more stability to their respective industries.

***Dr Judith Bryans, The Dairy Council – Chair of UK-IDF***

The World Dairy Summit in Cape Town showcased some world class science on dairy nutrition and human health to global attendees. It also offered the opportunity to those working actively within the IDF nutrition community to review its nutrition work programme and ensure that the IDF Standing Committee on Nutrition and Health continues to address the needs of the global dairy industry.

Each year it becomes more and more difficult to choose which topics to cover in the newsletter, which follows the Summits. The business meetings and conference programme offer such diversity of items that each one deserves showcasing in its own right. Since that's not possible in this short newsletter, I've chosen to talk about two initiatives progressed during the business meetings, which highlight the importance of collaboration across IDF Standing Committees and/or with external organisations, and two of the talks given during the main nutrition conference, both of which were very well received by the audience.

***Dairy Nutrition Satellite Symposium at the International Union of Nutritional Sciences Conference in 2013***

Bringing the latest information on dairy nutrition to those outside of the dairy industry who are involved in human health is an essential task for IDF. Health professionals and academics encounter a myriad of data and information everyday and may not always have the opportunity, or the desire, to specifically look at papers related to dairy nutrition. This means that some may be basing opinions on outdated science or on interpretations of NGOs or others.

The IUNS conference is particularly important in the nutrition calendar as it gathers those from nutrition societies worldwide to discuss topics of importance to human health.

In Cape Town it was agreed that the dairy industry should host a satellite symposium at the next IUNS conference in Spain in 2013. The symposium titled "Maintaining health with nutrient rich diets: The role of dairy in prevention of metabolic syndrome, CVD, obesity and sarcopenia" will bring academic speakers from around the world to present the most up to date evidence in this area.

Funding, organisation and hosting of the symposium is a collaboration effort between the IDF, the Global Dairy Platform, the European Milk Forum, The Dairy Council, CNIEL, Dairy Farmers of Australia, the Dutch Dairy Association and the Dairy Research Institute.

***Joint IDF/FAO School Milk Survey***

The nutritional contribution of dairy foods to the diet is something that is recognised by their inclusion in dietary guidelines worldwide. One of the ways in which children in developed and developing countries consume dairy foods is through school milk programmes.

It is important, both for the dairy industry and for the Food and Agriculture Organisation, to have an in-depth understanding of school milk programmes globally.

The IDF and FAO intend to work together to conduct a global School Milk Survey which will investigate, amongst other things:

- Access to school milk including age ranges of those receiving school milk
- What constitutes dairy within a school milk programme e.g. milk, other dairy foods, milk powder, dairy ingredients mixed with other foods
- Whether there are specific national guidelines for the consumption of school milk
- Organisation, distribution methods and packaging
- Whether there is promotion of milk in schools beyond the provision of school milk

The survey will be sent out via the FAO. Within IDF this is a collaborative project which sits jointly with the Standing Committee on Nutrition and Health and the Standing Committee on Marketing.

It's anticipated that the project will begin in early 2013.

### [Dairy is more than saturated fat and calcium: Addressing misconceptions about dairy and CVD – Professor Peter Elwood, University of Cardiff](#)

Professor Peter Elwood was one of the speakers invited to present at the World Dairy Summit in Cape Town. Peter received a very well deserved OBE for his services to health this year. His extensive knowledge of epidemiology and his publications on the role of dairy and health made him an excellent choice for a presentation that addressed the misconceptions about dairy and cardiovascular disease (CVD).

Peter told the audience that there is a widespread belief that the consumption of milk and dairy foods increases the risk of heart disease but that food policy must be based upon evidence of direct relevance to health and disease rather than surrogate markers or opinions.

He said that valid evidence can only come from large, long-term studies of population samples of subjects, for whom dietary intake and other life-style factors are recorded, and who are then followed forwards in time so that disease events and deaths can be identified and related to former milk or dairy consumption. He then presented data from overviews of long-term, prospective studies of dairy food consumption in showing there is no valid evidence of any harm to health from milk consumption in terms of the risks of disease; rather, there is evidence consistent with reductions in vascular disease, diabetes, certain cancers and, possibly, all-cause death in the subjects who drink the most milk.

Peter continued by explaining that the evidence on other individual food items, and in particular butter and cheese, is sparse, and inconclusive and that more evidence from long-term cohort studies is clearly required before conclusions on the relationships between these particular foods and health can be drawn with confidence.

### [The new South African Food Based Dietary Guidelines - Consume milk, maas or yogurt every day – Professor Este Vorster,](#)

Professor Este Vorster told the audience that undernutrition and overnutrition sit side by side in South Africa. She described how micro-nutrient deficiencies are prevalent both in those who don't have enough food and those who consume too much energy, but from the wrong food sources.

Este described the need for education and food based interventions and messages rather than messaging focusing on single nutrients. She talked about the revised South African Food Based Dietary Guidelines with a particular focus on the dairy message which is to consume milk, maas (a cultured milk product) or yogurt every day.

According to Este it was important to give South African's a simple, clear message on dairy foods because "There is convincing evidence that milk consumption improves the quality of the diet and that it protects against these diseases."

Both Professor Elwood and Professor Vorster's presentation are available. Please contact Ian Wakeling for a copy.

### [Nutrition and the WDS 2013](#)

I hope you found that taster of Cape Town interesting. The IDF WDS summit in Japan will include a conference on child health as well as two days of nutrition and health. More information can be found at <http://www.wds2013.com/eng/program.html> We hope to see you there.

### ***The Protein Quality Symposium - 6 November***

***Suzane Leser, Volac Ltd. - Member of the IDF Action Team on Protein***

Two potential game-changers for our industry were unveiled at The Protein Quality Symposium: a new method to measure protein quality and the findings from a new report supporting the use of Whey Permeate for food aid.

### [The new protein quality method](#)

Outcomes from the 2011 FAO expert consultation on protein quality were presented for the first time by Prof. Paul Moughan, from Riddet Institute NZ.

The new method DIAAS (Digestible Indispensable Amino Acid Score) has far-reaching potential for dairy proteins and its use will be proposed as an alternative to PDCAAS to express dietary protein quality. The DIAAS correctly measures digestibility in the small intestine, as opposed to the total digestive tract, and accurately determines bioavailable lysine in processed foods. Key findings indicate that using this method shows the quality of dairy proteins is higher than previously observed.

If adopted, preliminary data suggests that the DIAAS will allow for better promotion of dairy's superiority, as differences in protein quality will become larger, and there will be no truncation of scores at 1.0 for protein ingredients:

DIAAS <sup>1</sup> vs. PDCAAS for a range of protein sources								
	MPC <sup>2</sup>	WPI <sup>3</sup>	WPC <sup>4</sup>	SPI <sup>5</sup> A	SPI <sup>5</sup> B	PPC <sup>6</sup>	PB <sup>7</sup>	RPC <sup>8</sup>
DIAAS	<b>1.31</b>	1.25	1.10	1.00	0.98	0.93	0.58	0.38
PDCAAS	1.00	1.00	1.00	1.00	0.97	0.93	0.52	0.38

<sup>1</sup> Based on true ileal AA digestibility and 2-5 yo AA pattern (FAO, 2007)

<sup>2</sup> Milk Protein Concentrate; <sup>3</sup> Whey Protein Isolate; <sup>4</sup> Whey Protein Concentrate; <sup>5</sup> Soya Protein Isolate; <sup>6</sup> Pea Protein Concentrate; <sup>7</sup> Pearl Barley; <sup>8</sup> Rice Protein Concentrate.

However, there is currently insufficient data to support the move to this method. Prof. Moughan, Chair of the FAO expert consultation, called for the dairy industry to lift awareness about the importance of an accurate approach to describing dietary protein quality. In particular he asked for help to raise data, especially for the lower protein quality sources, and for a much wider range of foods, including foods consumed in developing countries.

"We finally arrived at a scientific valid system and the dairy industry should 'lock it in'" he said.

The IDF AT on Protein will manage the impact of this new methodology to the dairy industry and will prepare to respond to the FAO report.

### [Find out more](#)

IDF filmed Prof. Moughan's lecture and you can watch it in full here:

<http://www.wds2012.com/Presentations.asp>

For more details on the new method, see the Press Release issued during the WDS:

<http://www.wds2012.com/PressRoom/PressReleases/HippoDay2/final%20PROTEIN%20QUALITY%20ASSESSMENT%20UNVEILED%20AT%20THE%20IDF%20WORLD%20DAIRY%20SUMMIT%20remarks%20JS.pdf>

The FAO Report is due to be released very soon and the papers that form its background materials have been recently published in the British Journal of Nutrition (v.108, Suppl.2, Aug 2012):

<http://journals.cambridge.org/action/displayIssue?decade=2010&jid=BJN&volumeId=108&issueId=S2&iid=8724268>

### [Whey to power food aid](#)

Lactose and milk minerals could offer real benefits in managing childhood malnutrition according to Prof. Kim F. Michaelsen, from the University of Copenhagen. He shared outcomes from a report prepared for Arla Foods Ingredients evaluating the potential for whey permeate in the treatment of moderate malnutrition.

Prof. Michaelsen explained that malnourished children may enjoy additional health benefits from lactose, beyond increased energy density, improved taste and dental health. Lactose may stimulate the growth of beneficial bacteria in the gut, contributing to a stronger digestive and immune system. He also showed animal studies indicating that lactose may stimulate weight gain in children. Lactose comprises 40% of the energy in human milk and is generally well-tolerated at the levels currently recommended in foods for children with moderate and severe acute malnutrition (MAM and SAM).

Whey Permeate was presented as a cheaper alternative to pure lactose, and a partial sucrose substitute, containing small amounts of oligosaccharides, and the type II growth minerals phosphorus, potassium, and magnesium, the bioavailability of which may be increased through their natural interaction with lactose. Relative high sodium content may be a limitation, and the optimal lactose content in foods for MAM and SAM needs to be determined.

Prof. K. Michaelsen is part of the group of scientists at the University of Copenhagen that produced the Report for Arla Foods Ingredients, which is available for download here:

<http://www.arlafoodsingredients.com/news/scientists-evaluate-whey-permeate-for-food-aid/>

Dr Mark Manary, from Washington University School of Medicine, also presented, sharing observations from his field studies. He contends that milk is superior to soy in RUTF composition. He is also starting a study in Malawi to investigate whether Whey Permeate actually promotes children's recovery and healthy growth when used with whey protein concentrate in ready-to-use supplementary foods (RUSF).

In addition, Dr Nina Schlossman, from Tufts University and a Principal Investigator in the Food Aid Quality Review Project, shared the latest thinking on the formulation of food aid products. Phase I recommendations are to add WPC80 to corn soy blend and wheat soy blend.

These recommendations are aligned with the WHO Technical Note from July 2012 that animal-source foods are more likely to meet the amino acid and other nutrient requirements of recovering children. Dairy improves the amino acid profile, contributes with bioavailable calcium and potassium, has specific stimulating effects on linear growth, and does not contain anti-nutritional factors. Dr Schlossman raised the importance of assessing cost-effectiveness, not just product cost; and programme quality, not just the quality of products used.

A fourth speaker on this topic, Mrs Theresa Banda, from Valid International, also raised the issue of cost, as well as the need for evidence-based recommendations and availability of commodities in relation to the use of whey protein based RUTF in the treatment of severe acute malnutrition in African children.

### **Sustainability and Green Economy Conference - 7 November**

**Brian Lindsay - Lindsay Consulting Ltd.- Environment Representative on SPCC (Supported by DairyCo)**



*Marcin Preidl*

*Sophie Bertrand*

*Delanie Kellon*

*Brian Lindsay (Chair)*

### **[The Global Dairy Agenda for Action \(GDAA\) Initiatives: Implementation of the IDF Carbon Footprint Guide.](#)**

**Delanie Kellon – IDF**

This publication, launched in 2010, was a major step forward in having an industry focused approach and addressed directly the first of the commitments in the GDAA which targets the reduction of GHG emissions from the farming and processing components of the supply chain.

Now two years into its life, the methodology is being reviewed by a group of IDF specialists in order to capture scientific developments and, importantly, address any comments made by those practitioners who are actively using the approach 'in the field'. Feedback has been recorded over the past two years and was supported by an IDF questionnaire completed by the adopting organisations and National Committees.

The revised edition will be completed for the next IDF World Dairy Summit.

### **[IDF work on Water Footprint in the dairy sector](#)**

**Marcin Preidl – German Dairy Association**

Recognising that water is a priority issue for most major industrial sectors, dairy product development is no different and, as such, needs to be firstly understood then addressed where necessary.

Existing calculations of water footprint of dairy products confuse the consumer and the industry alike. The differences result predominantly via different methodological approaches. As such the global dairy sector needs to have an input to the development of these methodologies to ensure that the needs of the sector are understood and that the outputs of any analysis are meaningful in terms of future mitigation activities.

Currently the IDF has an Action Team working on developing a methodology for the dairy sector. The IDF approach will be based on a lifecycle approach and is being developed in parallel with the ISO norm 14046 by having representatives working on both initiatives. Where possible, the methodology will also correspond with the IDF GHG methodology.

This project is also aimed for delivery by the World Dairy Summit in 2013.



*Lourens Erasmus, Francois Engelbrecht, Roland Schulze and Heinz Meissner*

### [Projections of future climate change over Sub-Saharan Africa](#)

#### ***Francois Engelbrecht – CSIR, Natural Resources and the Environment, South Africa***

The Southern African region is thought to be highly vulnerable to the impacts of human induced climate change. The vulnerability stems partially from the generally dry climate and high degree of natural climate variability of the region.

The presentation used sophisticated climate models to project future climate change over South Africa. The projections indicate that the Southern African region is committed to drastic rises in surface temperatures during the

21<sup>st</sup> century and, for two of the scenarios, regional temperature increases as high as 6 degrees are projected for the semi-arid and interior regions of the western subcontinent by the end of the century.

Another robust indication of change is the significant decreases in rainfall that is projected for the winter rainfall region of the South-western Cape.

### [The impacts of climate change and coping strategies of small scale farmers in central and southern Zambia](#)

#### ***Richard Chintu – WWF, Zambia***

Climate change is one of the most serious threats to Zambia's environment, agriculture, human health and overall socio-economic development. Agriculture contributes 20% to the Zambian GDP and about 60% to the total labour force. The country's dependence on rain fed agriculture, coupled with limited technical and financial resources, potentially makes climate change one of the most critical and costly issues affecting national development.

Rural small scale farmers are already being negatively impacted by the effects of climate change in such ways as: shortening of the rainy season, recurrent and prolonged droughts and frequent floods. Combined with this there are also unprecedented outbreaks of livestock and crop diseases and pests.

Increasing negative climate change trends in isolated parts of Zambia threaten to overwhelm the local coping mechanisms which have traditionally safeguarded communities. There is a need for all stakeholders to concertedly facilitate more robust climate change adaptation mechanisms to reinforce existing and promising local coping mechanisms.

### [Carbon and water footprint in the dairy industry: Example of the Danone dairy division](#)

#### ***Didier Moreau – Danone, France***

In 2008, Danone set out to reduce its direct carbon contribution by 30% in 5 years. After developing an appropriate measurement tool, each central business unit appointed a Carbon Master who was subsequently trained in the use of the developed measurement tools. Every year since 2008 a CO<sub>2</sub> reduction objective and target has been defined for each CBU and forms part of the key performance indicators of all Danone managers.

Best practices from individual business units are captured and shared with all other business units. Action plans are then established, and integrated throughout the year, and the measurement of all products' carbon contribution is undertaken in every business unit twice per year.

Using this approach Danone has been able to reduce its direct footprint by 27.5% between the years 2008 and 2011.

A similar approach is anticipated for the water footprint activities and is currently in the pilot phase.

Key success factors:

- A strong commitment by senior management
- Reliable and meaningful measurement tools
- The use of individual objectives and KPI's

### [Dairy production systems and ecosystem/biodiversity sustainability: where to in the temperate zone?](#)

**Judith Capper – USA**

Over the past century, dairy production has demonstrably improved efficiency and thus reduced resource use and greenhouse gas emissions, yet biodiversity and related ecosystem services must also be quantitatively assessed.

Agricultural intensification alters the physical environment of ecosystems by changing ground cover, and concentrated N and P from manure application alter the chemical environment of aqueous and soil systems. In the European and North American situations, documented reductions in avian, amphibian and insect species in tandem with the intensification of agriculture support the theory that agricultural intensification reduces species fitness.

Limiting or reversing agricultural intensification would mitigate negative impacts of dairy systems upon biodiversity, yet the productivity losses associated with extensive or organic production increase resource use, especially land. A dichotomy exists between the need to continue to fulfil the consumer demand for dairy products in an efficient manner and the scientific and philosophical benefits of maintaining and improving biodiversity.

### [Working together: measures to improve sustainability in the dairy value chain](#)

**Jan Maarten Vrij – NZO, the Netherlands**

Further improving sustainability in the dairy supply chain requires an analysis of the drivers for the main partners – Farmers and Processors. They also must define what they mean by the current buzz word – ‘Sustainability’ – It is not an end point but an innovative, continuous improvement to produce more with a smaller footprint (socially, environmentally and economically).

Both levels of the supply chain are faced with various barriers on their journey and need to seek unique ways to address these such as stimulating innovation, exchanging information freely, monitoring and, eventually, enforcement. One crucial element for success has been the collaborative approach between farmers and processors. Intrinsicly related to this is the fundamental role of leadership.

Based on the Dutch experience, the key factors for progress to improve dairy supply chain sustainability are: leadership, collaboration and common objectives.

**Dairy Farming Conference - 6 November**

**Julia Hawley, DairyCo Board Member**

The Dairy Farming conference had a theme of dairy farm business management and opened with an overview of **global dairy production** from Dr Torsten Hemme, who brought the importance of the sector into sharp focus by revealing that between 0.7 and 1 billion people live on a dairy farm. He also presented the startling facts that only 62% of milk produced ever reaches processors and the world average herd size is less than 3 cows or buffalo. He highlighted how feed costs have risen particularly sharply which, when combined with land rental values, he expects to put dairy profitability under severe pressure in some regions including the EU.

He concluded that this will result in a need for farmers to adjust their systems if they are to survive, and that it would lead some processors to relocate plant to where there would be continued growth in profitable milk production; further growth in dairy production is expected in many countries such as India, New Zealand and most of South America.

Kennya Siqueira presented an update on **dairy farming in South America** where production has increased by 41% in 10 years. The story across the different countries was broadly the same - increasing scale, efficiency and use of technology; inward investment by international processors and a rise in domestic dairy consumption as well as considerable growth in exports.

The mid-morning session focused on profitability and started with a review of **farming in South Africa** by Dr Koos Coetzee. There are approximately 2,200 dairy farms ranging from very small to thousands of cows, with an average herd size of 298. 60% of milk is for the liquid market and there are no subsidies or public support payments. There are both grazing and fully housed herds and there is a strong seasonal production peak in October. Domestic dairy consumption is rising as average incomes rise and more people move out of the poorest social groups, as is the case across much of the African continent. Despite this rise in demand for product, farmer margins are very tight and the number of producers is rapidly declining.

Lior Yaron and Jaye Johnson showed how dairy farmers across the world are using increasingly sophisticated **technology to manage herd health** and to help improve profitability particularly by optimising feed use and costs. In order to achieve this, attention to detail and ongoing monitoring of, for example, forage dry matter, was essential. De Laval's Herd Navigator system was highlighted as an example of how milk analysis can be used to help monitor herd health attributes such as ketosis and fertility in order to keep cows healthy and profitable.

The enormous progress attributable to **genetic improvement of dairy cows** was the focus of Keith Heikes' presentation, in which recent developments in gender selected semen and genomics were highlighted. He pointed out how genetic selection had broadened to include longevity traits. He concluded by suggesting areas of importance for the future including heat tolerance, fertility, feed efficiency, resistance to mastitis and other diseases and the ability to produce 'customised' milk for different end uses or markets.

**Family farming and succession** was the focus of the next three presentations, which stressed the complexity of such businesses where emotions and business decisions are intertwined and made more complex when both business management and ownership were considered. An inability to manage the succession process was identified as one of the main causes of business failure and a detailed consideration of a successful approach to this topic was then undertaken. Farmer Philip Blanckenberg then related his experiences regarding succession within the family business started nearly 100 years ago on 600 ha and now farming over 5,000 ha.

Jeff Every showed how **investment in training** and mentoring was giving young black farmers a chance to develop a stake in successful dairy enterprises in South Africa with the support of the University of Fort Hare and provincial government.

The last session focused on the **supply chain**. A Value Analysis of The South African Dairy Chain was the topic of Prof André Jooste's talk which identified the strength of different constraining and enhancing factors as expressed by input suppliers, farmers and processors.

Tom Turner of Midlands Milk showed how retailers had exerted increasing pressure on the supply chain and concluded that their margin share had increased whilst processor and farmer margins had suffered. There had been a rapid fall in the number of dairy producers and it was expected that this would continue. Creation of farmer controlled businesses would help to ensure that value was distributed more fairly along the chain and, based on the experience of Midland Milk, principles for successful FCBs were explained.

### **Technical Tour to Klipheuwel Farm**

**Julia Hawley, DairyCo Board Member**



Klipheuwel Farm, around 60km north of Cape Town. is a mixed farm run by the Blanckenberg family with combinable cropping, beef and dairy enterprises. The 800 Holstein cows are all year round calving, averaging 39 litres a day on a fully housed system when in milk and fed on a TMR system.

Cows are milked 3x daily through a 60-point rotary parlour. The farm demonstrates a high level of investment in housing and dairy infrastructure as well as staff training and development. Calves are reared in climate controlled pens for around 10 days and then transferred to individual hutches before grouping after weaning. Heifers and dry cows are in loafing paddocks with shade screens and the decision to house the milkers had come partly because of the locally stony soil resulting in high levels of lameness in the rainy season.



Heat stress is an issue affecting dry matter intakes (leading to sporadic outbreaks of ketosis and displaced abomasums) and fertility. Production costs and milk pricing is similar to a UK average, but there are no support payments, so most dairy farms are barely breaking even.

Water for the cows has historically come from boreholes but ongoing fertility problems prompted laboratory analysis which revealed that mineral imbalances in the water – particularly high iron levels – were partially responsible. This has led to construction of water storage reservoirs which were filled during the rainy season, but as much water was re-used in the dairy unit as possible.

Milk is sold to Parmalat for the liquid market and we visited the plant in the suburbs of Cape Town where it was pasteurised and packaged into polybottles and cartons for retail sale. Cell counts and bactoscans for the milk intake are similar to UK levels. We also visited a nearby ice cream plant also owned by Parmalat, which manufactures a range of products aimed at different price points. Both of these plants demonstrate established approaches to Health and Safety, HACCP, staff development and traceability, although some of the plant appears inefficient and there was a higher degree of manual handling than would be usual in a UK plant. The visit finished with an ice cream tasting which verified that product quality is excellent!

### *Animal Health and Welfare Conference - 8 November*

#### ***Dr Elizabeth Berry - DairyCo - Chair of Standing Committee on Animal Health and Welfare (SCAHW)***

This conference had been organised with technical collaboration from the World Organisation for Animal Health (OIE) and Gideon Brückner from OIE opened the conference by explaining about its approach to **managing disease outbreaks** and how to try and rationalise and 'control' disease areas - this was to control disease but also to allow trade.

The next talks looked at **diseases between wildlife and dairy** primarily with an exotic approach (Roy Bengis, Africa) and then the human animal interaction and potential zoonotic diseases and their impact.

Two talks were given on **bovine tuberculosis** (Elizabeth Berry, GB and Anita Michel, Africa), again focusing on the potential zoonotic risk. Originally controls were introduced because of the level of disease in man at the turn of the 19<sup>th</sup> century. Milk was one of the main sources for this prior to widespread pasteurisation and control measures in cattle being introduced. Both talks touched on the animal vectors which, not surprisingly, varied dramatically between UK (badgers and deer) and South Africa (deer to lions). The role of vaccination was also covered with regards both cattle and vectors.

There was an update on **OIE activities** from Luc Mirabito (France) with regards to welfare and their aims to introduce guidelines acceptable for all aspects of farming. A guide to welfare with regards poultry has already been bought out.

Henk Hogeveen (Netherlands) introduced some fundamental concepts to **welfare and economics** and the need for a level playing field in terms of standards and costs related to these standards. Jamie Jonker, USA, gave an update on the verification of the **Dairy Animal Care Program** in the US with the National Milk Producers Association. This program was established in 2009 giving guidelines for best practice in all areas related to milk production. Verification of the data has recently been completed and shown to be statistically valid and representative and will not take place annually.

The final session looked at **control of disease** and included management methods used to control Johne's disease, brucellosis control and also a presentation on ostertagia causing abomasitis in adult cattle (normally assumed to be immune at this age) and the impact on production. The last two papers were back on **South Africa** and control of *Staphylococcus aureus* and antimicrobial resistance patterns.

Dr Ed Komorowski – Technical Director: Dairy UK

### Monograph on Salt in Cheese close to completion

The IDF monograph on salt in the cheese manufacturing process was reported as being close to completion. This explains the health concerns arising from dietary salt, though points out that there is no evidence that cheese raises blood pressure. The pathogens of relevance to cheese are discussed, together with the inhibitory effects of salt. The conclusion is that salt in itself has little inhibitory action on most pathogens, but the microbial stability of cheese results from the combined action of various hurdles including low pH, water activity, starter cultures and salt. Salt, however, plays an important role in the prevention of spoilage of cheese by propionibacteria and clostridia. Salt is also believed to have a role in the prevention of biogenic amines such as histamine. Salt also plays a key role in cheese ripening which involves complex biochemical and microbial activities acting in concert. The scope for salt replacement is reviewed, in particular the potential for replacing sodium chloride by potassium chloride. Replacement at high levels in cheddar cheese is reported as resulting in unacceptable bitterness, but it would appear that partial replacement of sodium chloride by potassium chloride is possible. The intention is that the monograph will be finalised early in 2013.

### IDF Standing Committee on Standards of Identity

Following the completion of Codex Standards for the various dairy products important in international trade, this committee has a rather limited agenda. A last remaining Codex item is the Standard for Processed Cheese but here the Codex Advisory Committee has finally taken the decision to discontinue work on a possible standard as no major impediments to international trade have been reported despite an increase in trade. The committee is considering developing a proposal for a new work item on drawing up an inventory of legislation related to the standards of identity for dairy products. Following the completion of the term of the current chair (Deborah Van Dyk, USA) the committee is looking for a new chair. This would be the opportunity for a UK candidate to become closely involved in the work of the IDF.

### Standing Committee on Food Labelling and Technology

Labelling of dairy products in respect of nutrition and health claims is the subject of Codex Guidelines, and the Standing Committee is looking at proposed conditions for a “non-addition” claim, salt-free claims, and non-addition of sugar claims. Proposed amendments to Codex Guidelines on Nutrition labelling are also being considered. On conjugated linoleic acid the Committee does not believe that it is necessary to reopen discussion on the definition of *trans* fatty acids for the purpose of including conjugated fatty acids in the definition of *trans* fatty acids to address the concerns of novel foods. At the elections for Chair and Deputy Chair the current occupants of these positions swapped roles.

### Emerging Dairy Sector Conference - 7 November

Ian Wakeling – UK-IDF Secretary

We heard various speakers throughout the week tell us that the volume of milk produced in developing nations will shortly overtake that which is produced in developed countries and the Emerging Dairy Sector conference looked into the many implications that this change will have.

Michael Griffin noted that it is forecast that there will be an additional 680 million people on the planet by 2021, with the fastest population growth rates in Africa and India. Rising incomes and urbanisation will lead to changes in diets that shift consumption to more processed foods, fats and animal protein, thereby favouring dairy products. India, however, is neither an importer nor exporter of dairy products and so a large part of the increased demand will be increasingly met by small-scale dairy farmers.

He reported that one of the ways in which FAO supports profitable, small-scale, dairy production and processing in Africa is through the **International Livestock Research Institute (ILRI)**. This project is organising farmers into cooperative groups to pool resources and buy milk cooling facilities, improve animal breeds, improve fodder and train farmers how to better manage their milk business. A 3-step approach is used with individual farmers becoming established, then forming themselves into larger groups and these groups increase in size to become more commercial, improve their bargaining power and share their information and knowledge.

Benoît Rouyer of CNIEL illustrated the contrast in the forecast rates of dairy product consumption growth for developed and developing countries with figures from the OECD & FAO Agricultural Outlook 2012-2021 publication – for all the major products the growth for developing countries is at least double that of developed countries.

## Consumption of dairy products is expected to grow strongly in emerging economies over the next decade.

Projections for dairy product consumption until 2021

'000 tonnes Country	Cheese		Butter		Skim milk powder		Whole milk powder	
	2021	(%) 11-21	2021	(%) 11-21	2021	(%) 11-21	2021	(%) 11-21
World	23 678	19%	13 086	26%	4 186	22%	5 545	28%
Developed countries	17 715	15%	4 030	7%	1 775	5%	705	14%
United States	5 799	25%	880	24%	564	16%	21	5%
EU 27	8 935	9%	2 016	1%	592	-2%	349	9%
Russia	906	14%	487	7%	140	24%	149	22%
Developing countries	5 963	32%	9 056	38%	2 411	39%	4 839	29%
Brazil	823	24%	95	20%	190	39%	669	27%
China	433	37%	182	28%	227	53%	1 701	32%
India	n.a.	n.a.	6 071	42%	235	22%	17	143%
Least advanced countries	488	34%	276	46%	138	48%	322	44%

NB: 2011 refers to the average 2009-11 n.a.: not available

OECD & FAO Agricultural Outlook 2012-2021

He explained that purchasing power growth in emerging countries has a strong impact on diet, as food represents the main household spending, and, in many developing countries, the proportion can be as much as between 30 to 50%. In China, the GDP growth increased five-fold between 2000 and 2010 and this has helped to contribute to a rapid rise in dairy product consumption.

Another interesting development is the **expansion of the global middle class**, which could comprise an additional 3 billion people by 2030, with 85% of this growth coming from Asia. One of the results of this is that Asian demand,

especially in India and China, is going to overtake US and European demand.

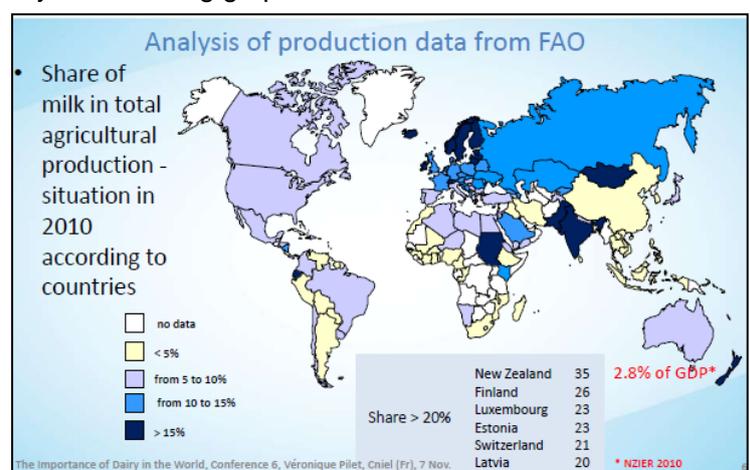
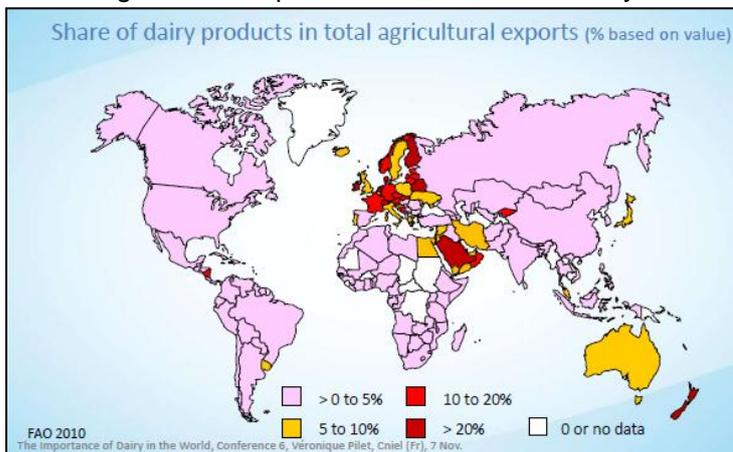
One adverse aspect of the milk sector in Africa, though, is the small proportion of milk produced in some countries that makes it through to the formal sector. Lusato Kurwijila, of Tanzania's Sokone University of Agriculture, explained that more than 90% of the milk marketed in his country (about 1.62 billion litres per year) is marketed through **informal channels**, and less than 3% of the milk (30-40 million litres) is processed. He said that this led to a number of food safety concerns, even though most staff at milk kiosks boiled the milk before selling it on to consumers.

Although boiling the milk made it generally safer by killing most pathogens, the initial quality of the milk was poor and it deteriorated further between the farm and the retail kiosk and, in a recent study completed by the University, it was found that out of 953 people purchasing milk from a kiosk in Temeke (a district in Dar es Salaam) an estimated 217 of them were purchasing potentially contaminated milk,

The importance of the dairy sector to the world, and the **economic benefits of dairying**, were assessed by Véronique Pilet of CNIEL, who looked at FAO data for 2010, the most recent year for which information is available. Amongst the statistics that she presented were:

- Total gross agricultural production was worth \$3,282 billion, of which milk was \$292 bn (8.9%).
- Total world trade of agricultural products (based on exports) was \$1,078 billion, of which milk products accounted for \$64 bn (5.9%), or \$69 bn (6.4%) if lactose and infant formula are included.

The huge differences in the importance of milk in total agricultural production, and the share of dairy products in total agricultural exports worldwide, were starkly illustrated by the following graphs:



**Marketing Conference - 8 November**

**Dr Mike Johnston – The Dairy Council for Northern Ireland - Member of Standing Committee on Marketing (SCM)**

**“What’s new and novel in marketing?”** was the theme of the Marketing Conference at the WDS in Cape Town, and was addressed in four sessions: new media, new research, new products, and new generic campaigns.

The **new media** session heard that the future focus of digital media will be on increasing the amount of time people spend using social media, which is now rivalling all other forms of media. Brand opportunities exist to develop relationships with customers, for example, through story-telling, an approach that was used by Nike during the London Olympics. And, of course, social media is ideal for communicating with younger age groups, as was demonstrated by a case study from CNIEL in France.

The **new research** session was an opportunity to receive a summary on consumer attitudes to dairy in a number of countries. And it also focused on new and innovative market research methodologies in USA, where insights into market segmentation are being gained by using techniques deployed in political marketing; and through the use of the Delphi technique to develop the Marketing Architecture project.

The **new products** session looked at emerging evidence in support of the nutritional benefits of milk and dairy products, as well as how the communication of nutritional messages to consumers is evolving.

And, finally, the 3 finalists in the **IMP Trophy** competition were presented, representing Austria, Denmark and Norway, with Norway announced as the winner at the Summit Gala Dinner.

### Recent IDF Publications

All IDF publications can be ordered from the UK-IDF office

#### **IDF Special Issue 1201 - IDF International Symposium on Sheep, Goat and other non-Cow Milk - 16-18 May 2011, Athens, Greece**

*Developments in ewes milk, goat milk and other non-cow milk in many countries concerning production of milk, products made from it (cheese, yogurt, and many local products), microbiology, analysis, composition, technology, nutritional properties.*

This bulletin contains 171 pages, is free of charge and can be downloaded [here](#)

#### **IDF Animal Health Newsletter no.6**

*This issue illustrates the broad nature of the work of the Standing Committee on Animal Health and Welfare (SCAHW) very well with contributions including antibiotic policies, ringworm, lameness and propane flaming of animal bedding.*

This Newsletter contains 24 pages, is free of charge and can be downloaded [here](#)

#### **Bulletin of the IDF No. 460/2012 - Proceedings of the 3rd ParaTB Forum**

*This publication contains fourteen papers written by representatives of national and regional Johne's disease control programmes on the lessons learnt throughout their implementation. The majority were presented at the 3rd ParaTB Forum in Sydney, Australia, on 4 February 2012. Each report provides details of the control programme in question – the resources available, the strategies implemented, and a measure of its success.*

Pages: 68 – Paper €80 – Electronic €75

#### **Bulletin of the IDF No. 459/2012 - Collaborative Study on the Kjeldahl Reference Method for Nitrogen Determination of Dried Dairy Products according to ISO 8968-1/2/ IDF 20-1/2**

*Results of an international collaborative study conducted to establish precision figures for the determination of Kjeldahl nitrogen in milk powders, milk protein concentrate, whey protein concentrate, casein, caseinate and infant formulas in order to extend the scope of ISO 8968-1/2/ IDF 20-1/2. Twenty eight powder samples, with a range of crude protein content, varying between 11.7 and 92.4%(m/m), were prepared and dispatched to the participating laboratories as blind duplicates. The report gives details of the techniques required to optimise digestion procedures to obtain the maximum nitrogen result for each sample type. The statistical analysis of the results gave a repeatability value, r, of 0.7% of the mean result and a reproducibility value, R, of 1.3% of the result obtained.*

Pages: 14 – Paper €20 – Electronic €17

#### **Bulletin of the IDF No. 458/2012 - The World Dairy Situation 2012**

*Annual survey, presented at IDF World Dairy Summit, Cape Town (South Africa), in November 2012. Production, consumption, trade and price figures from the dairy sector and other sources. Largest dairy companies by turnover and/or milk intake. Comments and prognoses on the situation in different countries and analysis of the whole, covering all major producing and consuming countries. Review of various forecasts of dairy trade.*

Pages: 235 - Electronic: €125

#### **Bulletin of the IDF No. 457/2012 - Proceedings of the IDF World Dairy Summit 2011 Parma, Italy, 12-19 October 2011**

*This Bulletin presents a collection of papers from conferences during the IDF World Dairy Summit in Parma, Italy, in October 2011. Conferences covered include Animal Feeding, Animal Health, Dairy Policies and Nutrition.*

This bulletin contains 108 pages, is free of charge and can be downloaded [here](#)

**Bulletin of the IDF No. 456/2012 - Interlaboratory trial on the Potentiometric Method for the Determination of Titratable Acidity in Fermented Milks according to ISO/TS 11869 | IDF/RM 150**

*Results and statistical analysis of an interlaboratory trial to establish the repeatability of the international standard method for determining the titratable acidity of a variety of fermented milks, including yogurt, drinking yogurt, fermented milk, fermented buttermilk and fresh cheese with varying fat contents and with or without added flavours and fruits.*

Pages: 10 - Paper: 15.00€ - Electronic: 12.00€

**Bulletin of the IDF No. 455/2012 - Safety Demonstration of Microbial Food Cultures (MFC) in Fermented Food Products**

*Revision of the previous 2002 IDF inventory of microorganisms with technological beneficial use in food fermentations. The scope of the current approach has been widened to microorganisms with a role in fermentations in a wider range of food matrices (dairy, meat, fish, vegetables, cereals, beverages, and vinegar) and in traditional food products worldwide. While the rationale has been peer reviewed and published in the International Journal of Food Microbiology, IDF proposes now a more applicable demonstration for food business operators and competent authorities.*

This bulletin contains 66 pages, is free of charge and can be downloaded [here](#)

**Bulletin of the IDF No. 454/2012  
Air Emissions from Dairy Processing and Energy Plants**

*The report presents an overview of definitions, sources, legal requirements, and technical solutions for air emission control in dairy processing and control of dust emissions from energy supply plants in dairy production. This paper highlights the fact that, while the dairy industry contributes to dust emissions, it is not a significant source in global terms. The report also shows that the choice of fuel/energy source can have a significant influence on dust/particulate emission from energy supply plants and illustrates the different influences resulting from such choices.*

This bulletin contains 27 pages, is free of charge and can be downloaded [here](#)

**Bulletin of the IDF No. 453/2012  
Guidance for the evaluation of precision characteristics of physicochemical quantitative analytical methods for milk and milk products**

*Guidance for dairy analysts in applying ISO 5725 – Accuracy (trueness and precision) of measurement methods and results. Design of and statistical treatment of results from interlaboratory collaborative studies on chemical and physical methods of analysis for dairy products. Handling and characteristics of samples, identification and treatment of abnormal values, flowchart for decision making, uncertainty relating to data, comparison of precision figures, meta-analyses.*

Pages: 55 - Paper: 70.00€ - Electronic: 65.00€

**Bulletin of the IDF No. 452/2011  
Collaborative Study on Nitrate in Milk and Milk Products using a Method by Enzymatic Reduction and Photometric Determination after Griess Reaction (International Standard ISO 20541 | IDF 197)**

*An alternative method for determining the content of nitrate in milk and milk products that does not involve any reagent that can have a negative effect of the environment has been developed (ISO 20541 | IDF 197) and tested in an international interlaboratory study to establish its precision (repeatability and reproducibility). This report describes the interlaboratory study and gives the results in full.*

Pages: 29 - Paper 36.00€ - Electronic 32.00€

**IDF Events in 2013**

**2013 IDF/ISO Analytical Week** 3 - 7 June 2013, Rotterdam, The Netherlands

*The annual topical event for experts in the field of standardisation of methods of analysis and sampling for milk and milk products: There will be business meetings of Project Groups, Standing Committees and a half day symposium on Wednesday 5 June.*

<http://www.idf-iso-analytical-week.org>.

**IDF World Dairy Summit - Rediscovering Milk** 28 October - 1 November 2012, Yokohama, Japan

*The theme of this year's Summit is "Rediscovering Milk" and new industrial technology, as well as basic research, will be discussed in relation to solving the challenges facing the global dairy sector.*

*In addition, there will be a number of tours of manufacturers and dairy facilities as well as social tours to experience the blend of cultural tradition and technological excellence that this fascinating country offers.*

[IDF World Dairy Summit 2013](#)