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International Dairy Federation – UK National Committee

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IDF World Dairy Summit – Berlin 20 – 24 September 2009

A total of 1,236 participants from 52 countries attended the 2009 World Dairy Summit in Berlin, with 530 people taking part in the entire event and the remainder comprising delegates who had registered for individual days and 65 students.

The theme of the Summit was “United Dairy World 2009”, recognising that it has been 20 years since the historic fall of the Berlin Wall, and this newsletter contains reports on the business meetings and conferences that were held over the course of the event.

Environmental issues have come increasingly to the forefront of IDF activities over recent years with the industry making a strong contribution towards addressing climate change and taking action to mitigate greenhouse gas emissions.

The IDF has been involved with three major new initiatives to demonstrate the industry’s commitment to these areas:

- **The Global Dairy Agenda for Action** – an industry pledge to reduce carbon emissions
- **Launch of the Global Sustainability website** <http://www.dairy-sustainability-initiative.org/>
- **The Green Paper** – a living document setting out more than 260 case studies from different regions of the world initiated to produce a sustainable dairy industry and reduce the impact of climate change

More detailed information about these projects can be found on pages 12/13.

In addition, since the previous Summit, the IDF has:

- Held 4 successful events
- Issued 6 Bulletins and 9 Standards (details available at <http://www.ukidf.org/bulletins2008.html>)
- Made 17 submissions to Codex
- Welcomed 39 new experts from 15 countries to participate in IDF work
- Issued 6 Newsbriefs and 3 Leaders Briefs (available at <http://www.ukidf.org/newsbrief.html>)

New Members Join IDF

During the General Assembly, two new countries - **Turkey** (Full Member) and **Zimbabwe** (Associate Member) - were welcomed into the IDF fold, increasing global representation to 58 countries accounting for 86% of the world's milk production. The introduction of Turkey is very welcome as it is the 11th largest milk producing country in the world and now only Argentina and Pakistan are missing out of the top 15 producers.

IDF Open Forum on Present and Future Work

Ian Wakeling – UK-IDF Secretary

On the day before the conferences started, a number of members of the Science and Programme Coordination Committee and senior IDF staff outlined the work that had been progressed within their areas of responsibility and identified the topics they will be concentrating on during the year ahead.

One area that has been subject to change is **Analysis and Sampling** with a re-structuring of the Standing Committees and a revised operating procedure introduced to allow more frequent discussions over the course of the year rather than just focussing on the annual Analytical Week.

Previous Standing Committees	New Standing Committees
Analytical Methods for Additives and Contaminants	Analytical Methods for Additives and Contaminants
Main Components in Milk	Analytical Methods for Composition (including work on minor compounds)
Minor Components and Characterisation of Physical Properties	
Microbiological Methods of Analysis	Analytical Methods for Processing Aids and Indicators
	Analytical Methods for Dairy Microorganisms
Quality Assurance, Statistics of Analytical Data and Sampling	Harmonisation of Microbiological Methods
	Statistics and Automation

In addition a number of IDF/ISO Project Groups will be set up to deal with specific tasks and improve the speed at which the work items progress. The Groups will include qualified experts nominated by either IDF, ISO or the relevant Standing Committee and will usually be disbanded when the task is complete, although a small number of the Groups will be permanent.

The structure of future Analytical Weeks will also be altered to incorporate meetings of the Project Groups at the start of the week so they can then brief the Standing Committees later in the week on the progress of their work.

Claus Heggum, Chair of the IDF Science and Programme Coordination Committee (SPCC) - the body that supervises the work of the IDF over the course of the year - concluded the meeting by presenting an overview of the anticipated **activities of the IDF over the next 5 years**. These will include:

- Modifying the IDF structure as the work of the Codex Committee on Milk and Milk Products winds down
- On-going work for 40 analytical standards, 8 of which are near completion
- Strengthening of relationships with OIE (World Organisation for Animal Health) and FAO
- Recruitment of additional experts
- Increasing the production of factsheets
- The introduction of stakeholder surveys. These will concentrate on 2 of the 9 work areas each year and National Committees will be asked to establish priority items within each area, suggest potential new work items and identify the resources that can be utilised to progress the work. The first two areas to be considered are Nutrition & Health and Economics, Marketing & Policies.

IDF Priority Projects

Claus Heggum also outlined the following 10 priority projects for the year ahead:

- Nutrition labelling issues (Codex)
- Antimicrobial resistance (Codex)
- Animal welfare guidelines (OIE – World Organisation for Animal Health)
- Model for greenhouse gas emissions from animal food chains (FAO)
- Calculation of the dairy share of greenhouse gas emissions
- Life Cycle Analysis (LCA) / Life Cycle Management (LCM)
- Global Dairy Declaration on Climate Change
- Detection of melamine and cyanuric acid
- The integrity of suppliers' milk
- Continuation of the World Dairy Situation report

In addition, the following topics will be of high importance:

- Revision of the FAO 1972 study on milk and milk products in human nutrition
- Revision of the IDF/FAO Guide on Good Dairy Farming
- A number of factsheets based on LCA analyses
- New work programme on animal feeding related to:
 - Climate change mitigation
 - Human health and nutrition
 - Food safety (Codex)

Farm Management Standing Committee meeting – 18th September

***David Homer – DairyCo
Chair of IDF Standing Committee on Farm Management***

The Standing Committee for Farm Management met on the 18th September in Berlin. The meeting was very well attended by both members and observers, including several farmers from 6 member countries. As a result of some new faces taking part, the meeting became more enthusiastic than it had been over the past few years and the committee is now moving forward and has proposed several new work items:

1. **A revision of the IDF/FAO Guide to Good Dairy Farming Practice** - this was first published 5 years ago and we think a review is required, including the addition of subjects related to dairy farming sustainability.
2. **IDF/FAO Guide to Hygienic Practices at Farm Level and in Milk Production.** With ever increasing focus on food safety the committee consider Hygiene to be an important addition to the series of guides.
3. The committee also discussed the new **animal feeding initiative** suggested by the Science and Programme Coordination Committee (SPCC) and the following issues were considered:
 - Options for and implications from changing animal diets targeted at reducing carbon footprint.
 - Options for and implications from changing animal diets in view of nutrient composition in milk in the context of human health and nutrition.
 - Consequences of changing animal diets with regard to animal welfare and animal health;
 - Monitoring future Codex work on food safety aspects of animal feeding in collaboration with FAO, IFIF (International Feed Industry Federation) and FEFAC (European Feed Manufacturers Association).
 - Monitoring future Codex work on food safety aspects of animal feeding.

Dairy Farming Conference at World Dairy Summit 2010

***David Homer – DairyCo
Chair of IDF Standing Committee on Farm Management***

I am very pleased to report that, as part of the 2010 World Dairy Summit, the New Zealand Organising Committee is organising a 2 day **dairy farming session** as a follow up to the First IDF Dairy Farming Summit that was held in Edinburgh in June 2008 (see below). The plan is to use a similar conference format which proved to be so successful in Edinburgh to encourage delegate participation.

Day 1 - Tuesday 9th November

“Sustainability: From Threats to Opportunities”

- Water and nutrient management – Waste not, want not
- Greenhouse gas emissions – Redesigning the cow
- Soil sciences/carbon fluxes – Win some, lose some
- Energy – Powering up for the future

Day 2 - Wednesday 10th November.

A field trip to visit research stations and farms to continue the discussions on how to implement some of the ideas for improving dairy farming sustainability and turning a potential negative to a positive.

Anyone wanting to find out more about the Summit should visit the event website at <http://www.wds2010.com/> From this site you can join a mailing list to receive updates about the Summit and download the latest brochure. You can also see the special flight deals that have been organised and more information about the conferences, accommodation, social tours and technical tours.

First IDF Dairy Farming Summit - Edinburgh – June 2008

In a joint effort to tackle climate change and further increase sustainable practices, the International Dairy Federation and De Laval came together to organise the “First IDF Dairy Farming Summit” under the theme “Climate Change - The Heat is On?” in Edinburgh in June 2008.

This highly successful event, the first in a series to concentrate on dairy farming issues, was entirely devoted to global warming, its impact on dairy farming and how dairy farming affects the environment. Topics that were discussed included the impact of climate change on animal health and welfare in the dairy sector, pollution, deforestation, water shortage and energy use.

The conclusions from this event, and films of the 5 farmers that reported on the particular environmental challenges posed by the part of the world that they farm in, can be seen on the event website <http://www.sustainabledairyfarming.com/>

Please make the effort to attend the 2010 World Dairy Summit to see how these issues have been progressed and join in the discussions to determine what still needs to be done.

Dairy Policies and Economics Standing Committee meeting – 18th September

Jim Begg – Dairy UK

The main features of the Dairy Policies and Economics (DPE) meetings are the **progress reports on market developments around the world**. These are presented by Monika Wohlfarth from ZMB and Jim Begg who summarises the Country Reports compiled in advance by the meeting delegates. Monika Wohlfarth presented the highlights of the World Dairy Situation 2009. The last few years were marked by a slowing down in the growth of world milk production; the overall milk production increase expected for 2009 is only 0.8% - the lowest growth level in more than a decade. Cheese, butter, SMP and WMP world market prices were all significantly down from the peak observed in early 2008. The dairy market continues to suffer from the consequences of the surge of prices in 2007 and the worldwide recession is only intensifying the situation.

Jim Begg's summary was prepared from the reports he received from 19 countries. The highlights include low milk prices, leading to several producer actions, protests and milk strikes (mainly in Europe), dairy product consumption slowing down in most countries as the global economic crisis progresses and the fact that several countries are working on the nutrition front with taxes on saturated fat, mostly in Europe.

A new feature in Berlin was the results of a **Food and Dairy Inflation Survey**. Gilles Froment highlighted the main analyses and conclusions from the survey responses received from 25 countries. This work will be developed further in the coming year along with new work on price volatility to be conducted by an Action Team led by Shawna Morris

Another new work item for the group will be a **fact sheet** to be developed and published twice a year following the analysis and presentation of the **Country Reports** at SCDPE. This work will be carried out by an Action Team led by Jim Begg. Other initiatives include the preparation of a fact sheet on the result of the dairy and food price inflation survey and the possibility of creating short Podcasts to be posted on the IDF website.

Dairy Policies and Economics Conference – 21st/22nd September

Dr David Dobbin CBE – United Dairy Farmers

The 2009 Summit took place against the background of falling milk prices across Europe, rising stocks (especially in the EU and US) and huge political pressure on the EU Commission to do something to stabilise the milk price.

In summary the consensus was that the market was depressed mainly as a result of reduced demand (due to the economic slowdown, the melamine crisis in China and the impact of higher prices in 2007) more so than an increase in supply. Having now stabilised, mainly as the result of EU & US action, the market recovery was still fragile but should strengthen going forward as the economy recovered and population and wealth growth drove demand. Global dairy output and trade in 2009 would be relatively flat compared to 2008. Going forward, markets would be more volatile and managing this would be a major challenge for everyone in the dairy supply chain.

Global and EU Market reviews, by Monika Wohlfarth (ZMB) and Jurgen Jansen of the Dutch Dairy Board, indicated that world trade was flat at 45 million tonnes and that global milk production was slowing down in response to lower returns. Supply into the world market was increasingly coming from Oceania and North & South America with the EU now accounting for just under a quarter of world trade. Supply sources were diversifying to other countries including Latin America, Eastern Europe and Asia. Top importing countries were now Russia, Japan and Venezuela for cheese and Venezuela, Algeria, Indonesia and the Middle East for powder

At the Summit we had two speakers representing the **EU Commission** - Thorkild Rasmussen, Head of Dairy, who spoke on the European Commission's View on the Future of the Dairy Market and Lars Hoelgaard, Deputy Director General for Agriculture and Rural Development, who spoke on European Dairy Policy.

Both speakers reinforced the EU Commission's commitment to CAP reform and the removal of market management measures, especially the phasing out of quota by 2015 and export refunds by 2013. Regarding quotas, the presentations stressed that the expanded EU quota had not been filled with many countries running behind because of the depressed market returns. Ultimately the Commission wanted the market to set the output required. The speakers also stressed the Commission's acute awareness of the current depressed markets and underlined the actions taken to stabilise markets including:

- the reintroduction of export refunds,
- the extension of intervention of skimmed milk powder and butter,
- the relaxation in butter private storage aid, and
- the removal of the bar on cheese export refunds price below €2300 free at frontier.

The speakers also repeated the Commissioner's undertaking to dispose of intervention stocks in a responsible manner to avoid any adverse market impact. Both speakers gave a more positive long term outlook for dairy with growth in consumption and demand as a result of:

- economic recovery,
- projected global population growth to 9 billion people by 2050 and
- change of diet towards greater protein consumption in developing countries.

Torsten Hemme, International Farm Comparison Network (IFCN), gave a presentation on **farming input and output cost** and price trends highlighting volatility and roller coaster markets. He classified farms into three main types – household subsistence farms, family farms and business farms - and outlined the approaches that each of these enterprise types could take to manage and minimise risk from cutting costs, conserving cash to selling cows and getting out of milk production. Copies of all the presentations are available on the World Dairy Summit 2009 website.

Animal Health Conference – 22nd September

Dr Elizabeth Berry – DairyCo

This was split into an animal health session and a welfare session.

The animal health session looked at current key concerns, with a focus on Bluetongue, and then worldwide trends looking at tuberculosis, brucellosis, antimicrobial resistance and the economic consequences of production diseases.

Franz Conraths from Germany focused on **the origin of Bluetongue** and the strains currently present in Europe. Potential routes of introduction were discussed including illegal imports of animals, quarantine measures in Third World countries before animals were introduced to Europe and illegal use of modified live vaccines. Vector distribution and change were also discussed and the relevance to climate changes and wind trajectories. It was concluded that the warm summer of 2007, along with indigenous midge vectors, may have helped spread.

Fatah Bendali of France highlighted some of the **economic consequences of Bluetongue**. It was noted that there was a variable mortality between herds (0-16.5%) and morbidity (0-97.5%) but all herds suffered production losses due to reproduction problems and effects on milk production and milk quality.

Vaccination and economic impact were considered by Annet Velthuis from the Netherlands. Eight vaccination strategies were evaluated ranging from vaccination of all cattle, sheep and goats in the Netherlands to just adult animals and adult animals in selected regions of the Netherlands. Costs included in the cost benefit analysis included production losses, all treatment costs, diagnosis and surveillance, control measures and values of animals depending on transport restrictions.

The top strategy in cost benefit ratio was vaccination of all adult cattle in the four northern provinces of the Netherlands, followed by vaccination of this group along with vaccination of all adult sheep and the bottom strategy in terms of cost benefit ratio was vaccinating all cattle, sheep and goats in the Netherlands.

Tuberculosis in the UK including Ireland was covered by Darrell Abernethy. He highlighted the test and cull approach used and the fact that the incidence still appeared to be increasing. The new approach of vaccination of badgers in England and vaccination and selected culling of badgers in Wales was mentioned.

Brucellosis melitensis in Euroasia and the Mediterranean area was discussed by Katinka de Balogh of the Food and Agriculture Organisation of the United Nations. This disease has increased in incidence over the last ten years in sheep and goats and there are also reports in the cattle and camel population.

Underreporting of the disease is noted and there is a lack of data on the incidence in humans. Transmission to man is attributed to drinking contaminated dairy products and occupational exposure while handling animals and this is exacerbated by lack of knowledge by the farmers and consumers.

Political change and conflicts have resulted in reduced control measures, along with change in ownership from the state to the individual and mixing of animals with herds and flocks. The privatisation of veterinary services has not always been compatible with effective brucellosis control. The overall prevalence of Brucellosis in Iraq is reported at 9% of goats and sheep and 5% of cattle and camels.

It was concluded that **Brucellosis is still endemic in many areas** and diagnosis and surveillance is poor in many areas. Mass vaccination along with strict surveillance is the first step to reduce the infection pressure, along with long term vaccination programmes, public awareness and political and financial commitments.

Antimicrobial resistance was covered by Robin Condron of Australia. Antimicrobial resistance is a global concern and influenced by human and non-human antimicrobial usage. Common types of antimicrobials are used in human and animal medicine. Resistance will result in increased treatment failures and increased severity of diseases along with some diseases that may not otherwise have occurred. Foodborne route is the major transmission pathway for transfer from animals to humans.

Good husbandry and good veterinary practice should reduce the amount of antimicrobials used and guidelines may assist in this area. Within the dairy industry antimicrobials are needed to treat certain diseases. However, their use is controlled by regulations and commercial pressure and dairy cows are treated as individuals rather than in mass treatment programmes. Monitoring of antimicrobial use is carried out including testing of milk to ensure there are no residues. A recent review of the literature reported similar resistance patterns to that recorded over the last 30 years.

Henk Hogeveen concluded that **production diseases are still underestimated** in terms of cost by the farmer and others involved in the industry and always need to be considered.

The welfare session was introduced by Cheryl McCrindle as a core area of focus for IDF. She promoted the **Five Freedoms** from the Farm Animal Welfare Council (freedom from hunger and thirst, discomfort, pain, injury or disease, fear and distress and freedom to express normal behavior) and added that good animal welfare must be based on good science. The welfare of animals in developing countries was addressed and that it may be not be appropriate to use international standards in these countries.

David Homer from the UK presented on what welfare meant to him on his farm and how it was approached and monitored. The **animals and their welfare** was an important part of why he wanted to farm and he felt that how he achieved and monitored it was fundamental to his enjoyment of his work. He also highlighted that science and technology and breeding selection, along with continuous learning, were a good basis for improving on.

Training was addressed by Mateus Paranhos da Costa from Brazil. An overview of training available in Brazil in relation to welfare improvements was given. He showed that being trained in good handling techniques had a significant improvement on death rates and treatments resulting from handling procedures.

Andrea Gavinelli (EU) talked about the **global dimension of animal welfare** with respect to European policy and International trade opportunities. This talk finished with the statement that the main issue of credibility is based on the idea that the standards to improve animal welfare must be transparent and lead to a real improvement in animal welfare providence of market products. The socio economic consequences and their relation to animal welfare were also discussed.

Nutrition and Health Report – 22nd/23^d September

***Dr Judith Bryans - The Dairy Council,
Chair of IDF Standing Committee on Nutrition and Health (SCNH)***

For the many dairy nutritionists who attended the International Dairy Federation's World Dairy Summit in Berlin, this year's summit offered two days of Standing Committee Meetings as well as two days of nutrition and health conference talks.

Highlights from the meeting of the Standing Committee on Nutrition and Health (SCNH) were the approval of two exciting new work items as well as the setting of our priorities for the coming year. One of the proposals that was approved is a joint initiative between the SCNH and the Standing Committee on Dairy Technology. It will investigate **the role of milk carbohydrates and their derivatives**. The second work item is a much needed piece of research into **the role of dairy foods in the diets of children**. Both pieces of work will result in peer reviewed publications and the latter will also be presented in Auckland at the World Dairy Summit in 2010.

The SCNH was delighted to welcome Tony Bennett from the FAO to our meeting. Tony gave us an update on the FAO's progress in a major piece of work they are undertaking on milk and milk products.

The **two day nutrition and health conference** which took place on the Tuesday and Wednesday of the Summit was open to all and indeed had a great turnout over the two days. The programme was varied covering a number of health-related topics including nutrient density, dairy fat, probiotics, weight management, milk and sport, appetite regulation and programmes for promoting dairy in developing countries.

It's been a challenge to choose only a few of the many interesting presentations for this report but the following talks deserve a special mention:

Day 1 – September 22nd

Dr Greg Miller, Executive Vice President, Research, Regulatory and Scientific Affairs, Dairy Management Inc (USA) gave the opening speech on the dairy treasures programme on day 1 of the conference. Greg delivered a well considered review of the existing research into **the role of dairy foods in weight management** and metabolic health, saturated fat, cardiovascular disease and genomics, probiotics and milk oligosaccharides, and the bovine genome.

He gave the audience several examples of the difficulties in gathering reliable nutrition data for the setting of public health guidance. He reminded the audience that public health advice does not take into account individual variability and that regulators, health professionals and other should stop advocating food avoidance. Food and nutrient avoidance message do not educate individuals about how to build healthy diets.

Following on the theme of ensuring that individuals get all the nutrients they need from foods, Professor Adam Drewnowski gave an excellent overview of **the nutrient density of dairy foods**. Adam is Director at the Center for Public Health Nutrition at the University of Washington's (UW) Center for Obesity Research, Nutritional Sciences Program where he is also Professor of Epidemiology; Adjunct Professor of Medicine.

He discussed ways of identifying foods which are nutrient rich, good tasting and affordable. Adam explored the drivers of food selection and the difficulties that consumers face in trying to interpret nutrition information from food labels and other sources. He described the development of the Nutrient Rich Food's Coalition nutrient density score known as the 9.3 index. This model, which has been published and validated scientifically, scores foods based on 9 nutrients to encourage and 3 nutrients to limit. Adam went on to talk about the fact that foods need to be tasty and affordable as well as nutrient rich to be accepted by consumers. He talked about the need for regulators to recommend foods, such as dairy, that meet all of those criteria as part of their public health policies.

Professor Lynn Moore from the Boston University School of Medicine gave an insightful review of **malnutrition in the developed and developing world**. Malnutrition is a huge problem in terms of infant and child deaths and illness in the developing world. It is also a problem for many children in developed countries. Although children in industrialised countries have enough calories, their diets are often poor quality and as a result they can be deficient in a number of nutrients. For example, in the USA many children and teenagers don't meet their needs for calcium, vitamin D, magnesium or potassium. Lynn discussed the important contribution of dairy foods to nutrient intakes in children and teenagers and addressed some of the myths regarding dairy and body fat. She presented data from the USA which showed that teens who consumed more dairy had lower body fat and waist circumference as well as lower blood pressure than those who consumed little or no dairy foods.

Day 2 – September 23rd

Dr Susan M Shirreffs, senior lecturer and researcher at Loughborough University (UK) presented a strong case for **the role of milk as a sports recovery aid**. Susan described the need to replace the carbohydrate stored in muscle as well as sweat losses following exercise. She also discussed the need to lower body temperature and to promote muscle growth. Susan described the composition of milk compared with special products designed for sports recovery. She told the audience that during training/exercise important changes take place in muscle and that milk has been demonstrated to effectively provide the proteins needed to optimise those changes.

Susan also explained the importance of replacing the body fluids lost through sweat during exercise. She described a variety of studies which have demonstrated that milk is an effective post-exercise rehydration drink. Susan concluded that milk has been shown to be as effective, and in some circumstances more effective, for sports recovery than specially formulated drinks.

Anestis Dougkas a PhD student from the University of Reading in the UK described **the role of dairy products in food intake regulation**. Having described the potential mechanisms related to calcium intake and protein which may affect satiety, Anestis went on to discuss the evidence from animal and human studies relating to reduced appetite and food intake.

Based on this evidence, Anestis told the audience that proteins appear to have the greatest role in appetite control - with the effect being related to the source of the protein. Then, using data from the Caerphilly Study, Anestis went on to describe his research into the relationship between dairy food consumption and body fat mass and body weight. He concluded that there is a moderate negative association between dairy consumption and body weight, especially from milk. He also told the audience that dairy proteins, particularly whey proteins and their peptide derivatives, may have a beneficial effect on body weight through regulation of food intake or metabolism.

Professor Hettie Schönfeldt from the Consumer Education Programme for Milk, South Africa, School of Agriculture and Food Sciences University of Pretoria discussed **a developing country's approach to consumer education on dairy**.

Hettie told the audience that the majority of the South African population lives in poverty with limited access to food and little variety amongst those foods that are available. She explained that 30.9% of pre-schoolers have stunted growth as a result of malnutrition while 56% of adults are overweight or obese. Although most people in South Africa seemed to be aware of healthy eating and hygiene messages, they are unable to apply them to their daily lives due to their difficult financial and personal circumstances.

The background thinking of this dairy-education campaign was to improve the knowledge of consumers and health professionals of the role of dairy foods. Messages developed for consumers and health professionals differed in terms of their focus. Consumers were given information on the overall goodness of dairy and the benefit of making dairy part of the daily diet. The fat content of dairy was highlighted in consumer messages to address misconceptions. Communication to consumers was via TV, radio and print advertising. Health Professionals were given evidence-based information on specific nutritional and health issues related to dairy consumption via their professional organisations.

Hettie finished by describing up-coming activities in schools and clinics to highlight the importance of dairy foods as part of a balanced diet and to combat malnutrition.

Animal Feeding and Breeding Conference – 23rd September

Julia Hawley – DairyCo

The conference opened with 3 papers looking at the contribution of cattle breeding to climate protection, unfortunately timetabled to clash with similar papers in the Environment Conference.

Sven König looked at **the effects of climate factors on animal breeding** and concluded that in pasture based systems, heat stress could increase cell counts, reduce conception rates and increase milk ureas. This in turn had implications in selecting bulls which were more suited to pasture based systems.

Eileen Wall's contribution **examined the potential role of breeding in reducing emissions**, through three routes; use of genetics for improved efficiency of production from individual animals, breeding for more sustainable systems (i.e. reduced wastage of animals and improved longevity) and also through breeding directly for lower emissions. She explored how using a shadow price for carbon could be used to bring these three measures into a single economic value with potential to be included in the overall breeding goal of profitability, currently measured as PLI in the UK.

She then showed how GHG emissions for different rural land uses could be calculated and cost-effective means of reduction identified. It was suggested that genetic improvement within the livestock sector was one of the most cost-effective and that emissions reductions of 10% could be achieved by 2022, but that this complex area contained many interactions in a variety of environments and much further research was required.

The final paper in this section, from Huw Jones, highlighted that there had already been **a calculated 16% reduction in GHG emissions per unit of milk produced on-farm in the UK since 1988**, without even trying - due to genetic improvements resulting in higher yields per cow, increased longevity and shorter calving intervals. Most of this, and the potential for future genetic gains, came through higher yields per cow, spreading the emissions from the cow's maintenance requirement over a higher volume or production. Further reductions from the same factors would follow, with faster progress achievable if new traits were selected, relating to feed efficiency, lower methane production and better disease resistance.

The second session looked at the contribution of breeding to milk quality, with Johan Van Arendonk looking for **genetic contribution to the variation in the composition of milk fats and proteins**, which could be commercially exploited. He found that there was significant genetic variation in the fat and protein compositions and that, in most cases, genetic variation was greater than environmental (husbandry) influences.

Examining the cattle genome, using 1536 SNPs, he had so far identified 6 new regions that contributed to milk fat composition and 3 new regions that contributed to milk protein composition, with further work on a 60kSNP chip now in progress. He felt that exploitation of these genetic traits through genotyping of sires and differentiating milk had the potential to achieve a 10% increase in unsaturated fatty acids content within 10 years, with an increase of 3% in the casein fraction.

Prof. Nicolas Gengler took this topic a stage further, looking at **the potential implementation of a breeding programme**. This could evolve using research findings to develop models which are then used to update breeding goals and selection indices, but he highlighted the complexity of this process and the fact that we have a long way to go before this becomes a commercial reality.

The final paper in this session looked at **genetic selection for SCD** (stearoyl Co-enzyme A desaturase), which is involved in the production of most of the mono- and CLA in milk. It concluded that it was possible to modulate milk fat profile through selective breeding, but also that increasing activity of SCD could inhibit the synthesis of fat and protein in milk.

The next paper of interest came from Jude Capper from Cornell University, who attracted a large audience. She examined **the environmental impact of dairy production** (past and future) and argued strongly that emissions should be evaluated relative to production. She highlighted that due to improved dairy efficiency, while the carbon footprint per cow has doubled in the US since 1944, the carbon footprint per gallon of milk produced had halved, with the net result that the dairy farming had reduced its carbon footprint by 41% over the same timescale. In the following debate she raised eyebrows by daring to suggest that perhaps New Zealand and the NZ forage-based dairy system was not optimal for dairy production in the context of climate change concerns.

The concluding paper from Frank Driehuis examined **the occurrence of mycotoxins in dairy feeds** and an estimation of their total dietary intakes. There were 2 key messages;

- aflatoxin M1 is the only mycotoxin in the dairy production chain which raises concerns for food safety and that a whole-chain approach is required for its control
- other mycotoxins are of concern only for animal health, and total dietary intake levels should not give rise to any adverse effects.

Technical Tour to Müller Site at Leppersdorf – 24th September

Julia Hawley – DairyCo



The Leppersdorf plant near Dresden is a highly integrated unit, employing 1,600 staff, with an annual milk intake of over 1.5 billion kg. 80% of milk is sourced on direct supply contracts (typically 6 month duration) from German farmers across a 200 km milk field, the remaining 20% is spot purchased, with some of this coming from Poland. Milk quality is similar to that in the UK. We were able to tour much of the site (on foot, rather than using the bicycles put to good use within the plant by many of the staff) in areas where there was no risk of cross contamination.

The plant was established by Müller in 1995 following the purchase of the regional brand Sachsenmilch and since then over 600 million Euros have been invested. The site now produces the Sachsenmilch milks, flavoured water and milk drinks, whey ingredients, butter, 15,000 tonnes of locally popular acidic curd cheese and desserts including rice and yogurts.

There is a high degree of vertical integration; 30% of haulage is carried out by a service company and 90% of fruit required is cooked in-house. The service company Optipack produces 2 billion ready-made thermo-formed cups and 300 million pre-form units on site per annum. Since 2007, molasses by-product has been converted to ethanol with an annual production of 10 million litres of biofuel.

The Müller Group is led by Theo Müller who since 1971 has transformed it from a small village dairy (established in 1896) to a leading international business with 11 sites in 8 countries, manufacturing both branded and own-label products. The establishment of the UK plant at Market Drayton saw the start of this global expansion and this remains their most profitable operation.

Farm visit – Agrargenossenschaft Beerendorf eG

We then visited a dairy farm supplying Müller, situated near Delitzsch, also in the former East Germany. This unit covered some 1,425 ha of flat land on light sandy soils, with annual rainfall of around 500mm in a continental climate, with dry summers and cold winters.



Cropping - 2009 harvest	ha
Cereals	732
Oilseed rape	290
Sugar beet	61
Maize (for silage)	206
Lucerne (for silage)	21
Pasture	104
Other farmland / yards etc	11
TOTAL	1,425

The farm had 470 head of Holstein cows producing 8,600 litres/head at 4.05% butterfat and 3.43 % protein and a milk quota of 4.18 million litres.

The business had been established as a co-operative in 1990, following the breakdown of former state farms in Eastern Germany and was financed and owned by a group of businessmen who did not work on the farm. 25 staff plus 3 apprentices worked on the farm (reduced by 12 since 1997), all of whom were shareholders and received a share of profits. 12 staff worked directly with the cattle and 7 on the land operations. The balance worked on maintenance (it was extremely tidy!!) and in administration. One staff member was responsible for the CHP anaerobic digester established 2 years ago, using slurry to produce 380 kwh/day of electricity sold into the grid and also 370 kwh of heat (enough to supply all offices on site and 22 houses in the village). Depending on the location, area, farms needed 6-9 months slurry storage to comply with Nitrates legislation.

Calves were in hutches for 2 weeks and then loose-housed in batches on automatic milk replacement feeders with transponders. Replacements were then reared off-site from 6 months to calving at 2-2.5 yrs, with bull and beef calves sold at 2 weeks. Breeding was through artificial insemination with some limited use of sexed semen.

The milking herd was housed all year and fed on a Total Mixed Ration (TMR) based around maize silage, with some zero grazing – grass was being carted when we were there. Cows were milked through a 36-point rotary and housed mainly in straw-bedded cubicles with slatted passageways and automatic scrapers, with some loose housing for dry cows.

Staff were all recruited from local villages and good staff are not difficult to find. They typically worked an 8-9 hour day (longer at peak times) and worked shifts with 7 days off in 21. The farm had erected some new cattle housing 3 years ago and had a modern administration block with offices with a viewing gallery into the parlour, staff lockers, showers and rest room.

Single payment equated to 300 eu/ha and it was acknowledged that they would far rather farm without this. At present the single payment and anaerobic digester were keeping the farm in profit, but at current milk and wheat prices, agricultural production was not viable – a far cry from the average milk price of 2008 of just under 35 cents/kg.

This was a fascinating visit to a modern and well invested unit; the fact that our group overstayed our time by an hour was an indication of the level of interest amongst the tour delegates.

Environment Activities

**Brian Lindsay – Lindsay Consulting (for DairyCo)
Chair of IDF Standing Committee on Environment**

FAO Study to Disaggregate GHG Emissions from Livestock Production

The IDF is supporting this study which will disaggregate the individual livestock sector's contributions to the total world livestock greenhouse gas emissions figure. This is a new study and not purely a breakdown of the previously launched Livestock's Long Shadow report. Through the IDF support, there are two representatives working closely with the FAO project team as a Steering Group.

A study of this nature will always be challenged by the availability of quality data. Sourcing this data takes time, so it is not surprising that the FAO team has revised the timescale for the delivery of this document. The aim was to finalise the document before the Cop15 meeting in December.

The presentation at the conference was delivered by Pierre Gerber of FAO. The key points to note are:

1. There are still challenges related to the inclusion of carbon sequestration in the calculations. The FAO team are still investigating how best to do this. Dr François Soussanna, a French specialist in this 'field', is working with the project team on this issue.
2. Dairy does present a better story than beef, though we (the dairy sector) really do not want to engage in comparative arguments with aligned sectors.
3. The need to work closely with the beef sector in developing methodologies/systems. This is liaison work that is already underway through the IDF Action Team on Lifecycle Analysis. The FAO presentation reconfirmed the importance of these efforts.
4. The project team is suggesting that they will report in terms of emissions/kg of animal protein and not for example in terms of emissions/litre of milk.
5. Allocation rules for milk are only marginally sensitive when applying per unit of output as emissions are spread over both milk and calf as opposed to the beef sector which only has the calf.
6. A major component of emissions at farm level is greatly influenced by the digestibility of foodstuffs and associated production levels.

The Standing Committee on Environment is investing time and effort in this study and will continue to work closely with the FAO in developing the messages emanating from the report to ensure that we do not have another press related Livestock's Long Shadow scenario.

Launch of the Dairy Declaration and Green Paper

The world's dairy industry was united on Thursday September 24 with the signing of the 'Global Dairy Agenda for Action – Climate Change' and the launch of the 'Green Paper' that provides the dynamic library of global sustainability initiatives.

The Agenda for Action was signed in front of a packed audience of journalists and dairy industry representatives and followed presentations from Richard Doyle - IDF, Povl Krogsgaard - Arla Foods and Wesley Judd representing IFAP. The ceremony was excellently facilitated by Bryan Weech of WWF, who stated several times how proud WWF were to be associated with an initiative such as the Agenda for Action as Dairy is one of the top three sectors that the WWF is focusing on.



The signatories representing the 7 organisations were (right to left)

- Richard Doyle – IDF
- Alfonso Moncada Jimenez - Federacion PanAmericana De Lecheria (FEPALE)
- Hans Johr – Sustainable Agriculture Initiative (SAI) Platform
- Povl Krogsgaard – Arla Foods – Speaker only
- Wesley Judd – International Federation of Agricultural Producers (IFAP)
- Werner Buck – European Dairy Association (EDA)
- Bertus de Jongh – Eastern and Southern Africa Dairy Association (ESADA)
- Toon Van Hooijdonk – Global Dairy Platform (GDP)

(The two people on the far left are Rick Naczi of Dairy Management Inc (DMI) and Brian Lindsay who only joined the signatories for the Q&A session).

Impressive in its own right, the Green Paper was launched with some 260 sustainability activities from 40 different countries. Some of these were selected and used in the presentations at the launch to provide an insight into the range and quality of the information available. Should you wish to have a look at the dedicated website, it sits within the IDF website - go to <http://www.dairy-sustainability-initiative.org>

Sustainable Agriculture Initiative (SAI) Platform Workshop

Immediately following the launch of the Global Agenda for Action – Climate Change, the SAI Platform Dairy Working Group conducted a workshop to engage with others on sustainability issues.

After a scene setting presentation by Peter-Erik Ywema, General Manager of SAI Platform, there were four presentations, from members of the SAI Platform Dairy Working Group, Danone, Fonterra, Cono Cheesemakers/Ben and Jerry's and Friesland Campina. Each organisation was provided with the challenge of answering the same four questions from the perspective of their body, though they only had 5 minutes to deliver the answers.

The four questions were:

1. What does sustainability mean to your organization?
2. What are the current priority areas from your organisations perspective?
3. How does collaboration with others...even your competitors, assist you in addressing sustainability issues?
4. How do you measure success in sustainability activities?

With approximately 50 delegates present at the workshop, many different points were made around how we develop indicators, measure success and even challenges to what sustainability initiatives we should be focussing on as a dairy sector in terms of investment and offsetting. The challenge was put to one of the presenters that investing in land improvement initiatives as an 'offset' was a 'cop out'. Do we need to do more as businesses as opposed to funding other activities to give us a warm feeling?

Many of the points made during this workshop related directly to the Global Agenda for Action and how its evolution should be directed. WWF felt that 'global indicators' were possible. Indicators or targets even are a vital component of any industry/company initiative as they aid in the quantification of the initiative, providing more than just words.

Importantly, what was evident from the SAI Workshop is the value of collaboration, even with competitors, in these issues.

Marketing and Communication Conference – 24th September

Dr Mike Johnston – Dairy Council for Northern Ireland

Two topics that were to the fore throughout the 2009 WDS were nutrient density and sustainability, and both were the focus of the Marketing Conference on Thursday 24 September. This is a short report on the presentations, fuller copies of which can be downloaded from the official website.

The topic of the morning session was **Nutrient Density (ND)**, and the structure was 3 speakers followed by a panel discussion. Dr. Mike Johnston (UK) was the first speaker, with the challenge of setting the scene for presentations on how the concept of ND was being developed into marketing campaigns in both Europe and USA. He suggested that the concept of ND is at a stage where the dairy industry can take the science and start to use it to drive sales.

There are many issues that need to be thought through, not least of which is agreement of a definition of the concept that can be at the core of activities aimed at consumers in particular. ND offers the dairy industry an opportunity that it has not had for decades, to move from a defensive posture to one where the positives of dairy can be vigorously promoted. And the underlying rationale is that nutrient density has the potential to develop and maintain a positive relationship between consumers and dairy, and to drive sales and revenue.

The session's second speaker, Dr Rune Dalgaard from the advertising agency Kernel, who has been working with the European Dairy Marketing Forum to develop a **pan European ND marketing campaign**. He made the point that until a few decades ago milk occupied an unquestioned position in many markets – expressed in the phrase 'Milk - Nature's perfect food'. This unique position as a universal and essential perfect food has irreversibly gone, and the challenge now is to modernise the milk story and tell a good, but less perfect, story about the qualities of milk.

The nutrient rich food perspective presents an opportunity to do this based on a new modern foundation. From a marketing and communication perspective, the aim is to position milk as a nutrient-rich food in a way that will defend its role compared to other foods and increase the appeal of "milk is nutrient-rich" messages. To this end, the aim is to develop an alliance between nutrient-richness and another 'driver', such as natural, that will increase positioning power and appeal towards stakeholders, especially consumers.

The final speaker of the session, Dr Greg Miller from DMI in USA, provided insight into a **campaign being run in conjunction with the Nutrient Rich Foods Coalition**. He outlined consumer research that provided insights into how consumers choose foods, which identified that 78% are looking for a simple tool to help them in their food choices. Such a tool has been developed – My5, which can be applied to choices at individual food, meal, and overall diet levels.

Research with consumer groups has shown My5 to be effective in helping consumers with their choices, and has helped individuals reduce total fat, saturated fat and % calories from fat. The US campaign has also focused on communicating the range of nutrients in dairy in addition to calcium, and has related these nutrients to their benefits as a way of strengthening their appeal.

The second session of the Conference has **sustainability** as its theme, and had a similar structure to the ND session with 3 speakers and a panel discussion. The first speaker was Richard Lange (AU), who highlighted the difficulty in **defining what is a sustainable diet**, because sustainability covers so many aspects and has a range of potential audiences. However, at consumer level, he suggested that science must underpin any rational propositions to consumers, but the important level at which to be interacting with consumers, and which will deliver benefit, is at emotional level. However, this will not be easy, since the importance of the many facets of sustainability varies across the various segments of consumers. And therein lies the challenge for the dairy industry in utilising the work being done in the area of sustainability in marketing campaigns.

The second speaker was Emma Jacquier from Nestle, who looked at the topic of going beyond sustainability to **create shared value**, which means that in order to have business success in the long term you have to create value for society. Recently, Nestle launched its shared value model at the UN in New York, with the objective of establishing it within the UN and the wider global community. Out of this launch evolved 4 panels, looking at creating shared value, rural development, water, and nutrition. These are now operating across Nestle's global operations, and the main body of the presentation provided examples of these in operation.

The final speaker was Chris Brown from ASDA who addressed the topic of **consumer acceptability of sustainability**. Referring to ASDA's research, he indicated that in relation to food, consumers want great value, safe food, high welfare, and environmentally friendly and sustainable food production. He went on to highlight the even though some organisations are active in trying to influence consumers in their food choices, such as vegetarians, for most consumers environmental factors are not currently significant in influencing food purchases.

In focusing on dairy, he highlighted that 1,000 litres of water are used to provide a consumer with a litre of milk, compared with 4,500 litres to provide a steak, and 140 litres for a cup of coffee. In terms of sustainability, obviously water usage is important for dairy and food, but he raised the question of its importance, currently, for UK consumers. He concluded by suggesting that decisions taken by industry and businesses in the next 12 months, in relation to the environment and sustainability, will define their futures for the next 10 years.

RECENT IDF PUBLICATIONS

<p><u>Bulletin No 437/2009</u></p> <p>Pages: 11 - Price: 11 Euros</p>	<p>Effects of Foot-and-Mouth Disease on the Dairy Industry – E-Form</p>	<p>Position paper outlining the effects that an outbreak of Foot-and-Mouth Disease, a highly infectious viral disease of cloven hoofed livestock, can have on the dairy industry in any country in the world. In some countries the dairy industries are complex and integrated, as most of the milk or milk products produced are destined for international trade, whereas in other countries most of the milk and milk products produced are for local consumption.</p> <p>There are three key issues: FMD is highly infectious and spreads very rapidly through a population of susceptible dairy animals. An outbreak will result in severe economic consequences to dairy producers and processors and the country as a whole; Control measures are aimed at preventing spread to livestock as FMD is not a public health issue for human consumers of milk and milk products.</p>
<p><u>Bulletin No 438/2009</u></p> <p>Pages: 107 - Price: 75 Euros</p>	<p>The World Dairy Situation 2009 - E-Form</p>	<p>Annual survey presented at the IDF World Dairy Summit, Berlin (DE), in September 2009. Production, consumption, trade and price figures from dairy sector and other sources. Largest dairy companies by turnover and by 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.</p>
<p><u>Bulletin No 439/2009</u></p> <p>Pages: 34 - Price: 30 Euros</p>	<p>Interlaboratory Collaborative Studies on Reference Method ISO 1211 / IDF 1 for the Determination of the Fat Content in Cow Milk, Sheep Milk and Goat Milk - E-Form</p>	<p>The gravimetric reference method for determination of fat in milk (International Standard ISO 1211 / IDF 1) was subjected to new international interlaboratory studies to establish its precision characteristics (reproducibility, R, and repeatability, r). In these new studies the method was applied to cow whole milk, cow reduced fat milk and cow skimmed milk and to milk from sheep and goats.</p> <p>This paper is the report of the interlaboratory studies.</p>
<p><u>Bulletin No 440/2009</u></p> <p>Pages: 24 - Price: 25 Euros</p>	<p>Interlaboratory Collaborative Study on the Kjeldahl Reference Method for Nitrogen Determination in Sheep and Goat Milk according to ISO 8968-1/2 / IDF 20-1/2- E-Form</p>	<p>The reference method for determination of nitrogen in milk (International Standard ISO 8968-1/2 / IDF 20-1/2) was subjected to an international interlaboratory study to establish its precision characteristics (reproducibility, R, and repeatability, r) when the method is applied to sheep milk and goat milk. This paper is the report of the interlaboratory studies.</p>
<p><u>Bulletin No 441/2009</u></p> <p>Pages: 41 - Price: 42 Euros</p>	<p>Monitoring Success of Paratuberculosis Programs: Proceedings of the 2nd Paratuberculosis Forum, Minneapolis, August 2009 - E-Form</p>	<p>Paratuberculosis is an infectious disease that is one of the leading causes of economic loss to the cattle and small ruminant industries. The dairy sector (and the beef sector) have studied how to control and reduce the prevalence and spread of this disease for many years.</p> <p>The 2nd ParaTB Forum, held in Minneapolis, Minnesota, USA on 8 August 2009 provided the opportunity to consider national and regional control and eradication programs on paratuberculosis in dairy herds with the emphasis on monitoring the effectiveness of these programs and analysing the factors affecting their degree of success. The programs developed in four different countries, covering a wide variety of dairy regimes, were reviewed and discussed.</p> <p>Paratuberculosis specialists and farmers' representatives of nine countries participated in the forum.</p>

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

IDF 5th International Mastitis Conference, 21-24 March 2010, Christchurch, New Zealand

The conference will be the principal continuing education conference event for dairy cattle veterinarians in New Zealand in 2010 and will report on innovative research and other advances in the understanding of mastitis being achieved worldwide. It will also discuss progress since the 2005 meeting in Maastricht.

Keynote speakers will discuss the topical industry issues including environment, economics, mastitis and milk quality along with farming perspectives and animal welfare. Topics proposed for the programme are prevention and integrated control, genomics and resistance to Mastitis, diagnostic tools, bacterial ecology, microbiology, physiology, detection and modelling.

Website: <http://www.idfmastitis2010.com>

IDF/ISO Analytical Week, 17-21 May 2010, Montreal, Canada

The IDF/ISO Analytical Week is the annual topical event for experts in the field of standardization of methods of analysis and sampling for milk and milk products.

A half-day symposium will be organised during the week. The symposium is likely to cover other fields than those merely related to analysis and sampling. The symposium is embedded in a series of business meetings of ISO/IDF Project Groups and the six IDF Standing Committees in the field of Analytical Methods of Sampling and Analysis.

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

IDF Symposium on Science and Technology of Fermented Milk, 07-09 June 2010, Tromsø, Norway

The Symposium will cover the following main topics:

- Current market situation, trends and challenges in fermented milk
- The effects and influence of cultures
- Nutrition and health
- The effects and influences of ingredients
- Processing technology, monitoring and control

WEBSITE: <http://www.idffer2010.no/>

IDF Symposium on Microstructure of Dairy Products, 09-11 June 2010, Tromsø, Norway

The Symposium will cover the following themes:

- Impact of molecular interactions on dairy microstructure
- Structure formation and processing
- Lipid structures – lipid crystallisation
- Emerging analytical techniques
- Microstructure behind sensory perception
- Beyond perception: Microstructure and nutrition

WEBSITE: <http://www.idfmic2010.no/>

IDF World Dairy Summit, 04-11 November 2010, Auckland, New Zealand

The theme of this year's event is "Discover...Natural Inspiration" and the Summit will feature a number of conferences covering all the work areas that IDF is involved with, including: World Dairy Leaders Forum, Dairy Policies and Economics, Nutrition and Health, Dairy Farming, Environment, Analysis and Sampling, Marketing, Dairy Science and Technology, supported by Symposiums on Food Additives, Cheese Science and Bioactives. In addition, there is a Farmer's Dinner and a number of technical and social tours to complement the business meetings.

This is an excellent chance to establish new contacts, find out about the latest methods and practices that are being used around the world and find out more about the work of the IDF so please make the effort to attend what should be a very interesting and rewarding Summit.

WEBSITE: <http://www.wds2010.com>