



## A summary of results from the IFCN Dairy Report 2011

This article summarises the key findings of the IFCN work in 2011 and the recently published IFCN Dairy Report 2011

**Authors:** Torsten Hemme and dairy researchers from 90 countries participating in IFCN

**IFCN Dairy Research Center**  
Schauenburger Straße 116  
24118 Kiel, Germany  
Phone: +49 (0) 431 - 5606 - 250  
email: [info@ifcndairy.org](mailto:info@ifcndairy.org)  
website: [www.ifcndairy.org](http://www.ifcndairy.org)

**Disclaimer:** Neither IFCN Dairy Research Center nor other legal entities in the IFCN Dairy Network accept any liability whatsoever for any direct or consequential loss howsoever arising from any of the IFCN material or its contents or otherwise arising in connection herewith. **Copyright:** © IFCN Dairy Research Center 2011: All rights reserved. This article could be reproduced or distributed by any means without prior permission from the IFCN Dairy Research Center. All publications arising from parts or this entire article must be accompanied by the text shown in the box below.

### **The IFCN concept + method**

IFCN mission: "We create a better understanding of milk production worldwide"

The IFCN – International Farm Comparison Network - is a global network of dairy researchers from 90 countries cooperating with over 85 companies representing the dairy chain. The IFCN has a Dairy Research Center (DRC) with 18 dairy experts coordinating the network process and dairy research activities. The IFCN is independent from third parties and committed to truth, science and reliability of results. The main research focus of the IFCN and its core competence is in the field of milk production, milk prices and especially dairy farm economics. Further details: [www.ifcndairy.org](http://www.ifcndairy.org).

# Status and trends in milk production world wide

## 1. Milk production and IFCN approach

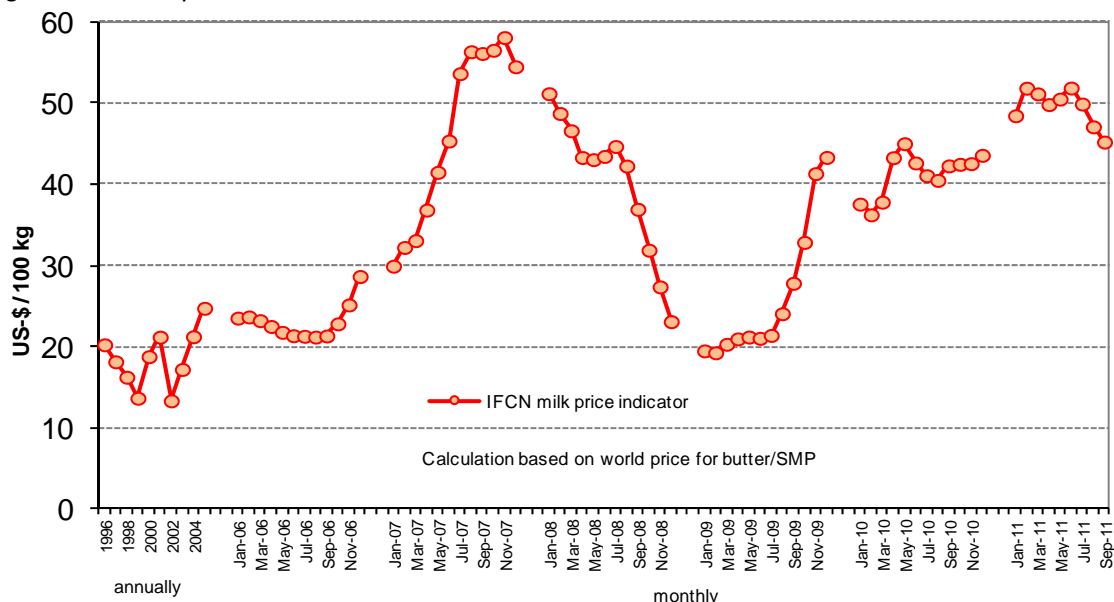
The IFCN was established in the year 2000 to analyse milk production trends and their drivers. The focus of IFCN is milk production as it is the key element in the whole dairy chain as it creates the major share of I) the costs, II) resources used, III) emissions created and IV) the political challenges in the dairy chain. Milk production development is quite diverse. In the time frame 2005 – 2010 the IFCN has observed growth rates which have ranged between 0.8 - 3.0% or 5 - 19 mill t milk ECM (Energy Corrected Milk, standardised to 4% fat and 3.3% protein). Based on monthly data collection in 49 countries milk production in the first 6 months 2011 grew at a high rate of 3%.

## 2. Three phases of milk prices

The IFCN milk price indicator, based on SMP and butter prices, left the long-term price range of 11-25 US-\$/100 kg milk in November 2006. In the following 38 months prices had been very volatile in a range from 19 to 58 US-\$/100 kg milk. Since November 2009 we have seen relatively stable prices on a level of Ø 44.7 US-\$ (+/- 8 US-\$).

With this level shift in world milk prices and its volatility all country milk prices are very strongly affected. In most cases the world milk price is the strongest driver for the local milk prices.

Fig. 1: IFCN milk price indicator 1996-2011

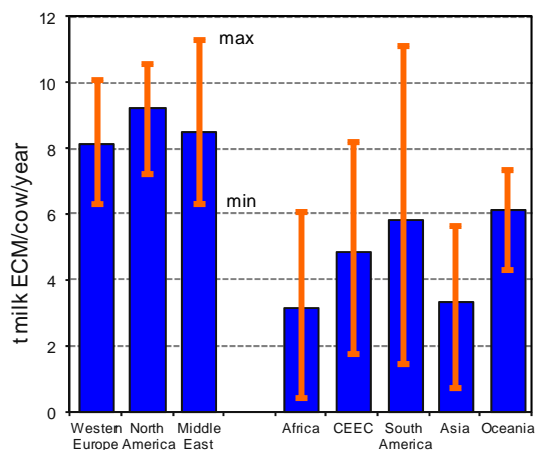


## 3. Cost of milk production in 2010

Since 2000 the IFCN is annually comparing typical farms around the world. In the 2011 farm comparison 157 typical farms from 60 dairy regions in 49 countries were analysed. For simplification, the farms analysed have been clustered into 8 different world regions. Figures 2 and 3 show the average values for all farms analysed within the region.

Two groups of regions can be distinguished based on the milk yield: high yield regions having about 8,000 kg ECM per cow per year and more (Western Europe, North America and Middle East) and low yield regions with yields usually below 6,000 kg ECM (Africa, CEEC (Central & Eastern European Countries), South America, Asia and Oceania).

Fig. 2: Milk yield in different world regions 2010

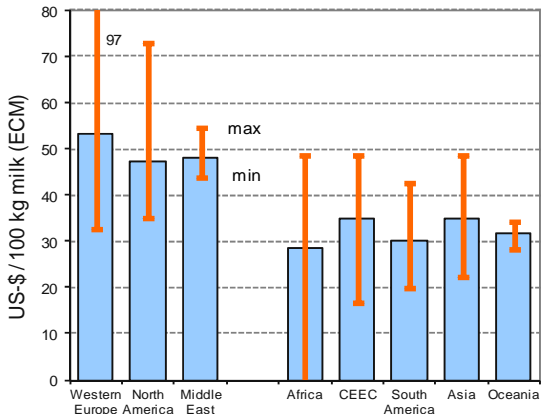


The cost indicator shown in figure 3 is representing the concept of full economic costs. Technically it is defined as follows: Costs from the profit and loss account of the dairy farm plus opportunity costs for own production factors (family labour, own land, own capital) minus the non-milk returns (returns from cull cows, calves or heifers, returns from manure and returns from coupled direct payments).

The results show a simplified global overview on milk production costs:

- Western Europe, North America and the Middle East had the highest costs.
- Costs in CEEC, South America, Asia and Oceania were on a similar level of 30 to 35 US-\$ per 100 kg milk.
- In Western Europe and North America exist typical farms which are able to produce milk at cost of about 35 US-\$ per 100 kg milk ECM.
- Compared to the IFCN cost analysis for 2009 in all world regions costs increased greatly in 2010. Western Europe is an exception as costs decreased.
- There is an indication that on a global basis high yield or large farm size is not really a driver for low costs.
- Low costs are more a result of having the right farming system in terms of feeding system, technology, intensity and management skills.

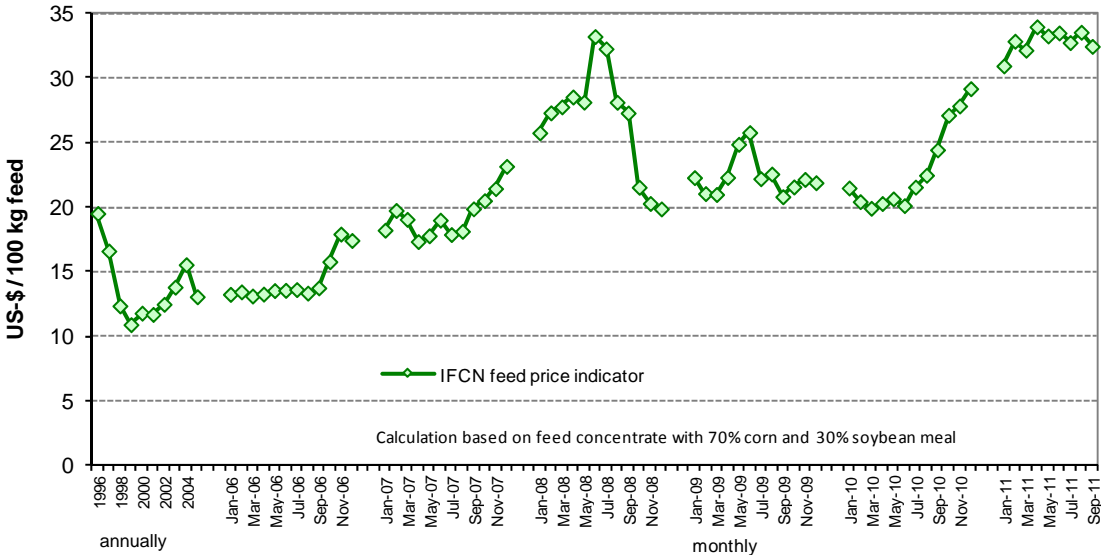
Fig. 3: Cost of milk production in different world regions in 2010



#### 4. Rising feed prices from 13 to 33 US-\$, an increase of 156%

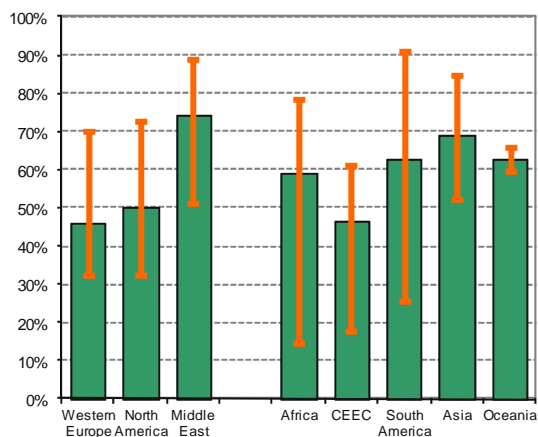
Feed prices have increased from 13 US-\$/100 kg in 2005 to 23 in 2010 (77% increase). In 2011 prices increased even to 33 US-\$ (Ø Jan-Sep) or by 43% compared to 2010.

Fig. 4: IFCN feed price indicator 1996-2011



The IFCN has a method to estimate for all typical farms analysed the total feed costs which include the costs of purchased feed, costs for home grown feed and all costs related with feed and manure handling.

Fig. 5: Share of feed cost on total cost



Based on this analysis the average share of feed costs on total costs for all farms is 55% in 2010. The highest share was observed in the Middle East (74%) while the share in Western Europe was on a lower level of 46%.

For 2011 it is expected that the average share of feed costs on total costs rise to a level of 65%. This means feed prices and feed management will be the most important drivers for competitive milk production.

## 5. World average dairy farm size is 3 cows

A farm structure analysis is relevant in order to understand possible developments and scenarios in specific dairy regions. It allows seeing the diverse speed of structural change in the countries. In the IFCN Dairy Report 2011 milk production profiles for 90 countries are shown, representing about 98% of milk production worldwide.

These 90 countries have an average herd size of only 3 cows per farm. This is mainly due to the fact, that in developing and transition countries many small scale dairy farms with 1 to 2 cows exist. On the other hand only 11 of the 90 countries have an average farm size of more than 100 cows. The extremely high differences in farm structures can be shown via the example of comparing the farm structures of the USA with Pakistan. In the USA twice the amount of milk is produced compared to Pakistan, but this is produced in the USA from only less than 1% of the amount of dairy farms Pakistan has.

This year, the IFCN has developed the "IFCN Standard size classes" in order to have comparable farm structure information between countries. In this analysis data from 78 countries are included, representing 95 % of cow and buffalo milk production, and harmonised into seven "IFCN Standard size classes".

The results allow clustering the farms into three categories:

**Farm size 1 - 10 cows:** 78% of all farms and 56% of the cows are in this category. A large part of the milk produced in these farms is consumed by the family, whereas the rest of the milk is sold locally and often to an informal market. Milk selling is providing the daily cash for the family subsistence. These dairy farms can be described as "household farms".

**Farm size > 10 - 100 cows:** 22% of all farms and 28% of the cows are in this category. Most of these farms can be described as "family farms" as most of the work is done by family members. The economic aim of these farms is to generate a sufficient income for the family members.

**Farm size more than 100 cows:** Only 0.3% of the dairy farms having 16% of the cows are in this size category. These farms can be described as "business farms" as most of the work is done by employees. The main aim of these enterprises is to generate the expected return on investment.

## 6. IFCN Top 21 milk processors

A view on the ranking of the top 21 processors shows the concentration of milk processing worldwide.

- The top 21 dairy processors source 24% of world milk production which is 39% of all milk delivered to processors worldwide.
- No. 1 milk processor in the world is Fonterra which processes 3% of the world milk.
- Compared to the IFCN ranking from 2009 there was no mayor change in the ranks 1 to 10.
- Via mergers Nordmilch & Humana as well as Social & Entremont alliance have improved their rank position.
- In Asia the companies Mengniu, Yili and Amul gained position via strong growth in milk intake.
- Some milk processors in the USA showed stable milk intake and lost positions in this ranking.

Fig. 6: IFCN Top 21 milk processors list 2011 (measured by milk intake)

Rank	Company name	Country	Dairy processing plants main location	Milk intake in mill. t	Market share in % of world milk production
1	Fonterra	New Zealand	international	20,5	3,0%
2	Dairy Farmers of America	USA	USA	17,1	2,5%
3	Nestle	Switzerland	international	14,9	2,2%
4	Dean Foods	USA	USA	11,8	1,7%
5	Royal FrieslandCampina	The Netherlands	The Netherlands	10,3	1,5%
6	Lactalis	France	international	10,2	1,5%
7	Arla Foods	Denmark/Sweden	Denmark/Sweden	8,7	1,3%
8	Danone	France	international	8,0	1,2%
9	California Dairies Inc.	USA	USA	7,7	1,1%
10	Kraft Foods	USA	international	7,5	1,1%
11	Nordmilch & Humana (DMK)	Germany	Germany	6,7	1,0%
12	Saputo	Canada/USA	Canada/USA	6,2	0,9%
13	Land O' Lakes Inc.	USA	USA	5,8	0,9%
14	Sodiaal & Entremont alliance	France	France	4,2	0,6%
15	Mengniu group	China	China	3,8	0,6%
16	Parmalat	Italy	international	3,7	0,6%
17	Yili group	China	China	3,7	0,5%
18	Amul	India	India	3,4	0,5%
19	Northwest Dairy Association	USA	USA	3,3	0,5%
20	Schreiber Foods Inc.	USA	USA	3,3	0,5%
21	Murray Goulburn	Australia	Australia	3,2	0,5%
<b>Sum top 21</b>				<b>163,9</b>	<b>24%</b>

**Source:** IFCN analysis is based on the IFCN Dairy Report 2010 and additional analyses and estimates. Data represents in most cases the year 2009 or 2010. **Explanation:** Milk intake represents milk volume collected, commodity purchase (in milk equivalents) and subsidiaries in other countries. Milk intake figures in mill. tons. In some cases recalculated from liter (1 liter = 1.033 kg). **Comments:** Amul (India): milk with high fat content. Nordmilch and Humana merged in 2010 and created new company Deutsches Milchkontor (DMK). Sodiaal and Entremont alliance merged in 2011. Fonterra and Nestle incl. 50% of milk intake of Dairy Partners America (DPA) each. In some cases: double-counting of milk intake possible (companies purchase milk / dairy ingredients from each other).

## 7. Several dairy regions will come under pressure

In 2011 IFCN has analysed the change of milk production within the countries and their regions. The result was that the change of milk production per year can easily reach 5% and in some cases goes beyond this. This means that within a time frame of 5 years some regions will have 30% more milk whereas other regions have 30% less milk production. Especially in Europe it can be expected that this speed of change will be even higher in some regions within the coming years.

This fact will be a challenge for milk processors as they have to adjust milk processing capacities in two directions depending on whether they are in growing or declining dairy region. For farm input suppliers, especially feed companies, this will also be the case.

The IFCN analysis 2011 has identified the following criteria for countries, regions or farming systems which will come under pressure at the milk and feed price levels found in August 2011.

The following criteria will increase the pressure:

- land prices rise fast or milk production is located in regions which are very favourable for cash crops
- economic prosperity is strong - this leads to strongly increasing wages and currency appreciation
- dairy farms do have only a little or no land base to produce their own feed
- milk supply in the region is ahead of a shift from either 1) households to family farms or 2) from family farms to business farms.

For all stakeholders in the dairy chain this offers two basic options to react:

- relocate farms and plants to more competitive dairy regions
- bring all stakeholders together and develop future dairy farming systems which are competitive.

