agri benchmark

Beef Report 2009

Benchmarking
Farming Systems Worldwide

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Farming Systems Worldwide

1.1 Beef Report 2009 – Foreword from the editor

Network developments in 2009

The highlights of the 2008/2009 season were:

- The **network** continued to expand and now comprises 24 full partner countries. New countries are the Czech Republic, Mexico and the Ukraine.
- The **Beef Conference** 2009 was held in **Limo**ges, capital of the Limousin region (internal workshop), and in Paris, France (public day).
- The Conference format was again improved by adding another excursion day. The conference **schedule**, presentations and pictures are available on the website at *http://www.agribenchmark.org/beef_events.html*
- We obtained a great insight and better understanding of **local production** systems. The level of partner participation, contribution and activity was better than ever.
- **Emission** analysis was extended to more countries and cow-calf farms.
- Cow-calf and beef finishing enterprises were systematically **merged** by using a newly developed tool. The merging tool allows analysis of both enterprises in integrated farms as well as between farms by taking the cow-calf data from one farm and the finishing data from another farm, usually in another region or country. This allows cross-region and **cross-country** analysis from birth to slaughter.
- First, promising results for sheep meat production were obtained from the **Spanish** national network, applying the new **sheep analysis** tools.
- **Regional** networks were started in Sweden and South Africa. The farm network in Indonesia now comprises 23 typical farms.
- The **website** is permanently updated and hosts all presentations from the Beef Conference.

Activities for 2010

The following was decided among the partners:

- The **Beef Conference 2010** will take place in the Townsville and Brisbane regions in Queensland, **Australia**. The Conference is jointly organised by the Department of Industry and Investment, Meat and Livestock Australia (MLA) and the ***agri benchmark*** Centre.
- For those countries where data is available, the **price time series** will be updated on the website on a quarterly basis.
- A working group to further deepen and improve the **emission** analysis was founded. This group will work with local expertise from the countries as well as with the ***agri benchmark*** Cash Crop Network to obtain data from feed and forage production. A further focus will be on the carbon sequestration potential of grassland in selected countries.
- Another group was founded to do the first international analysis of **sheep meat** production. Countries participating are Australia, France, Mexico, South Africa, Spain and the UK. Further countries are most welcome! First results will be presented at the 2010 Beef Conference.
- In another activity, the annual results will be **updated** more frequently with a set of key prices for outputs and inputs (**indexing**).
- The **merging** exercise will be extended to further farm 'couples'. This will also be reflected in future definitions of typical farms.

Acknowledgements and conclusions

Our biggest thank you goes to our French partners and staff members from the **Institut de l'Élevage** (French Livestock Institute), especially to Patrick Sarzeaud whose initiative secured the Conference in France as well as to Michèle Boussely who did a fantastic job in the Limoges branch of the FLI.

I would like to extend my thanks to the ***agri benchmark*** team at and around vTI and DLG, including our support staff who again did a great job. Thanks for all your commitment and patience.

My final thanks to all our **partners** who again provided data, knowledge and funding to the network. You are the real owners of the project.

I look forward to another exciting season and an unforgettable conference in Australia. No worries, mates!

Claus Deblitz

Coordinator ***agri benchmark*** Beef

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"I think [the Beef Conference] is, as always, a unique opportunity to share information, methodologies and conceptual issues related with beef production and economics in a world wide sense."

Ernesto Reyes, Spain

Thank you to you and your team once again for all the effort to make this whole program such a great initiative. It is the leadership provided from above that make the country teams perform according to set standards. Patrick [Sarzeaud from France] and his team did a great job.

André Jooste, South Africa

The information we got and the visits we did at the conference was great. I felt that I had a lot of information with me home.

Pernilla Salevid, Sweden

This conference has extended my experience and information has been useful for me as an agricultural economist and for my own research centre.

Prajogo U. Hadi, Indonesia

Thank you very much for a wonderful conference and trainings. I knew many new and useful for my work.

Elisabeth Svyatkivska, Ukraine

I want to express my satisfaction about the training and the conference. It was not only a professionally most interesting experience but a very enjoyable week thanks to all of you.

Cristina Ras, Argentina

It was a very interesting and enjoyable week and I'm already looking forward to next year's conference. I look forward to working with you all in the future.

Mark Topliff, United Kingdom

… the information I took away from the conference was immense. It has certainly improved my knowledge on just how Australia sits in comparison to our competitors, and has really given me an insight into the pressures of farming in other regions … which are so different from our own here in Australia.

Kirrily Pollock, Australia

I would like to say that we had a very nice time. The opportunity to exchange information, knowledge, experiences was really positive. This last meeting was a result of a long-term investment.

Sérgio de Zen, Brazil

Thanks for all your hospitality – I enjoyed it all and especially seeing farms in Limousin. I was most impressed by the open and frank discussions at the workshop, conference and on the farms and with the professionalism, dedication and camaraderie of the group. I look forward to seeing you all in Australia next June.

Peter Weeks, Australia

My experience as a first time attendee was extremely positive and the contacts I have made will be very useful in the future. The vision of ***agri benchmark*** and the commitment to build this network to where it is today is very much appreciated.

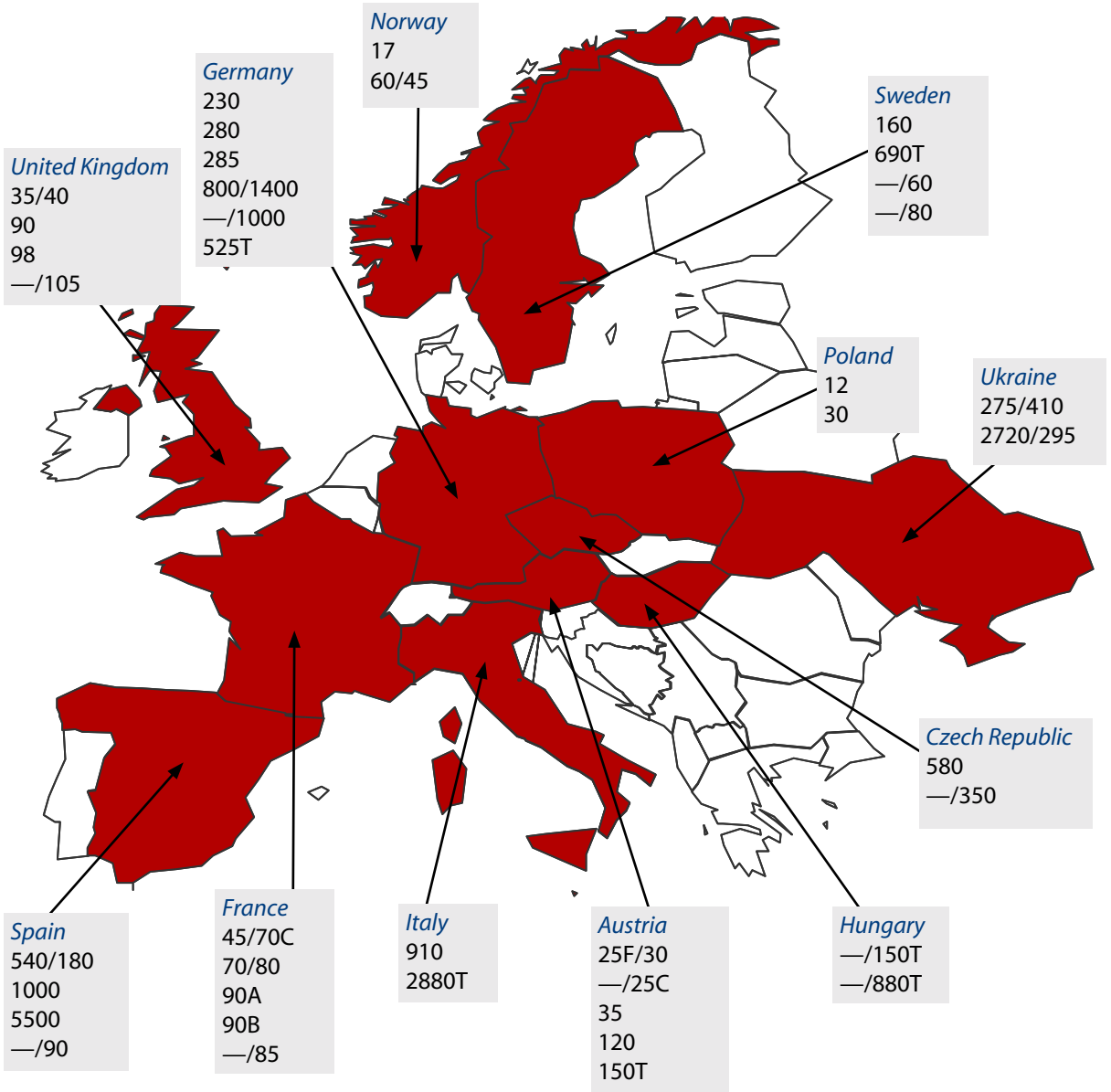
Lloyd Davies, Australia

The conference is an opportunity to find an understanding of farmers in different production environment and to pass the information to farmers in our country. It is an unique board to discuss strategies, competitiveness and perspectives of beef production worldwide. Thanks to all because it was the professional knowledge of all participants and a wonderful hospitality of our French colleagues which made the conference great.

Iveta Bošková, Czech Republic

1.4 Maps of typical farms

Europe



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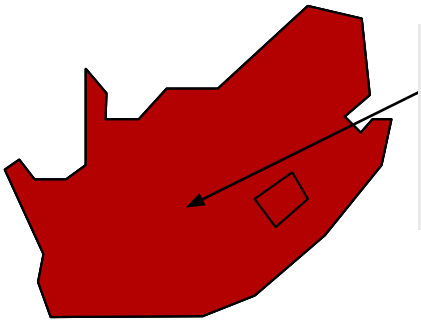
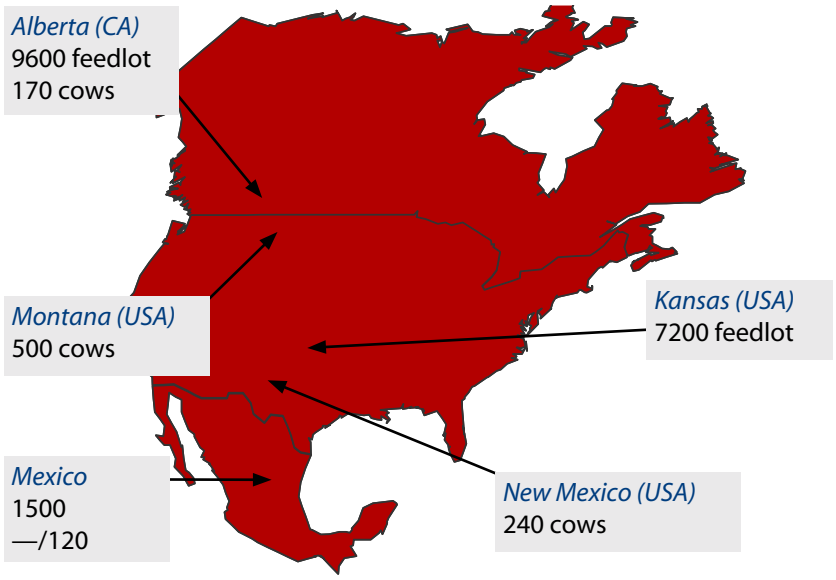


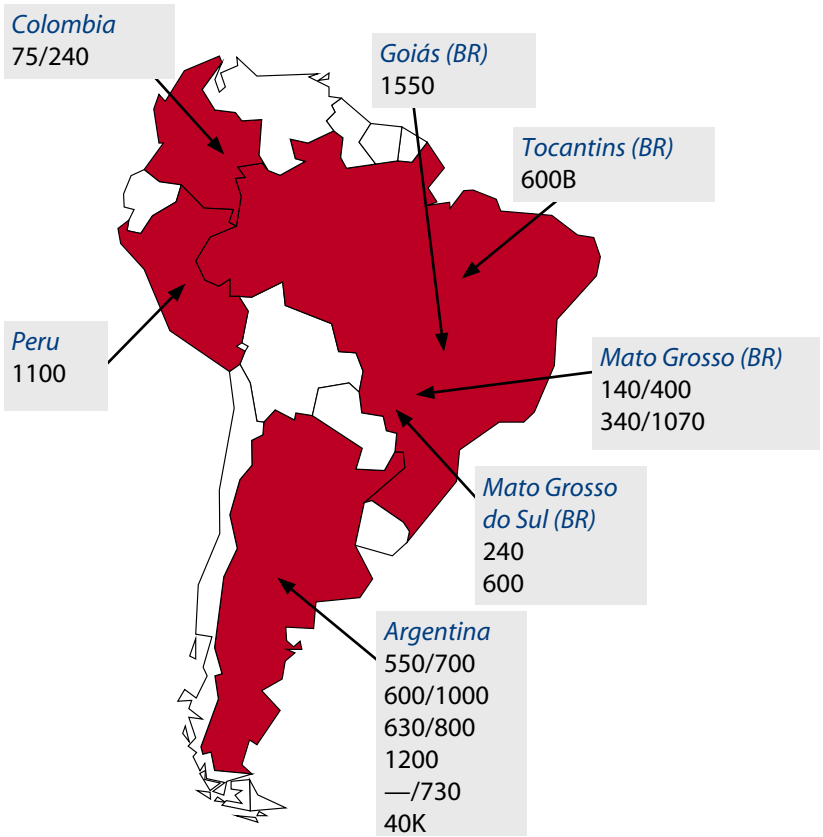
For the legend to the maps see page 13.

1.4 Maps of typical farms

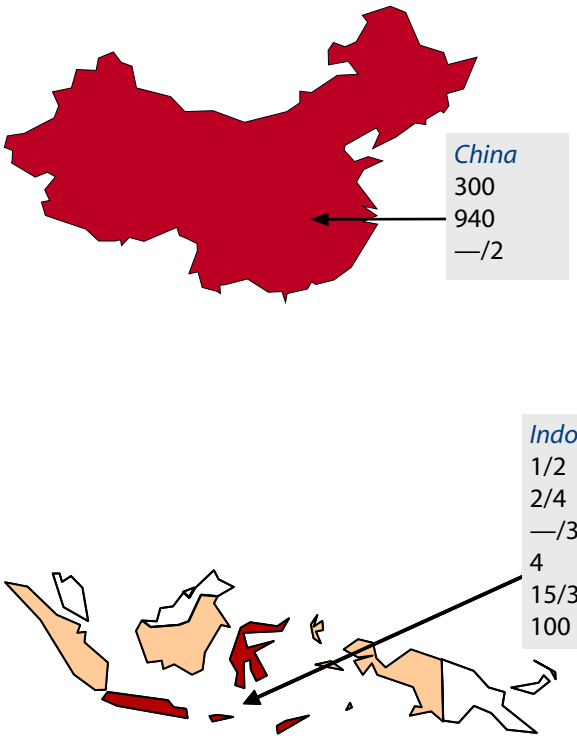
North America



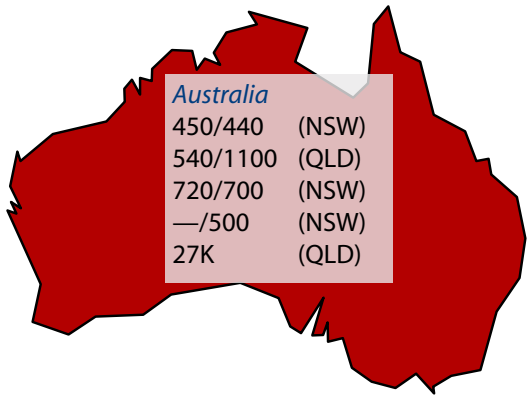
South America



Asia



Australia



Legend

The first (or only) number indicates the total number of cattle sold per year, the second (or only) number the total number of suckler-cows. The suffixes 'F' and 'C' behind the numbers indicate the finishing (F) and the cow-calf (C) enterprises if cattle numbers in finishing and cow-calf farms of one country are the same. The suffixes 'A'/'B' differentiate farms with identical numbers of animals. The suffix 'T' means this farm is classified as a top management farm according to the Standard Operating Procedure (see Chapter 1.4). Suffix 'K' = thousand.

Examples:

'230' in Germany	the farm sells 230 animals per year
'45/70' in France	the farm sells 45 finished cattle per year, it keeps 65 suckler-cows
'—/90' in Spain	the farm sells no finished cattle, it keeps 90 suckler-cows
'25F/30' and '—/25C' in Austria	the first farm sells 25 finished cattle and keeps 30 suckler-cows, the second farm keeps 25 suckler-cows

1.5 Conceptual background information

Introduction

This section provides a basic description of concepts and methods used by ***agri benchmark***. For details please refer to our website or contact us directly.

Cow-calf and beef finishing

We compare both cow-calf (suckler-cow) (Chapter 3) and beef finishing (Chapter 4) production systems. The data base consists of **typical** farms (see below).

The **cow-calf** enterprise starts with the birth of the calf and ends with the day of weaning. The output of the cow-calf enterprise is measured in *total live weight sold* and comprises weaner calves, cull animals and breeding animals.

The **beef finishing** enterprise (also called finishing enterprise) starts

- when dairy or weaner calves or feeder cattle (backgrounder, stores) are **bought** from outside the farm,
- when dairy or weaner calves or adult animals are **transferred** from the dairy or cow-calf enterprise to the beef finishing enterprise in the same farm.

The output of the beef finishing enterprise is measured in *carcass weight sold* and comprises all animals which are **exclusively** reared **for slaughter**: bulls, steers, heifers, calves or cows. It does **not** include cull animals from a dairy or a cow-calf enterprise on the same farm.

Which animal categories are compared in the beef finishing comparison?

The following types of animals are compared:

- Animals finished for meat **export**, animals which can potentially be exported in the future or animals from which the meat is a domestic substitute for beef imports from other countries.
- **Final products**, i.e., finished animals that go to slaughter (not backgrounders).
- **Heavy male animals** (bulls or steers), as these categories can be better compared than males with females or even with calves.

In the future, with more farms and more production systems, **subgroups** could be formed for a comparison of specific meat products like heifer meat.

How do we define a typical farm?

A **typical farm** is defined as

- being an existing farm or a data set describing a farm,
- being in a specific region which represents a major share of output for the product considered,
- running the prevailing production system for the product considered,
- reflecting the prevailing combination of enterprises as well as land and capital resources,
- as well as the prevailing type of labour organisation.

The typical farms are never averages of survey data because averages do not provide consistent production system data sets. They are the result of a **panel** meeting with 4-6 farmers and an advisor, where each figure is obtained in a consensus **or** are based on individual farms which were '**typified**' by replacing farm individual particularities by prevailing characteristics, figures, technologies and procedures.

How is the typical farm data collected?

A **Standard Operating Procedure** (SOP) is used to define typical farms in different countries and regions. Basically, the following procedure is applied:

- Select regions and locations
- Identify the prevailing production systems
- Identify the relevant farm population
- Define the size and management level of the typical farms
- Collect, cross-check and update data

Farm data are always collected on **whole farm** level and overhead costs are assigned (allocated) to the enterprises. A paper on the SOP as well as a description of each farm is available on our website.

Collection of data on whole-farm level

All data of typical farms are collected on **whole farm** level and for **all enterprises** present. Thus, our data sets provide much more than just enterprise budgets. Examples are:

- A combination of **cash crop** production and **beef finishing** (like in many European countries)
- A combination of **cow-calf** production and **finishing** (like in Argentina and Brazil)
- A combination of **cash crops**, **dairy** and **beef finishing** (like in the Ukraine)

How do we calculate cost of production?

Once data are collected they are processed with the Excel spreadsheet tools available. As data are collected on the whole farm level, they are broken down into **enterprise** and **animal level** when performing a unit cost analysis (for example cost per kilogram beef produced).

Some costs can be collected on a per animal or per ha basis (for example variable costs per animal or per ha). Other costs are typically available and collected on the whole farm level and need subsequently be **allocated (assigned)** to the enterprises analysed. These are machines and buildings, labour (hired and family labour), land (rented and own) and overhead costs.

Allocation of whole farm cost to enterprises

At present, all whole farm items that can not be allocated 100 percent to the cow-calf and beef finishing enterprise or other enterprises are allocated by the **share** of the respective **enterprise in total returns** (if used by all enterprises) or in **livestock returns** (if used by livestock).

The following table shows the **allocation codes** and resulting **return shares** presently used. The subsequent examples consider the beef finishing enterprise as example. The cow-calf procedure is equivalent.

Allocation codes and allocation factors

1	= Item used for all enterprises Share of beef finishing in total farm returns	
2	= Crop and forage production	
3	= Livestock production general Share of beef in total livestock returns	
5	= Forage production only Share of beef finishing in total livestock returns * share of livestock in total farm returns	
4	= Cash crop production only	0 % to beef finishing
6	= Dairy only	0 % to beef finishing
7	= Cow-calf only	0 % to beef finishing
8	= Beef finishing only	100 % to beef finishing

Examples for **items** that go **100 percent** to the beef finishing enterprise:

- Variable cost of land only used by the beef finishing enterprise (e.g., corn for silage)
- Buildings exclusively used by the beef finishing enterprise (e.g., stables for bulls)
- Staff wages exclusively used by the beef finishing enterprise (e.g., cattlemen)

Examples for **items** that are **allocated** by share in returns:

- All overhead costs on the whole farm level (e.g., accounting, office expenses, fees, farm taxes)
- Machinery maintenance and depreciation used for all livestock enterprises (e.g., grass mower)
- Maintenance and depreciation for buildings/ installations used for all enterprises (e.g., machinery hall)
- Staff wages used for all enterprises (e.g., farm manager)

Labour (per worker's group), land (per crop), machines (per machine) and buildings (per building) can be allocated by inserting the allocation codes shown on the left hand side.

The following presents an example of calculating machinery depreciation for the beef finishing enterprise, using enterprise codes and obtaining return shares as allocation factors.

Total depreciation machinery:	**US$ 10,000**

Share of beef finishing	
in total returns	**50 %**
in livestock returns	**70 %**

Depreciation matrix (% of total depreciation):	
All enterprises	**35 %**
Crop and forage production	**20 %**
Livestock in general	**30 %**
Beef finishing only	**10 %**
Cow-calf only	**5 %**

Machinery depreciation of the beef finishing enterprise						
All enterprises	US$ 10,000	* **35 %**	* **50 %**	=	US$	1,750
Crop and forage production	US$ 10,000	* **20 %**	* **50 %**	=	US$	1,000
Livestock in general	US$ 10,000	* **30 %**	* **70 %**	=	US$	2,100
Beef finishing only	US$ 10,000	* **10 %**		=	US$	1,000
Cow-calf only	US$ 10,000	* **5 %**	* **0 %**	=	US$	0
Total				=	**US$**	**5,850**

From enterprise level to groups

Once the whole farm costs are allocated to the cow-calf and beef finishing **enterprise**, further allocation is required. The herd simulation in cow-calf can cover **two different groups** (mobs) with separate, individual parameters for each. In beef finishing, up to **five finishing groups** can be simulated. Any **combination** of finishing groups and cow-calf mobs can be selected for cost and income analysis. If, for example, a farm has three groups with steers and two with heifers for finishing, the steer groups are selected for comparison.

The costs are treated as follows:

- Whole-farm costs are allocated to each mob/ group by share in **total weight produced** per year. Alternatively, the share in animal numbers or the return shares of each mob/group can be used as allocation factors.
- Annual and lot-wise cost figures are recalculated in **daily figures** and multiplied with the number of days/year each group stays on the farm.

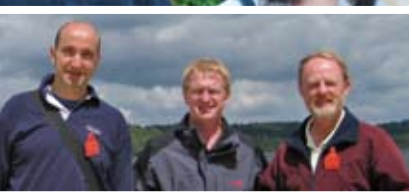



















2 Country Pages

Daniel Brüggemann

2.9 Germany

Key developments 2008/2009

> Increase of the cattle herd in 2008 (partly due to accounting changes). Decrease expected in 2009.
> Beef production slightly increased by 1.3% from 2007 to 2008.
> Number of slaughtered animals increased, carcass weights decreased the first time in five years as a result of record high feed prices in the begin 2008 and lower feed conversion rates of heavy animals.
> For 2009 a slight production increase is expected due to a potential increase in carcass weights.
> Beef imports in 2008 again rising; mainly from Netherlands, Poland, less from South America.
> Beef exports increased 12% in 2008; main destinations Netherlands, France and Italy.
> High beef prices in 2008 (tight supply in the EU), sharp drop since March 2009 (return Brazil, seasonal).
> Feed prices dropped in the second half of 2008 and in 2009, from record high levels in begin of 2008.
> Mandatory vaccination against Bluetongue reduced cases by 75%. Further decrease expected.

Country ranking in world

Indicator	Unit	No.
Inventory	head	**20**
Production	tons	**11**
Export	tons	**8**
Export	US$	**7**
Import	tons	**11**
Import	US$	**7**

Inventories, production and consumption (1999 - 2008)

Indicator	Unit	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'03 vs. '99	'08 vs. '03
Total cattle	million head	14.9	14.5	14.6	14.0	13.6	13.2	13.0	12.7	12.7	13.0	0.92	0.95
Suckler-cows	million head	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.96	1.10
Cattle on feed	million head	1.4	1.4	1.5	1.4	1.3	1.2	1.2	1.2	1.2	1.2	0.95	0.93
Production	million head	4.4	4.2	4.2	4.2	3.9	4.0	3.6	3.7	3.6	3.7	0.88	0.96
Production	'000 tons	1,336	1,270	1,324	1,286	1,200	1,240	1,147	1,174	1,169	1,194	0.90	1.00
Production	kg per head	303	306	314	309	310	308	317	320	326	320	1.02	1.03
Extraction rate	%	30%	29%	29%	30%	28%	30%	28%	29%	28%	29%	0.96	1.01
Consumption	'000 tons	1,243	1,148	818	988	1,031	1,020	994	980	1,023	1,023	0.83	0.99
Population	million	82.2	82.3	82.4	82.5	82.5	82.5	82.4	82.3	82.2	82.1	1.00	0.99
Consumption	kg per capita	15.1	14.0	9.9	12.0	12.5	12.4	12.1	11.9	12.4	12.4	0.83	0.99

Trade (1999 - 2008)

Indicator	Unit	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'03 vs. '99	'07 vs. '03
Export	000 tons	488	368	560	526	406	412	388	437	379	429	0.83	0.93
Export	US$ million	1,135	878	1,024	1,198	1,170	1,418	1,546	1,853	1,746	2,258	1.03	1.49
Import	000 tons	199	151	96	154	152	182	227	235	240	245	0.77	1.58
Import	US$ million	787	591	308	506	579	799	1,031	1,268	1,451	1,721	0.74	2.51

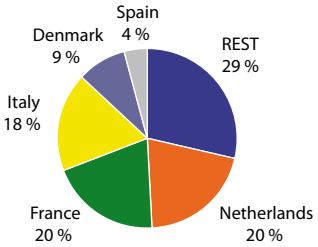
Beef and livestock prices (1999 - 2008)

Indicator	Unit	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'03 vs. '99	'08 vs. '03
Bulls R3	EUR per kg CW	2.71	2.62	2.63	2.07	2.46	2.44	2.57	2.89	3.04	2.89	0.91	1.18
Cull cows R3	EUR per kg CW	2.18	2.06	2.15	1.60	1.80	1.90	2.05	2.36	2.48	2.45	0.83	1.36
Cull heifers R3	EUR per kg CW	2.47	2.42	2.45	1.82	2.16	2.29	2.40	2.67	2.81	2.82	0.87	1.31
Bull calf Fleckvieh	EUR per kg LW	4.36	4.56	4.73	3.37	4.09	4.36	4.00	4.56	5.10	4.47	0.94	1.09
Heifer calf Fleckv.	EUR per kg LW	3.01	3.07	3.07	2.26	2.71	2.84	2.72	3.02	3.31	2.98	0.90	1.10
Bull calf Holstein	EUR per head	144	138	148	83	103	138	117	132	147	98	0.71	0.95

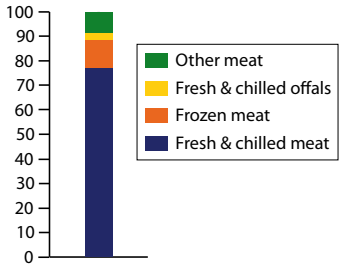
Exports 2007 ('000 tons)

Total: 379

Top 5 destinations



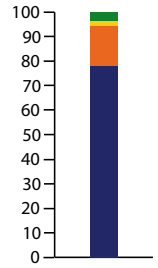
Product composition



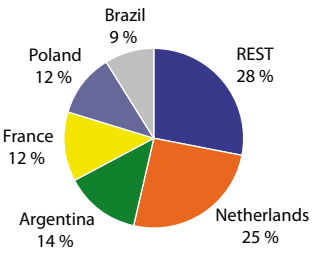
Imports 2007 ('000 tons)

Total: 240

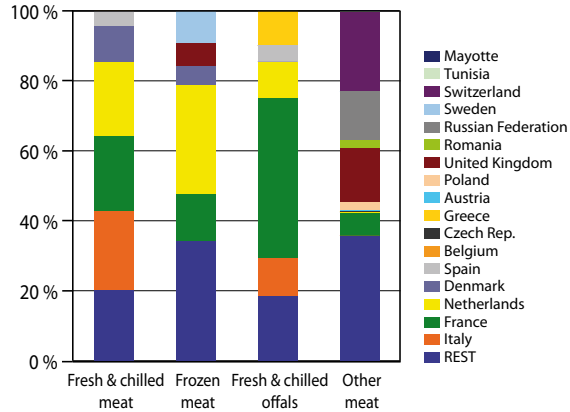
Product composition



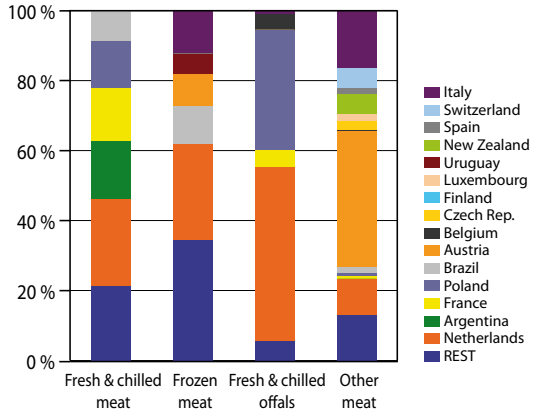
Top 5 origins



Top 5 destinations by product



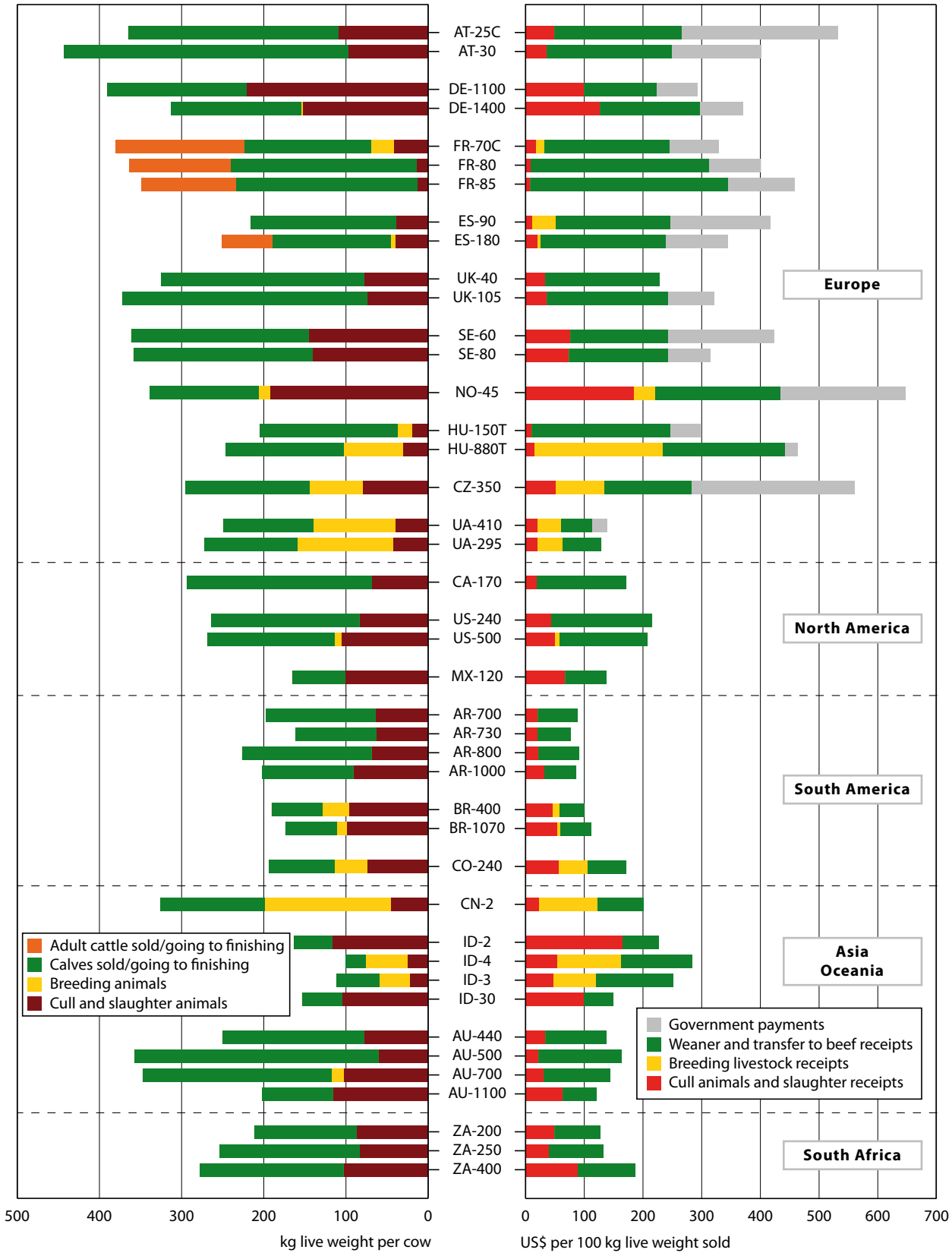
Top 5 origins by product



Explanation: Quantities are in carcass weight equivalent; Extraction rate: Number of cattle slaughtered divided by total cattle number
Sources: National Statistics, UNComtrade, FAO-Stat

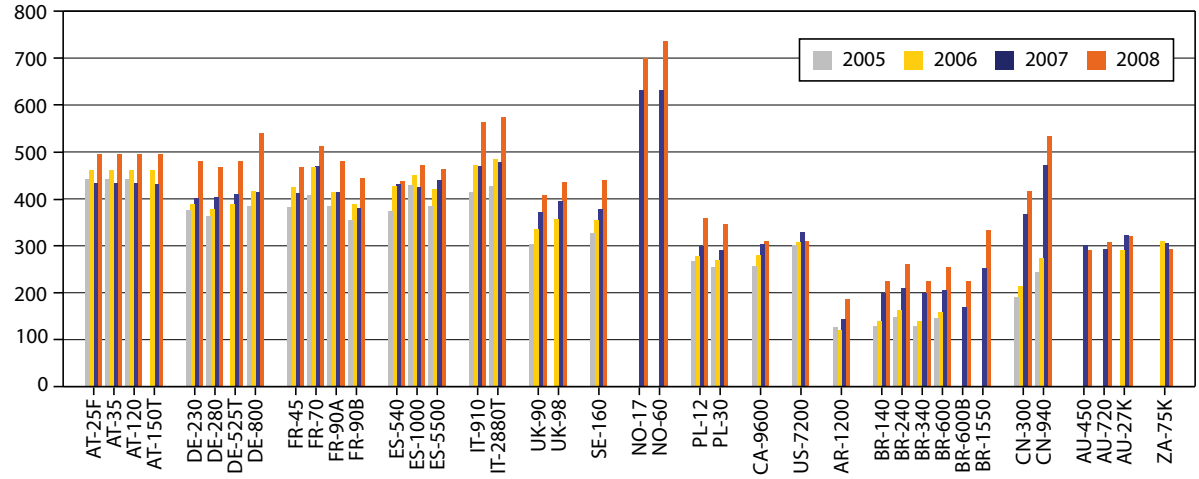
3 Comparison of typical cow-calf farms in 2008

3.4.1 Total live weight sold and total returns

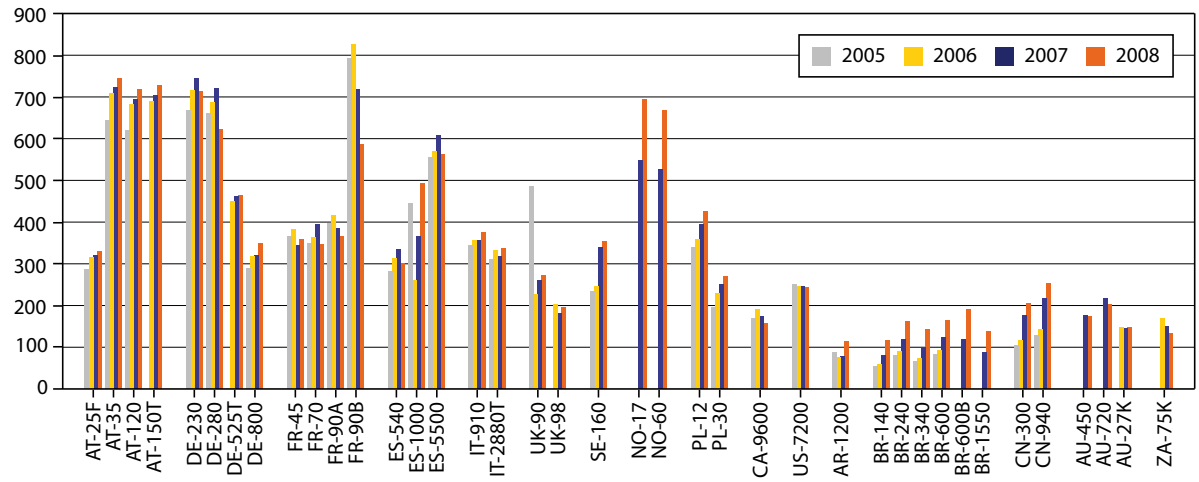


4 Comparison of typical beef finishing farms in 2008

4.6.1 Time series of beef prices 2005-2008 (US$ per 100 kg carcass weight)

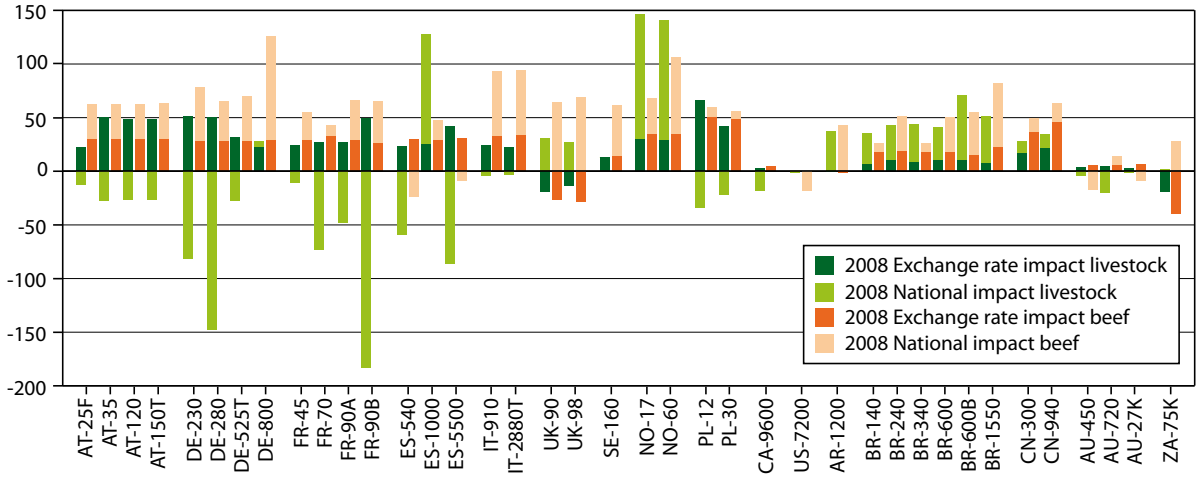


4.6.2 Time series of livestock prices 2005-2008 (US$ per 100 kg live weight)



4.6.3 Breakdown of beef and livestock price changes 2008 vs. 2007

(US$ per 100 kg live weight)



5 Merging cow-calf and beef finishing enterprises

5.1 Relevance and farms selected

Background and relevance

So far, the network compared beef **finishing** and **cow-calf** systems **separately** with the following procedures and consequences:

- As defined and applied in the network, the cow-calf enterprise 'ends' with the day of **weaning**. At this day, weaner calves are a) **sold** to another farm or b) **transferred** to the own finishing (or backgrounding) enterprise.
- The economic evaluation of the weaners in the beef finishing enterprise is done with the purchase or transfer price; in both cases the **market price** is used.
- The **animal purchase** costs constitute a **major** part of the non-factor costs of the beef finishing enterprises (see Chapter 4.7).
- As a consequence, the **cost information** of an important part of the animals' life is **lost** in the finishing analysis when using the purchase price alone.
- These issues are of far **less relevance** for calves from **dairy** origin which are usually less than two months of age when moved to finishing.

Combining the data of the two enterprises allows economic analysis from the **birth** of the calves to the **final day** of finishing. At the same time, the **separate** analysis and comparison can be **continued** for those farms with only one of either the cow-calf or finishing enterprise. The combination of the two enterprises' data can be particularly **useful** to obtain a picture of the two following cases:

- The combined costs and profitability of cow-calf and finishing in farms **integrating** both enterprises. This is particularly interesting in times of more price volatility of beef and livestock prices when a temporarily unprofitable enterprise can be compensated by the other.
- The combined costs and profitability for farms in **different** regions or even countries between which a weaner trade exists or could potentially be established.

Farms selected

The farms selected for the merging analysis are shown in Tables 5.1.1 and 5.1.2.

The first table shows the farms with '**integrated**' enterprises (operating both cow-calf and beef finishing enterprises), finishing their own weaners (plus sometimes additional purchased cattle). The second table shows '**combined**' farms from different countries with identical breeds and very similar weights of weaners, mainly reflecting already existing trade patterns. Here, the cow-calf (weaner) enterprise from one country has been combined with the finishing enterprise from another country.

5.1.1 Merging of integrated enterprises

Europe	Cow-calf	Finishing
Austria	AT-30	AT25F
Germany	DE-1400	DE-800
France	FR-70C	FR-45
Spain	FR-80	FR-70
Spain	ES-180	ES-540
UK	UK-40	UK-35
Norway	NO-45	NO-60

South America	Cow-calf	Finishing
Argentina	AR-700	AR-550
Argentina	AR-800	AR-630
Argentina	AR-1000	AR-600
Brazil	BR-400	BR-140
Brazil	BR-1070	BR-340
Colombia	C0-240	CO-75

Asia / Oceania	Cow-calf	Finishing
Indonesia	ID-2	ID-1
Indonesia	ID-4	ID-2
Australia	AU-500	AU-450
Australia	AU-700	AU-720
Australia	AU-1100	AU-540

5.1.2 Merging of combined enterprises from different countries

Cow-calf				**Finishing**			
Country	**Name**	**Weight out (kg LW)**	**Weight in (kg LW)**	**Weight factor**	**Name**	**Country**	**Breed**
Austria	AT-30	400 →	412	1.03	IT-910	Italy	Charolais x
France	FR-85	315 →	332	1.05	UK-98	UK	Limousin
Czech Republic	CZ-350	268 →	220	0.82	NO-60	Norway	Angus
Hungary	HU-880	230 →	250	1.09	ES-540	Spain	Hereford
Canada	CA-170	275 →	303	1.10	US-7200	USA	Angus









6 Additional analysis