



INNOWACYJNA GOSPODARKA
NARODOWA STRATEGIA SPÓJNOŚCI



UNIA EUROPEJSKA
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ROZWOJU REGIONALNEGO



Optimization of beef production in Poland, according to the strategy "from fork to farm"

Improving beef quality in Poland

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Optimization of beef production in Poland, according to the strategy "from fork to farm"

1. Fast changes in Polish beef industry

2. Marketing strategies:

- Customer oriented
- Consumer oriented

3. Eating Quality grading tools

4. Conclusions



Privatisation

- By 1989, meat production in Poland was reserved for state-owned companies.
- From 1989 to 2004 Polish meat plants were privatized.
- In October 2003 the ownership structure in the meat sector was almost 100% private.
- Private ownership immediately changed Polish meat sector into more efficient and dynamic.

Restructuring slaughterhouses

- In 1989 slaughter of beef and pork in slaughterhouses was combined with production of sausages.
- In the pre-accession period and after accession, a process of specialization has started. We could observe gradually increasing number of specialized slaughterhouses in slaughtering beef cattle.
- In 2015 in the Polish market dominate slaughterhouses specialized exclusively in the slaughter of cattle.
- Only 15 slaughterhouses slaughter 55% of cattle

Standardization of carcasses and cuts

- By the end of 2002 there was an obligation to apply the *PN-A-82001:1991/Az2:1996 norm – Polish version* – Meat in carcasses, half-carcasses and quarter-carcasses. Warsaw: Polish Committee for Standardization.
- From 1 January 2003 the use of Polish standards is voluntary.
- Since EU accession it is required to apply the EUROP classification if the slaughterhouse slaughter more than 75 head of cattle.

Standardization of cuts

- Poland exports more than 85% of produced beef
- Polish cutting plants are working on the specifications of their customers.
- Polish cutting plants adapted specifications of beef cuts from the Netherlands, Germany, Italy, Spain, France etc.

Standardization of cuts

- There is still lack of sufficient standardization of beef cuts, it is a lack of common language in the international trade.
- The project ProOptiBeef initiated development of the UNECE Standard Polish language version.

United Nations Economic Commission for Europe (UNECE)

UNECE STANDARD

BEEF MEAT

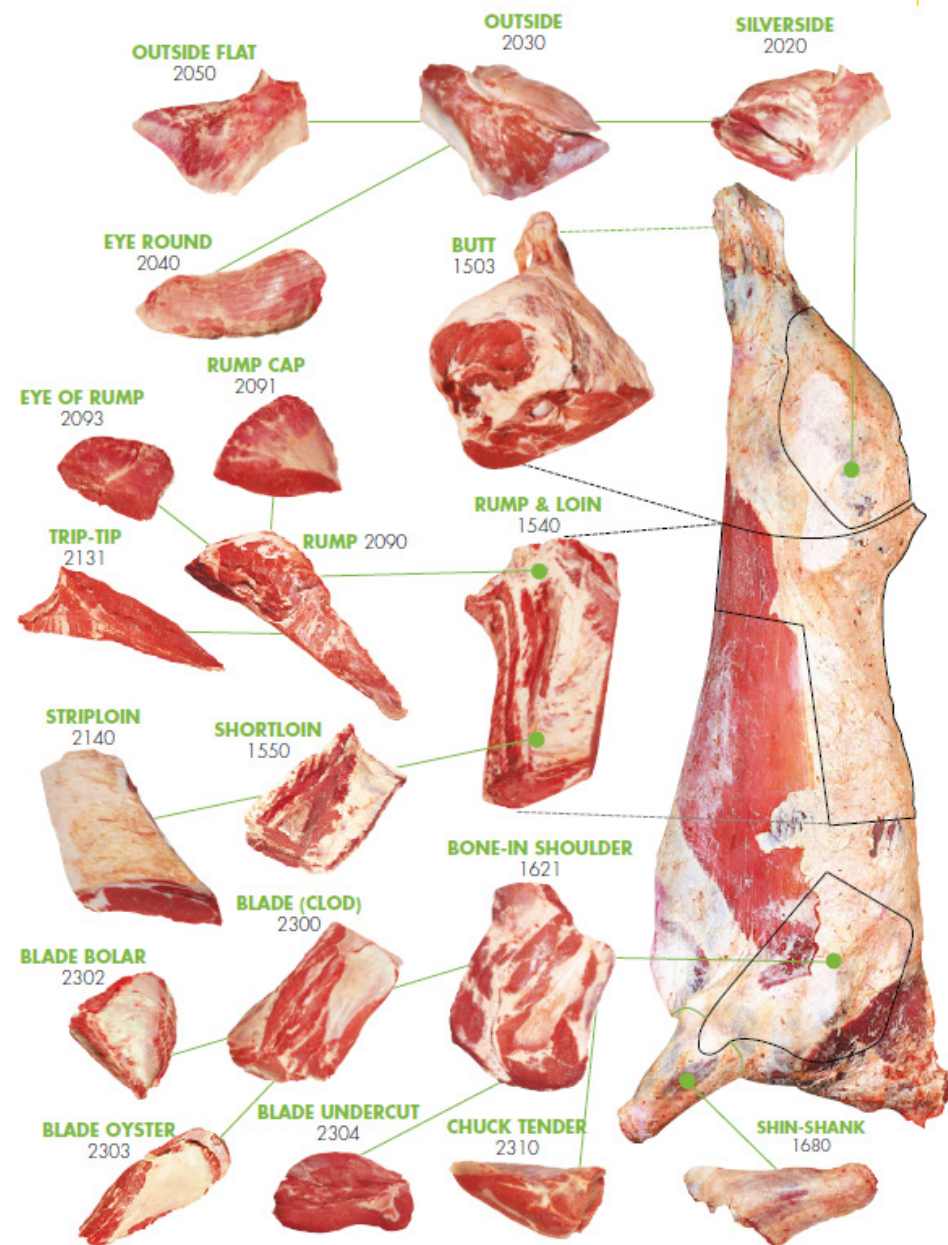
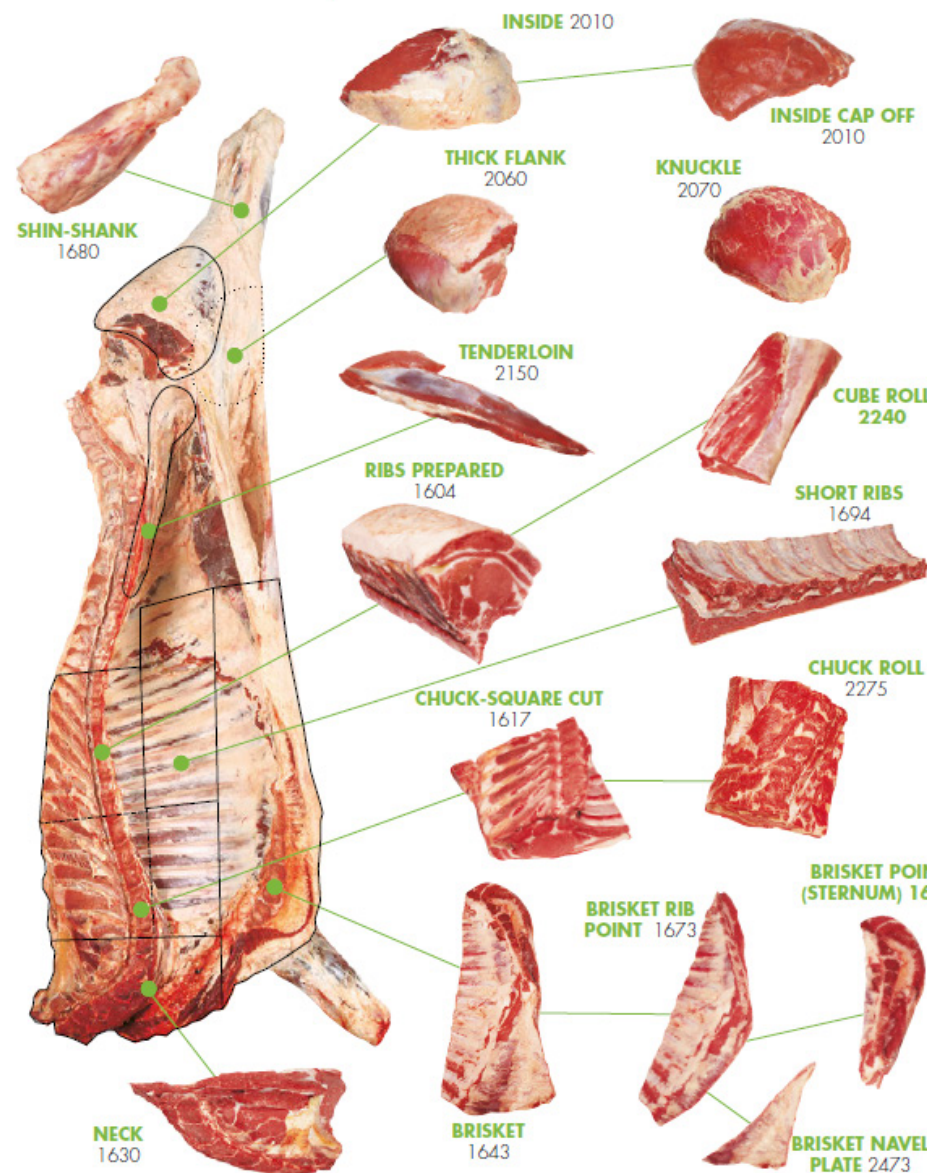
Carcasses and Cuts



United Nations
New York and Geneva, 2013



5.3 Standard bovine primal cuts



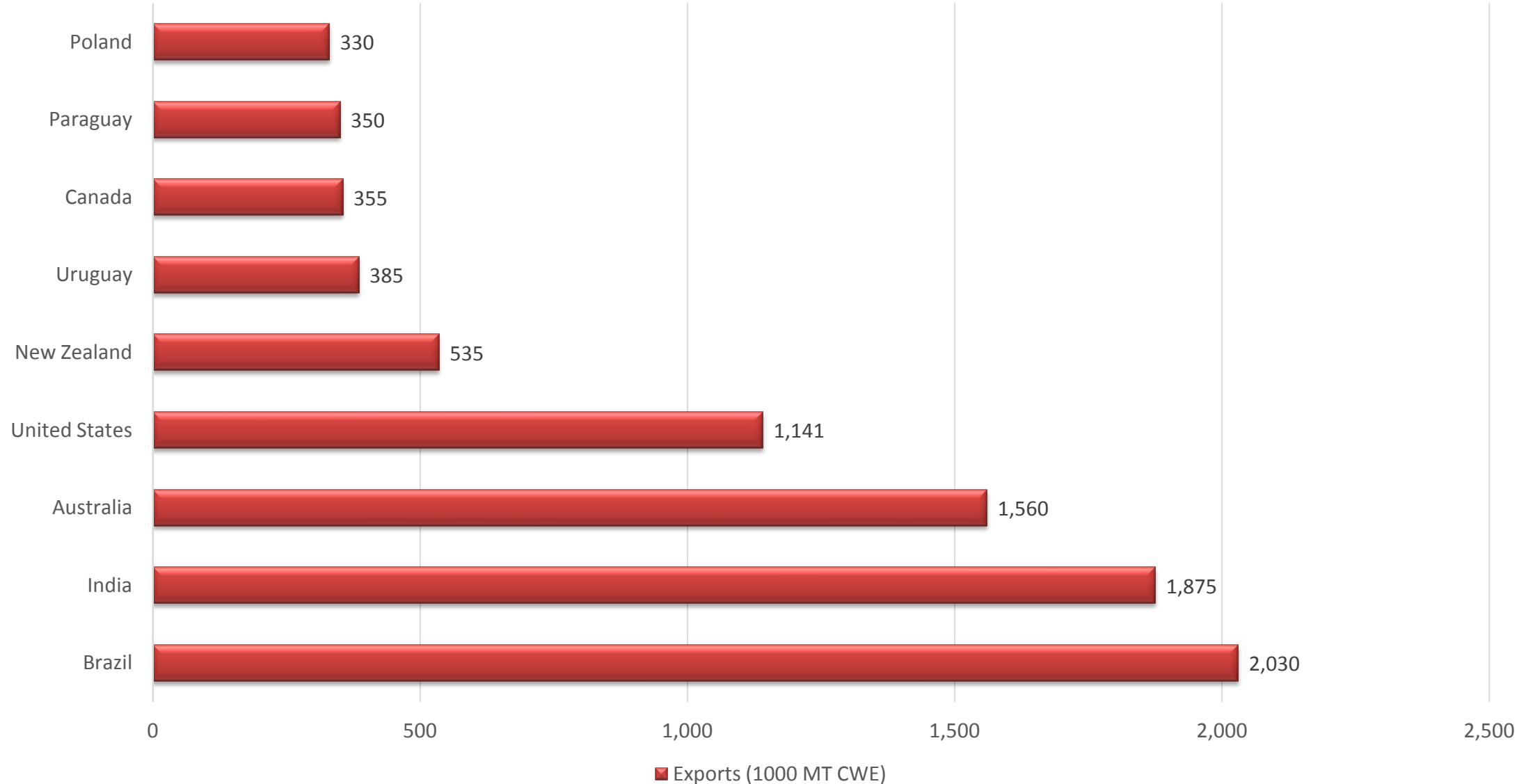
Quick adaptation to the new requirements

- Before EU accession Polish beef was produced for a fast sale (2-3 days after slaughter) – no aging.
- After accession EU customers required beef for ageing with a pH below 5.8.
- Polish slaughterhouses adapted to the new requirements in a few weeks.

New market requirements

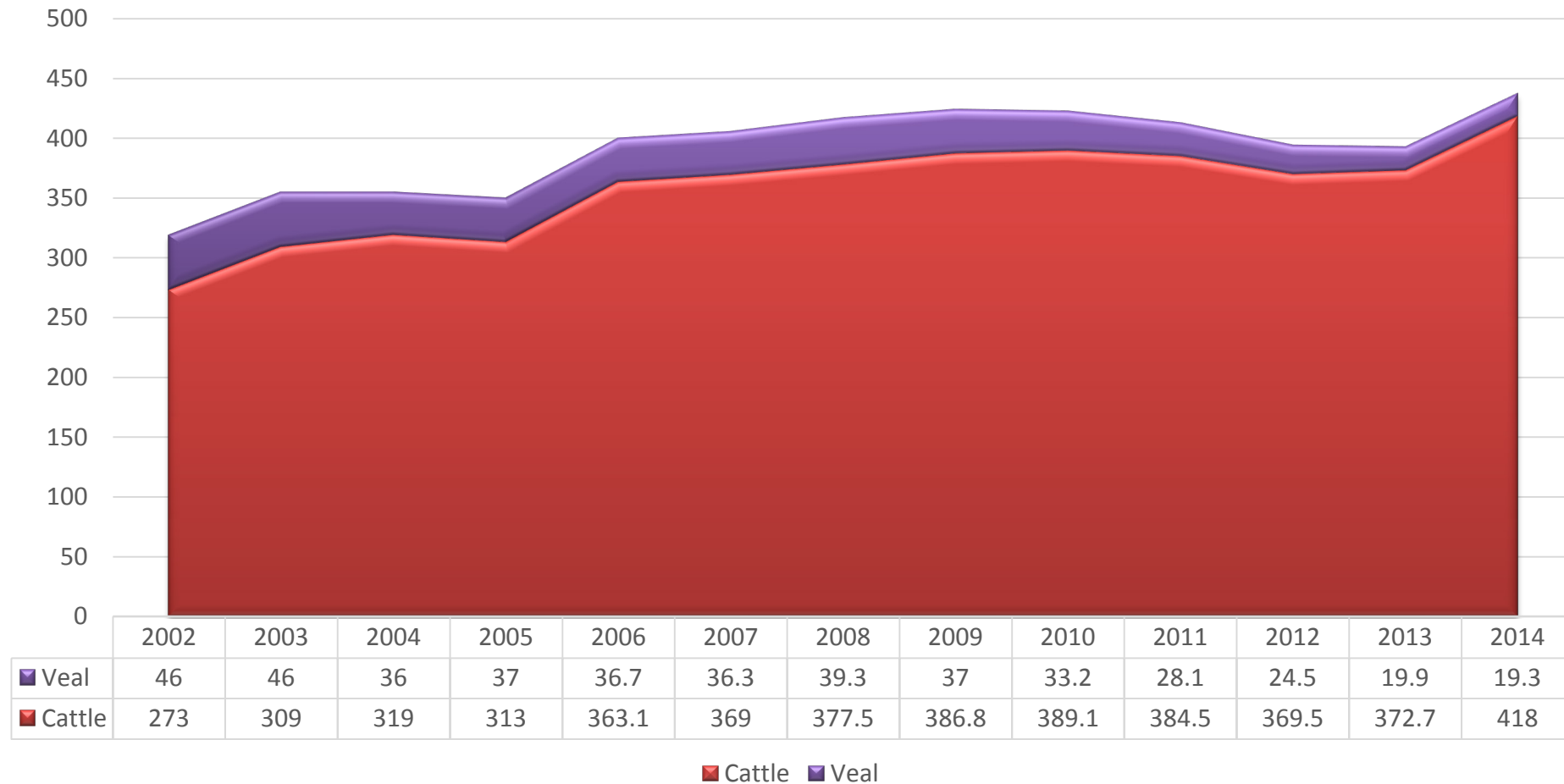
- We observe increasing demand for aged beef from restaurants but also from market chains.
- Restaurants increase demand for well marbled beef in particular to restaurants which dry age beef by themselves.
- Buyers from different EU countries also increase demand for well marbled beef.
- Producers start to search for tools to assess marbling.

Exports (1000 MT CWE) 2014

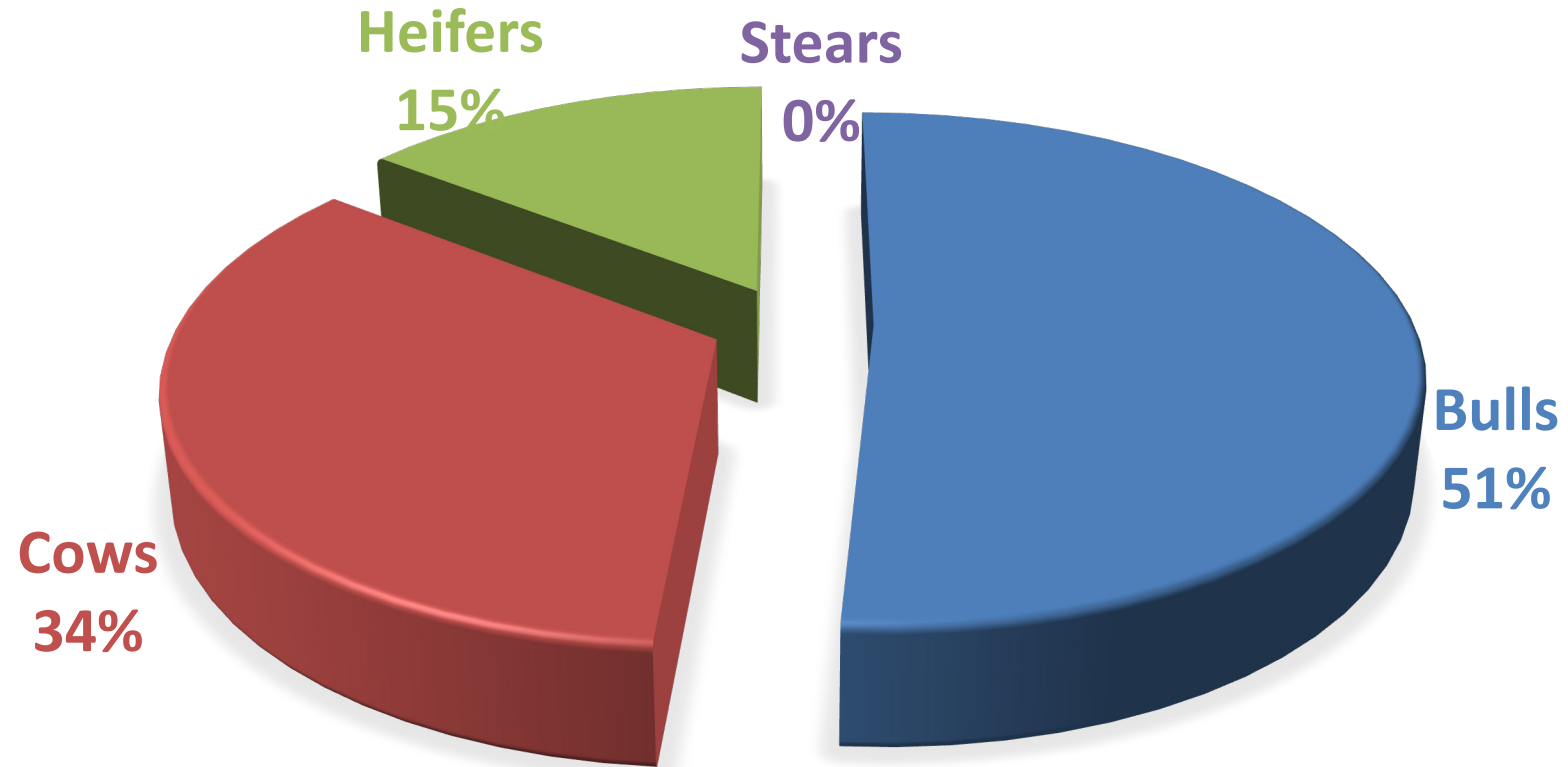


Own study based on data from indexmundi.com and Central Statistical Office

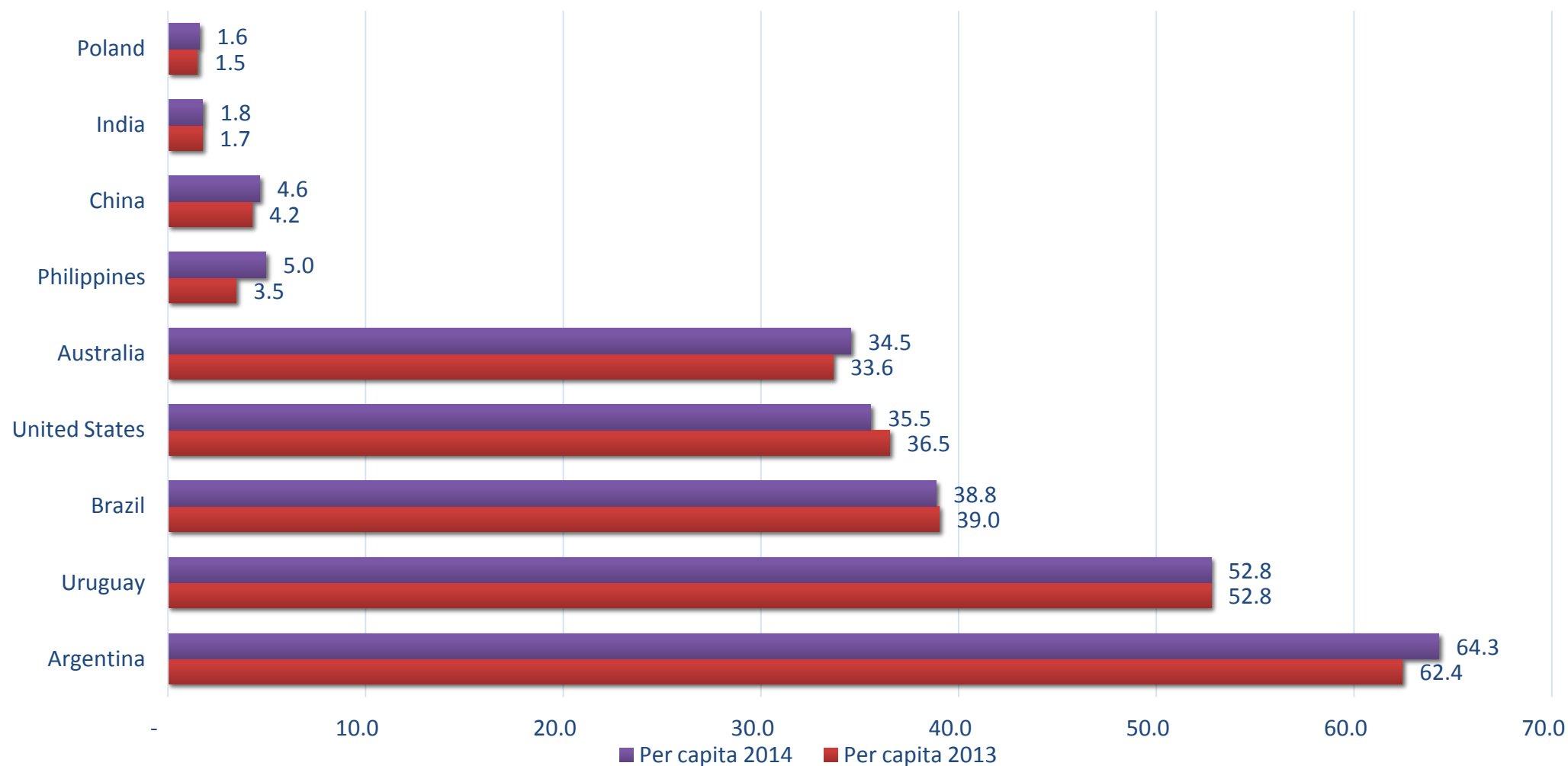
Beef and Veal Production



Production systems – bulls, no steers

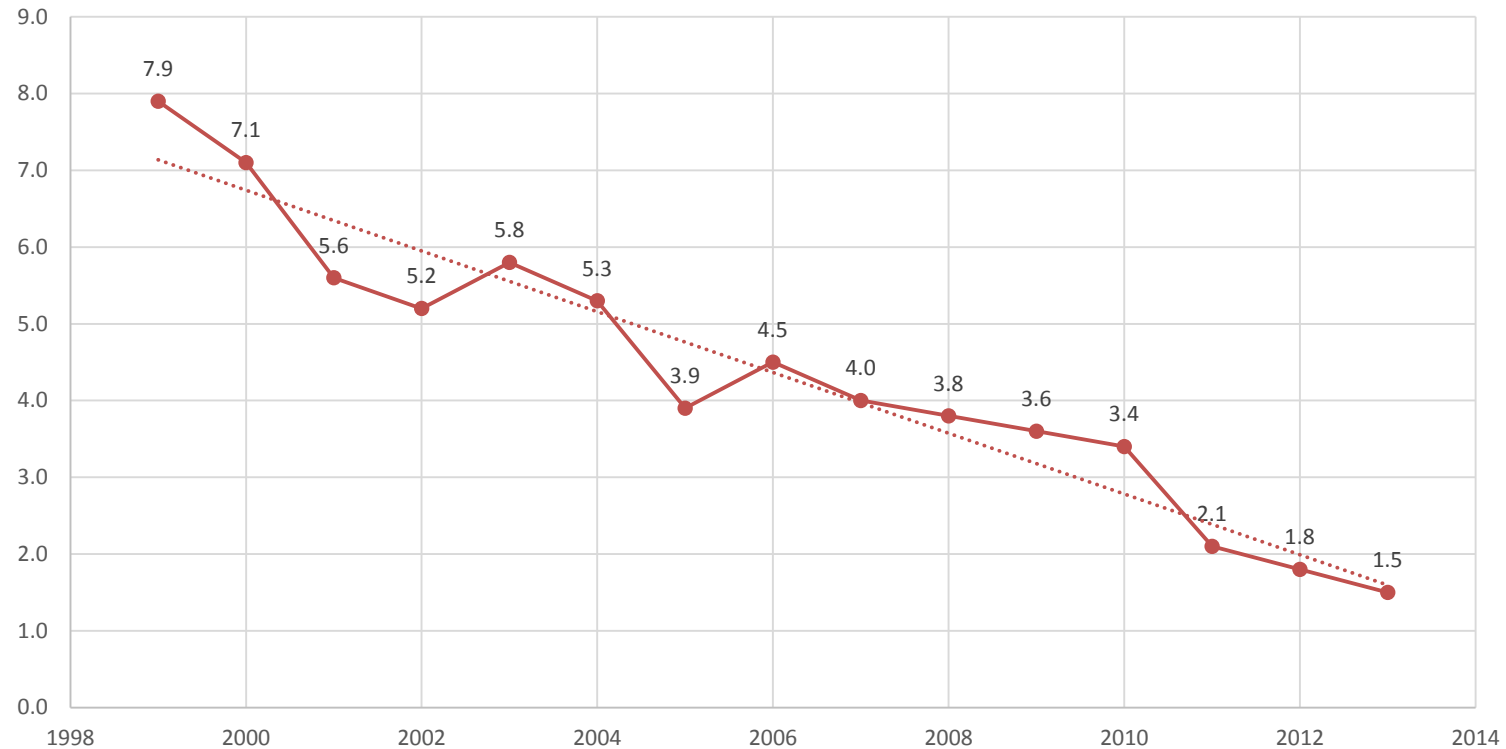


Beef consumption in selected countries



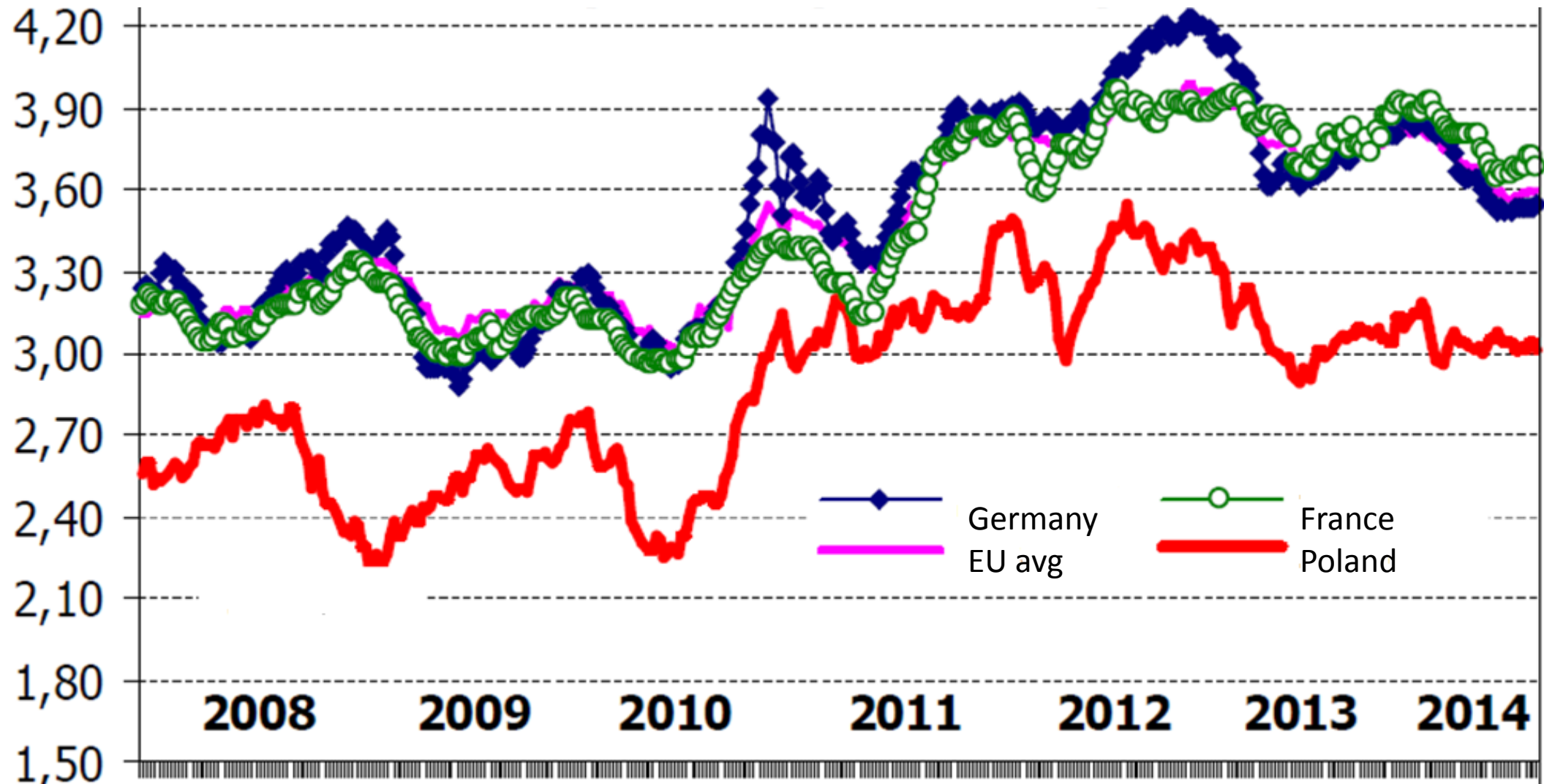
Own study based on data from indexmundi.com

Beef consumption in Poland 1998-2014



Own study based on data from the Central Statistical Office

Prices for young bulls carcasses (R3)





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Quality

- Why we have cheaper beef than average in Europe?
- Do we have problem with image or product quality?
- How can we check that?
- How can we measure quality?

What is „quality” ?

Quality is the degree to which a set of inherent characteristics meet the requirements

ISO 9000:2001

Quality

Who determines the quality requirements?

Answer: **customer**

Do beef **consumers** also have requirements?



Marketing strategies in beef industry

Customer oriented strategy

Beef is a commodity

Consumer oriented strategy

Beef is a product

Beef as a commodity or product?

Customer oriented strategy is a dominant strategy in polish beef sector but...

Quality Asured Scheme – Quality Meat Programme is developed



Quality trademarks in the Polish market

Trademarks:

- Beef Quality Standards (BQS) – OSI Foodworks
- “Uczta Qulinarna” – Sokolow SA (Danish Crown Group)
- Wołowina z Pniew – ABP Poland
- Beef Master – ZM Biernacki

Beef as a commodity or product?

- Commercial quality = compliance with the specification
- Do commercial specifications in Europe define the required **eating quality** of beef?
- Are there countries where required **eating quality** is defined and measured?

Beef as a product

Eating quality grading systems:

– USDA Grade



– Meat Standard Australia





Wholesomeness



Eating quality



USDA Grade



- Prime, Choice, Select
- Standard, Commercial, Utility, Cutter and Canner

USDA Grade and trade brands



Certified Angus Beef[®]



Open Prairie Natural Angus[®]



Tender Promise[®]



USDA Grade and trade brands



USDA Grade weakness

- Rewards only well marbled meat from young animals.
- Lean meat is low rated although it can be highly appreciated by the consumer especially from continental breeds.
- All cuts grade comes from striploin marbling evaluation and assessment of the degree of spinal column ossification.

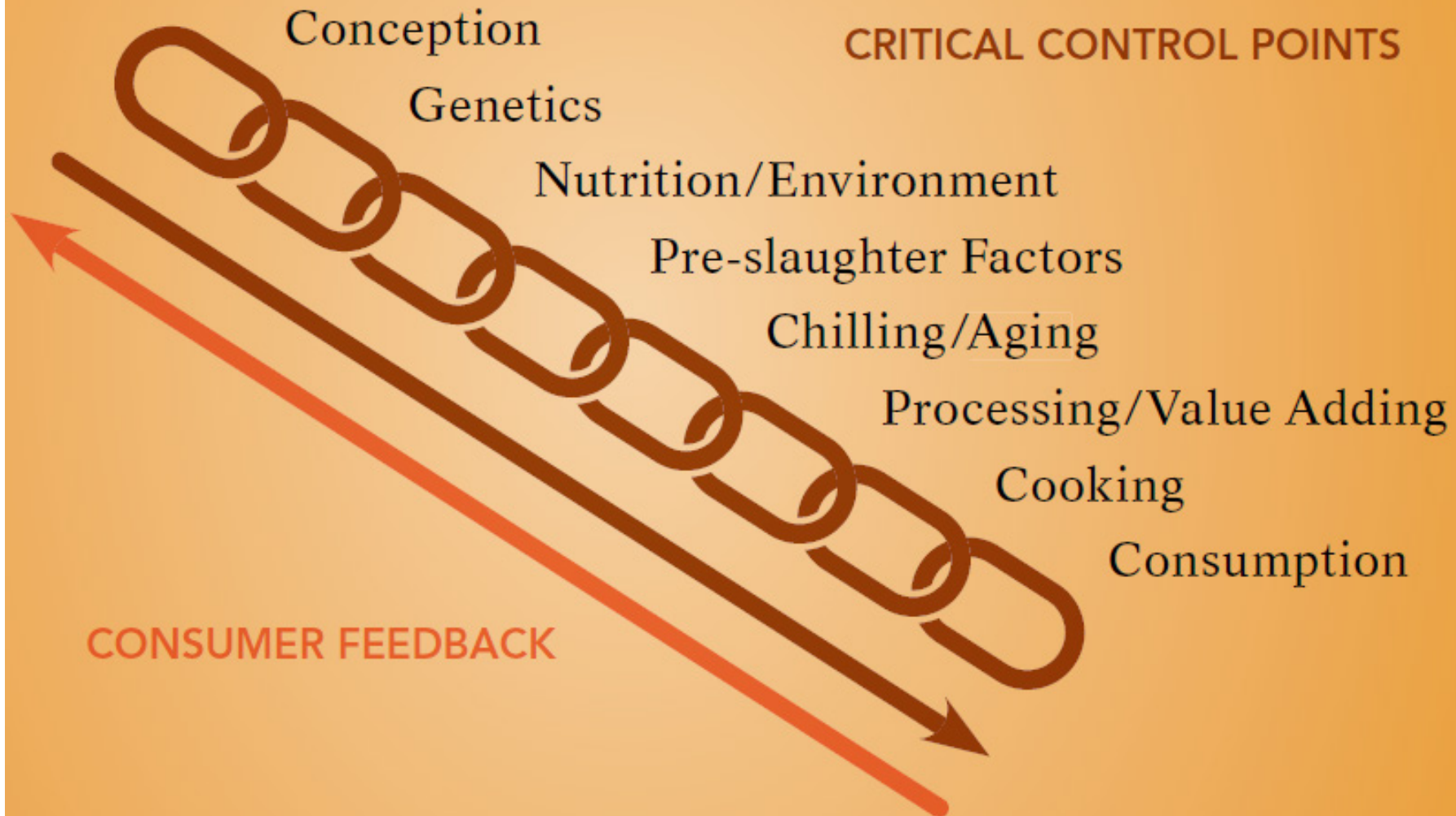
Meat Standard Australia

Meat Standard Australia system (MSA) is based on Palatability Assured Critical Control Points (PACCP) concept.

Palatability = tastiness



MSA Palatability Critical Control Points



Hazard Analysis and Critical Control Points

HACCP	PACCP
Ensuring food safety	Ensuring palatability
From farm to plate From paddock to plate From farm to fork	From fork to farm <i>(feedback from the consumer)</i>

Product standardisation

- Commercial standards / commercial quality
- Sensory quality:
 - a) attractive appearance (incentive for a consumer to buy)
 - b) eating quality, satisfaction with food palatability (incentive for a consumer to buy again)



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Eating Quality grading tools

- How to measure eating quality of cuts when the carcass is still hanging on the hook ?
- In USDA Grade system marbling and ossification of carcass is measured by qualified grader.

Eating Quality grading tools

- In Meat Standard Australia system grader measures marbling and ossification but also such features as type of animal or pH and enters data to computer data base.
- Quality level for each cut and treatment determines a model (computer software) and classifies carcasses to particular deboning group.

Eating Quality grading tools

- We have assessed that the MSA (Australian system) is more attractive for Polish beef sector than the USDA Grade system (US system) and has more potential to be developed.
- In 2009 we decided that we should endeavor to build a Polish model analogous to MSA.

Polish model analogous to MSA

- Since July 2010, Rod Polkinghorne and cooperating with him mathematical modeling specialists are with us in the ProOptiBeef Project.
- Under his supervision we had conducted tests according to the MSA methodology (years 2010-2015).

Polish model analogous to MSA

- In this area we also collaborated with researchers from France and Northern Ireland.
- We tested meat prepared in different cooking methods– grill, roasting, stewing.
- We have gathered the results of 54 600 samples.

Polish model analogous to MSA

Consumers	GRILL	ROASTING	STEWING	SUM
Polish	5 220	660	600	6 480
French	600			600
All consumers	5 820	660	600	7 080

Polish model analogous to MSA

As a result of the project we received prototype of Polish model for prediction of eating quality of beef which can be implemented in slaughterhouses.

DANE Z OCENY

Rasa		Płeć	J
System żywienia		Weik	
Masa tuszy	420	Skostnienie	140
Podwieszanie	TX	Marmurk owatość	650
pHu	5,5	Okrywa tł. Na Rostbefie	8
Kolor Mięsa		Czas dojrzewania	21

Czas dojrzewania

	TDR062	Polędwica
	CUB081	Antrykot
35	CUB045	Antrykot
	STA045	Rostbef
	STP045	Rostbef
	OYS036	Podgrzebieniowy
	BLD096	Łopatką bez kości
	CTR085	Mięsień nadgrzebieniowy
	RMP131	Krzyżowa ze skrzydłem
	RMP231	Krzyżowa ze skrzydłem
	RMP005	Zrazowa dolna
	RMP087	Krzyżowa ze skrzydłem
	KNU066	Skrzydło
	KNU099	Skrzydło
	OUT005	Zrazowa dolna
	EYE075	Ligawa
	TOP001	Zrazowa górna
	TOP033	Zrazowa górna
	TOP073	Zrazowa górna
	CHK074	Rozbratel
	CHK078	Rozbratel
	BRI056	Mostek i szponder

Metoda obróbki

Grill	Pieczen	Duszenie
75	78	
79	80	
75	76	
70	69	62
67	68	62
66	64	65
53	56	56
67	69	
71	72	
65	67	
54	56	
63	59	60
57	58	56
54	52	52
53	54	
60	54	
		68
54	52	51
61		68
60	57	64

KRAJ

BYDŁO



FRA

IRE

IT

NI

POL

ROM

SP

UK

KONSUMENT



FRA

IRE

IT

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POL

ROM

SP

UK

Eurobeef

Starting our study according to the MSA methodology has resulted in an invitation to the international network, which was formed at the European level by institutions such as the INRA, France, Teagasc, Ireland, AFBINI Northern Ireland, CERP Italy, EBLEX England, UECBV Belgium, ASSOPROVAC Spain.





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- Polish beef sector can implement pro-consumer policies more efficiently.
- The basis of a good marketing strategy must be the quality grading system equipped with the right tools.
- ProOptiBeef result is a prototype tool to predict beef eating quality (model similar to MSA).





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The implementation of consumer oriented marketing strategies is a chance for smart growth of Polish beef sector.





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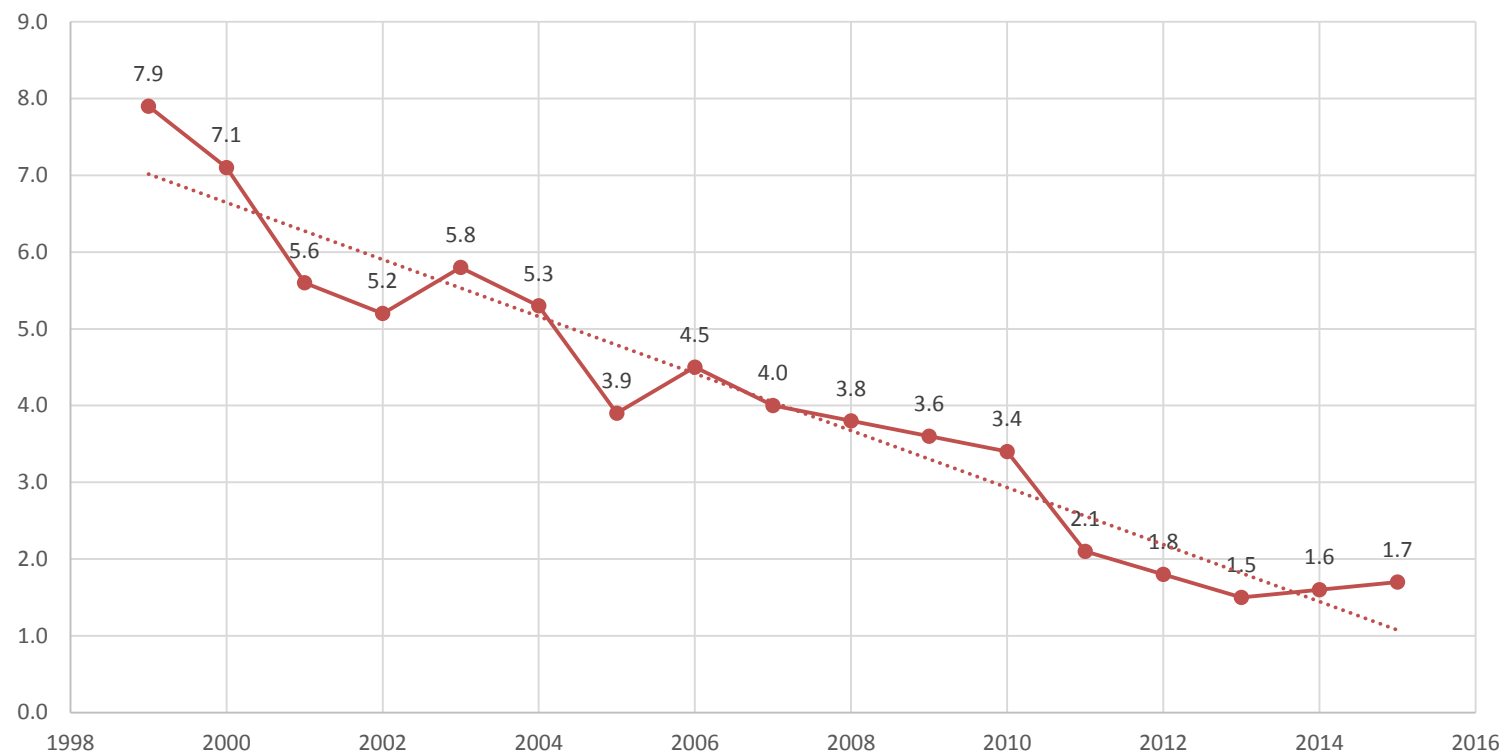


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Thank you for your attention!



Post scriptum - beef consumption in Poland 1998-2015* is growing now



Own study based on data from the Central Statistical Office

*) 2015 is estimated by **Institute of Agricultural and Food Economics**
National Research Institute

