

Presentation of a method for the estimation of beef and veal production pattern and consumption in EU using SEUROP grid.



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- **Method description**
- **Expected results**
- **Discussion and possible developments**

METHOD DESCRIPTION

AIM OF THE WORKS

- **Estimate a more accurate structure of beef and veal EU production for the period 2009-2017;**
- **Calculate the overall and per-capita consumption pattern of beef and veal in EU for the period 2009-2017 applying correction factors to take into account retail and domestic losses/wastes.**

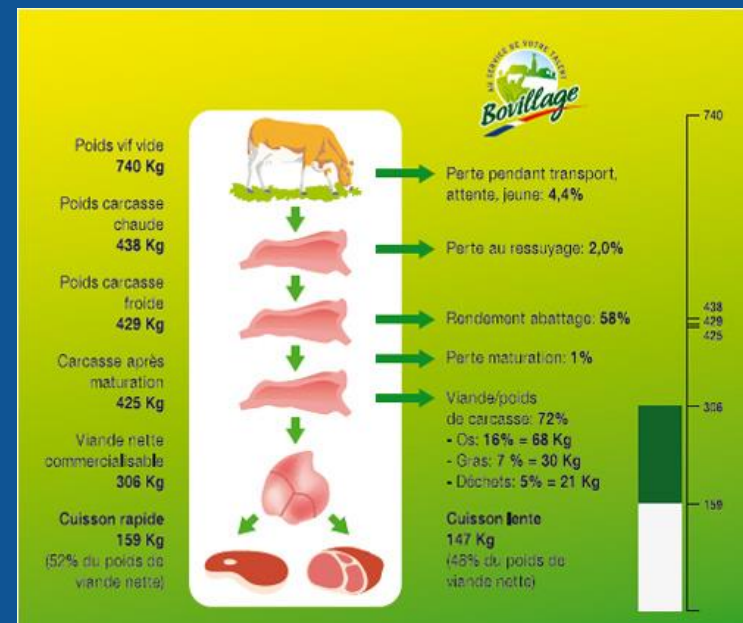
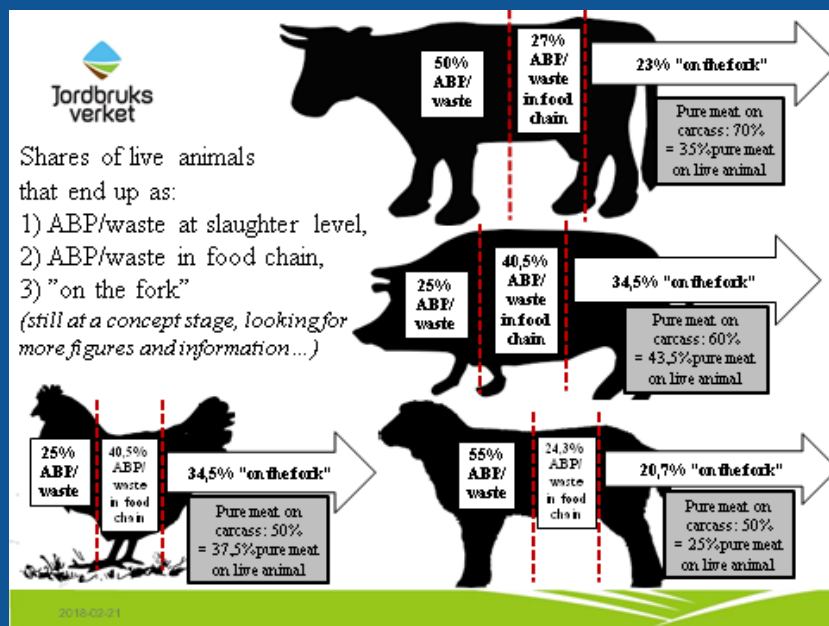
Among the different categories and classes of conformation and fat level there is a great variation in:

- **Carcass yield (60-80%)**
- **Forequarter primals (22-26%)**
- **Hindquarter primals (24-36%)**



Using 1 coefficient for calculate the retail weight from c.w. for all the productions could be misleading

- Not all the carcass is meat
- Not all the produced meat is eaten



<http://bovillage.eu/>



ESTIMATION OF REAL PER CAPITA CONSUMPTION OF MEAT IN ITALY

Russo et al., 2016

Methodology



1. From **carcass weight to retail weight**:
 - For veal fixed coefficient of 0.7;
 - For the other categories, according to **SEUROP** classification grid;
2. For import/export the retail weight obtained from product weight using **coefficient from Russo et al., 2017***
3. From **retail weight to consumed weight**:
 - A **reduction coefficient of 12%** to be used, according to Russo et al., 2017* and Åsa Lannhard Öberg, MMO, Oct. 2017.

*Russo et al. Consumo reale di carne e di pesce in Italia. Dal consumo apparente al consumo reale con il metodo della Detrazione Preventiva delle Perdite. Franco Angeli Editore, 2017.

Methodology

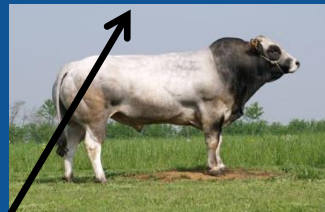
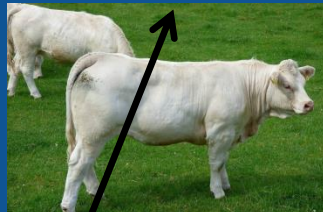
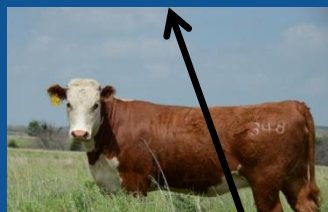


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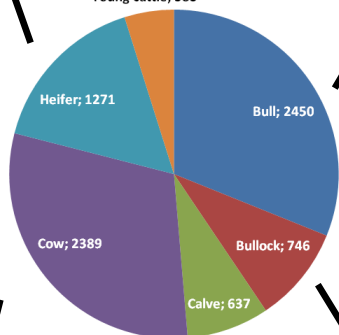
E

Z

A + B

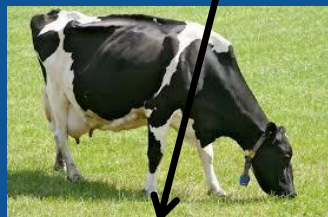


Young cattle; 383



EUROSTAT data:

- Average c.w.
- Monthly production



D

Calves

C

Community scale for the classification of carcasses of adult bovine animals

Carcasses of adult bovine animals shall be classified by assessment respectively of:

- conformation
(six classes: S, E, U, R, O, P);
- fat cover
(five classes: 1, 2, 3, 4, 5).

In order to be given an S classification, the carcass must have superior conformation and must be without defect in respect of its essential parts.

In order to be given an E classification, the carcass must have excellent conformation and must be without defect in respect of its essential parts.

In cases of U, R, O and P conformation, carcasses whose three essential parts are not of a homogeneous nature shall be placed in the class applicable to two of the three parts.

NB: The photographs for the different conformation and fat classes relate to carcasses in the middle of the class.

Council Regulation (EC) N° 1234/2007

Commission Regulation (EC) N° 1249/2008



European Commission
Directorate-General for Agriculture and Rural Development

Methodology



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Annual notification from MS on classification grid

Category	Confor.	number of heads					Total
		Fat class					
		1	2	3	4	5	
Z	E	2.064	12.154	1.503	11	-	15.732
Young cattle	U	2.941	65.785	37.903	429	7	107.065
	R	13.318	125.108	63.299	1.227	10	202.962
	O	36.327	294.244	122.662	1.221	26	454.480
	P	52.691	90.901	16.652	43	3	160.290
A	E	12.004	382.039	75.436	1.575	18	471.072
Young bulls	U	15.012	964.659	988.386	33.158	195	2.001.410
	R	26.443	718.829	733.124	40.602	982	1.519.980
	O	73.369	670.843	677.249	27.910	523	1.449.894
	P	60.375	125.512	78.170	3.286	24	267.367
B	E	3.991	40.251	8.436	715	10	53.403
Bulls	U	11.562	65.116	42.268	3.402	191	122.539
	R	21.368	117.265	79.665	7.945	597	226.840
	O	38.768	168.379	101.826	6.562	299	315.834
	P	20.467	26.352	6.817	132	15	53.783
C	E	73	3.262	6.346	895	8	10.584
Steers	U	2.081	40.523	156.944	110.868	381	310.797
	R	3.236	62.920	331.705	295.968	5.923	699.752
	O	6.474	80.525	398.436	245.120	2.429	732.984
	P	6.666	41.591	100.363	10.807	8	159.435
D	E	1.933	95.185	64.415	2.553	185	164.271
Cows	U	1.463	27.860	253.769	58.944	6.260	348.296
	R	25.080	162.488	698.699	171.053	31.648	1.088.968
	O	173.747	600.189	1.199.402	423.193	50.103	2.446.634
	P	989.584	881.343	745.403	78.840	6.255	2.701.425
E	E	1.061	48.659	37.934	3.172	94	90.920
Heifers	U	3.247	125.618	486.856	167.620	5.978	789.319
	R	6.999	158.114	756.366	459.672	26.863	1.408.014
	O	18.110	142.939	362.143	266.774	17.911	807.877
	P	53.230	77.654	56.385	7.700	375	195.344
							19.377.271

19.377.271

Monthly
EUROSTAT
production for
the category

Its repartition
according to the
classification grid

B	C	D	E	F	G	H	I	J	K						
Insert month	Jan														
	Total meat available per % of SEUROP categories														
Total production record	Categ.	conform	Fat level					TOTAL							
			1	2	3	4	5								
33.938	Young cattle	E	108,66	722,97	70,49	0,82	0,05	33.937,83							
		U	89,73	2.594,84	1.861,15	29,45	0,15								
		R	283,56	3.095,06	2.879,73	85,42	0,62								
		O	828,71	8.881,51	5.774,04	96,09	0,77								
		P	1.708,47	3.834,04	986,26	4,98	0,26								
101.386	A Young bulls	E	183,22	11.830,79	1.485,50	33,56	0,28	101.386,12							
		U	221,00	18.686,42	14.445,63	511,77	14,32								
		R	524,30	11.159,92	11.539,21	872,16	22,68								
		O	1.245,03	10.868,18	11.422,50	696,33	12,63								
		P	1.181,92	2.895,58	1.427,65	76,43	29,11								
101.386	B Bulls	E	595,30	5.791,67	1.203,13	107,64	3,46	101.386,12							
		U	1.380,94	8.697,34	6.289,98	534,64	42,76								
		R	2.814,64	14.313,63	11.020,31	1.177,44	126,39								
		O	4.562,62	19.810,01	13.149,84	1.260,60	57,75								
		P	2.593,53	4.206,84	1.586,92	45,07	13,68								
53.939	C Steers	E	1,19	143,68	117,26	94,50	-	53.938,52							
		U	52,91	748,86	3.132,54	2.512,65	93,11								
		R	189,25	2.033,57	9.679,93	9.378,74	294,88								
		O	203,01	2.574,37	11.507,21	7.389,19	125,89								
		P	260,86	1.013,46	2.196,94	193,99	0,55								
203.526	D Cows	E	76,76	3.044,93	1.842,96	120,34	40,69	203.526,42							
		U	32,03	742,14	7.405,73	1.662,42	237,29								
		R	727,22	5.388,15	23.149,98	4.609,64	908,28								
		O	4.730,83	14.857,44	35.090,80	13.532,63	1.986,41								
		P	33.170,46	25.105,26	21.926,69	2.761,57	375,78								
97.490	E Heifers	E	34,35	3.060,97	1.038,23	87,60	4,90	97.489,56							
		U	56,68	5.545,63	13.193,52	3.162,41	153,49								
		R	307,84	5.595,76	22.870,39	12.512,26	758,49								
		O	597,56	4.466,49	10.527,37	8.252,88	557,69								
		P	1.312,64	1.865,19	1.231,26	256,72	39,23								
591.665								591.664,58							
Z	Z	Z	Z	Z	Z	Z	Z	Z	Z						
E	E	E	E	E	E	U	U	U	U						
Summary	SEUROP grid	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	list	↗

On a monthly basis

Methodology



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Case characteristics

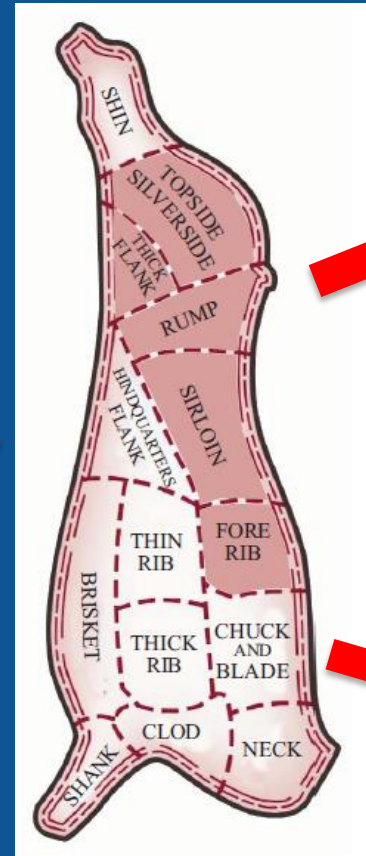
Conformation score: **R** (dropdown menu)
Fat Class: **3** (dropdown menu)
Side weight (kg)*: **145** (input field) **OK** button

** input side weight, then click the OK button to re-calculate*

Predicted yields of trimmed primals

	% of side	Weight (kg)
Forequarter trimmed primals		
Shin	0	0
Clod	0	0
Neck	0	0
Brisket	0	0
LMC	0	0
Chuck	0	0
Feather/blade	0	0
Forerib	0	0
Total forequarter trimmed primals		
	0	0
Hindquarter trimmed primals		
Sirloin	0	0
Fillet	0	0
Leg	0	0
Heel	0	0
Topside	0	0
Silverside	0	0
Thick flank	0	0
Rump	0	0
Rump tail	0	0
Total hindquarter trimmed primals		
	0	0
Total trimmed primals % (ex flank)		
	0	0
Total lean trim %		
	0	0
Total saleable yield %		
	0	0
Total fat trim %		
	0	0
Total bone and waste %		
	0	0
Cutting loss %		
	0	0
Total		
	0	0

90 possible combinations per months



Beef
Primal
cuts

Beef
Preparation
and
processing



+ VEAL

<http://www.qsmbeefandlamb.co.uk/yield-calculator>

Assumptions

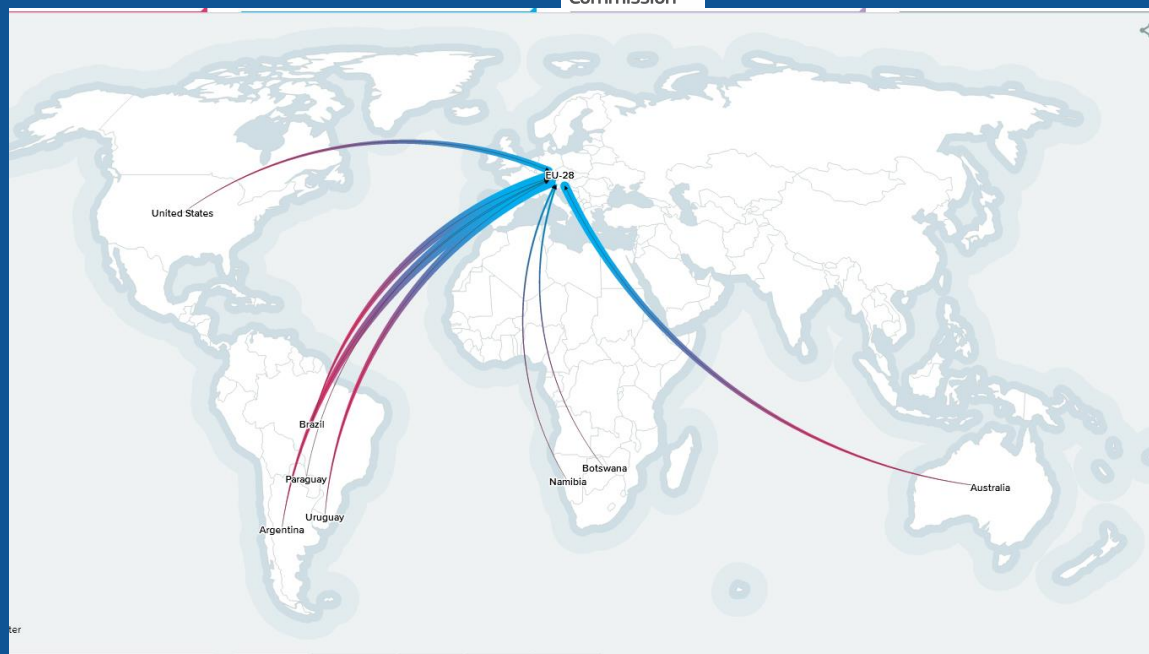


The following assumption could be used to estimate the internal production:

Tonns of trimmed primals
<i>Forequarter trimmed primals</i>
Shin
Clod
Neck
Brisket
LMC
Chuck
Feather/blade
Forerib
<i>Total forequarter trimmed primals</i>
<i>Hindquarter trimmed primals</i>
Sirloin
Fillet
Leg
Heel
Topside
Silverside
Thick flank
Rump
Rump tail
<i>Total hindquarter trimmed primals</i>
Total trimmed primals % (ex flank)
Total lean trim %
Total saleable yield %
Total fat trim %
Total bone and waste %
Cutting loss %
Total

- Primal cuts: sirloin, fillet, rump, rump tail, forerib, topside, silverside; (only from animals with conformation E-U-R and 1/3 of O)
- Preparation and processing: brisket, neck, chuck, feather, thick flank, shin, clod, LMC, leg, heel, lean trim (+ the other 7 for 2/3 of class O) + all production for P class in all categories.

Methodology



The import/export to be divided in **the same three groups**, according to the average value of I/E and from information obtained by sector experts, market news etc.;

- 1) **Primal cuts I/E**
- 2) **Preparation and processing I/E**
- 3) **Veal I/E**



Coefficient for conversion in consumable meat (Russo et al., 2017)

CODE	DESCRIPTION	EXPORT					IMPORT				
		AVERAGE €/kg	AVERAGE YEARLY EXPORT tonn of product	% of exports	classification for export	coefficient for consumable meat	AVERAGE €/kg	AVERAGE YEARLY IMPORT tonn of product	% of imports	classification for import	coefficient for consumable meat
2011000	CARCASSES OR HALF-CARCASSES OF BOVINE ANIMALS, FRESH OR CHILLED	3,47	15.785,92	8,72	Preparation + processing	0,58	0,50	-	-	processing	0,58
2012020	COMPENSATED* QUARTERS OF BOVINE ANIMALS WITH BONE IN, FRESH OR CHILLED	3,01	11.111,20	6,13	Preparation + processing	0,58	7,25	44,50	0,02	HVC	0,58
2012030	UNSEPARATED OR SEPARATED FOREQUARTERS OF BOVINE ANIMALS, WITH BONE IN, FRESH OR CHILLED	2,75	36.742,95	20,29	Preparation + processing	0,48	5,91	8,66	0,00	Other cut	0,48
2012050	UNSEPARATED OR SEPARATED HINDQUARTERS OF BOVINE ANIMALS, WITH BONE IN, FRESH OR CHILLED	3,86	11.667,17	6,44	Preparation + processing	0,57	5,05	488,04	0,25	Other cut	0,57
2012090	FRESH OR CHILLED BOVINE CUTS, WITH BONE IN (EXCL. CARCASSES AND HALF-CARCASSES, "COMPENSATED QUARTERS", FOREQUARTERS AND HINDQUARTERS)	6,50	3.820,53	2,11	Preparation + processing	0,68	11,91	1.114,02	0,56	HVC	0,68
2013000	FRESH OR CHILLED BOVINE MEAT, BONELESS	6,56	15.342,98	8,47	Preparation + processing	0,95	9,70	122.764,04	62,12	HVC	0,95
2021000	FROZEN BOVINE CARCASSES AND HALF-CARCASSES	4,30	1.544,83	0,85	Preparation + processing	0,58	0,40	17,30	0,01	processing	0,58
2022010	FROZEN "COMPENSATED" BOVINE QUARTERS, WITH BONE IN	3,99	8.282,52	4,57	Preparation + processing	0,58	0,63	9,90	0,01	processing	0,58
2022030	FROZEN UNSEPARATED OR SEPARATED BOVINE FOREQUARTERS, WITH BONE IN	3,06	1.382,75	0,76	Preparation + processing	0,48	1,65	10,80	0,01	processing	0,48
2022050	FROZEN UNSEPARATED OR SEPARATED BOVINE HINDQUARTERS, WITH BONE IN	2,72	1.296,90	0,72	Preparation + processing	0,57	1,45	5,64	0,00	processing	0,57
2022090	FROZEN BOVINE CUTS, WITH BONE IN (EXCL. CARCASSES AND HALF-CARCASSES, "COMPENSATED" QUARTERS, FOREQUARTERS AND HINDQUARTERS)	2,10	9.390,20	5,18	Preparation + processing	0,68	8,27	195,16	0,10	HVC	0,68
2023010	FROZEN BOVINE BONELESS FOREQUARTERS, WHOLE OR CUT IN MAX. 5 PIECES, EACH QUARTER IN 1 BLOCK; "COMPENSATED" QUARTERS IN 2 BLOCKS, ONE CONTAINING THE FOREQUARTER, WHOLE OR CUT IN MAX. 5 PIECES, AND THE OTHER THE WHOLE HINDQUARTER, EXCL. THE TENDERLOIN, IN	3,69	3.198,27	1,77	Preparation + processing	0,58	7,04	345,12	0,17	HVC	0,58
2023050	FROZEN BOVINE BONELESS CROP, CHUCK AND BLADE AND BRISKET CUTS	2,66	1.761,45	0,97	Preparation + processing	0,95	2,83	631,58	0,32	Other cut	0,95
2023090	FROZEN BOVINE BONELESS MEAT (EXCL. FOREQUARTERS, WHOLE OR CUT INTO A MAXIMUM OF FIVE PIECES, EACH QUARTER BEING IN A SINGLE BLOCK "COMPENSATED" QUARTERS IN TWO BLOCKS, ONE OF WHICH CONTAINS THE FOREQUARTER, WHOLE OR CUT INTO A MAXIMUM OF FIVE PIECES, AND THE OTHER, THE HINDQUARTER, EXCL. THE TENDERLOIN, IN ONE PIECE, CROP, CHUCK AND BLADE AND BRISKET CUTS)	3,09	59.799,95	33,02	Preparation + processing	0,95	5,83	71.975,38	36,42	HVC	0,95
TOTAL			181.127,62	100,00				197.610,14	100,00		

- Repartition of CN code in the two groups according to description and average import price;
- Some exports of veal meat on specific markets (Japan – US – Canada) from specific MS, according to average value and experts consultation.

EXPECTED RESULTS

Obtain a detailed **monthly** analysis of the EU production pattern and trends for three different meat categories



according to specific parameters.

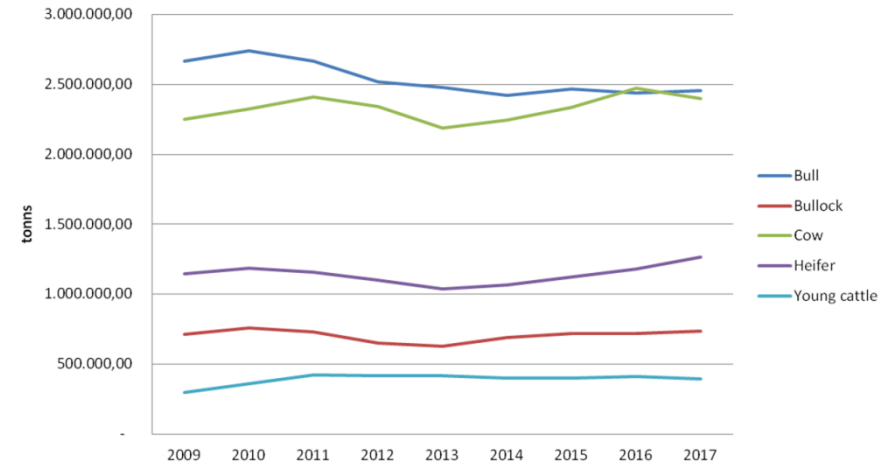


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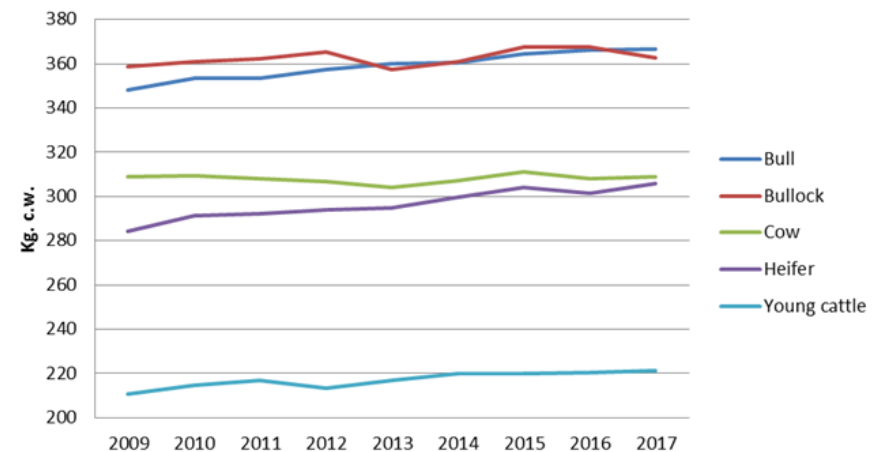
1) Categories of the animals

2) Carcass weight

c.w. production for the different categories



Average c.w. for the different categories



3) Conformation and fat cover



E2
78% s.y
35% hindquarter



U3
73% s.y
32% hindquarter



R4
68% s.y
28% hindquarter

These three factors considered together can strongly influence the amount and type of meat produced and available on the market:

- Carcass yield (60-80%)**
- Forequarter primals (22-26%)**
- Hindquarter primals (24-36%)**

These data, combined with data on import/export per categories of products and using correction coefficients to take into account food losses and waste along the chain, would allow a better estimation of overall and per capita consumption.

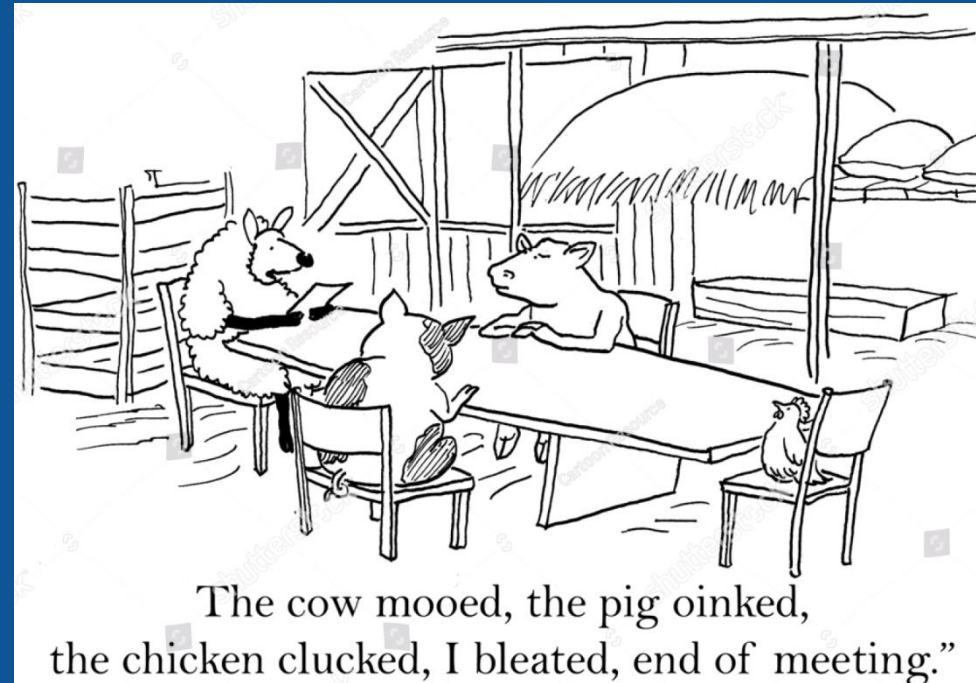


DISCUSSION AND POSSIBLE DEVELOPMENTS

POSSIBLE DEVELOPMENTS

- **More than one carcass yield calculator (if available) could be used;**
- **Assignment of cuts into more than two categories (standardization needed);**
- **Data at Member State level;**
- **Extending method to others species.**

DISCUSSION



THANKS YOU FOR YOUR ATTENTION