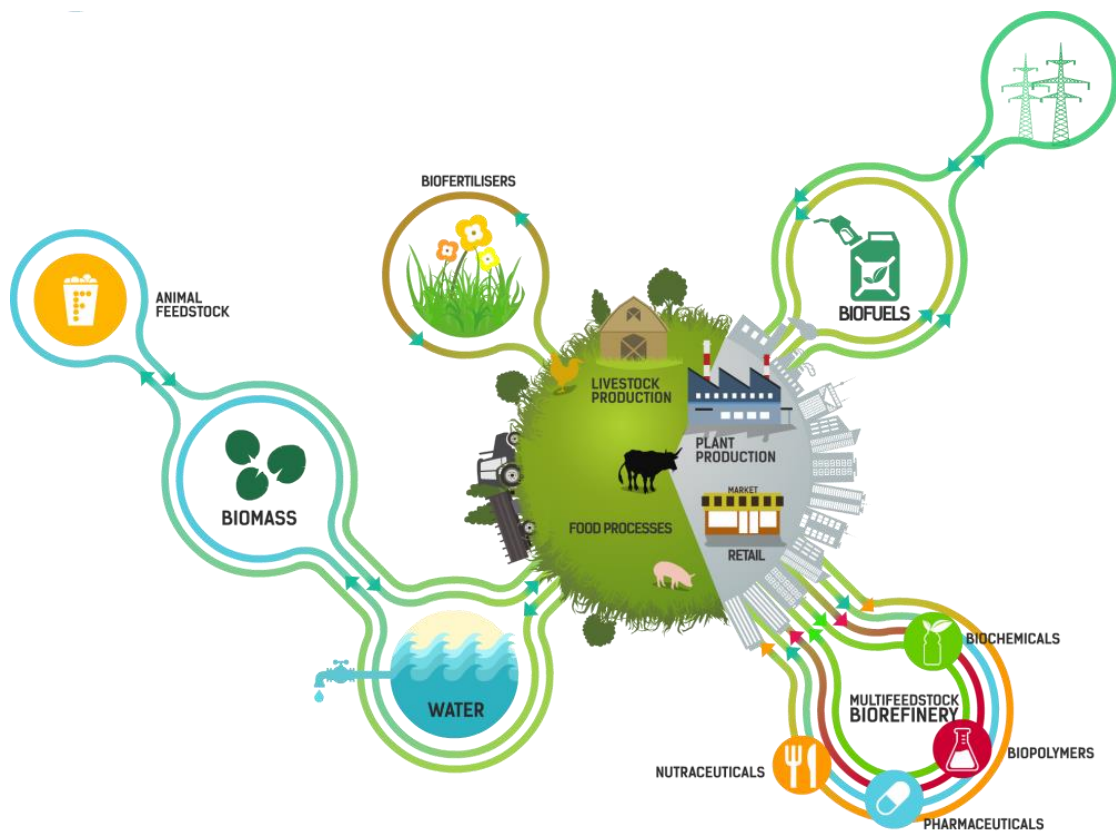


Database/Inventory of the ANIMALS AWCB value chain



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1 Introduction

The purpose of this report is to provide an inventory of agricultural value chains and the various agricultural wastes, co-products and by-products (AWCB) that are produced along it, including their regional distribution and their current valorisation pathways in EU countries. This is the critical first step to achieving an understanding of the current situation for AWCBs in Europe. The quantities of AWCBs that are produced in the value chain of animal production will be determined from three main stages: farming, slaughtering/processing and consumption.

This report also contains information regarding current practices of waste-valorisation for analysed commodities as well as data for consumption of different commodities per capita. Import and export of different commodities are also included in this report in order to better illustrate regional distribution of commodity consumption and processing.

This study constitutes Deliverable 1.1 of the **Work package 1: Agricultural Waste Value Chain Assessment; Task 1.1 Agricultural value chain mapping** of the European Union's Horizon 2020 research and innovation programme "AGROCYCLE" under grant agreement N° 690142.

Task 1.1 is viewed as a 'first step' to map AWCB streams in agricultural production and supply chains across Europe. This first task is vast, encompassing four animal types, seven cereal, five fruit, and ten vegetable value chains. In order to complete the task for 26 value chains in 28 countries, a wide range of data sources is employed.

The methodology developed for this task acts as a template, to not only illustrate but best estimate the quantities of AWCB that are being generated across the various value chains in Europe. This first attempt uses the best available data at the time of writing (December 2016). The ultimate success and value of this database depend on the data quality and the continuous revising with more up to date data as it becomes available.

1.1 Project background

Continuing population and consumption growth is driving the demand for food globally, with agricultural activities having to increase to meet this demand. Europe has a major AWCB problem, generating some 700 million tonnes of AWCB annually.

There is an urgent need and huge opportunity to address the efficient use of AWCB towards delivering sustainable value chains in the agriculture and food processing sectors. As such, AgroCycle will convert low value AWCB into highly valuable products, achieving a 10% increase in waste recycling and valorisation by 2020. This will be achieved by developing a detailed and holistic understanding of the waste streams and piloting a key number of waste utilisation/valorisation pathways. It will bring technologies and systems from ~TRL4 to ~TRL7 within the 3 years of the project. A post-project commercialisation plan will bring commercially promising technologies/systems to TRL8 and TRL9, ensuring AgroCycle will have an enduring impact by achieving sustainable use of AWCB both inside and outside the agricultural sector, leading to the realisation of a Circular Economy.

AgroCycle addresses wastes from several agricultural sectors: wine, olive oil, horticulture, fruit, grassland, swine, dairy and poultry. The AgroCycle consortium is a large (26) multi-national group (including China) comprising the necessary and relevant multi-actors (i.e. researchers; companies in the technical, manufacturing, advisory, retail sectors (Large and SMEs); lead users; end users; and trade/producer associations) for achieving the project's ambitious goals. Farming's unique regional (rural) location means that AgroCycle will help reduce the EU's Innovation Divide and address the Regional Smart Specialisation Strategies for each partner country: impact will be Regional with National and International dimensions. The presence of three partners from China ensures international synergies and a global impact.

1.2 Scope of the report

The agricultural value chain generates a significant amount of different AWCB types that occur during three major stages of a complex path, from farm to fork. Figure 1 presents a conceptual model illustrating where AWCB appears. Analysis conducted in this report shows where and how AWCB occurs during farming and processing of animals as well as in the consumption stage. Also, the analysis conducted in this report shows current valorisation trends for AWCB, primarily this is for the chemical and pharmaceutical industry.

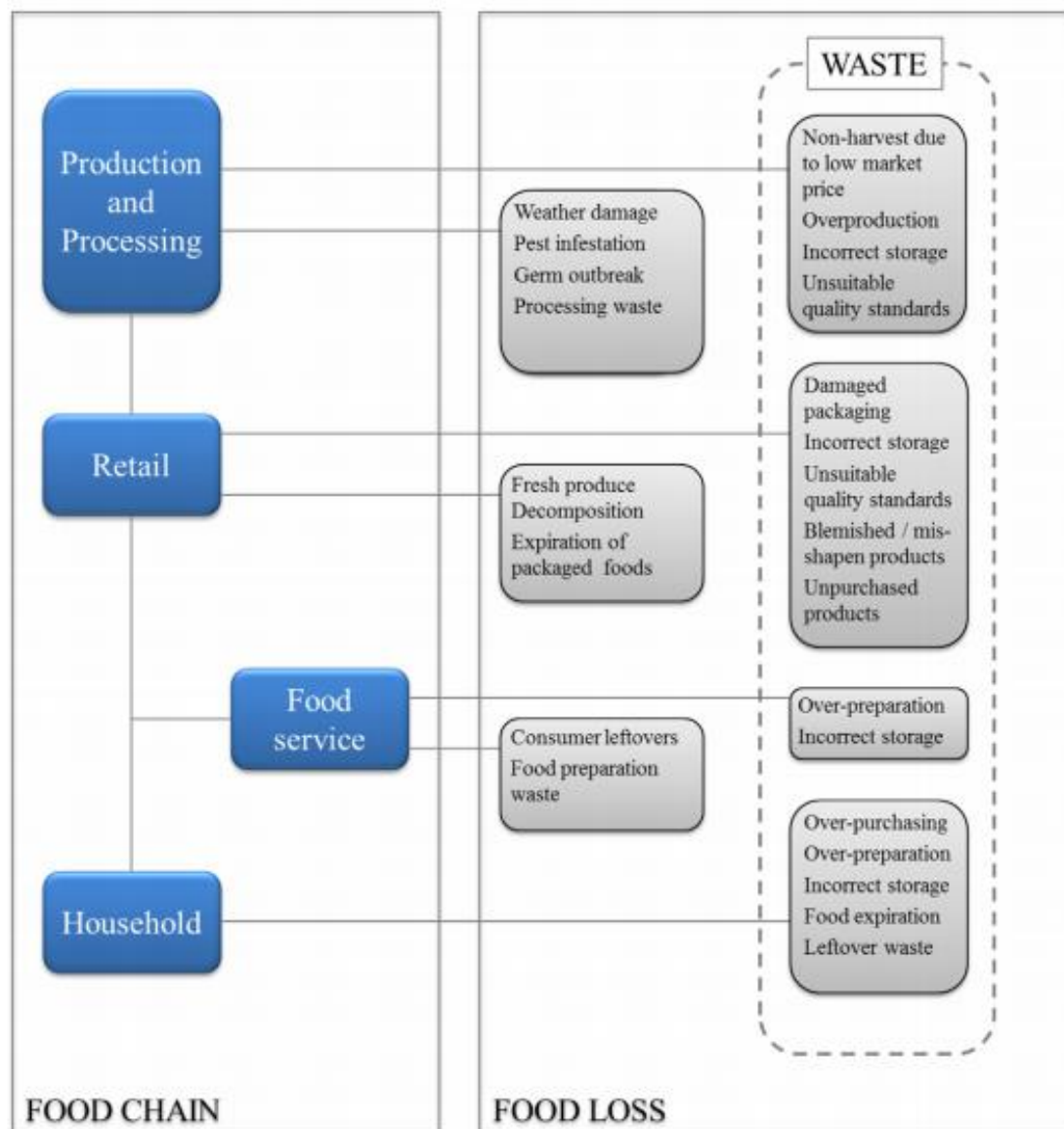


Figure 1 Conceptual model on the food losses generated all along the food chain (1)

Cattle, pigs, dairy cows and chickens are types of animal that are analysed in this report. For every type of animal presented, the value chain, the AWCB that occurs in each step (with appropriate numerical and graphic data) for every EU-28 country and the AWCB applications are discussed. Figure 2 illustrates the steps considered in the AWCB value chain: farming, slaughtering/processing and consumption.



Figure 2 Steps in animal's value chain

Livestock is a source of food for humans, and over time people have discovered that the by-products of livestock farming can be also used in different purposeful ways.

Animal manure is one of the most used by-products in livestock farming. Before the widespread use of urea, the only fertiliser for crop treatment was manure. Nowadays, people still use manure as a fertiliser, but the emissions emitted during its application have been seen as harmful to the environment.

Another source of by-products that are classified as 'waste' is slaughterhouse remains. Livestock eventually ends up in slaughterhouses where huge quantities of different types of AWCB occur. In order to decrease the environmental pollution caused by these by-products, they must be safely used and disposed of. For example, dairy cows are farmed for milk production. After milk is processed for different products different type of AWCB occurs, e.g. whey, which must be treated before its disposal.

The quantity of AWCBs produced in the last stage of the value chain is mainly the result of human behaviour and habits. Food tends to be discarded for the following reasons: leftovers from cooked food; moulded food; visually unappetising or unpalatable (2). WRAP estimates the average person in the UK throws away around 70kg of avoidable food a year (2).

2 Methods and commodities

This section reviews how and where different AWCB occur for different livestock. For every animal type, there is a short description of AWCB that occur. According to information obtained about specific AWCB production, calculations are performed for every EU28 country (according to data collected from EUROSTAT for period 2010-2015).

Consumption per capita of fresh (raw) or processed food on a domestic level is given in appropriate tables in the Annex of this deliverable. The key assumption is that quantity of consumed food does not change in the given period of time. Consumption per capita references is taken from available literature or online sources. If there are two references for consumption, the average value is used for the calculation.

The list below shows the notation of specific values needed for calculation:

FARM = Number of animals (heads) (I)

SLAUG = Number of slaughtered animals (heads) (II)

PC = Consumption of meat and milk products per capita per year (kg) (III)

POP = Population of country in each year (1000 people) (IV)

SPECMAN = Manure production per animal in year (tonnes) (V)

MAN = Total manure production per animal in year (tonnes) (VI)

CON = POP x PC (VII)

MAN = SPECMAN x FARM (VIII)

By using specific consumption data for every EU28 country and population data for every year, the calculation of consumed food in the period 2010-2015 is carried out. Table 1 presents the population of EU-28 countries for the period 2010-2015 (3). Data from Table 1 is used for the calculation of the consumed food (raw and cooked).

Table 1 Population of EU-28 countries (3)

GEO/POPULATION	2010	2011	2012	2013	2014	2015
Belgium	10,839,905	11,000,638	11,094,850	11,161,642	11,180,840	11,237,274
Bulgaria	7,421,766	7,369,431	7,327,224	7,284,552	7,245,677	7,202,198
Czech Republic	10,462,088	10,486,731	10,505,445	10,516,125	10,512,419	10,538,275
Denmark	5,534,738	5,560,628	5,580,516	5,602,628	5,627,235	5,659,715
Germany	81,802,257	80,222,065	80,327,900	80,523,746	80,767,463	81,197,537
Estonia	1,333,290	1,329,660	1,325,217	1,320,174	1,315,819	1,314,870
Ireland	4,549,428	4,570,881	4,582,707	4,591,087	4,605,501	4,628,949
Greece	11,119,289	11,123,392	11,086,406	11,003,615	10,926,807	10,858,018
Spain	46,486,619	46,667,174	46,818,219	46,727,890	46,512,199	46,449,565
France	64,658,856	64,978,721	65,276,983	65,600,350	65,942,093	66,488,186
Croatia	4,302,847	4,289,857	4,275,984	4,262,140	4,246,809	4,225,316
Italy	59,190,143	59,364,690	59,394,207	59,685,227	60,782,668	60,795,612
Cyprus	819,140	839,751	862,011	865,878	858,000	847,008
Latvia	2,120,504	2,074,605	2,044,813	2,023,825	2,001,468	1,986,096
Lithuania	3,141,976	3,052,588	3,003,641	2,971,905	2,943,472	2,921,262
Luxembourg	502,066	511,840	524,853	537,039	549,680	562,958
Hungary	10,014,324	9,985,722	9,931,925	9,908,798	9,877,365	9,855,571
Malta	414,027	414,989	417,546	421,364	425,384	429,344
Netherlands	16,574,989	16,655,799	16,730,348	16,779,575	16,829,289	16,900,726
Austria	8,351,643	8,375,164	8,408,121	8,451,860	8,506,889	8,576,261
Poland	38,022,869	38,062,718	38,063,792	38,062,535	38,017,856	38,005,614
Portugal	10,573,479	10,572,721	10,542,398	10,487,289	10,427,301	10,374,822
Romania	20,294,683	20,199,059	20,095,996	20,020,074	19,947,311	19,870,647
Slovenia	2,046,976	2,050,189	2,055,496	2,058,821	2,061,085	2,062,874
Slovakia	5,390,410	5,392,446	5,404,322	5,410,836	5,415,949	5,421,349
Finland	5,351,427	5,375,276	5,401,267	5,426,674	5,451,270	5,471,753
Sweden	9,340,682	9,415,570	9,482,855	9,555,893	9,644,864	9,747,355
United Kingdom	62,510,197	63,022,532	63,495,303	63,905,297	64,351,155	64,875,165

In order to present the type and mass of AWCB for each step of the animal value chain, Table 2 contains data for the four analysed animals: cattle, pigs, dairy cows and chicken. In the farming stage, the main AWCB for every animal type is manure. In the slaughtering step main AWCB type are blood, bone, fatty tissue, skin and feathers. For the dairy cow, there is also whey, as an AWCB that occurs during milk processing. In the consumption stage, the main AWCB is rotten meat. This is the result of inappropriate storing of meat and consumption habits of people.

Typical live animal masses for which manure and by-products values represent are: 640 kg for the dairy cow; 600 kg for cattle; 100 kg for pig and 2 kg for chicken (broiler).

Table 2 shows the range of values (minimum and maximum data) for each AWCB. The flowchart below present how the calculation was carried out to obtain the average value of the quantity of AWCB:

$$\text{typical value used in calculation} = \frac{\text{MIN} + \text{MAX}}{2}$$

Table 2 Main AWCB produced from animals sector



Animal	Farming		Slaughtering/ Processing		Consumption	
Cattle	7.9-12.3 tonnes of manure per cattle per year	(4), (5), (6)	Blood to product ratio: 0.03-0.044 kg/kg Fatty tissue to product ratio: 0.017-0.040 kg/kg Hide or skin to product ratio: 0.051-0.085 kg/kg Feet to product ratio: 0.019-0.021 kg/kg Tail to product ratio: 0.001-0.0025 kg/kg Brain to product ratio: 0.0008-0.002 kg/kg Bones to product ratio: 0.08-0.095 kg/kg	(7), (8), (9), (10) (7), (10) (7), (8), (9), (10) (7), (10) (7), (9), (10) (7), (9), (10) (7), (8)	Rotten beef to consumed beef ratio: 0.11-0.20 kg/kg	(11), (12), (13)
Dairy cow	16.1-18.8 tonnes of manure per dairy cow per year	(4), (14)	Whey to produced cheese ratio: 9.00-9.33 kg/kg	(15), (16)	Rotten milk to consumed milk ratio: 0.07-0.20 kg/kg Rotten butter to consumed butter ratio: 0.133-0.20 kg/kg Rotten cheese to consumed cheese ratio: 0.133-0.20 kg/kg	(11), (17), (18) (12), (19), (18) (12), (19), (18)

Pig	1.2-1.3 tonnes of manure per pig per year	(4), (5)	<p>Blood to product ratio: 0.02-0.08 kg/kg</p> <p>Fatty tissue to product ratio: 0.03-0.11 kg/kg</p> <p>Organs to product ratio: 0.06-0.077 kg/kg</p> <p>Feet to product ratio: 0.015-0.024 kg/kg</p> <p>Tail to product ratio: 0.001 kg/kg</p> <p>Hide or skin to product ratio: 0.023-0.08 kg/kg</p> <p>Bones to product ratio: 0.085-0.20 kg/kg</p>	<p>(7), (8), (10), (20)</p> <p>(7), (21)</p> <p>(7), (20)</p> <p>(7), (10), (21)</p> <p>(7), (10), (21)</p> <p>(7), (8), (21)</p> <p>(7), (22)</p>	<p>Rotten pork meat to consumed pork meat ratio: 0.11-0.20 kg/kg</p>	<p>(11), (12), (13)</p>
Chicken	0.024-0.095 tonnes of manure per chicken per year	(4), (5)	<p>Feathers to product ratio: 0.06-0.08 kg/kg</p> <p>Heads to product ratio: 0.025-0.03 kg/kg</p> <p>Blood to product ratio: 0.032-0.04 kg/kg</p> <p>Feet to product ratio: 0.035-0.040 kg/kg</p>	<p>(7), (8), (23)</p> <p>(7), (8)</p> <p>(7), (24), (25)</p> <p>(7), (26)</p>	<p>Rotten chicken meat to consumed chicken meat ratio: 0.11-0.20 kg/kg</p>	<p>(11), (12), (13)</p>

2.1 Cattle

Cattle are a type of domestic ungulates, primarily raised as a livestock for meat (27). There are several species of cattle, depending on origin and place of farming. Figure 3 shows cattle originated in Belgium, the Belgian Blue (28).



Figure 3 The Belgian Blue cattle (28)

There are several types of cattle farming currently practised: cattle ranching, industrial farming, specialised farming, and sustainable local farming (29). Types of cattle farming differ in the pace of animal growth, and also in the range of products, but in all types of cattle farming the main AWCB is manure. Manure is the main source of methane, a gas that has a significant impact on global warming potential (30). After a suitable period of time, cattle are sent to a slaughterhouse for the production of edible meats; where a range of non-edible AWCBs are generated (31). The waste in the consumption stage of cattle value chain is primarily the result of poor storage and people's consumption habits.

The flow chart in Figure 4 presents AWCB value chain for cattle and specific AWCB weight factors from Table 2.

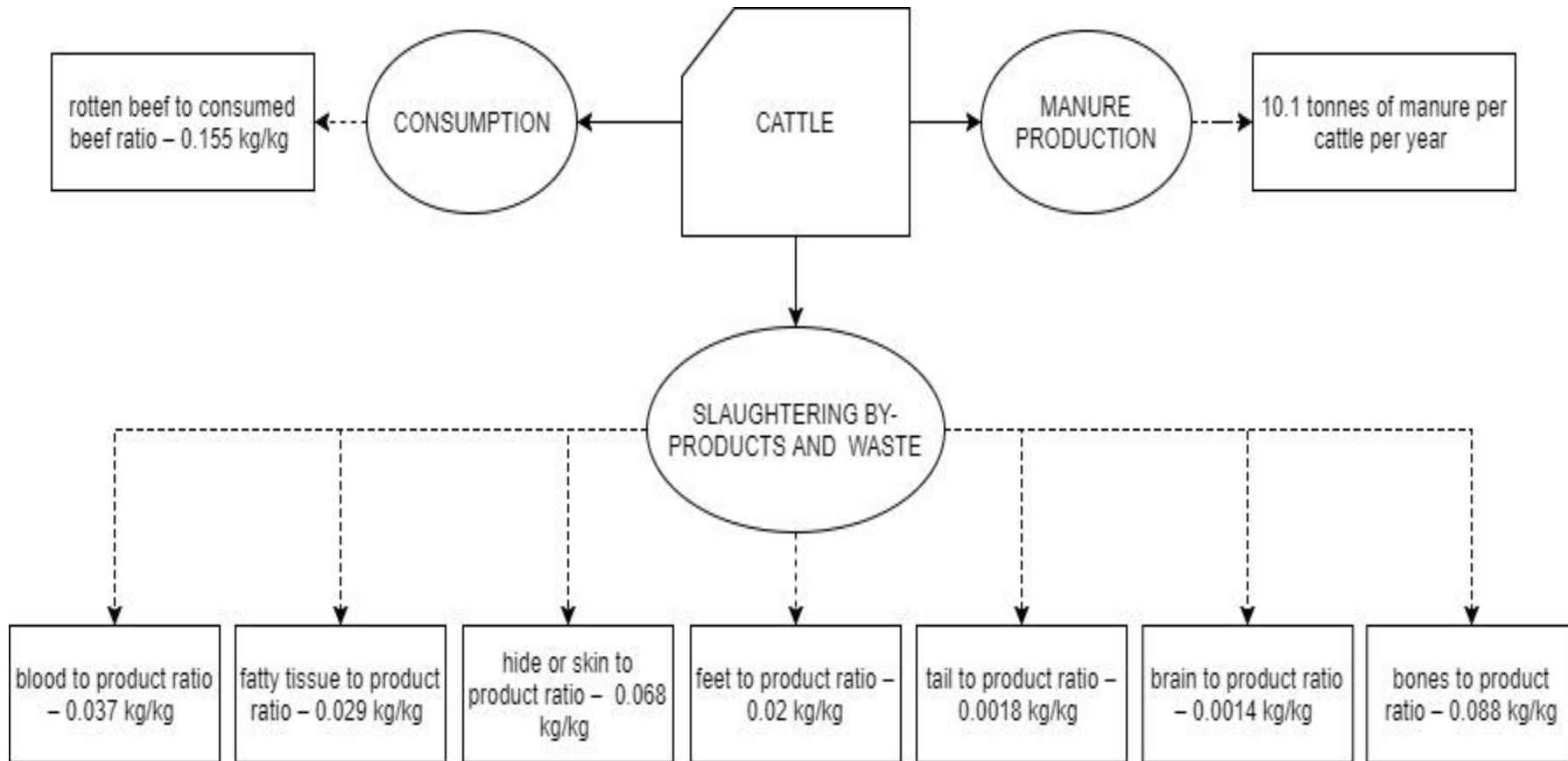


Figure 4 Cattle AWCB value chain

Data for farmed and slaughtered cattle is taken from EUROSTAT. From specific consumption of cattle meat and population in the country, the quantity of consumed meat is calculated. By using relation (1-8), the quantity of manure and consumed meat is calculated for every country in each given year. Then the quantity of AWCB is calculated for every step and every year. An example of the calculation for Belgium in 2010 is now presented:

FARM = 1,991,800 heads

SLAUG = 487,880 heads

SPECMAN = 10.1 tonnes/year

MAN = 20,117,180 tonnes

CON = 197,286 tonnes

The quantity of manure that one cattle produces during a year is 10.1 tonnes and the total quantity of manure that Belgian farmers produced was 20,117,180 tonnes in 2010. AWCB quantities that occurred in Belgian slaughterhouses were: 10,831 tonnes of blood; 8,489 tonnes of fatty tissue; 19,906 tonnes of skin; 5,855 tonnes of feet; 527 tonnes of tail; 410 tonnes of the brain and 25,760 tonnes of bones in 2010. The quantity of consumed cattle meat was 197,286 tonnes, and 15.5% (30,579 tonnes) went rotten. Results for other countries are shown in the tables and figures below.

2.1.1 Sources and Assumptions

Eurostat data is employed to determine the heads of farmed cattle and the cattle slaughtering statics for each of the 28 countries included in this report (32) and (33)(32,37). The heads of farmed cattle include all adult cattle.

Slaughtered cattle heads include the “adult cattle” figures in the Eurostat database, which includes both beef and dairy animals. The live weight of the cattle before slaughtering is assumed to be 600kg. Table 6 estimates the total live weight killed per country per year. This value represents the weight of the animal immediately prior to slaughtering. Carcass

weight (Table 7) is the weight of the slaughtered animal's cold body after being skinned, bled and eviscerated and after removal of external genitalia, the limb at the carpus and tarsus, head, tail, kidneys and kidney fats and the udder.

The slaughtering by-products production, presented in Table 2, is based on the live weight of the animal prior to slaughter. Carcass weights are based on Eurostat, giving a weighted average of 58% of live weight. The FAO estimates that the carcass plus edible products represent approximately 62% of the live weight slaughtered (8). The total AWCB, therefore, accounts for approximately 40% of the live weight.

This 40% is composed of solid by-products, which are documented in the following sections as well as other 'waste materials'. The by-products outlined in this report collectively account for 25% of the animal live weight. The other 15% can be attributed to wastes, paunch, manure etc. (8).

Table 3 Heads of farmed adult cattle per country, 2010-2015 (32)

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	2,509,540	2,471,600	2,438,180	2,441,320	2,477,240	2,503,260	2,438,180	2,509,540	2,473,523
Bulgaria	553,700	567,530	535,320	585,550	562,360	561,040	535,320	585,550	560,917
Czech Republic	1,319,410	1,339,480	1,321,060	1,332,080	1,373,070	1,366,330	1,319,410	1,373,070	1,341,905
Denmark	1,630,000	1,612,000	1,607,000	1,583,000	1,553,000	1,566,000	1,553,000	1,630,000	1,591,833
Germany	12,706,230	12,527,840	12,506,770	12,685,990	12,742,190	12,635,460	12,506,770	12,742,190	12,634,080
Estonia	236,300	238,300	246,000	261,400	264,700	256,200	236,300	264,700	250,483
Ireland	5,917,700	5,925,320	6,253,240	6,309,050	6,243,050	6,422,230	5,917,700	6,422,230	6,178,432
Greece	679,000	681,000	685,000	653,000	659,000	582,000	582,000	685,000	656,500
Spain	6,075,080	5,923,110	5,812,610	5,802,220	6,078,730	6,182,910	5,802,220	6,182,910	5,979,110
France	19,599,000	19,129,000	19,052,000	19,129,000	19,271,000	19,406,000	19,052,000	19,599,000	19,264,333
Croatia	444,300	446,500	452,000	442,000	441,000	455,000	441,000	455,000	446,800
Italy	5,832,460	6,251,930	6,251,930	6,249,290	6,125,420	6,155,800	5,832,460	6,251,930	6,144,472
Cyprus	54,720	56,920	56,920	57,080	59,540	58,860	54,720	59,540	57,340
Latvia	379,490	380,610	393,100	406,490	422,020	419,080	379,490	422,020	400,132
Lithuania	748,000	752,400	729,200	713,500	736,600	722,600	713,500	752,400	733,717
Luxembourg	194,010	188,090	188,300	198,240	201,150	200,640	188,090	201,150	195,072
Hungary	682,000	697,000	760,000	782,000	802,000	821,000	682,000	821,000	757,333
Malta	14,950	15,070	15,590	15,220	14,880	15,020	14,880	15,590	15,122
Netherlands	3,960,000	3,912,000	3,985,000	4,090,000	4,169,000	4,315,000	3,912,000	4,315,000	4,071,833
Austria	2,013,280	1,976,530	1,955,620	1,958,280	1,961,200	1,957,610	1,955,620	2,013,280	1,970,420
Poland	5,561,750	5,500,940	5,520,350	5,589,540	5,660,270	5,762,530	5,500,940	5,762,530	5,599,230
Portugal	1,502,760	1,519,110	1,497,550	1,470,500	1,548,610	1,605,860	1,470,500	1,605,860	1,524,065
Romania	2,001,100	1,988,900	2,009,100	2,022,400	2,068,900	2,092,400	1,988,900	2,092,400	2,030,467
Slovenia	470,150	462,300	460,060	460,580	468,250	484,070	460,060	484,070	467,568
Slovakia	467,130	463,360	471,080	467,820	465,540	457,460	457,460	471,080	465,398
Finland	908,930	902,680	901,390	903,360	907,400	903,410	901,390	908,930	904,528
Sweden	1,474,500	1,449,730	1,443,580	1,443,520	1,436,490	1,428,400	1,428,400	1,474,500	1,446,037
United Kingdom	9,896,000	9,675,000	9,749,000	9,682,000	9,693,000	9,816,000	9,675,000	9,896,000	9,751,833

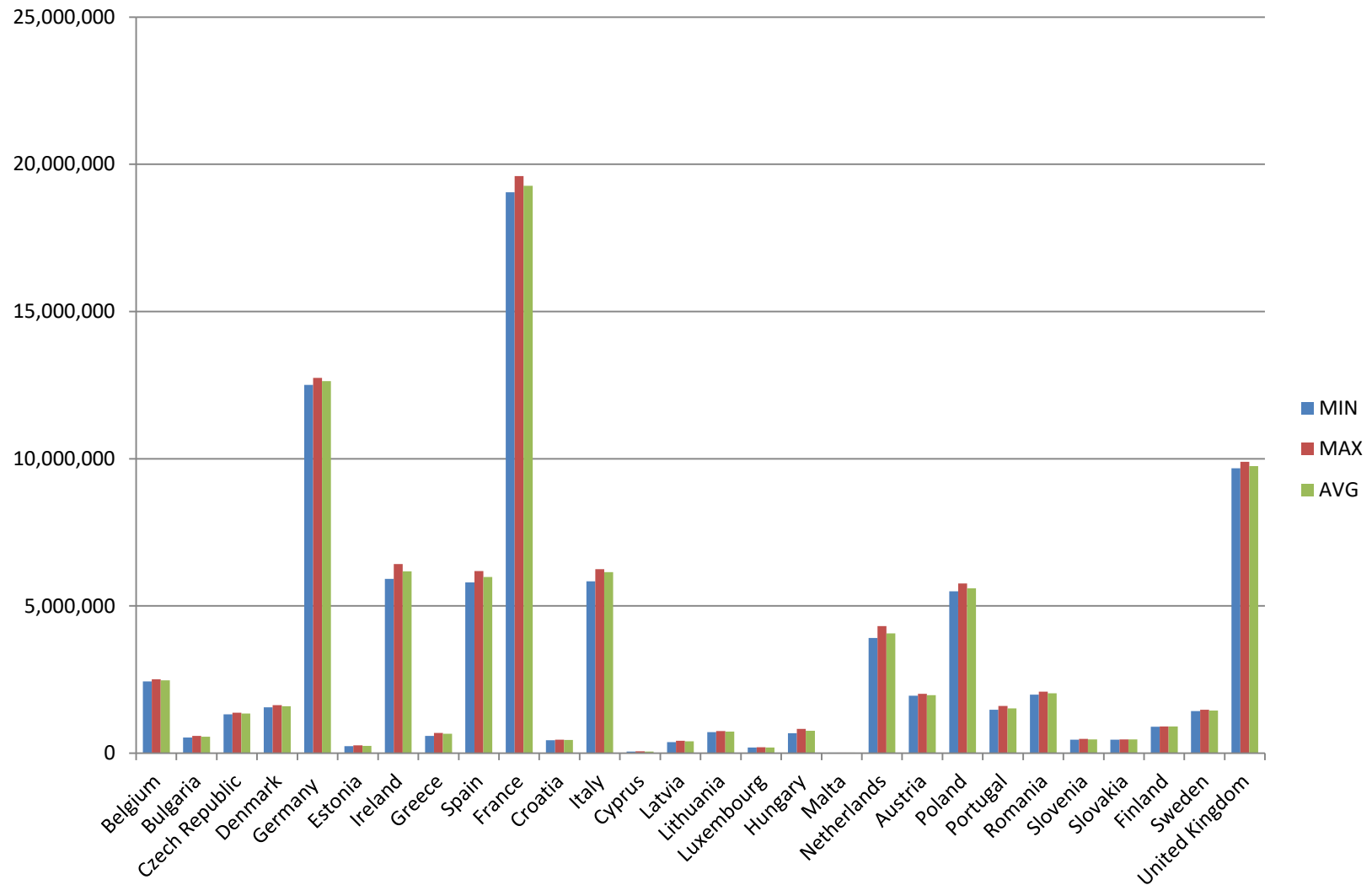


Figure 5 Heads of farmed cattle per country, 2010-2015

Table 4 Tonnes of adult cattle manure per country, 2010-2015

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	25,346,354	24,963,160	24,625,618	24,657,332	25,020,124	25,282,926	24,625,618	25,346,354	24,982,586
Bulgaria	5,592,370	5,732,053	5,406,732	5,914,055	5,679,836	5,666,504	5,406,732	5,914,055	5,665,258
Czech Republic	13,326,041	13,528,748	13,342,706	13,454,008	13,868,007	13,799,933	13,326,041	13,868,007	13,553,241
Denmark	16,463,000	16,281,200	16,230,700	15,988,300	15,685,300	15,816,600	15,685,300	16,463,000	16,077,517
Germany	128,332,923	126,531,184	126,318,377	128,128,499	128,696,119	127,618,146	126,318,377	128,696,119	127,604,208
Estonia	2,386,630	2,406,830	2,484,600	2,640,140	2,673,470	2,587,620	2,386,630	2,673,470	2,529,882
Ireland	59,768,770	59,845,732	63,157,724	63,721,405	63,054,805	64,864,523	59,768,770	64,864,523	62,402,160
Greece	6,857,900	6,878,100	6,918,500	6,595,300	6,655,900	5,878,200	5,878,200	6,918,500	6,630,650
Spain	61,358,308	59,823,411	58,707,361	58,602,422	61,395,173	62,447,391	58,602,422	62,447,391	60,389,011
France	197,949,900	193,202,900	192,425,200	193,202,900	194,637,100	196,000,600	192,425,200	197,949,900	194,569,767
Croatia	4,487,430	4,509,650	4,565,200	4,464,200	4,454,100	4,595,500	4,454,100	4,595,500	4,512,680
Italy	58,907,846	63,144,493	63,144,493	63,117,829	61,866,742	62,173,580	58,907,846	63,144,493	62,059,164
Cyprus	552,672	574,892	574,892	576,508	601,354	594,486	552,672	601,354	579,134
Latvia	3,832,849	3,844,161	3,970,310	4,105,549	4,262,402	4,232,708	3,832,849	4,262,402	4,041,330
Lithuania	7,554,800	7,599,240	7,364,920	7,206,350	7,439,660	7,298,260	7,206,350	7,599,240	7,410,538
Luxembourg	1,959,501	1,899,709	1,901,830	2,002,224	2,031,615	2,026,464	1,899,709	2,031,615	1,970,224
Hungary	6,888,200	7,039,700	7,676,000	7,898,200	8,100,200	8,292,100	6,888,200	8,292,100	7,649,067
Malta	150,995	152,207	157,459	153,722	150,288	151,702	150,288	157,459	152,729
Netherlands	39,996,000	39,511,200	40,248,500	41,309,000	42,106,900	43,581,500	39,511,200	43,581,500	41,125,517
Austria	20,334,128	19,962,953	19,751,762	19,778,628	19,808,120	19,771,861	19,751,762	20,334,128	19,901,242
Poland	56,173,675	55,559,494	55,755,535	56,454,354	57,168,727	58,201,553	55,559,494	58,201,553	56,552,223
Portugal	15,177,876	15,343,011	15,125,255	14,852,050	15,640,961	16,219,186	14,852,050	16,219,186	15,393,057
Romania	20,211,110	20,087,890	20,291,910	20,426,240	20,895,890	21,133,240	20,087,890	21,133,240	20,507,713
Slovenia	4,748,515	4,669,230	4,646,606	4,651,858	4,729,325	4,889,107	4,646,606	4,889,107	4,722,440
Slovakia	4,718,013	4,679,936	4,757,908	4,724,982	4,701,954	4,620,346	4,620,346	4,757,908	4,700,523
Finland	9,180,193	9,117,068	9,104,039	9,123,936	9,164,740	9,124,441	9,104,039	9,180,193	9,135,736
Sweden	14,892,450	14,642,273	14,580,158	14,579,552	14,508,549	14,426,840	14,426,840	14,892,450	14,604,970
United Kingdom	99,949,600	97,717,500	98,464,900	97,788,200	97,899,300	99,141,600	97,717,500	99,949,600	98,493,517

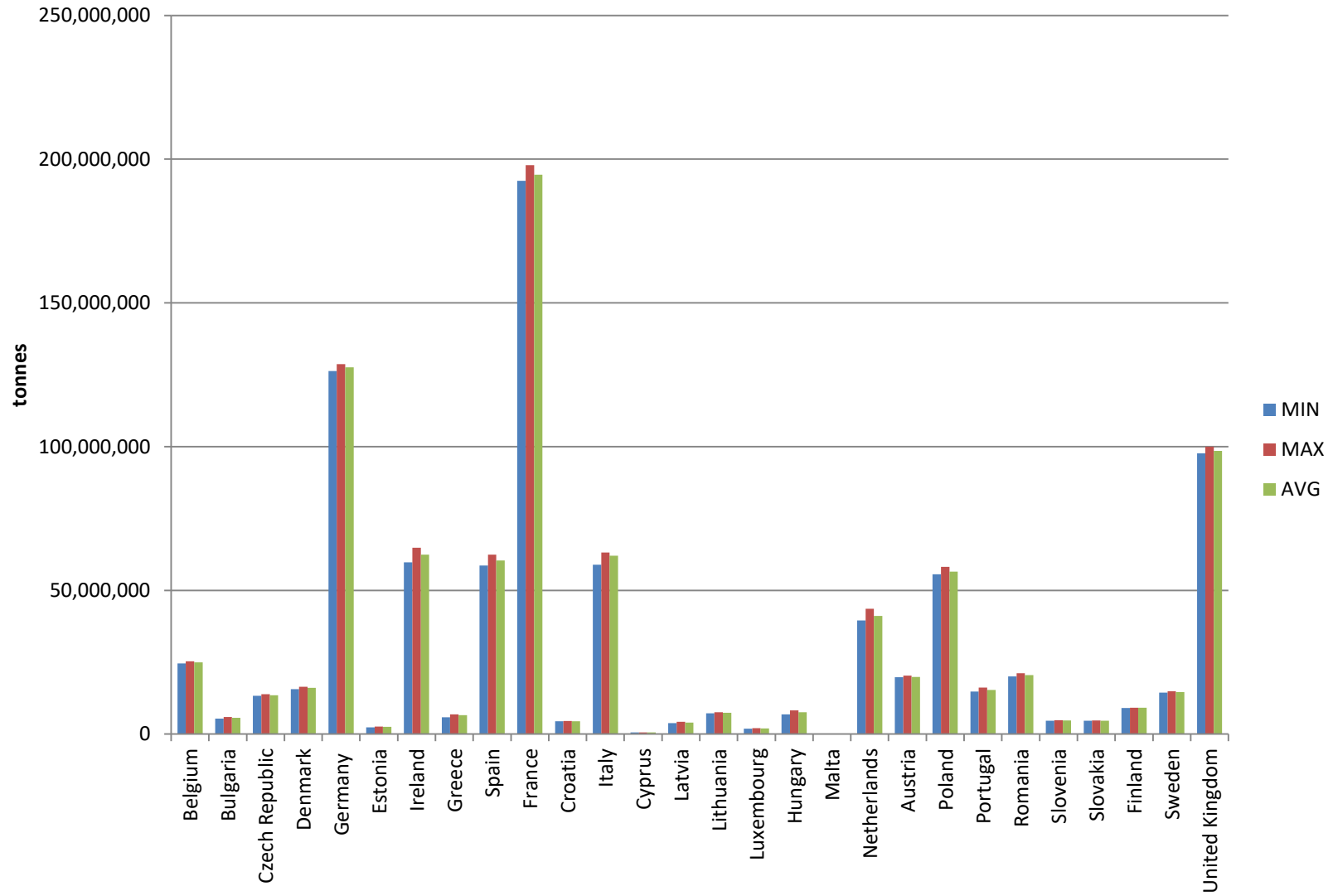


Figure 6 Tonnes of cattle manure per country, 2010-2015

Table 5 Heads of slaughtered adult cattle per country, 2010-2015 (33)

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	487,880	526,840	502,470	470,960	492,390	509,780	470,960	526,840	498,387
Bulgaria	17,700	18,730	20,640	21,440	19,320	21,290	17,700	21,440	19,853
Czech Republic	244,860	238,280	217,930	212,200	213,150	221,110	212,200	244,860	224,588
Denmark	362,900	367,800	351,400	354,500	358,500	329,200	329,200	367,800	354,050
Germany	3,398,550	3,302,000	3,208,000	3,115,000	3,190,000	3,162,000	3,115,000	3,398,550	3,229,258
Estonia	35,590	33,900	31,890	32,410	34,230	35,700	31,890	35,700	33,953
Ireland	1,709,920	1,634,140	1,479,280	1,583,150	1,740,410	1,658,290	1,479,280	1,740,410	1,634,198
Greece	189,540	183,690	183,000	156,050	137,300	126,040	126,040	189,540	162,603
Spain	1,432,370	1,255,550	1,202,730	1,171,930	1,158,950	1,379,890	1,158,950	1,432,370	1,266,903
France	3,491,680	3,595,460	3,399,010	3,208,010	3,238,720	3,288,620	3,208,010	3,595,460	3,370,250
Croatia	155,900	163,600	142,700	141,600	131,900	124,500	124,500	163,600	143,367
Italy	2,929,790	2,740,710	2,666,400	2,298,960	1,880,270	2,008,830	1,880,270	2,929,790	2,420,827
Cyprus	10,320	11,810	12,990	11,210	11,520	12,500	10,320	12,990	11,725
Latvia	77,070	74,670	69,890	66,060	69,980	71,290	66,060	77,070	71,493
Lithuania	168,210	162,840	156,660	142,030	148,720	166,930	142,030	168,210	157,565
Luxembourg	25,360	23,460	22,340	21,170	22,550	23,740	21,170	25,360	23,103
Hungary	99,700	96,240	89,620	82,830	86,040	96,420	82,830	99,700	91,808
Malta	5,500	4,170	4,080	4,050	4,080	3,760	3,760	5,500	4,273
Netherlands	538,350	529,110	511,000	503,120	525,260	501,400	501,400	538,350	518,040
Austria	624,860	614,540	609,670	623,270	608,700	631,420	608,700	631,420	618,743
Poland	1,311,850	1,328,770	1,293,100	1,168,410	1,441,820	1,606,590	1,168,410	1,606,590	1,358,423
Portugal	273,190	270,100	256,930	232,120	219,970	240,490	219,970	273,190	248,800
Romania	104,290	92,800	94,180	96,510	98,050	154,220	92,800	154,220	106,675
Slovenia	100,670	101,340	95,310	92,700	91,250	96,520	91,250	101,340	96,298
Slovakia	49,550	41,570	35,550	34,170	32,080	29,820	29,820	49,550	37,123
Finland	262,000	265,180	261,960	263,950	267,150	275,570	261,960	275,570	265,968
Sweden	424,510	428,960	390,840	390,320	405,120	406,440	390,320	428,960	407,698
United Kingdom	2,697,670	2,757,370	2,598,840	2,537,380	2,557,720	2,540,920	2,537,380	2,757,370	2,614,983

*All adult cattle slaughtered (including beef and dairy animals)

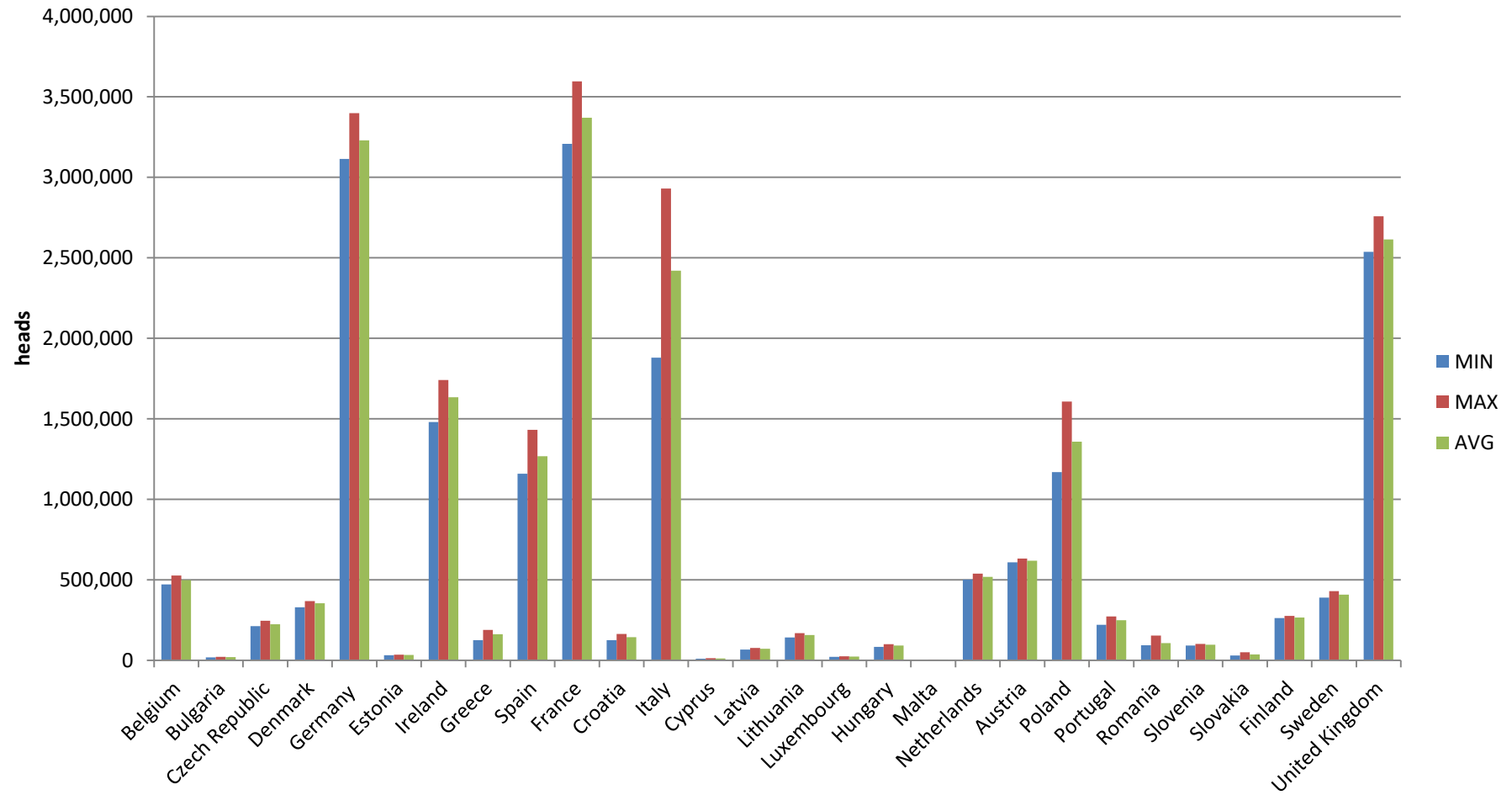


Figure 7 Heads of slaughtered cattle per country, 2010-2015

Table 6 Tonnes of live weight before slaughtering per country, 2010-2015*

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	292,728	316,104	301,482	282,576	295,434	305,868	282,576	316,104	299,032
Bulgaria	10,620	11,238	12,384	12,864	11,592	12,774	10,620	12,864	11,912
Czech Republic	146,916	142,968	130,758	127,320	127,890	132,666	127,320	146,916	134,753
Denmark	217,740	220,680	210,840	212,700	215,100	197,520	197,520	220,680	212,430
Germany	2,039,130	1,981,200	1,924,800	1,869,000	1,914,000	1,897,200	1,869,000	2,039,130	1,937,555
Estonia	21,354	20,340	19,134	19,446	20,538	21,420	19,134	21,420	20,372
Ireland	1,025,952	980,484	887,568	949,890	1,044,246	994,974	887,568	1,044,246	980,519
Greece	113,724	110,214	109,800	93,630	82,380	75,624	75,624	113,724	97,562
Spain	859,422	753,330	721,638	703,158	695,370	827,934	695,370	859,422	760,142
France	2,095,008	2,157,276	2,039,406	1,924,806	1,943,232	1,973,172	1,924,806	2,157,276	2,022,150
Croatia	93,540	98,160	85,620	84,960	79,140	74,700	74,700	98,160	86,020
Italy	1,757,874	1,644,426	1,599,840	1,379,376	1,128,162	1,205,298	1,128,162	1,757,874	1,452,496
Cyprus	6,192	7,086	7,794	6,726	6,912	7,500	6,192	7,794	7,035
Latvia	46,242	44,802	41,934	39,636	41,988	42,774	39,636	46,242	42,896
Lithuania	100,926	97,704	93,996	85,218	89,232	100,158	85,218	100,926	94,539
Luxembourg	15,216	14,076	13,404	12,702	13,530	14,244	12,702	15,216	13,862
Hungary	59,820	57,744	53,772	49,698	51,624	57,852	49,698	59,820	55,085
Malta	3,300	2,502	2,448	2,430	2,448	2,256	2,256	3,300	2,564
Netherlands	323,010	317,466	306,600	301,872	315,156	300,840	300,840	323,010	310,824
Austria	374,916	368,724	365,802	373,962	365,220	378,852	365,220	378,852	371,246
Poland	787,110	797,262	775,860	701,046	865,092	963,954	701,046	963,954	815,054
Portugal	163,914	162,060	154,158	139,272	131,982	144,294	131,982	163,914	149,280
Romania	62,574	55,680	56,508	57,906	58,830	92,532	55,680	92,532	64,005
Slovenia	60,402	60,804	57,186	55,620	54,750	57,912	54,750	60,804	57,779
Slovakia	29,730	24,942	21,330	20,502	19,248	17,892	17,892	29,730	22,274
Finland	157,200	159,108	157,176	158,370	160,290	165,342	157,176	165,342	159,581
Sweden	254,706	257,376	234,504	234,192	243,072	243,864	234,192	257,376	244,619
United Kingdom	1,618,602	1,654,422	1,559,304	1,522,428	1,534,632	1,524,552	1,522,428	1,654,422	1,568,990

* Tonnes of live weight represents the total live weight killed at slaughtering

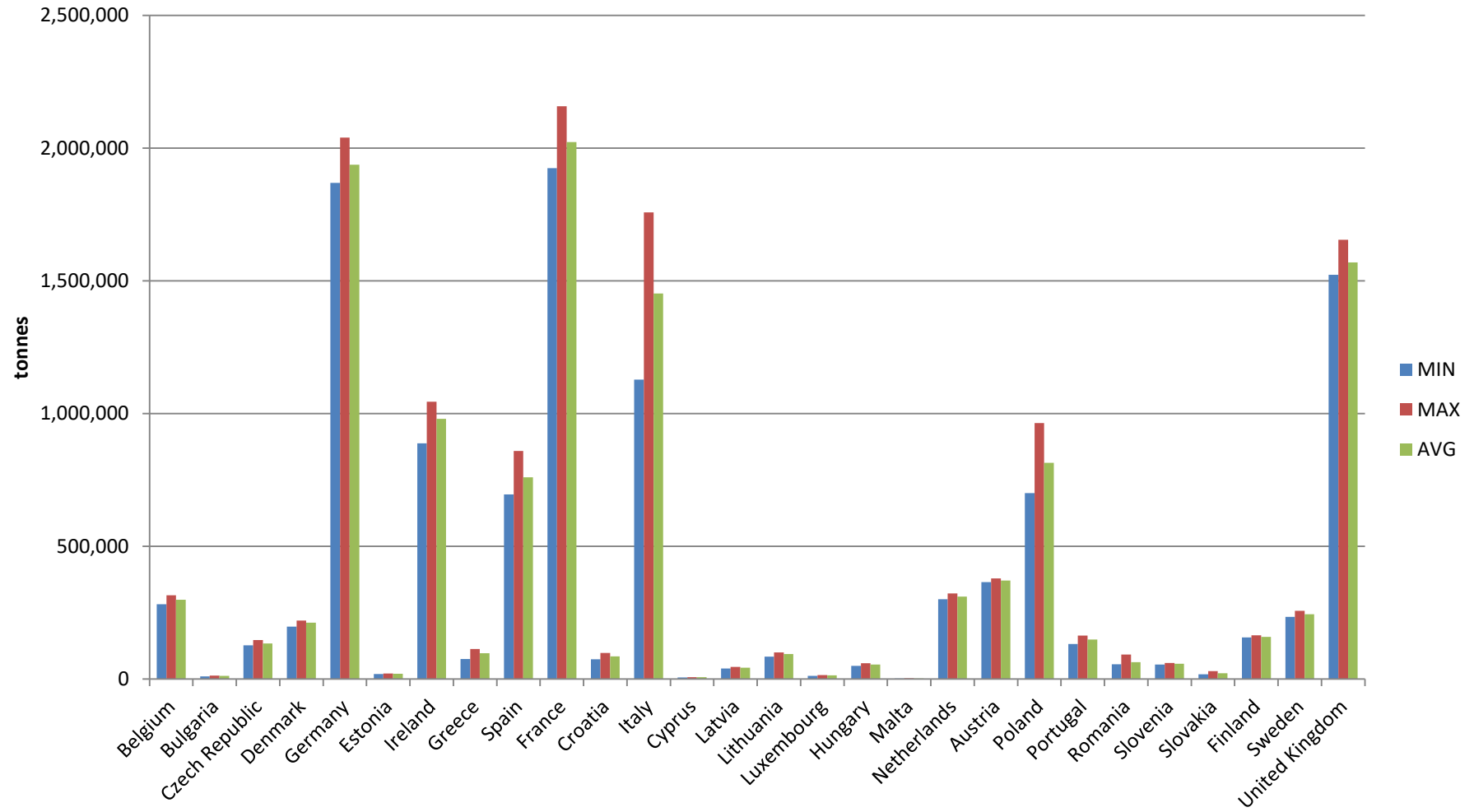


Figure 8 Tonnes of Live weight before slaughtering per country, 2010-2015

Table 7 Tonnes of carcass weight after slaughtering per country, 2010-2015*

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	207,410	219,400	209,660	195,550	202,160	208,930	195,550	219,400	207,185
Bulgaria	3,870	4,110	4,630	4,910	4,280	4,660	3,870	4,910	4,410
Czech Republic	73,390	71,330	64,910	64,120	64,780	67,550	64,120	73,390	67,680
Denmark	103,600	102,200	96,900	97,400	99,400	93,100	93,100	103,600	98,767
Germany	1,138,650	1,105,000	1,080,000	1,050,000	1,073,000	1,071,000	1,050,000	1,138,650	1,086,275
Estonia	8,680	8,150	7,750	7,700	8,640	9,210	7,700	9,210	8,355
Ireland	558,050	545,440	494,600	516,690	580,650	563,260	494,600	580,650	543,115
Greece	48,620	47,560	46,990	42,340	37,240	34,140	34,140	48,620	42,815
Spain	406,640	359,380	342,100	338,650	340,970	388,000	338,650	406,640	362,623
France	1,297,550	1,333,310	1,260,460	1,193,830	1,211,190	1,239,730	1,193,830	1,333,310	1,256,012
Croatia	48,150	47,500	40,900	41,500	39,300	37,500	37,500	48,150	42,475
Italy	937,310	880,430	853,810	745,150	607,740	684,250	607,740	937,310	784,782
Cyprus	3,220	3,920	4,530	3,710	3,910	4,460	3,220	4,530	3,958
Latvia	16,430	16,090	15,320	14,610	15,920	16,310	14,610	16,430	15,780
Lithuania	42,080	40,610	39,500	36,320	38,840	43,640	36,320	43,640	40,165
Luxembourg	9,350	8,680	8,290	7,780	8,320	8,910	7,780	9,350	8,555
Hungary	26,310	25,550	24,110	22,050	22,520	25,750	22,050	26,310	24,382
Malta	1,410	1,110	1,110	1,130	1,130	1,030	1,030	1,410	1,153
Netherlands	166,420	162,840	158,860	156,680	158,970	157,500	156,680	166,420	160,212
Austria	217,030	213,380	213,890	220,120	214,770	222,310	213,380	222,310	216,917
Poland	374,890	370,410	362,900	332,910	409,080	467,470	332,910	467,470	386,277
Portugal	73,380	73,040	68,700	62,600	59,920	68,090	59,920	73,380	67,622
Romania	23,950	22,640	21,920	22,150	22,740	34,940	21,920	34,940	24,723
Slovenia	33,380	33,260	31,000	30,280	29,790	31,940	29,790	33,380	31,608
Slovakia	13,490	11,190	9,670	9,420	8,730	8,300	8,300	13,490	10,133
Finland	81,720	82,280	80,050	80,120	81,950	85,370	80,050	85,370	81,915
Sweden	133,530	133,450	120,820	121,660	127,550	129,650	120,820	133,530	127,777
United Kingdom	922,100	931,900	878,970	843,520	872,340	877,810	843,520	931,900	887,773

* Tonnes of carcass weight represents the weight of the slaughtered animal's cold body after being skinned, bled and eviscerated and after removal of external genitalia, the limb at the carpus and tarsus, head, tail, kidneys and kidney fats and the udder.

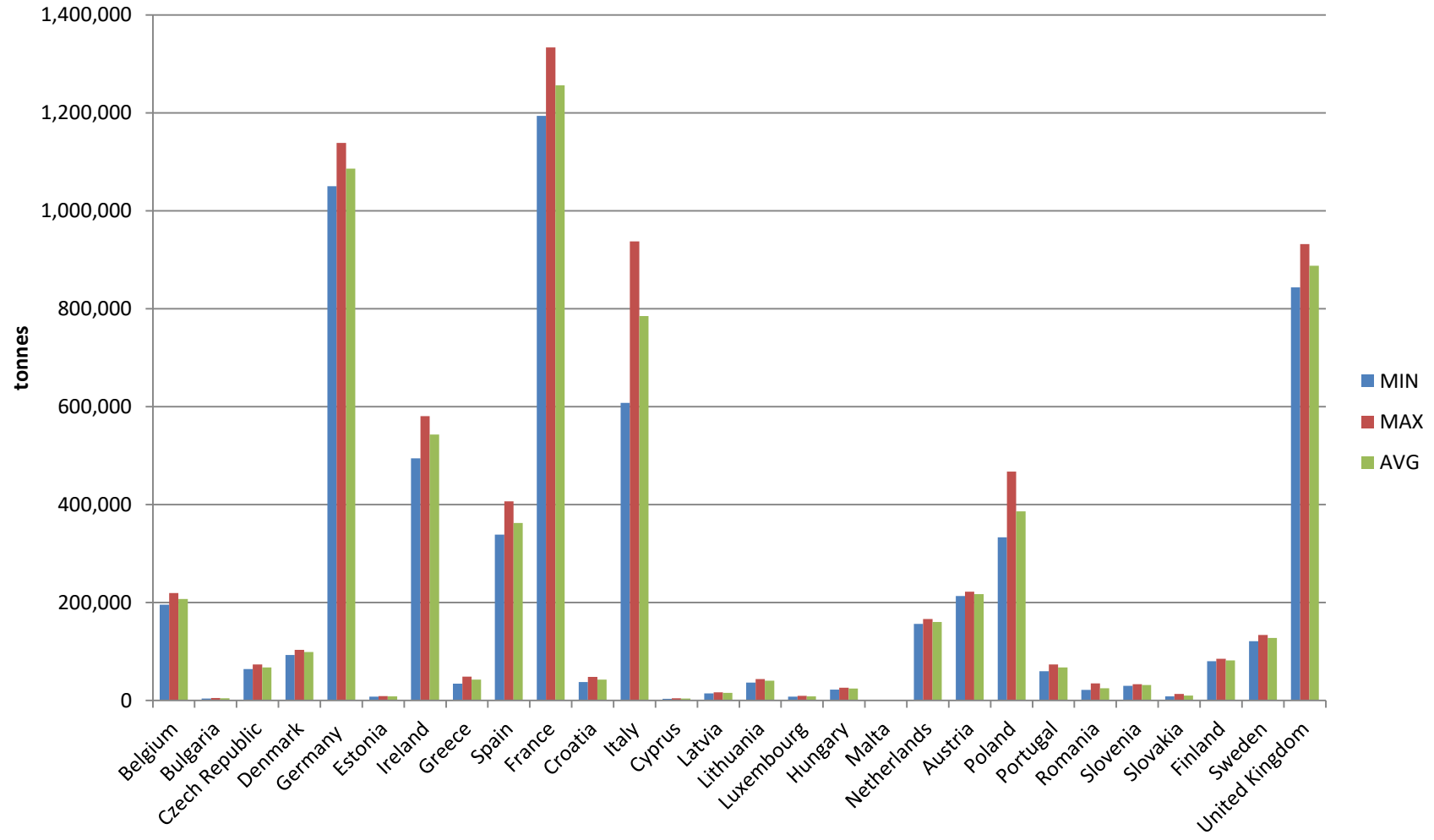


Figure 9 Tonnes of carcass weight after slaughtering per country, 2010-2015

Table 8 Tonnes of cattle blood after slaughtering per country, 2010-2015

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	10,831	11,696	11,155	10,455	10,931	11,317	10,455	11,696	11,064
Bulgaria	393	416	458	476	429	473	393	476	441
Czech Republic	5,436	5,290	4,838	4,711	4,732	4,909	4,711	5,436	4,986
Denmark	8,056	8,165	7,801	7,870	7,959	7,308	7,308	8,165	7,860
Germany	75,448	73,304	71,218	69,153	70,818	70,196	69,153	75,448	71,690
Estonia	790	753	708	720	760	793	708	793	754
Ireland	37,960	36,278	32,840	35,146	38,637	36,814	32,840	38,637	36,279
Greece	4,208	4,078	4,063	3,464	3,048	2,798	2,798	4,208	3,610
Spain	31,799	27,873	26,701	26,017	25,729	30,634	25,729	31,799	28,125
France	77,515	79,819	75,458	71,218	71,900	73,007	71,218	79,819	74,820
Croatia	3,461	3,632	3,168	3,144	2,928	2,764	2,764	3,632	3,183
Italy	65,041	60,844	59,194	51,037	41,742	44,596	41,742	65,041	53,742
Cyprus	229	262	288	249	256	278	229	288	260
Latvia	1,711	1,658	1,552	1,467	1,554	1,583	1,467	1,711	1,587
Lithuania	3,734	3,615	3,478	3,153	3,302	3,706	3,153	3,734	3,498
Luxembourg	563	521	496	470	501	527	470	563	513
Hungary	2,213	2,137	1,990	1,839	1,910	2,141	1,839	2,213	2,038
Malta	122	93	91	90	91	83	83	122	95
Netherlands	11,951	11,746	11,344	11,169	11,661	11,131	11,131	11,951	11,500
Austria	13,872	13,643	13,535	13,837	13,513	14,018	13,513	14,018	13,736
Poland	29,123	29,499	28,707	25,939	32,008	35,666	25,939	35,666	30,157
Portugal	6,065	5,996	5,704	5,153	4,883	5,339	4,883	6,065	5,523
Romania	2,315	2,060	2,091	2,143	2,177	3,424	2,060	3,424	2,368
Slovenia	2,235	2,250	2,116	2,058	2,026	2,143	2,026	2,250	2,138
Slovakia	1,100	923	789	759	712	662	662	1,100	824
Finland	5,816	5,887	5,816	5,860	5,931	6,118	5,816	6,118	5,904
Sweden	9,424	9,523	8,677	8,665	8,994	9,023	8,665	9,523	9,051
United Kingdom	59,888	61,214	57,694	56,330	56,781	56,408	56,330	61,214	58,053

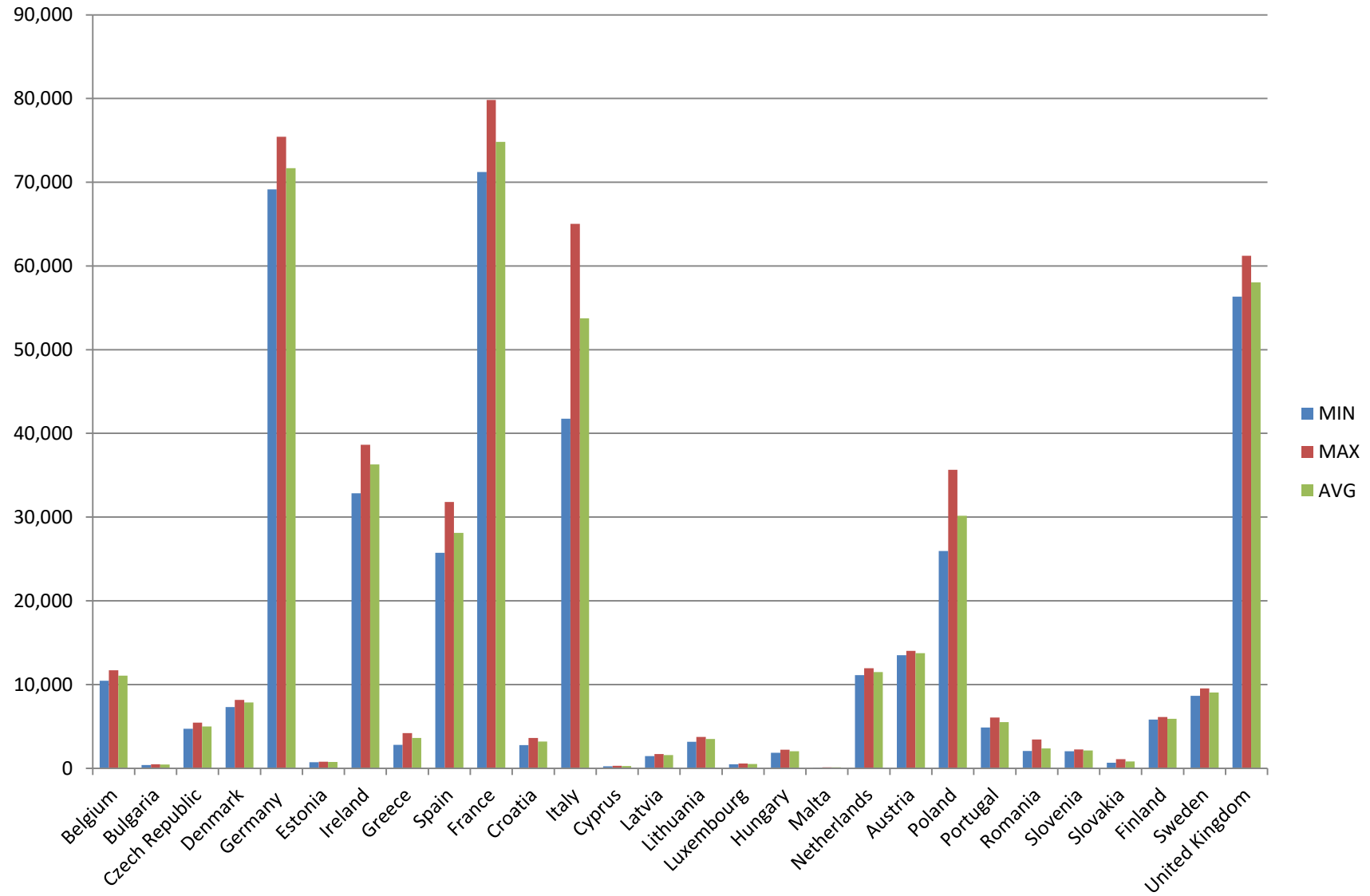


Figure 10 Tonnes of cattle blood after slaughtering per country, 2010-2015

Table 9 Tonnes of cattle fatty tissue after slaughtering per country, 2010-2015

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	8,489	9,167	8,743	8,195	8,568	8,870	8,195	9,167	8,672
Bulgaria	308	326	359	373	336	370	308	373	345
Czech Republic	4,261	4,146	3,792	3,692	3,709	3,847	3,692	4,261	3,908
Denmark	6,314	6,400	6,114	6,168	6,238	5,728	5,728	6,400	6,160
Germany	59,135	57,455	55,819	54,201	55,506	55,019	54,201	59,135	56,189
Estonia	619	590	555	564	596	621	555	621	591
Ireland	29,753	28,434	25,739	27,547	30,283	28,854	25,739	30,283	28,435
Greece	3,298	3,196	3,184	2,715	2,389	2,193	2,193	3,298	2,829
Spain	24,923	21,847	20,928	20,392	20,166	24,010	20,166	24,923	22,044
France	60,755	62,561	59,143	55,819	56,354	57,222	55,819	62,561	58,642
Croatia	2,713	2,847	2,483	2,464	2,295	2,166	2,166	2,847	2,495
Italy	50,978	47,688	46,395	40,002	32,717	34,954	32,717	50,978	42,122
Cyprus	180	205	226	195	200	218	180	226	204
Latvia	1,341	1,299	1,216	1,149	1,218	1,240	1,149	1,341	1,244
Lithuania	2,927	2,833	2,726	2,471	2,588	2,905	2,471	2,927	2,742
Luxembourg	441	408	389	368	392	413	368	441	402
Hungary	1,735	1,675	1,559	1,441	1,497	1,678	1,441	1,735	1,597
Malta	96	73	71	70	71	65	65	96	74
Netherlands	9,367	9,207	8,891	8,754	9,140	8,724	8,724	9,367	9,014
Austria	10,873	10,693	10,608	10,845	10,591	10,987	10,591	10,987	10,766
Poland	22,826	23,121	22,500	20,330	25,088	27,955	20,330	27,955	23,637
Portugal	4,754	4,700	4,471	4,039	3,827	4,185	3,827	4,754	4,329
Romania	1,815	1,615	1,639	1,679	1,706	2,683	1,615	2,683	1,856
Slovenia	1,752	1,763	1,658	1,613	1,588	1,679	1,588	1,763	1,676
Slovakia	862	723	619	595	558	519	519	862	646
Finland	4,559	4,614	4,558	4,593	4,648	4,795	4,558	4,795	4,628
Sweden	7,386	7,464	6,801	6,792	7,049	7,072	6,792	7,464	7,094
United Kingdom	46,939	47,978	45,220	44,150	44,504	44,212	44,150	47,978	45,501

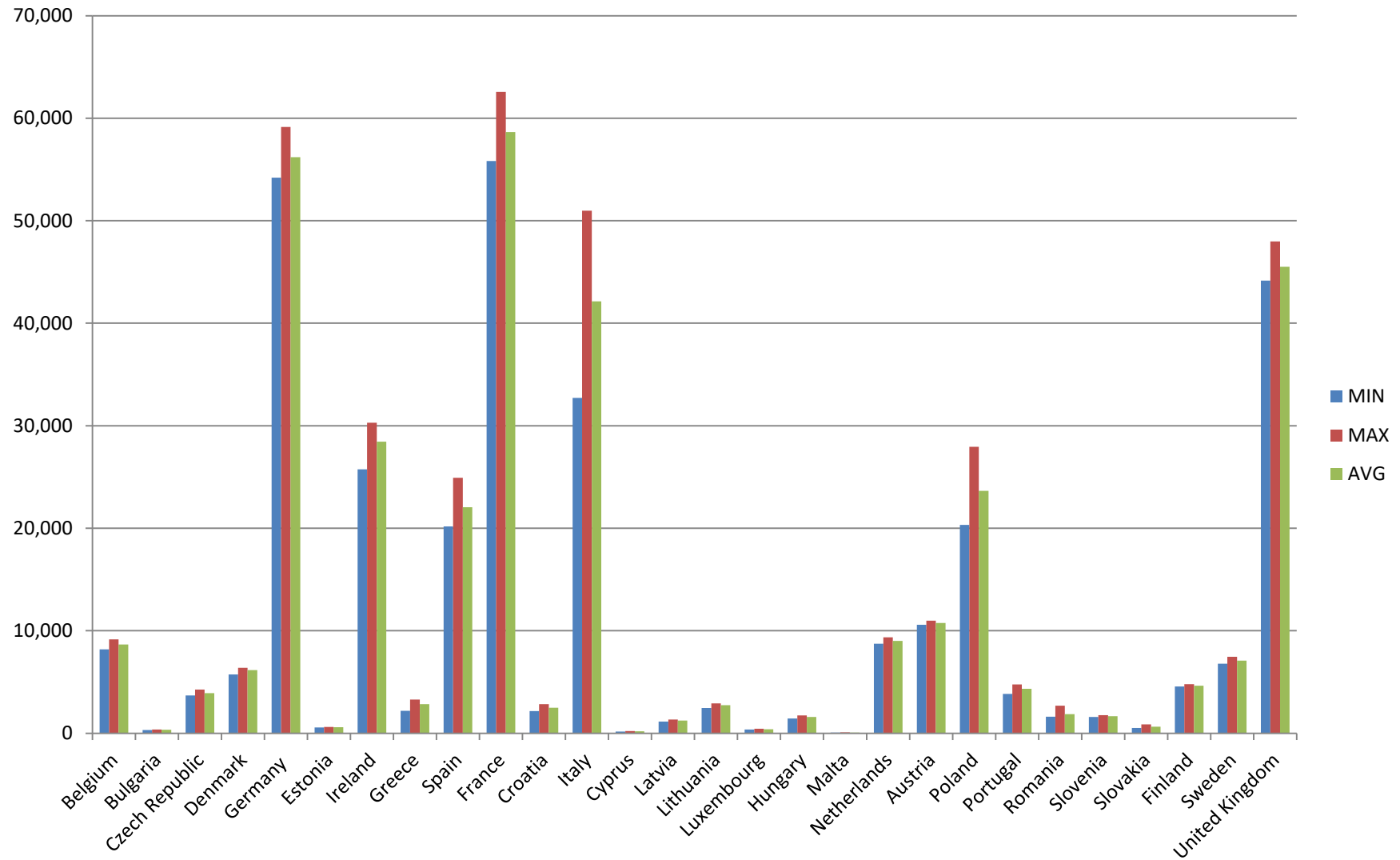


Figure 11 Tonnes of cattle fatty tissue after slaughtering per country, 2010-2015

Table 10 Tonnes of cattle hide (skin) after slaughtering per country, 2010-2015

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	19,906	21,495	20,501	19,215	20,090	20,799	19,215	21,495	20,334
Bulgaria	722	764	842	875	788	869	722	875	810
Czech Republic	9,990	9,722	8,892	8,658	8,697	9,021	8,658	9,990	9,163
Denmark	14,806	15,006	14,337	14,464	14,627	13,431	13,431	15,006	14,445
Germany	138,661	134,722	130,886	127,092	130,152	129,010	127,092	138,661	131,754
Estonia	1,452	1,383	1,301	1,322	1,397	1,457	1,301	1,457	1,385
Ireland	69,765	66,673	60,355	64,593	71,009	67,658	60,355	71,009	66,675
Greece	7,733	7,495	7,466	6,367	5,602	5,142	5,142	7,733	6,634
Spain	58,441	51,226	49,071	47,815	47,285	56,300	47,285	58,441	51,690
France	142,461	146,695	138,680	130,887	132,140	134,176	130,887	146,695	137,506
Croatia	6,361	6,675	5,822	5,777	5,382	5,080	5,080	6,675	5,849
Italy	119,535	111,821	108,789	93,798	76,715	81,960	76,715	119,535	98,770
Cyprus	421	482	530	457	470	510	421	530	478
Latvia	3,144	3,047	2,852	2,695	2,855	2,909	2,695	3,144	2,917
Lithuania	6,863	6,644	6,392	5,795	6,068	6,811	5,795	6,863	6,429
Luxembourg	1,035	957	911	864	920	969	864	1,035	943
Hungary	4,068	3,927	3,656	3,379	3,510	3,934	3,379	4,068	3,746
Malta	224	170	166	165	166	153	153	224	174
Netherlands	21,965	21,588	20,849	20,527	21,431	20,457	20,457	21,965	21,136
Austria	25,494	25,073	24,875	25,429	24,835	25,762	24,835	25,762	25,245
Poland	53,523	54,214	52,758	47,671	58,826	65,549	47,671	65,549	55,424
Portugal	11,146	11,020	10,483	9,470	8,975	9,812	8,975	11,146	10,151
Romania	4,255	3,786	3,843	3,938	4,000	6,292	3,786	6,292	4,352
Slovenia	4,107	4,135	3,889	3,782	3,723	3,938	3,723	4,135	3,929
Slovakia	2,022	1,696	1,450	1,394	1,309	1,217	1,217	2,022	1,515
Finland	10,690	10,819	10,688	10,769	10,900	11,243	10,688	11,243	10,852
Sweden	17,320	17,502	15,946	15,925	16,529	16,583	15,925	17,502	16,634
United Kingdom	110,065	112,501	106,033	103,525	104,355	103,670	103,525	112,501	106,691

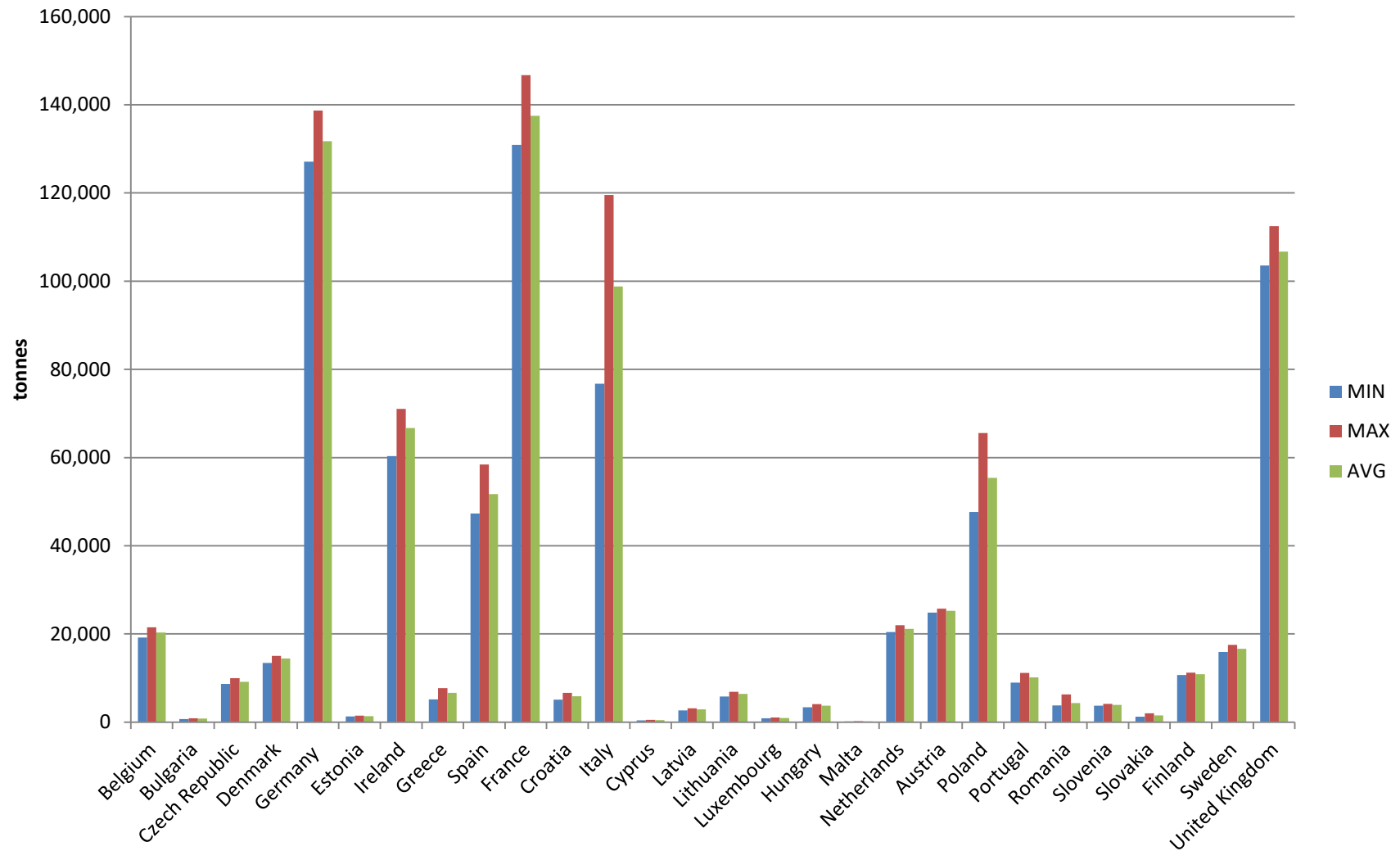


Figure 12 Tonnes of cattle hide (skin) after slaughtering per country, 2010-2015

Table 11 Tonnes of cattle feet after slaughtering per country, 2010-2015

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	5,855	6,322	6,030	5,652	5,909	6,117	5,652	6,322	5,981
Bulgaria	212	225	248	257	232	255	212	257	238
Czech Republic	2,938	2,859	2,615	2,546	2,558	2,653	2,546	2,938	2,695
Denmark	4,355	4,414	4,217	4,254	4,302	3,950	3,950	4,414	4,249
Germany	40,783	39,624	38,496	37,380	38,280	37,944	37,380	40,783	38,751
Estonia	427	407	383	389	411	428	383	428	407
Ireland	20,519	19,610	17,751	18,998	20,885	19,899	17,751	20,885	19,610
Greece	2,274	2,204	2,196	1,873	1,648	1,512	1,512	2,274	1,951
Spain	17,188	15,067	14,433	14,063	13,907	16,559	13,907	17,188	15,203
France	41,900	43,146	40,788	38,496	38,865	39,463	38,496	43,146	40,443
Croatia	1,871	1,963	1,712	1,699	1,583	1,494	1,494	1,963	1,720
Italy	35,157	32,889	31,997	27,588	22,563	24,106	22,563	35,157	29,050
Cyprus	124	142	156	135	138	150	124	156	141
Latvia	925	896	839	793	840	855	793	925	858
Lithuania	2,019	1,954	1,880	1,704	1,785	2,003	1,704	2,019	1,891
Luxembourg	304	282	268	254	271	285	254	304	277
Hungary	1,196	1,155	1,075	994	1,032	1,157	994	1,196	1,102
Malta	66	50	49	49	49	45	45	66	51
Netherlands	6,460	6,349	6,132	6,037	6,303	6,017	6,017	6,460	6,216
Austria	7,498	7,374	7,316	7,479	7,304	7,577	7,304	7,577	7,425
Poland	15,742	15,945	15,517	14,021	17,302	19,279	14,021	19,279	16,301
Portugal	3,278	3,241	3,083	2,785	2,640	2,886	2,640	3,278	2,986
Romania	1,251	1,114	1,130	1,158	1,177	1,851	1,114	1,851	1,280
Slovenia	1,208	1,216	1,144	1,112	1,095	1,158	1,095	1,216	1,156
Slovakia	595	499	427	410	385	358	358	595	445
Finland	3,144	3,182	3,144	3,167	3,206	3,307	3,144	3,307	3,192
Sweden	5,094	5,148	4,690	4,684	4,861	4,877	4,684	5,148	4,892
United Kingdom	32,372	33,088	31,186	30,449	30,693	30,491	30,449	33,088	31,380

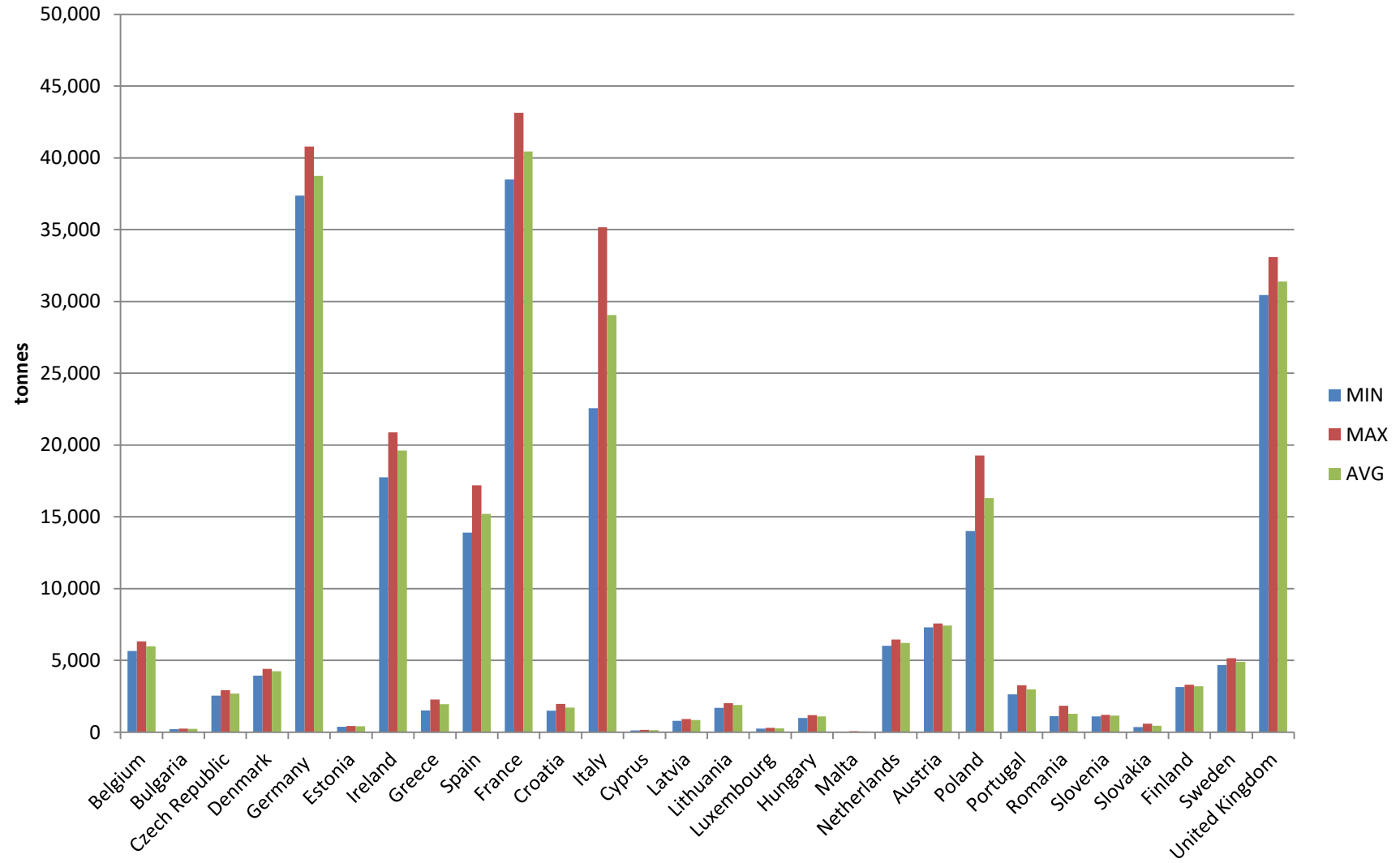


Figure 13 Tonnes of cattle feet after slaughtering per country, 2010-2015

Table 12 Tonnes of cattle tail after slaughtering per country, 2010-2015

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	527	569	543	509	532	551	509	569	538
Bulgaria	19	20	22	23	21	23	19	23	21
Czech Republic	264	257	235	229	230	239	229	264	243
Denmark	392	397	380	383	387	356	356	397	382
Germany	3,670	3,566	3,465	3,364	3,445	3,415	3,364	3,670	3,488
Estonia	38	37	34	35	37	39	34	39	37
Ireland	1,847	1,765	1,598	1,710	1,880	1,791	1,598	1,880	1,765
Greece	205	198	198	169	148	136	136	205	176
Spain	1,547	1,356	1,299	1,266	1,252	1,490	1,252	1,547	1,368
France	3,771	3,883	3,671	3,465	3,498	3,552	3,465	3,883	3,640
Croatia	168	177	154	153	142	134	134	177	155
Italy	3,164	2,960	2,880	2,483	2,031	2,170	2,031	3,164	2,614
Cyprus	11	13	14	12	12	14	11	14	13
Latvia	83	81	75	71	76	77	71	83	77
Lithuania	182	176	169	153	161	180	153	182	170
Luxembourg	27	25	24	23	24	26	23	27	25
Hungary	108	104	97	89	93	104	89	108	99
Malta	6	5	4	4	4	4	4	6	5
Netherlands	581	571	552	543	567	542	542	581	559
Austria	675	664	658	673	657	682	657	682	668
Poland	1,417	1,435	1,397	1,262	1,557	1,735	1,262	1,735	1,467
Portugal	295	292	277	251	238	260	238	295	269
Romania	113	100	102	104	106	167	100	167	115
Slovenia	109	109	103	100	99	104	99	109	104
Slovakia	54	45	38	37	35	32	32	54	40
Finland	283	286	283	285	289	298	283	298	287
Sweden	458	463	422	422	438	439	422	463	440
United Kingdom	2,913	2,978	2,807	2,740	2,762	2,744	2,740	2,978	2,824

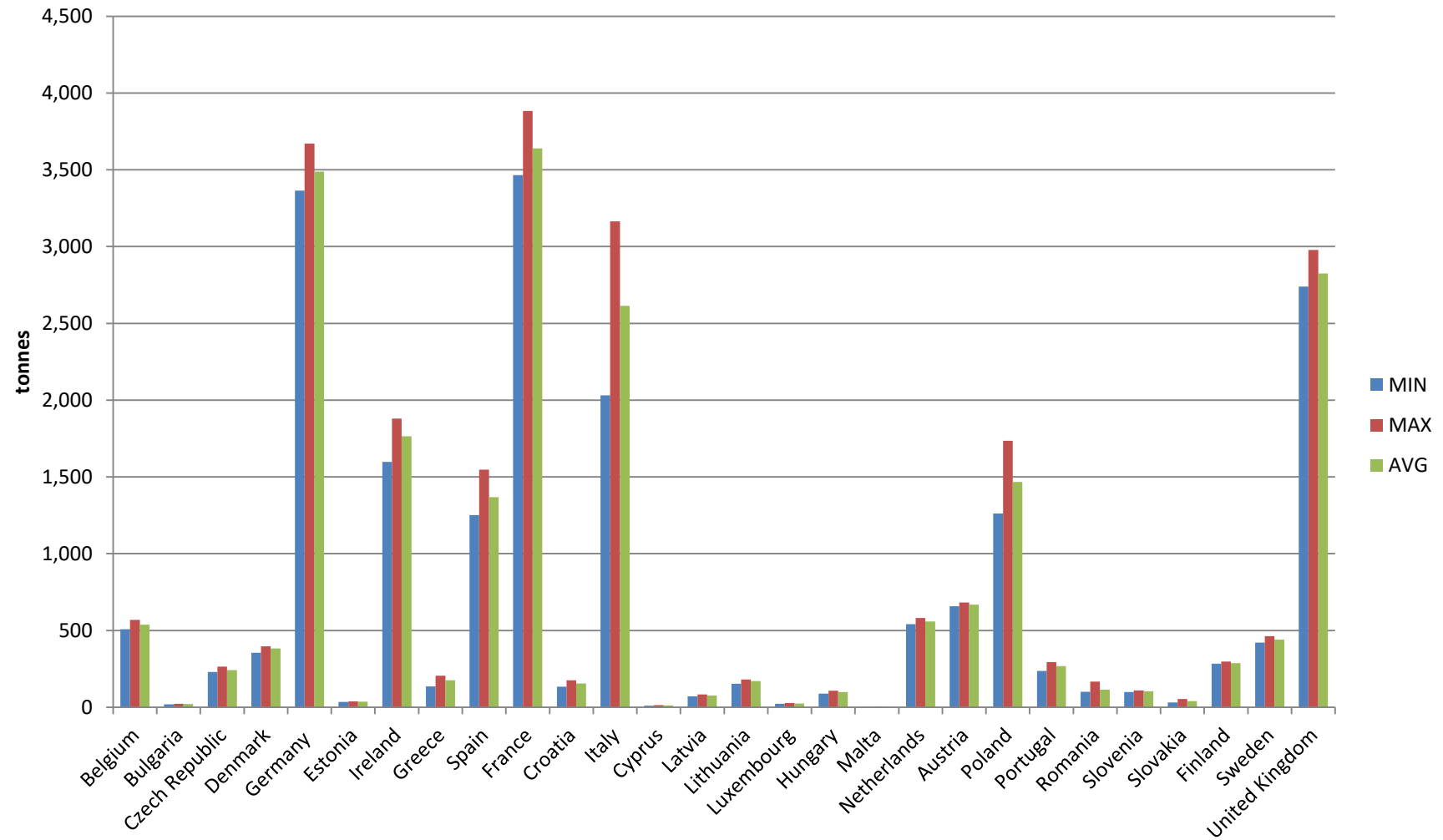


Figure 14 Tonnes of cattle tail after slaughtering per country, 2010-2015

Table 13 Tonnes of cattle brain after slaughtering per country, 2010-2015

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	410	443	422	396	414	428	396	443	419
Bulgaria	15	16	17	18	16	18	15	18	17
Czech Republic	206	200	183	178	179	186	178	206	189
Denmark	305	309	295	298	301	277	277	309	297
Germany	2,855	2,774	2,695	2,617	2,680	2,656	2,617	2,855	2,713
Estonia	30	28	27	27	29	30	27	30	29
Ireland	1,436	1,373	1,243	1,330	1,462	1,393	1,243	1,462	1,373
Greece	159	154	154	131	115	106	106	159	137
Spain	1,203	1,055	1,010	984	974	1,159	974	1,203	1,064
France	2,933	3,020	2,855	2,695	2,721	2,762	2,695	3,020	2,831
Croatia	131	137	120	119	111	105	105	137	120
Italy	2,461	2,302	2,240	1,931	1,579	1,687	1,579	2,461	2,033
Cyprus	9	10	11	9	10	11	9	11	10
Latvia	65	63	59	55	59	60	55	65	60
Lithuania	141	137	132	119	125	140	119	141	132
Luxembourg	21	20	19	18	19	20	18	21	19
Hungary	84	81	75	70	72	81	70	84	77
Malta	5	4	3	3	3	3	3	5	4
Netherlands	452	444	429	423	441	421	421	452	435
Austria	525	516	512	524	511	530	511	530	520
Poland	1,102	1,116	1,086	981	1,211	1,350	981	1,350	1,141
Portugal	229	227	216	195	185	202	185	229	209
Romania	88	78	79	81	82	130	78	130	90
Slovenia	85	85	80	78	77	81	77	85	81
Slovakia	42	35	30	29	27	25	25	42	31
Finland	220	223	220	222	224	231	220	231	223
Sweden	357	360	328	328	340	341	328	360	342
United Kingdom	2,266	2,316	2,183	2,131	2,148	2,134	2,131	2,316	2,197

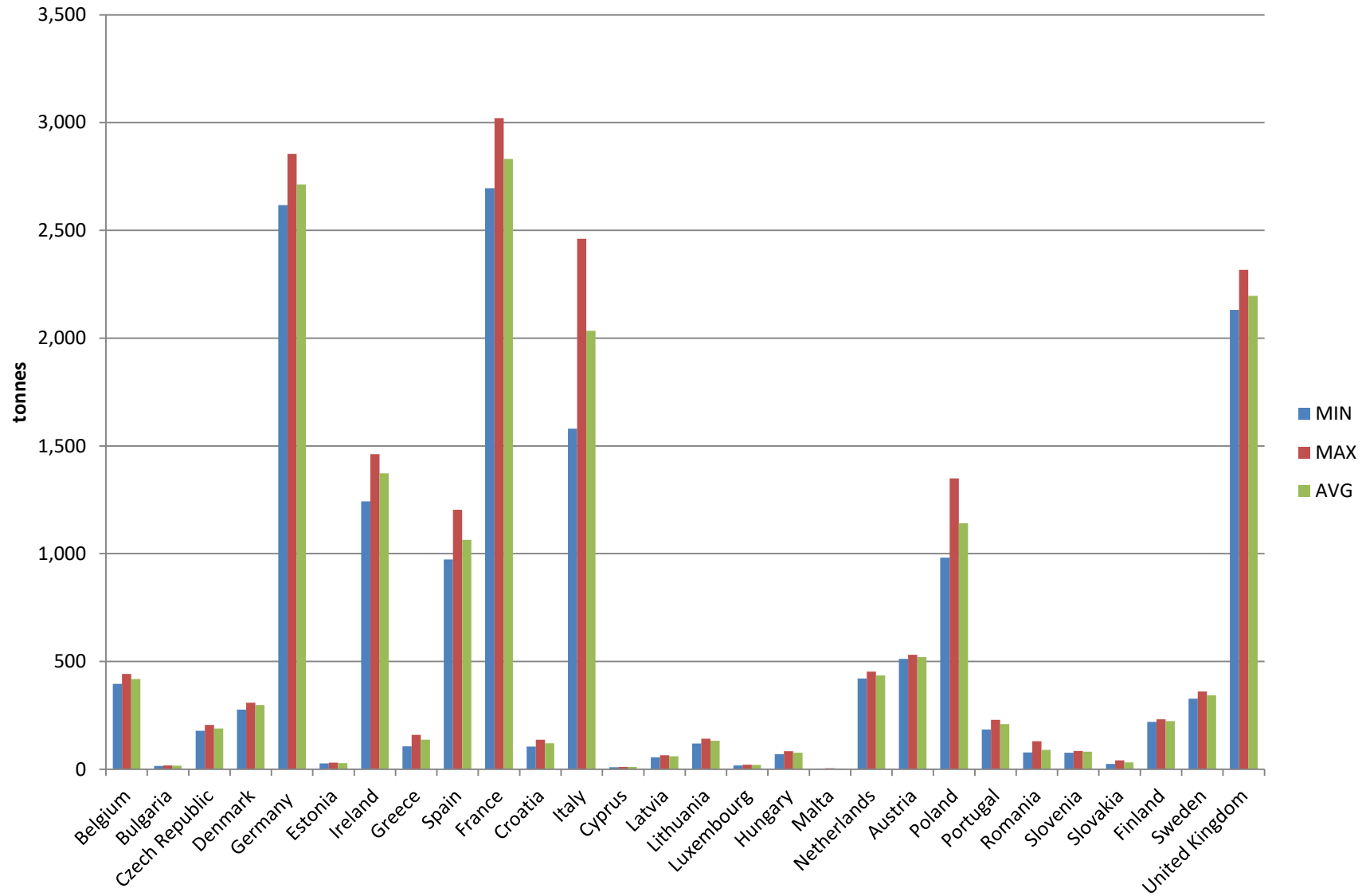


Figure 15 Tonnes of cattle brain after slaughtering per country, 2010-2015

Table 14 Tonnes of cattle bones after slaughtering per country, 2010-2015

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	25,760	27,817	26,530	24,867	25,998	26,916	24,867	27,817	26,315
Bulgaria	935	989	1,090	1,132	1,020	1,124	935	1,132	1,048
Czech Republic	12,929	12,581	11,507	11,204	11,254	11,675	11,204	12,929	11,858
Denmark	19,161	19,420	18,554	18,718	18,929	17,382	17,382	19,420	18,694
Germany	179,443	174,346	169,382	164,472	168,432	166,954	164,472	179,443	170,505
Estonia	1,879	1,790	1,684	1,711	1,807	1,885	1,684	1,885	1,793
Ireland	90,284	86,283	78,106	83,590	91,894	87,558	78,106	91,894	86,286
Greece	10,008	9,699	9,662	8,239	7,249	6,655	6,655	10,008	8,585
Spain	75,629	66,293	63,504	61,878	61,193	72,858	61,193	75,629	66,892
France	184,361	189,840	179,468	169,383	171,004	173,639	169,383	189,840	177,949
Croatia	8,232	8,638	7,535	7,476	6,964	6,574	6,574	8,638	7,570
Italy	154,693	144,709	140,786	121,385	99,278	106,066	99,278	154,693	127,820
Cyprus	545	624	686	592	608	660	545	686	619
Latvia	4,069	3,943	3,690	3,488	3,695	3,764	3,488	4,069	3,775
Lithuania	8,881	8,598	8,272	7,499	7,852	8,814	7,499	8,881	8,319
Luxembourg	1,339	1,239	1,180	1,118	1,191	1,253	1,118	1,339	1,220
Hungary	5,264	5,081	4,732	4,373	4,543	5,091	4,373	5,264	4,847
Malta	290	220	215	214	215	199	199	290	226
Netherlands	28,425	27,937	26,981	26,565	27,734	26,474	26,474	28,425	27,353
Austria	32,993	32,448	32,191	32,909	32,139	33,339	32,139	33,339	32,670
Poland	69,266	70,159	68,276	61,692	76,128	84,828	61,692	84,828	71,725
Portugal	14,424	14,261	13,566	12,256	11,614	12,698	11,614	14,424	13,137
Romania	5,507	4,900	4,973	5,096	5,177	8,143	4,900	8,143	5,632
Slovenia	5,315	5,351	5,032	4,895	4,818	5,096	4,818	5,351	5,085
Slovakia	2,616	2,195	1,877	1,804	1,694	1,574	1,574	2,616	1,960
Finland	13,834	14,002	13,831	13,937	14,106	14,550	13,831	14,550	14,043
Sweden	22,414	22,649	20,636	20,609	21,390	21,460	20,609	22,649	21,526
United Kingdom	142,437	145,589	137,219	133,974	135,048	134,161	133,974	145,589	138,071

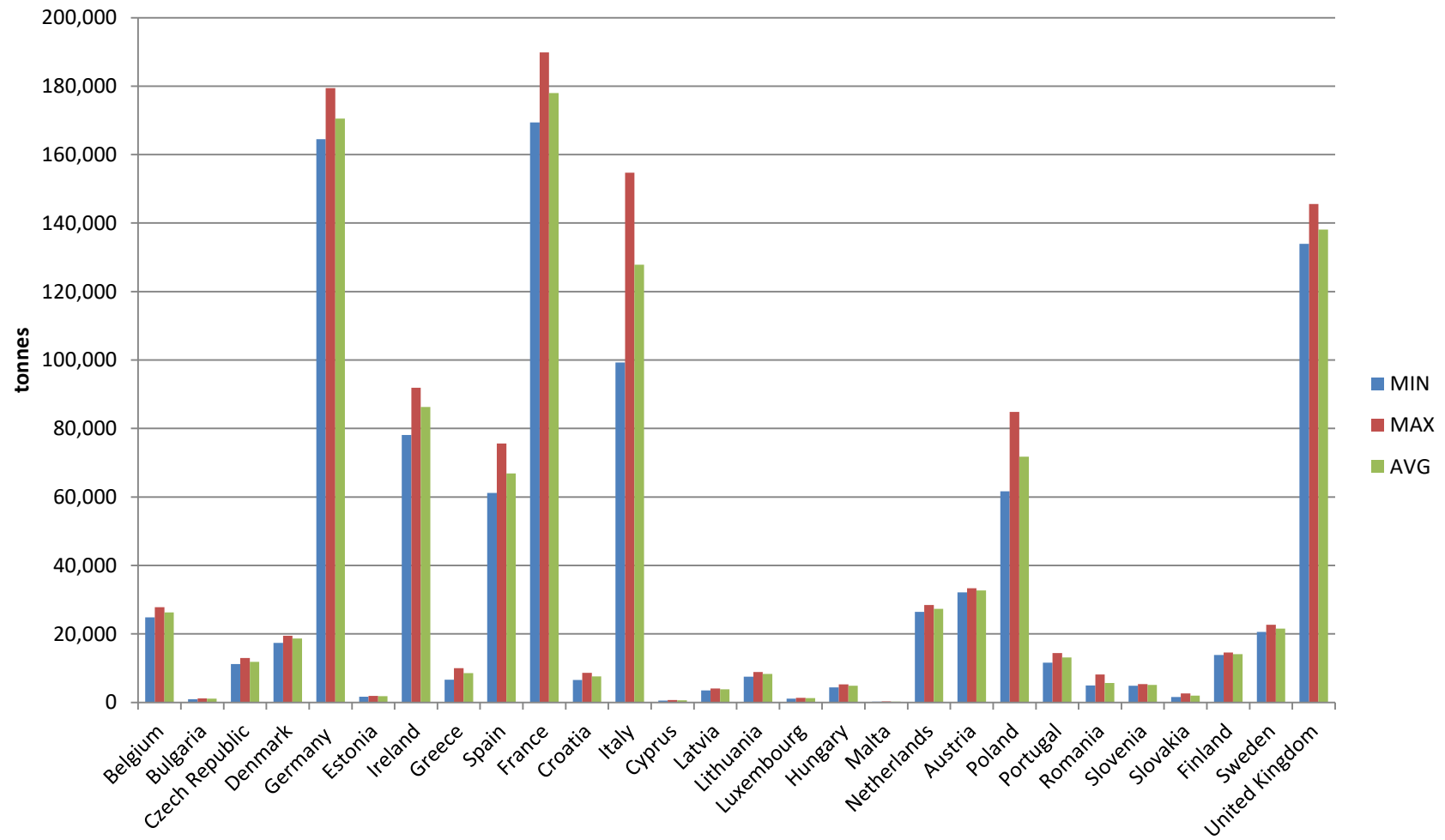


Figure 16 Tonnes of cattle bones after slaughtering per country, 2010-2015

Table 15 Total slaughterhouse AWCB quantities (tonnes) per country, 2010-2015

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	71,777	77,509	73,923	69,288	72,440	74,999	69,288	77,509	73,323
Bulgaria	2,604	2,756	3,037	3,154	2,842	3,132	2,604	3,154	2,921
Czech Republic	36,024	35,056	32,062	31,219	31,359	32,530	31,219	36,024	33,041
Denmark	53,390	54,111	51,698	52,154	52,743	48,432	48,432	54,111	52,088
Germany	499,995	485,790	471,961	458,279	469,313	465,193	458,279	499,995	475,088
Estonia	5,236	4,987	4,692	4,768	5,036	5,252	4,692	5,252	4,995
Ireland	251,563	240,415	217,632	232,913	256,049	243,968	217,632	256,049	240,423
Greece	27,885	27,024	26,923	22,958	20,200	18,543	18,543	27,885	23,922
Spain	210,730	184,717	176,946	172,414	170,505	203,009	170,505	210,730	186,387
France	513,696	528,964	500,062	471,962	476,480	483,822	471,962	528,964	495,831
Croatia	22,936	24,069	20,994	20,832	19,405	18,316	18,316	24,069	21,092
Italy	431,031	403,213	392,281	338,223	276,625	295,539	276,625	431,031	356,152
Cyprus	1,518	1,737	1,911	1,649	1,695	1,839	1,518	1,911	1,725
Latvia	11,339	10,985	10,282	9,719	10,295	10,488	9,719	11,339	10,518
Lithuania	24,747	23,957	23,048	20,895	21,880	24,559	20,895	24,747	23,181
Luxembourg	3,731	3,451	3,287	3,115	3,318	3,493	3,115	3,731	3,399
Hungary	14,668	14,159	13,185	12,186	12,658	14,185	12,186	14,668	13,507
Malta	809	613	600	596	600	553	553	809	629
Netherlands	79,202	77,843	75,178	74,019	77,276	73,766	73,766	79,202	76,214
Austria	91,929	90,411	89,695	91,695	89,552	92,895	89,552	92,895	91,030
Poland	192,999	195,489	190,241	171,896	212,121	236,362	171,896	236,362	199,851
Portugal	40,192	39,737	37,800	34,149	32,362	35,381	32,362	40,192	36,603
Romania	15,343	13,653	13,856	14,199	14,425	22,689	13,653	22,689	15,694
Slovenia	14,811	14,909	14,022	13,638	13,425	14,200	13,425	14,909	14,167
Slovakia	7,290	6,116	5,230	5,027	4,720	4,387	4,387	7,290	5,462
Finland	38,545	39,013	38,540	38,832	39,303	40,542	38,540	40,542	39,129
Sweden	62,454	63,109	57,500	57,424	59,601	59,795	57,424	63,109	59,981
United Kingdom	396,881	405,664	382,341	373,299	376,292	373,820	373,299	405,664	384,716

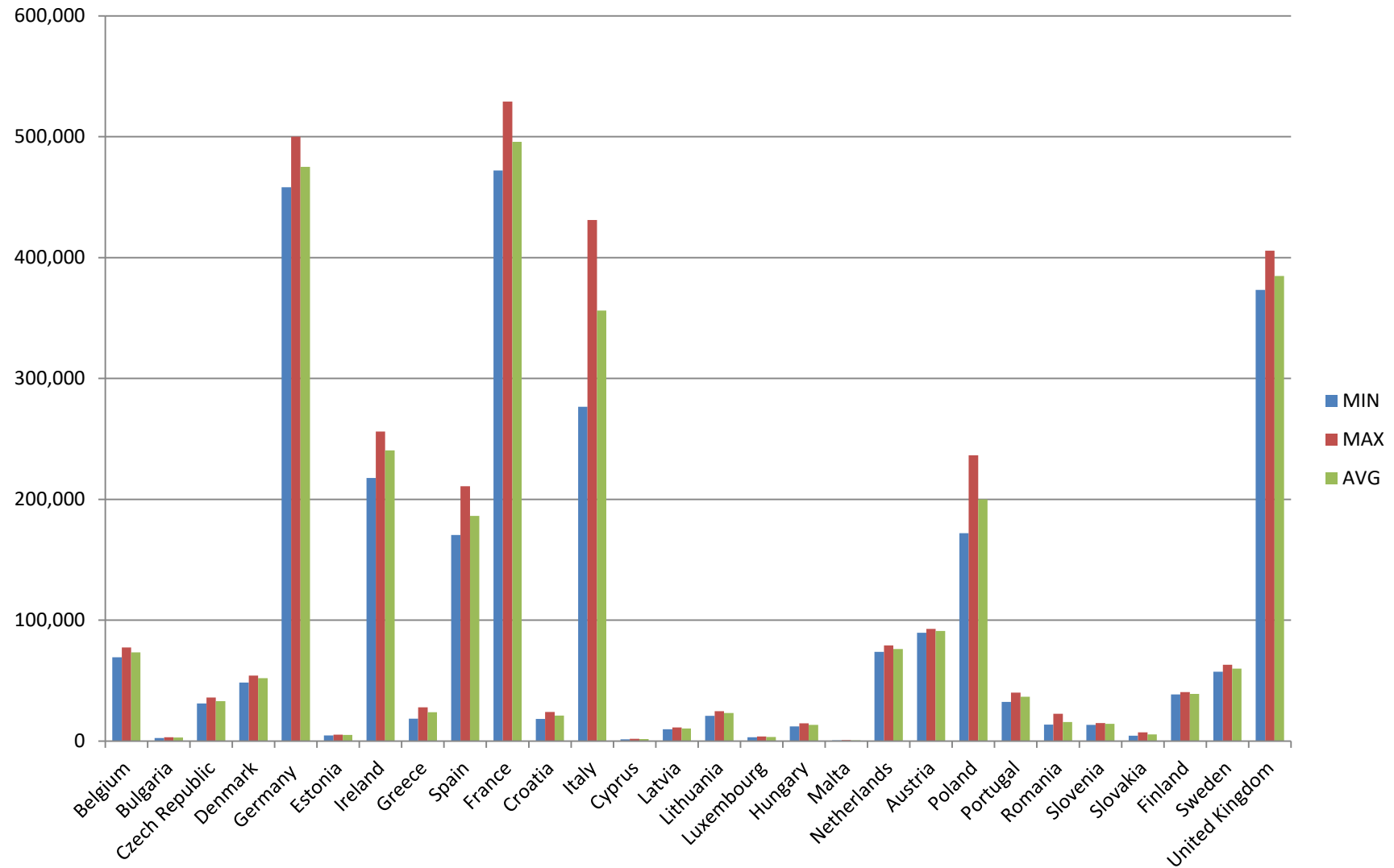


Figure 17 Total slaughterhouse AWCB quantities (tonnes) per country, 2010-2015

Table 16 Consumption of cattle meat (tonnes) per country, 2010-2015

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	197,286	200,212	201,926	203,142	203,491	204,518	197,286	204,518	201,763
Bulgaria	37,109	36,847	36,636	36,423	36,228	36,011	36,011	37,109	36,542
Czech Republic	81,604	81,797	81,942	82,026	81,997	82,199	81,604	82,199	81,927
Denmark	162,168	162,926	163,509	164,157	164,878	165,830	162,168	165,830	163,911
Germany	1,030,708	1,010,798	1,012,132	1,014,599	1,017,670	1,023,089	1,010,798	1,030,708	1,018,166
Estonia	16,799	16,754	16,698	16,634	16,579	16,567	16,567	16,799	16,672
Ireland	111,916	112,444	112,735	112,941	113,295	113,872	111,916	113,872	112,867
Greece	225,722	225,805	225,054	223,373	221,814	220,418	220,418	225,805	223,698
Spain	636,867	639,340	641,410	640,172	637,217	636,359	636,359	641,410	638,561
France	1,674,664	1,682,949	1,690,674	1,699,049	1,707,900	1,722,044	1,674,664	1,722,044	1,696,213
Croatia	43,674	43,542	43,401	43,261	43,105	42,887	42,887	43,674	43,312
Italy	1,367,292	1,371,324	1,372,006	1,378,729	1,404,080	1,404,379	1,367,292	1,404,379	1,382,968
Cyprus	12,287	12,596	12,930	12,988	12,870	12,705	12,287	12,988	12,729
Latvia	11,451	11,203	11,042	10,929	10,808	10,725	10,725	11,451	11,026
Lithuania	12,568	12,210	12,015	11,888	11,774	11,685	11,685	12,568	12,023
Luxembourg	15,012	15,304	15,693	16,057	16,435	16,832	15,012	16,832	15,889
Hungary	53,076	52,924	52,639	52,517	52,350	52,235	52,235	53,076	52,623
Malta	7,121	7,138	7,182	7,247	7,317	7,385	7,121	7,385	7,232
Netherlands	314,925	316,460	317,877	318,812	319,756	321,114	314,925	321,114	318,157
Austria	145,319	145,728	146,301	147,062	148,020	149,227	145,319	149,227	146,943
Poland	106,464	106,576	106,579	106,575	106,450	106,416	106,416	106,579	106,510
Portugal	181,864	181,851	181,329	180,381	179,350	178,447	178,447	181,864	180,537
Romania	152,210	151,493	150,720	150,151	149,605	149,030	149,030	152,210	150,535
Slovenia	40,735	40,799	40,904	40,971	41,016	41,051	40,735	41,051	40,913
Slovakia	27,491	27,501	27,562	27,595	27,621	27,649	27,491	27,649	27,570
Finland	99,537	99,980	100,464	100,936	101,394	101,775	99,537	101,775	100,681
Sweden	222,308	224,091	225,692	227,430	229,548	231,987	222,308	231,987	226,843
United Kingdom	1,212,698	1,222,637	1,231,809	1,239,763	1,248,412	1,258,578	1,212,698	1,258,578	1,235,650

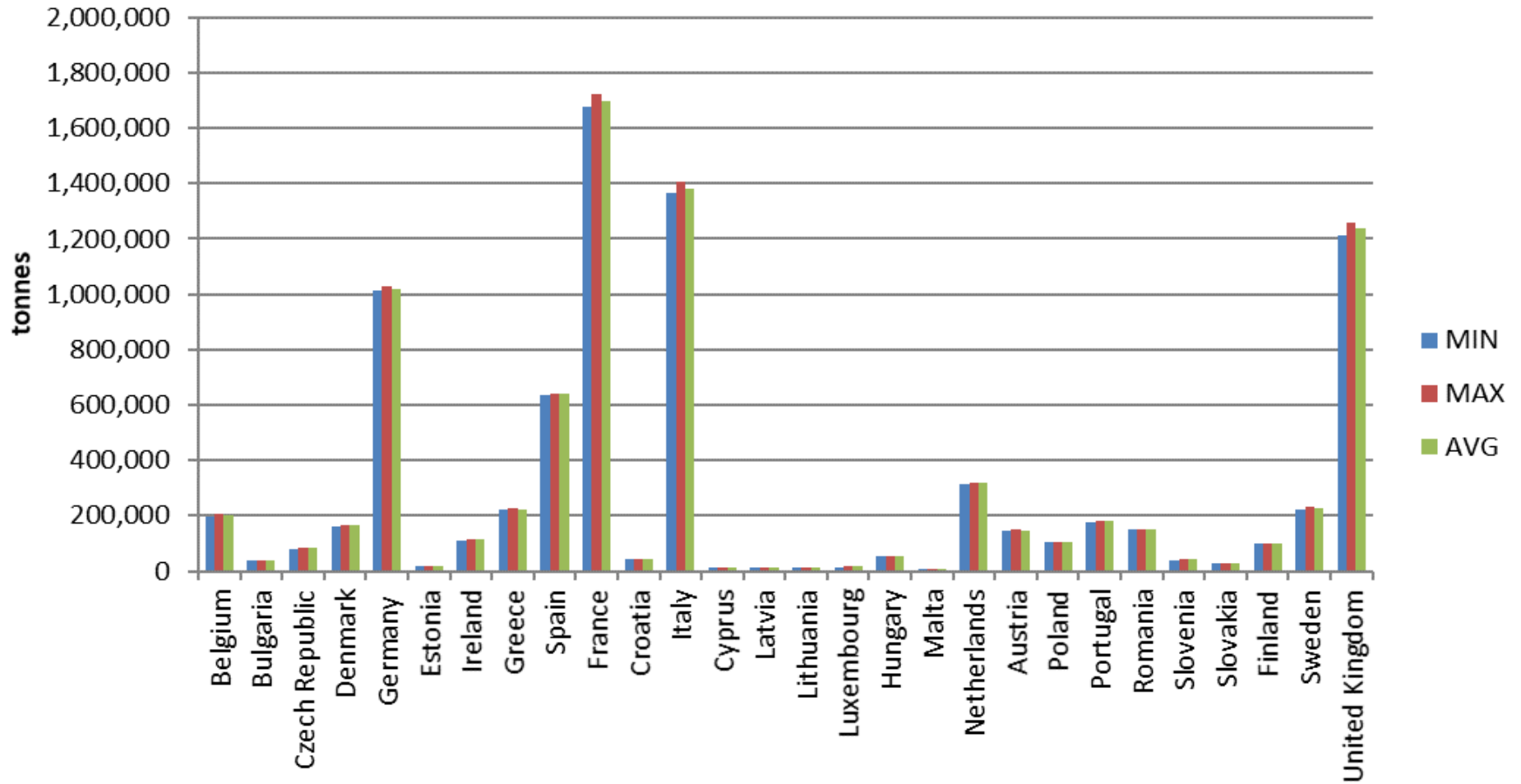


Figure 18 Consumption of cattle meat (tonnes) per country, 2010-2015

Table 17 Tonnes of rotten cattle meat per country, 2010-2015

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	30,579	31,033	31,299	31,487	31,541	31,700	30,579	31,700	31,273
Bulgaria	5,752	5,711	5,679	5,646	5,615	5,582	5,582	5,752	5,664
Czech Republic	12,649	12,678	12,701	12,714	12,710	12,741	12,649	12,741	12,699
Denmark	25,136	25,254	25,344	25,444	25,556	25,704	25,136	25,704	25,406
Germany	159,760	156,674	156,880	157,263	157,739	158,579	156,674	159,760	157,816
Estonia	2,604	2,597	2,588	2,578	2,570	2,568	2,568	2,604	2,584
Ireland	17,347	17,429	17,474	17,506	17,561	17,650	17,347	17,650	17,494
Greece	34,987	35,000	34,883	34,623	34,381	34,165	34,165	35,000	34,673
Spain	98,714	99,098	99,418	99,227	98,769	98,636	98,636	99,418	98,977
France	259,573	260,857	262,054	263,353	264,725	266,917	259,573	266,917	262,913
Croatia	6,769	6,749	6,727	6,705	6,681	6,647	6,647	6,769	6,713
Italy	211,930	212,555	212,661	213,703	217,632	217,679	211,930	217,679	214,360
Cyprus	1,905	1,952	2,004	2,013	1,995	1,969	1,905	2,013	1,973
Latvia	1,775	1,736	1,712	1,694	1,675	1,662	1,662	1,775	1,709
Lithuania	1,948	1,893	1,862	1,843	1,825	1,811	1,811	1,948	1,864
Luxembourg	2,327	2,372	2,432	2,489	2,547	2,609	2,327	2,609	2,463
Hungary	8,227	8,203	8,159	8,140	8,114	8,096	8,096	8,227	8,157
Malta	1,104	1,106	1,113	1,123	1,134	1,145	1,104	1,145	1,121
Netherlands	48,813	49,051	49,271	49,416	49,562	49,773	48,813	49,773	49,314
Austria	22,524	22,588	22,677	22,795	22,943	23,130	22,524	23,130	22,776
Poland	16,502	16,519	16,520	16,519	16,500	16,494	16,494	16,520	16,509
Portugal	28,189	28,187	28,106	27,959	27,799	27,659	27,659	28,189	27,983
Romania	23,593	23,481	23,362	23,273	23,189	23,100	23,100	23,593	23,333
Slovenia	6,314	6,324	6,340	6,350	6,357	6,363	6,314	6,363	6,341
Slovakia	4,261	4,263	4,272	4,277	4,281	4,286	4,261	4,286	4,273
Finland	15,428	15,497	15,572	15,645	15,716	15,775	15,428	15,775	15,606
Sweden	34,458	34,734	34,982	35,252	35,580	35,958	34,458	35,958	35,161
United Kingdom	187,968	189,509	190,930	192,163	193,504	195,080	187,968	195,080	191,526

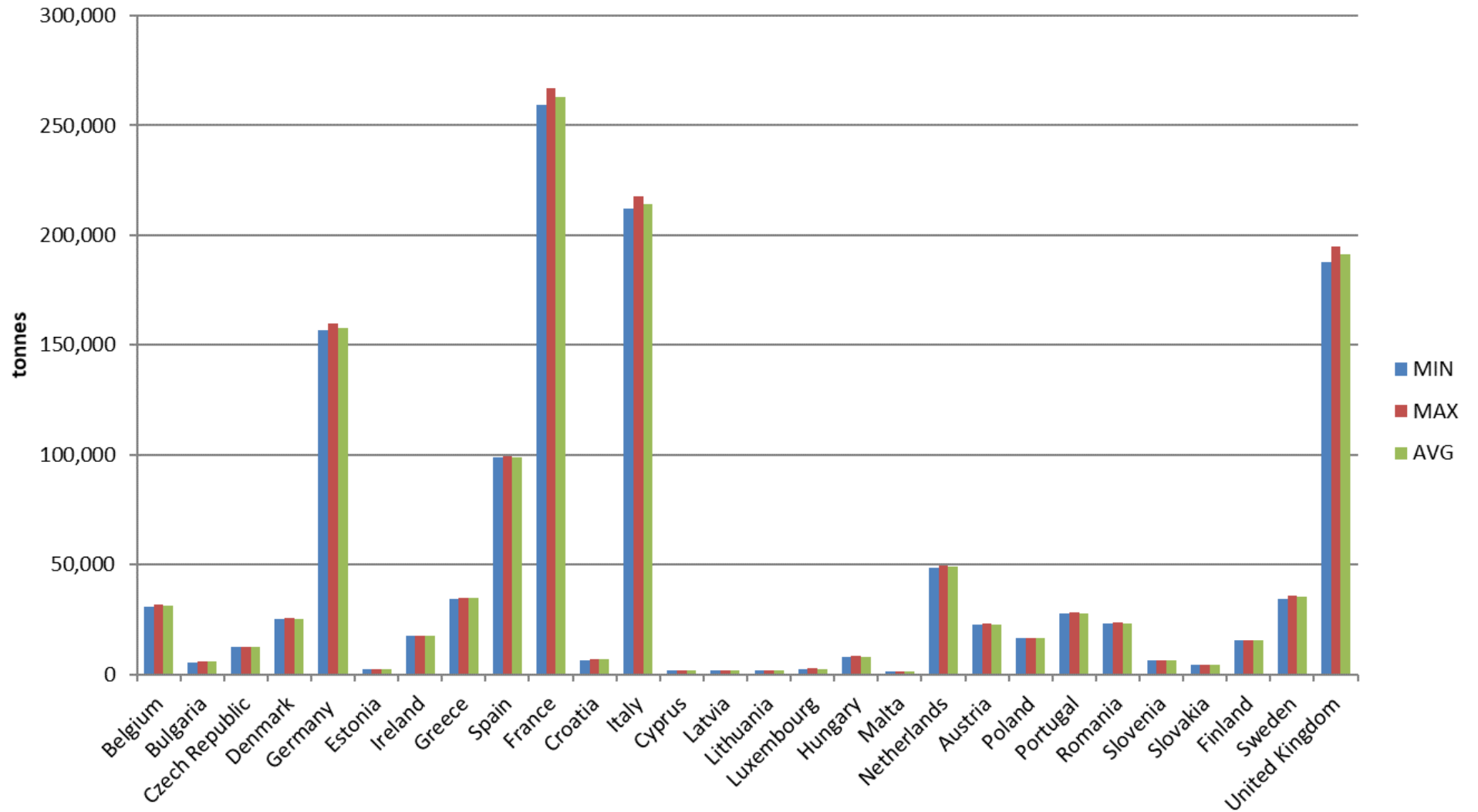


Figure 19 Tonnes of rotten cattle meat per country, 2010-2015

2.2 Dairy cow

Dairy cows are cattle cows that are farmed for milk production (34). In order to maintain lactation, dairy cows must be milked properly (two times per day) and produce calves. Average life period for a domestic cow is up to 20 years, but some cows are removed from the dairy herd at a certain age and marketed as meat. Figure 20 shows dairy cows at feeding time (34).



Figure 20 Dairy cows at feeding time (35)

Dairy cows produce more manure than beef cattle aimed for meat production because milk production requires a much higher intake of food than beef cattle (36). When the dairy cow is removed from the herd, it becomes cattle for slaughter. When dairy cows do not produce enough milk, they are also slaughtered. This review does not involve slaughtered dairy cows for meat consumption, only milk and two milk products, butter and cheese. Furthermore, amounts of whey that occur in butter and cheese production are calculated and its application is analysed. During the final step, the amounts of spilt or spoiled milk and rotten cheese and butter are presented. The flow chart of Figure 21 presents the AWCB value chain for dairy cows and specific AWCB weight factors from Table 2.

Flow chart in Figure 21 presents AWCB value chain for dairy cows and specific AWCB weight factors from Table 2.

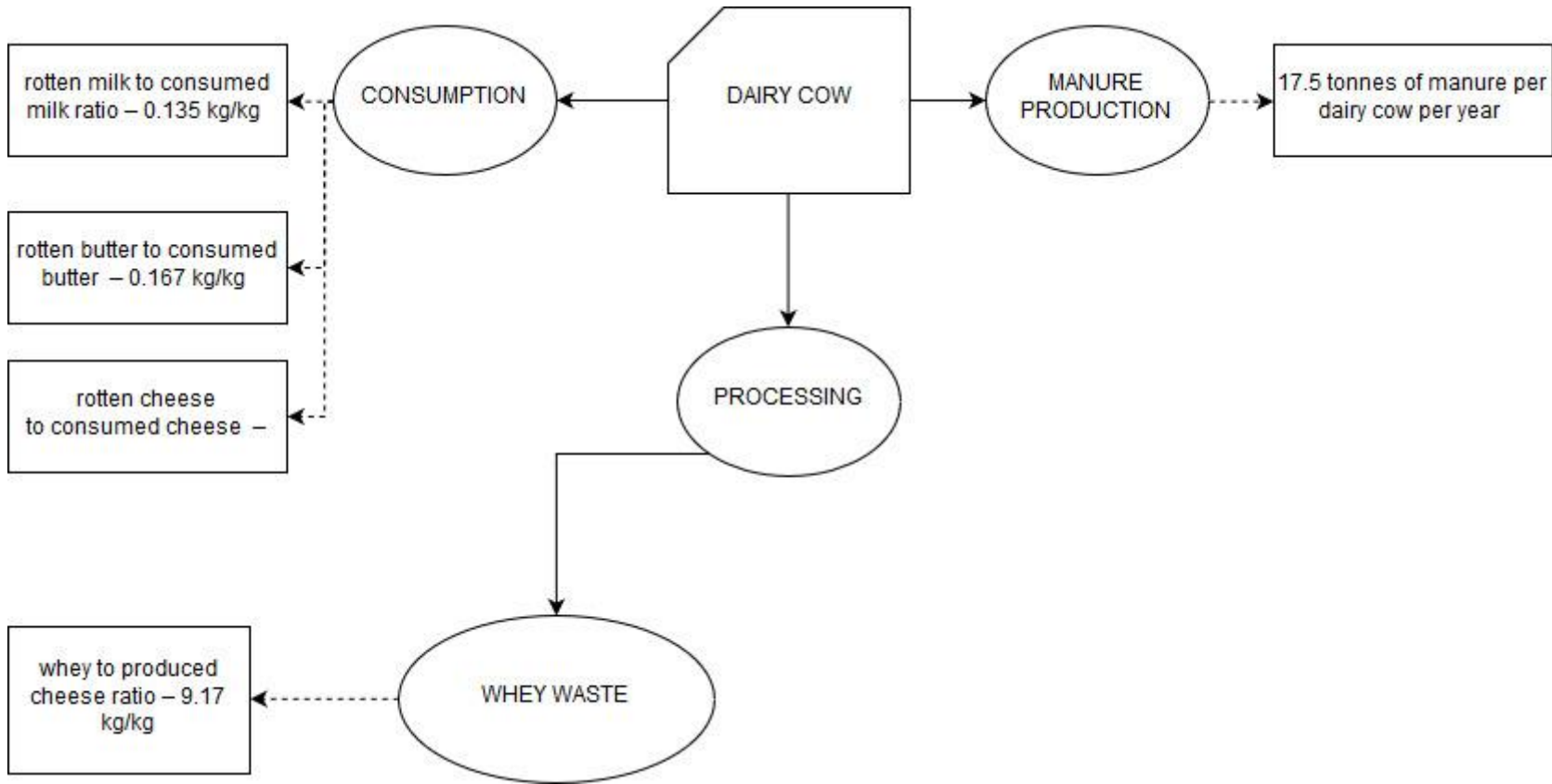


Figure 21 AWCB value chain for dairy cows

Data for farmed dairy cows, and also for produced milk, butter and cheese is taken from EUROSTAT. From specific consumption of milk, butter and cheese and population in the country, the quantity of consumed food is calculated. By using relation (1-8), the quantity of manure is calculated for every country in each given year. Then the quantity of AWCB is calculated for every step and every year. An example of calculation for Bulgaria in 2010 is now presented:

FARM = 313,610 heads

MAN = 5,488,175 tonnes

CON (MILK) = 1,126,624 tonnes

CON(CHEESE) = 120,975 tonnes

CON(BUTTER) = 27,461 tonnes

The average quantity of manure that one dairy cow produces during a year is 17.5 tonnes; the total quantity of manure that Bulgarian farmers produced was 6,993,503 tonnes in 2010. In Bulgaria, for total cheese production, 632,088 tonnes of whey appeared, in 2010. The quantity of consumed milk was 1,126,624 tonnes, and around 13.5% of it was spilt or spoiled (152,094 tonnes). The mass of rotten cheese was 20,203 tonnes (16.7% of consumed cheese) and mass of rotten butter was 4,586 tonnes (16.7% of consumed butter) in 2010. Results for other countries are shown in the tables and figures below.

2.2.1 Sources and assumptions

Dairy cows are those kept principally to produce milk for human consumption. The data on heads of dairy cows farmed is obtained from the Eurostat database (32). The breakdown for dairy cow slaughtering is not available at an EU level, hence only the processing and consumption stages are included in this section. The slaughtering of dairy cows is accounted for in Section 2.1 on Cattle, where it is included in the overall numbers on “adult cattle”.

Table 18 Heads of farmed dairy cows per country, 2010-2015 (32)

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	517,740	510,650	503,540	515,990	519,090	528,780	503,540	528,780	515,965
Bulgaria	313,610	313,180	294,490	313,250	301,710	282,960	282,960	313,610	303,200
Czech Republic	375,380	374,070	367,070	375,330	372,390	369,060	367,070	375,380	372,217
Denmark	573,000	579,000	579,000	567,000	547,000	570,000	547,000	579,000	569,167
Germany	4,181,680	4,190,100	4,190,490	4,267,610	4,295,680	4,284,640	4,181,680	4,295,680	4,235,033
Estonia	96,500	96,200	96,800	97,900	95,600	90,600	90,600	97,900	95,600
Ireland	1,006,900	1,035,640	1,060,260	1,082,460	1,127,720	1,239,890	1,006,900	1,239,890	1,092,145
Greece	144,000	130,000	132,000	130,000	135,000	111,000	111,000	144,000	130,333
Spain	845,290	797,890	827,210	844,060	844,790	844,110	797,890	845,290	833,892
France	3,718,000	3,664,000	3,644,000	3,697,000	3,699,000	3,661,000	3,644,000	3,718,000	3,680,500
Croatia	206,500	184,700	181,000	168,000	159,000	152,000	152,000	206,500	175,200
Italy	1,746,140	1,754,980	2,009,070	2,074,540	2,069,390	2,056,810	1,746,140	2,074,540	1,951,822
Cyprus	23,420	24,070	24,200	24,550	25,330	26,190	23,420	26,190	24,627
Latvia	164,060	164,100	164,560	165,010	165,870	162,410	162,410	165,870	164,335
Lithuania	359,800	349,500	331,000	315,700	314,000	300,500	300,500	359,800	328,417
Luxembourg	45,980	44,480	45,000	48,270	46,780	49,130	44,480	49,130	46,607
Hungary	239,000	252,000	255,000	250,000	255,000	251,000	239,000	255,000	250,333
Malta	6,360	6,310	6,320	6,330	6,500	6,370	6,310	6,500	6,365
Netherlands	1,518,000	1,504,000	1,541,000	1,597,000	1,610,000	1,717,000	1,504,000	1,717,000	1,581,167
Austria	532,740	527,390	523,370	529,560	537,740	534,100	523,370	537,740	530,817
Poland	2,529,430	2,446,140	2,346,100	2,299,080	2,247,800	2,134,090	2,134,090	2,529,430	2,333,773
Portugal	243,240	241,950	236,560	230,840	233,830	243,260	230,840	243,260	238,280
Romania	1,178,600	1,170,000	1,162,700	1,168,900	1,188,400	1,190,700	1,162,700	1,190,700	1,176,550
Slovenia	109,470	109,070	111,020	109,570	107,840	112,830	107,840	112,830	109,967
Slovakia	159,260	154,110	149,790	144,880	143,080	139,260	139,260	159,260	148,397
Finland	284,280	281,530	279,870	282,010	282,910	282,230	279,870	284,280	282,138
Sweden	348,560	347,650	345,530	346,120	344,190	336,800	336,800	348,560	344,808
United Kingdom	1,847,000	1,800,000	1,786,000	1,817,000	1,883,000	1,918,000	1,786,000	1,918,000	1,841,833

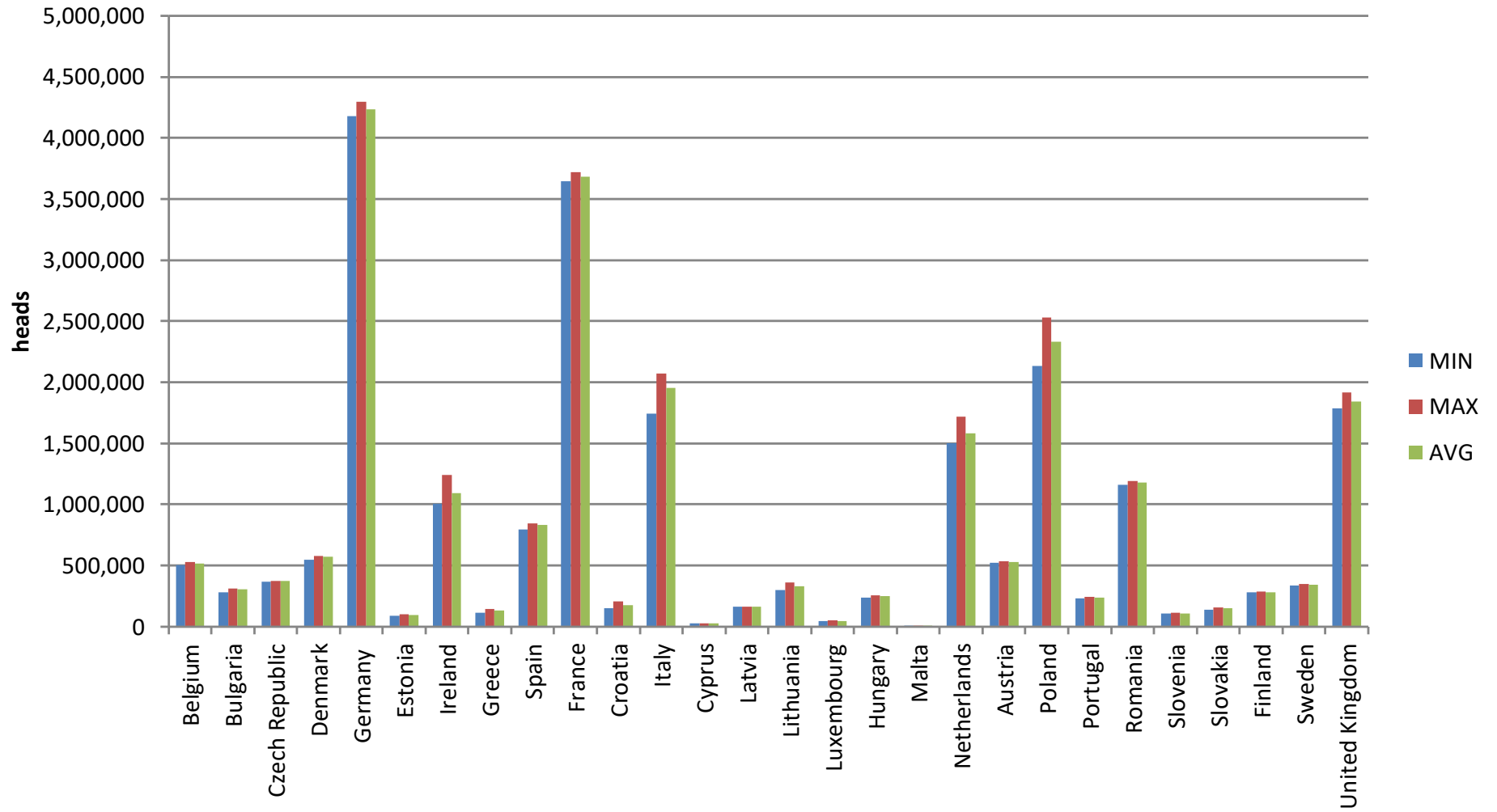


Figure 22 Heads of farmed dairy cows per country, 2010-2015

Table 19 Tonnes of dairy cow manure per country, 2010-2015

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	9,060,450	8,936,375	8,811,950	9,029,825	9,084,075	9,253,650	8,811,950	9,253,650	8,959,650
Bulgaria	5,488,175	5,480,650	5,153,575	5,481,875	5,279,925	4,951,800	4,951,800	5,488,175	5,401,069
Czech Republic	6,569,150	6,546,225	6,423,725	6,568,275	6,516,825	6,458,550	6,423,725	6,569,150	6,526,844
Denmark	10,027,500	10,132,500	10,132,500	9,922,500	9,572,500	9,975,000	9,572,500	10,132,500	10,053,750
Germany	73,179,400	73,326,750	73,333,575	74,683,175	75,174,400	74,981,200	73,179,400	75,174,400	73,630,725
Estonia	1,688,750	1,683,500	1,694,000	1,713,250	1,673,000	1,585,500	1,585,500	1,713,250	1,694,875
Ireland	17,620,750	18,123,700	18,554,550	18,943,050	19,735,100	21,698,075	17,620,750	21,698,075	18,310,513
Greece	2,520,000	2,275,000	2,310,000	2,275,000	2,362,500	1,942,500	1,942,500	2,520,000	2,345,000
Spain	14,792,575	13,963,075	14,476,175	14,771,050	14,783,825	14,771,925	13,963,075	14,792,575	14,500,719
France	65,065,000	64,120,000	63,770,000	64,697,500	64,732,500	64,067,500	63,770,000	65,065,000	64,413,125
Croatia	3,613,750	3,232,250	3,167,500	2,940,000	2,782,500	2,660,000	2,660,000	3,613,750	3,238,375
Italy	30,557,450	30,712,150	35,158,725	36,304,450	36,214,325	35,994,175	30,557,450	36,304,450	33,183,194
Cyprus	409,850	421,225	423,500	429,625	443,275	458,325	409,850	458,325	421,050
Latvia	2,871,050	2,871,750	2,879,800	2,887,675	2,902,725	2,842,175	2,842,175	2,902,725	2,877,569
Lithuania	6,296,500	6,116,250	5,792,500	5,524,750	5,495,000	5,258,750	5,258,750	6,296,500	5,932,500
Luxembourg	804,650	778,400	787,500	844,725	818,650	859,775	778,400	859,775	803,819
Hungary	4,182,500	4,410,000	4,462,500	4,375,000	4,462,500	4,392,500	4,182,500	4,462,500	4,357,500
Malta	111,300	110,425	110,600	110,775	113,750	111,475	110,425	113,750	110,775
Netherlands	26,565,000	26,320,000	26,967,500	27,947,500	28,175,000	30,047,500	26,320,000	30,047,500	26,950,000
Austria	9,322,950	9,229,325	9,158,975	9,267,300	9,410,450	9,346,750	9,158,975	9,410,450	9,244,638
Poland	44,265,025	42,807,450	41,056,750	40,233,900	39,336,500	37,346,575	37,346,575	44,265,025	42,090,781
Portugal	4,256,700	4,234,125	4,139,800	4,039,700	4,092,025	4,257,050	4,039,700	4,257,050	4,167,581
Romania	20,625,500	20,475,000	20,347,250	20,455,750	20,797,000	20,837,250	20,347,250	20,837,250	20,475,875
Slovenia	1,915,725	1,908,725	1,942,850	1,917,475	1,887,200	1,974,525	1,887,200	1,974,525	1,921,194
Slovakia	2,787,050	2,696,925	2,621,325	2,535,400	2,503,900	2,437,050	2,437,050	2,787,050	2,660,175
Finland	4,974,900	4,926,775	4,897,725	4,935,175	4,950,925	4,939,025	4,897,725	4,974,900	4,933,644
Sweden	6,099,800	6,083,875	6,046,775	6,057,100	6,023,325	5,894,000	5,894,000	6,099,800	6,071,888
United Kingdom	32,322,500	31,500,000	31,255,000	31,797,500	32,952,500	33,565,000	31,255,000	33,565,000	31,718,750

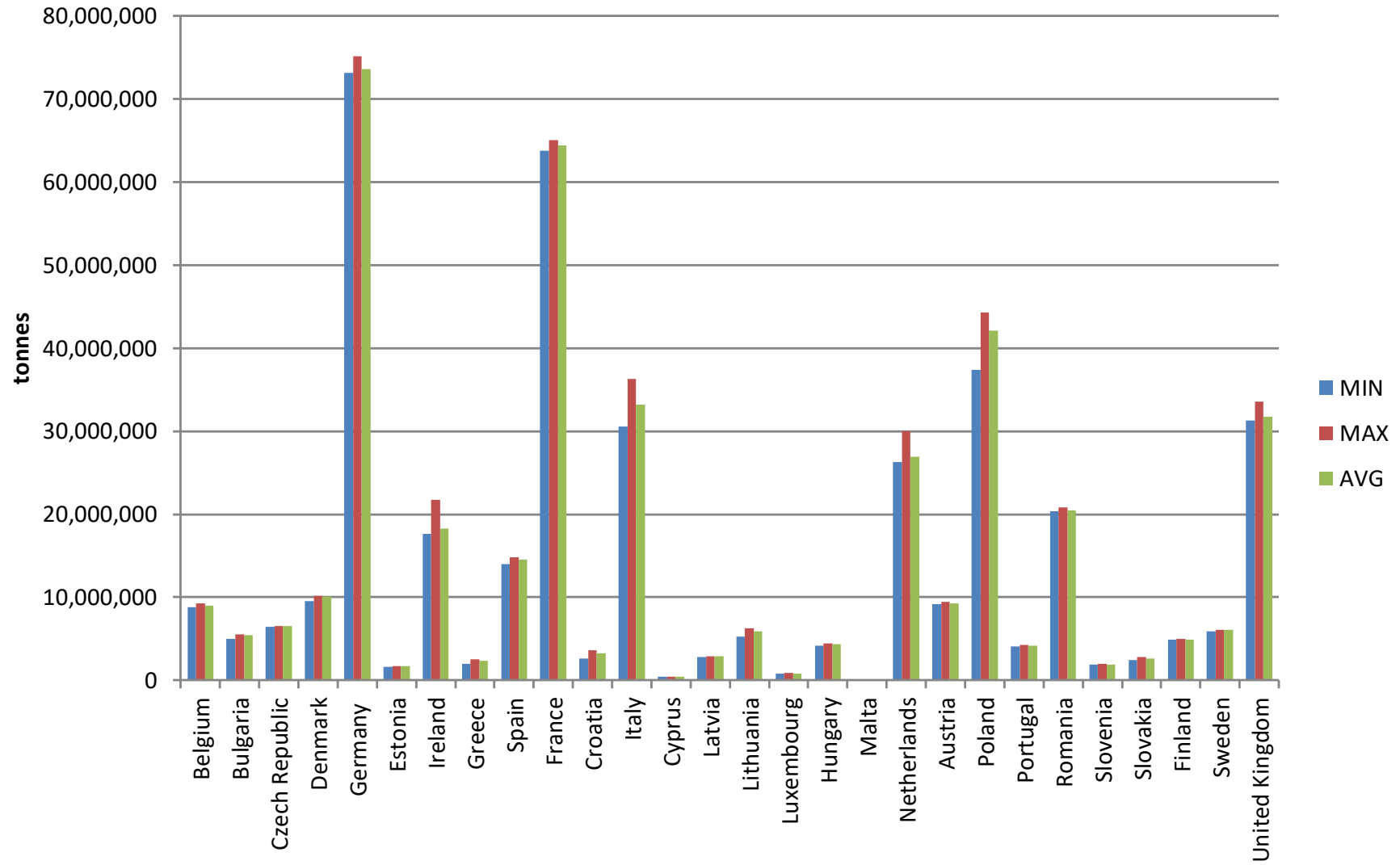


Figure 23 Tonnes of dairy cow manure per country, 2010-2015

Table 20 Tonnes of produced cheese from milk of dairy cows per country, 2010-2014 (37)

GEO/TIME	2010	2011	2012	2013	2014	MIN	MAX	AVG
Belgium	75,350	80,680	78,340	79,430	84,790	75,350	84,790	79,718
Bulgaria	68,930	68,560	68,510	67,620	77,400	67,620	77,400	70,204
Czech Republic	115,160	113,120	111,550	117,790	116,640	111,550	117,790	114,852
Denmark	292,300	276,000	300,000	324,900	368,900	276,000	368,900	312,420
Germany	2,083,260	2,111,300	2,161,150	1,881,700	1,892,810	1,881,700	2,161,150	2,026,044
Estonia	38,400	40,630	42,630	43,830	40,530	38,400	43,830	41,204
Ireland	N/A	N/A	N/A	182,800	188,420	182,800	188,420	185,610
Greece	208,800	192,500	195,000	187,000	190,000	187,000	208,800	194,660
Spain	301,900	306,800	315,710	314,900	387,740	301,900	387,740	325,410
France	1,913,470	1,923,040	1,928,230	1,946,640	1,948,820	1,913,470	1,948,820	1,932,040
Croatia	29,060	30,140	31,630	32,640	32,200	29,060	32,640	31,134
Italy	1,177,160	1,171,040	1,203,760	1,157,740	1,176,020	1,157,740	1,203,760	1,177,144
Cyprus	14,480	16,090	19,430	19,850	19,990	14,480	19,990	17,968
Latvia	30,980	29,210	31,330	0	34,740	0	34,740	25,252
Lithuania	95,270	102,770	111,810	113,050	102,510	95,270	113,050	105,082
Luxembourg	0	0	0	0	0	0	0	0
Hungary	72,510	65,360	72,610	68,000	74,790	65,360	74,790	70,654
Malta	0	0	0	0	0	0	0	0
Netherlands	771,310	768,510	783,940	814,670	771,920	768,510	814,670	782,070
Austria	148,770	153,980	159,940	157,760	172,440	148,770	172,440	158,578
Poland	666,590	675,570	721,490	732,280	743,740	666,590	743,740	707,934
Portugal	68,880	72,240	71,880	69,950	73,370	68,880	73,370	71,264
Romania	63,960	60,580	67,100	70,480	74,650	60,580	74,650	67,354
Slovenia	18,340	18,330	17,610	15,980	16,640	15,980	18,340	17,380
Slovakia	28,870	30,660	32,100	32,920	33,270	28,870	33,270	31,564
Finland	108,580	108,970	102,320	102,370	102,370	102,320	108,970	104,922
Sweden	103,140	103,300	101,160	88,970	88,120	88,120	103,300	96,938
United Kingdom	337,400	355,300	357,200	348,500	377,800	337,400	377,800	355,240

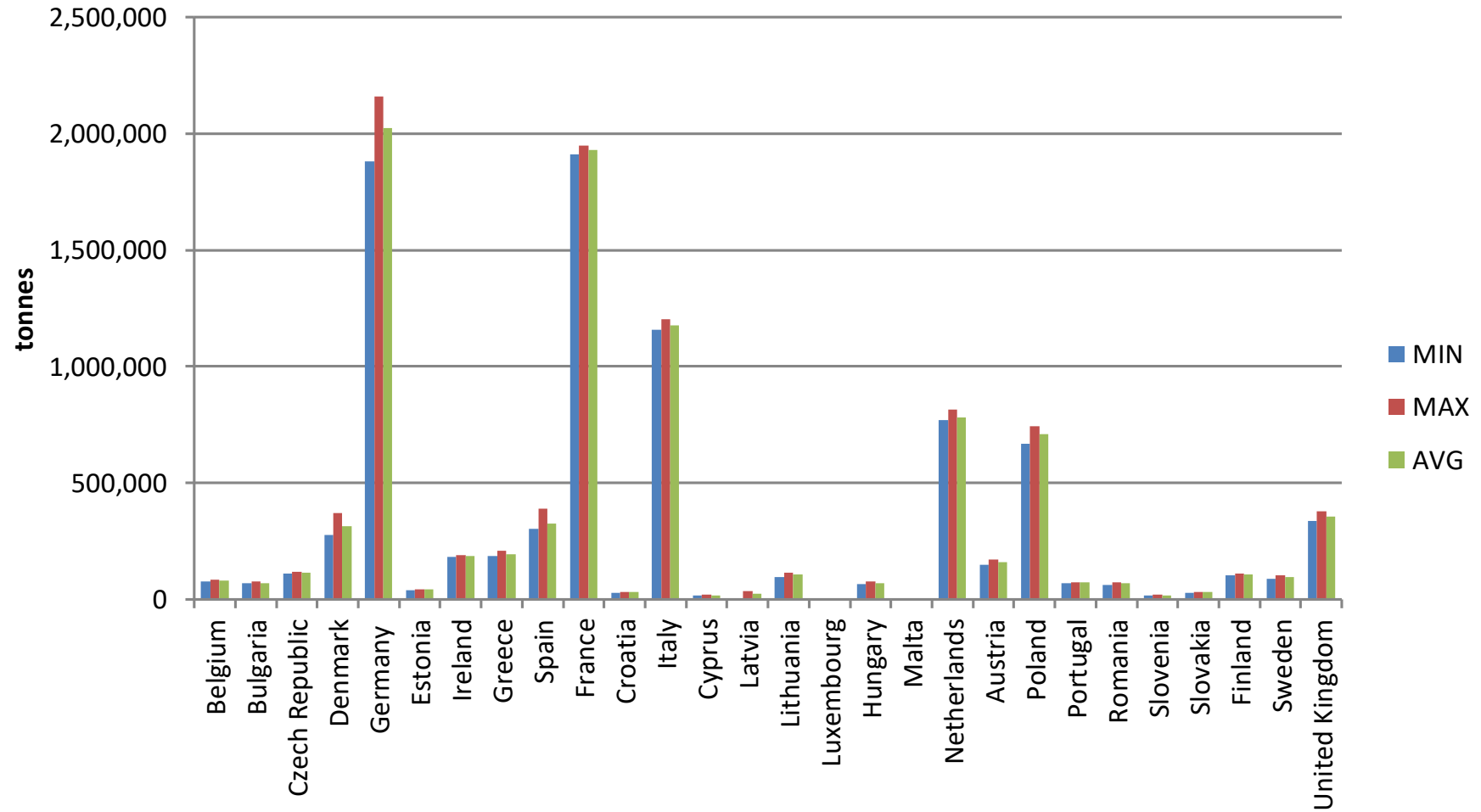


Figure 24 Tonnes of produced cheese from dairy cow milk per country, 2010-2014

Table 21 Tonnes of whey from cheese production per country, 2010-2014

GEO/TIME	2010	2011	2012	2013	2014	MIN	MAX	AVG
Belgium	690,960	739,836	718,378	728,373	777,524	690,960	777,524	731,014
Bulgaria	632,088	628,695	628,237	620,075	709,758	620,075	709,758	643,771
Czech Republic	1,056,017	1,037,310	1,022,914	1,080,134	1,069,589	1,022,914	1,080,134	1,053,193
Denmark	2,680,391	2,530,920	2,751,000	2,979,333	3,382,813	2,530,920	3,382,813	2,864,891
Germany	19,103,494	19,360,621	19,817,746	17,255,189	17,357,068	17,255,189	19,817,746	18,578,823
Estonia	352,128	372,577	390,917	401,921	371,660	352,128	401,921	377,841
Ireland	N/A	N/A	N/A	1,676,276	1,727,811	1,676,276	1,727,811	1,702,044
Greece	1,914,696	1,765,225	1,788,150	1,714,790	1,742,300	1,714,790	1,914,696	1,785,032
Spain	2,768,423	2,813,356	2,895,061	2,887,633	3,555,576	2,768,423	3,555,576	2,984,010
France	17,546,520	17,634,277	17,681,869	17,850,689	17,870,679	17,546,520	17,870,679	17,716,807
Croatia	266,480	276,384	290,047	299,309	295,274	266,480	299,309	285,499
Italy	10,794,557	10,738,437	11,038,479	10,616,476	10,784,103	10,616,476	11,038,479	10,794,410
Cyprus	132,782	147,545	178,173	182,025	183,308	132,782	183,308	164,767
Latvia	284,087	267,856	287,296	0	318,566	0	318,566	231,561
Lithuania	873,626	942,401	1,025,298	1,036,669	940,017	873,626	1,036,669	963,602
Luxembourg	0	0	0	0	0	0	0	0
Hungary	664,917	599,351	665,834	623,560	685,824	599,351	685,824	647,897
Malta	0	0	0	0	0	0	0	0
Netherlands	7,072,913	7,047,237	7,188,730	7,470,524	7,078,506	7,047,237	7,470,524	7,171,582
Austria	1,364,221	1,411,997	1,466,650	1,446,659	1,581,275	1,364,221	1,581,275	1,454,160
Poland	6,112,630	6,194,977	6,616,063	6,715,008	6,820,096	6,112,630	6,820,096	6,491,755
Portugal	631,630	662,441	659,140	641,442	672,803	631,630	672,803	653,491
Romania	586,513	555,519	615,307	646,302	684,541	555,519	684,541	617,636
Slovenia	168,178	168,086	161,484	146,537	152,589	146,537	168,178	159,375
Slovakia	264,738	281,152	294,357	301,876	305,086	264,738	305,086	289,442
Finland	995,679	999,255	938,274	938,733	938,733	938,274	999,255	962,135
Sweden	945,794	947,261	927,637	815,855	808,060	808,060	947,261	888,921
United Kingdom	3,093,958	3,258,101	3,275,524	3,195,745	3,464,426	3,093,958	3,464,426	3,257,551

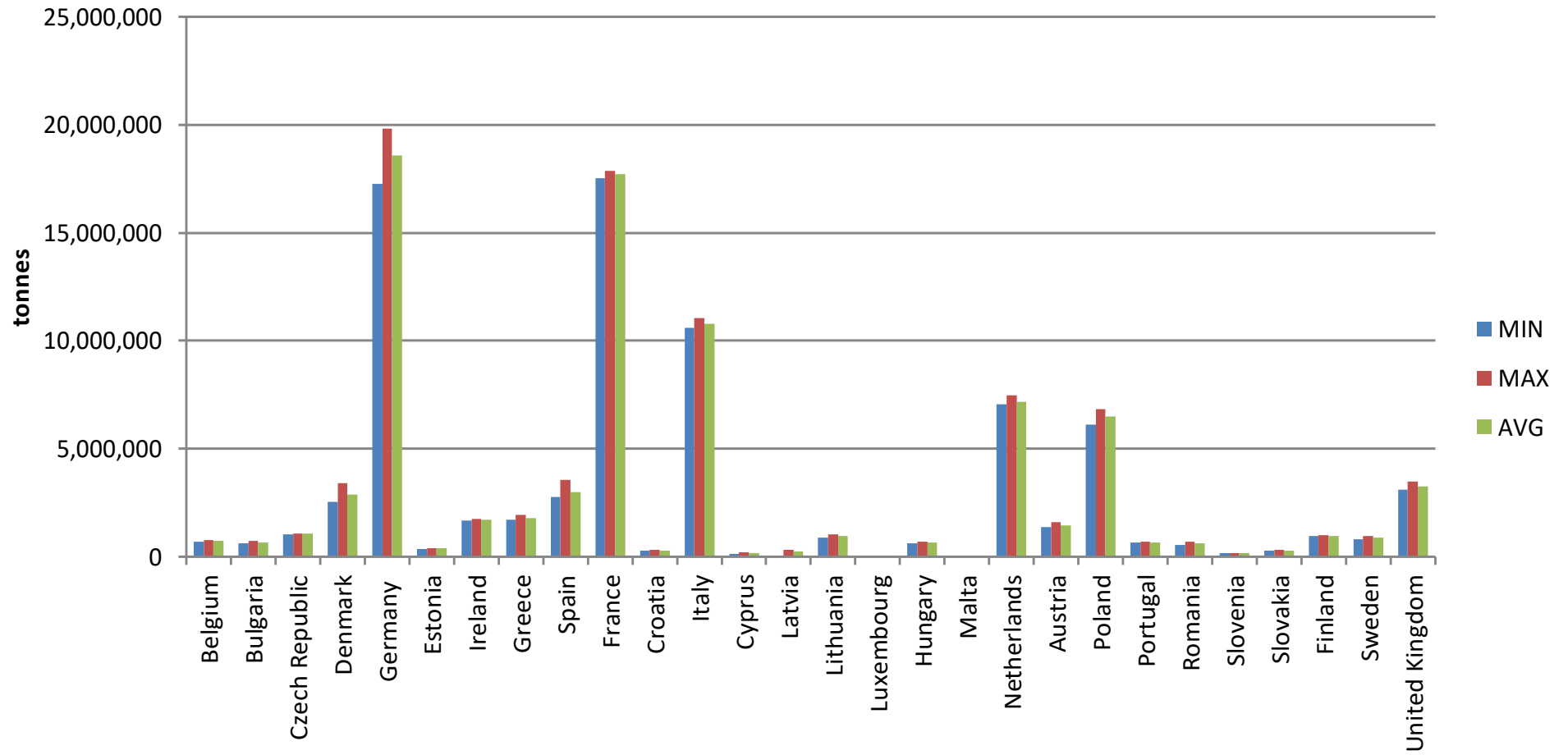


Figure 25 Tonnes of whey from cheese production per country, 2010-2014

Table 22 Consumption of whole milk (tonnes) per country, 2010-2015

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	657,549	667,299	673,014	677,065	678,230	681,653	657,549	681,653	672,468
Bulgaria	591,366	587,196	583,833	580,433	577,336	573,871	573,871	591,366	582,339
Czech Republic	323,174	323,935	324,513	324,843	324,729	325,527	323,174	325,527	324,454
Denmark	273,361	274,639	275,622	276,714	277,929	279,533	273,361	279,533	276,300
Germany	5,609,999	5,501,629	5,508,887	5,522,319	5,539,033	5,568,527	5,501,629	5,609,999	5,541,732
Estonia	190,100	189,583	188,949	188,230	187,609	187,474	187,474	190,100	188,658
Ireland	397,666	399,541	400,574	401,307	402,567	404,616	397,666	404,616	401,045
Greece	874,087	874,410	871,502	864,994	858,956	853,549	853,549	874,410	866,250
Spain	4,097,563	4,113,478	4,126,792	4,118,830	4,099,818	4,094,297	4,094,297	4,126,792	4,108,463
France	2,440,549	2,452,622	2,463,880	2,476,085	2,488,984	2,509,597	2,440,549	2,509,597	2,471,953
Croatia	497,968	496,465	494,860	493,257	491,483	488,996	488,996	497,968	493,838
Italy	1,868,929	1,874,440	1,875,372	1,884,561	1,919,213	1,919,621	1,868,929	1,919,621	1,890,356
Cyprus	73,235	75,078	77,068	77,414	76,709	75,727	73,235	77,414	75,872
Latvia	60,742	59,427	58,574	57,972	57,332	56,892	56,892	60,742	58,490
Lithuania	218,729	212,506	209,098	206,889	204,910	203,364	203,364	218,729	209,249
Luxembourg	39,673	40,446	41,474	42,437	43,436	44,485	39,673	44,485	41,992
Hungary	599,457	597,745	594,525	593,141	591,259	589,954	589,954	599,457	594,347
Malta	36,045	36,129	36,352	36,684	37,034	37,379	36,045	37,379	36,604
Netherlands	2,369,312	2,380,863	2,391,520	2,398,556	2,405,663	2,415,874	2,369,312	2,415,874	2,393,631
Austria	127,279	127,637	128,140	128,806	129,645	130,702	127,279	130,702	128,702
Poland	1,253,424	1,254,737	1,254,773	1,254,731	1,253,259	1,252,855	1,252,855	1,254,773	1,253,963
Portugal	473,005	472,971	471,614	469,149	466,465	464,118	464,118	473,005	469,554
Romania	4,105,411	4,086,068	4,065,219	4,049,861	4,035,142	4,019,633	4,019,633	4,105,411	4,060,222
Slovenia	71,757	71,869	72,055	72,172	72,251	72,314	71,757	72,314	72,070
Slovakia	198,205	198,280	198,717	198,956	199,144	199,343	198,205	199,343	198,774
Finland	623,227	626,005	629,032	631,990	634,855	637,240	623,227	637,240	630,392
Sweden	505,611	509,665	513,307	517,260	522,076	527,624	505,611	527,624	515,924
United Kingdom	7,074,279	7,132,260	7,185,763	7,232,162	7,282,620	7,341,922	7,074,279	7,341,922	7,208,168

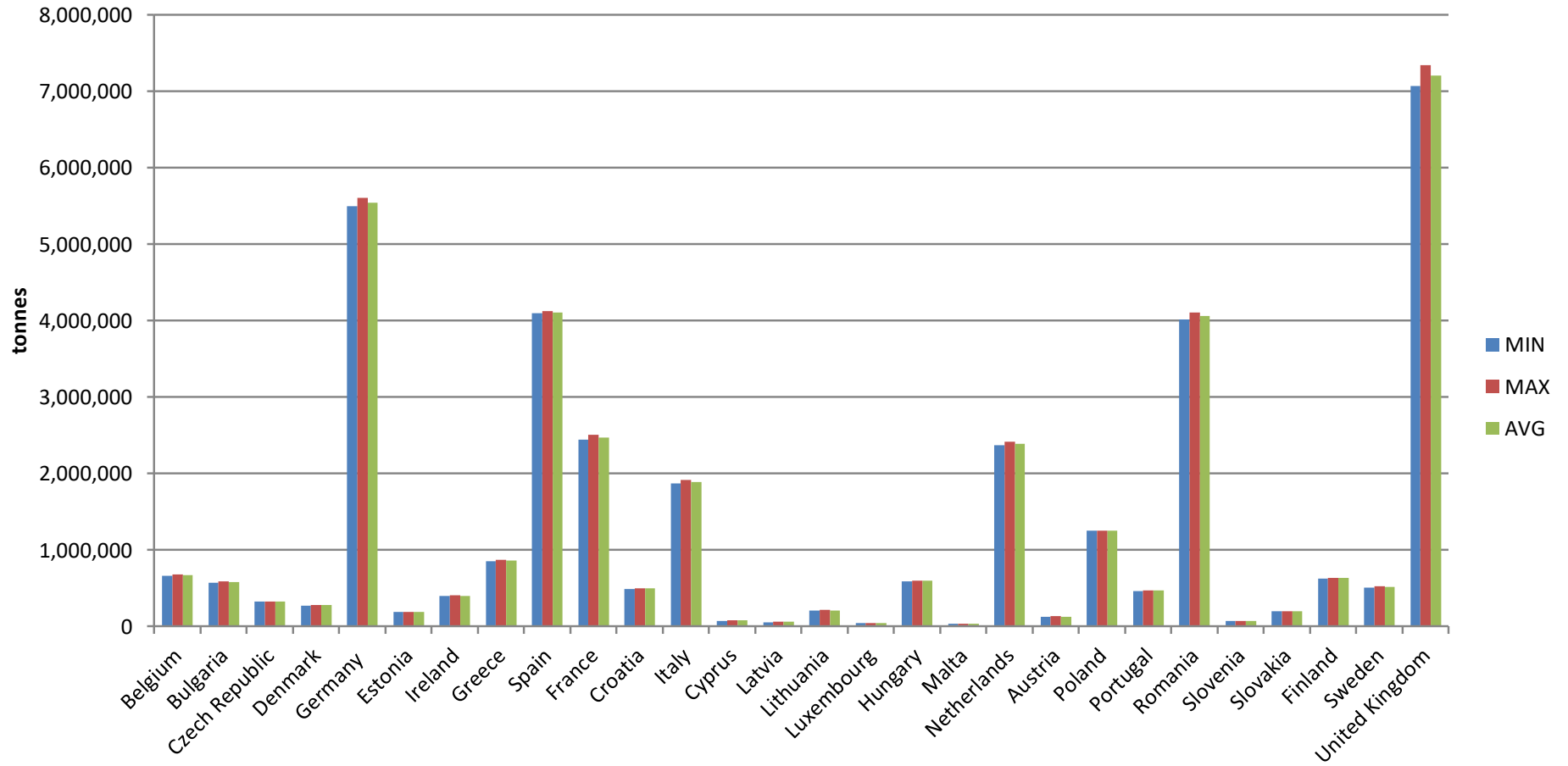


Figure 26 Consumption of milk (tonnes) per country, 2010-2015

Table 23 Tonnes of spilt or spoiled whole milk per country, 2010-2015

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	88,769	90,085	90,857	91,404	91,561	92,023	88,769	92,023	90,783
Bulgaria	79,834	79,271	78,817	78,358	77,940	77,473	77,473	79,834	78,616
Czech Republic	43,628	43,731	43,809	43,854	43,838	43,946	43,628	43,946	43,801
Denmark	36,904	37,076	37,209	37,356	37,520	37,737	36,904	37,737	37,300
Germany	757,350	742,720	743,700	745,513	747,769	751,751	742,720	757,350	748,134
Estonia	25,664	25,594	25,508	25,411	25,327	25,309	25,309	25,664	25,469
Ireland	53,685	53,938	54,078	54,176	54,347	54,623	53,685	54,623	54,141
Greece	118,002	118,045	117,653	116,774	115,959	115,229	115,229	118,045	116,944
Spain	553,171	555,320	557,117	556,042	553,475	552,730	552,730	557,117	554,642
France	329,474	331,104	332,624	334,272	336,013	338,796	329,474	338,796	333,714
Croatia	67,226	67,023	66,806	66,590	66,350	66,014	66,014	67,226	66,668
Italy	252,305	253,049	253,175	254,416	259,094	259,149	252,305	259,149	255,198
Cyprus	9,887	10,136	10,404	10,451	10,356	10,223	9,887	10,451	10,243
Latvia	8,200	8,023	7,907	7,826	7,740	7,680	7,680	8,200	7,896
Lithuania	29,528	28,688	28,228	27,930	27,663	27,454	27,454	29,528	28,249
Luxembourg	5,356	5,460	5,599	5,729	5,864	6,005	5,356	6,005	5,669
Hungary	80,927	80,696	80,261	80,074	79,820	79,644	79,644	80,927	80,237
Malta	4,866	4,877	4,907	4,952	5,000	5,046	4,866	5,046	4,942
Netherlands	319,857	321,417	322,855	323,805	324,764	326,143	319,857	326,143	323,140
Austria	17,183	17,231	17,299	17,389	17,502	17,645	17,183	17,645	17,375
Poland	169,212	169,390	169,394	169,389	169,190	169,135	169,135	169,394	169,285
Portugal	63,856	63,851	63,668	63,335	62,973	62,656	62,656	63,856	63,390
Romania	554,231	551,619	548,805	546,731	544,744	542,650	542,650	554,231	548,130
Slovenia	9,687	9,702	9,727	9,743	9,754	9,762	9,687	9,762	9,729
Slovakia	26,758	26,768	26,827	26,859	26,885	26,911	26,758	26,911	26,835
Finland	84,136	84,511	84,919	85,319	85,705	86,027	84,136	86,027	85,103
Sweden	68,258	68,805	69,296	69,830	70,480	71,229	68,258	71,229	69,650
United Kingdom	955,028	962,855	970,078	976,342	983,154	991,160	955,028	991,160	973,103

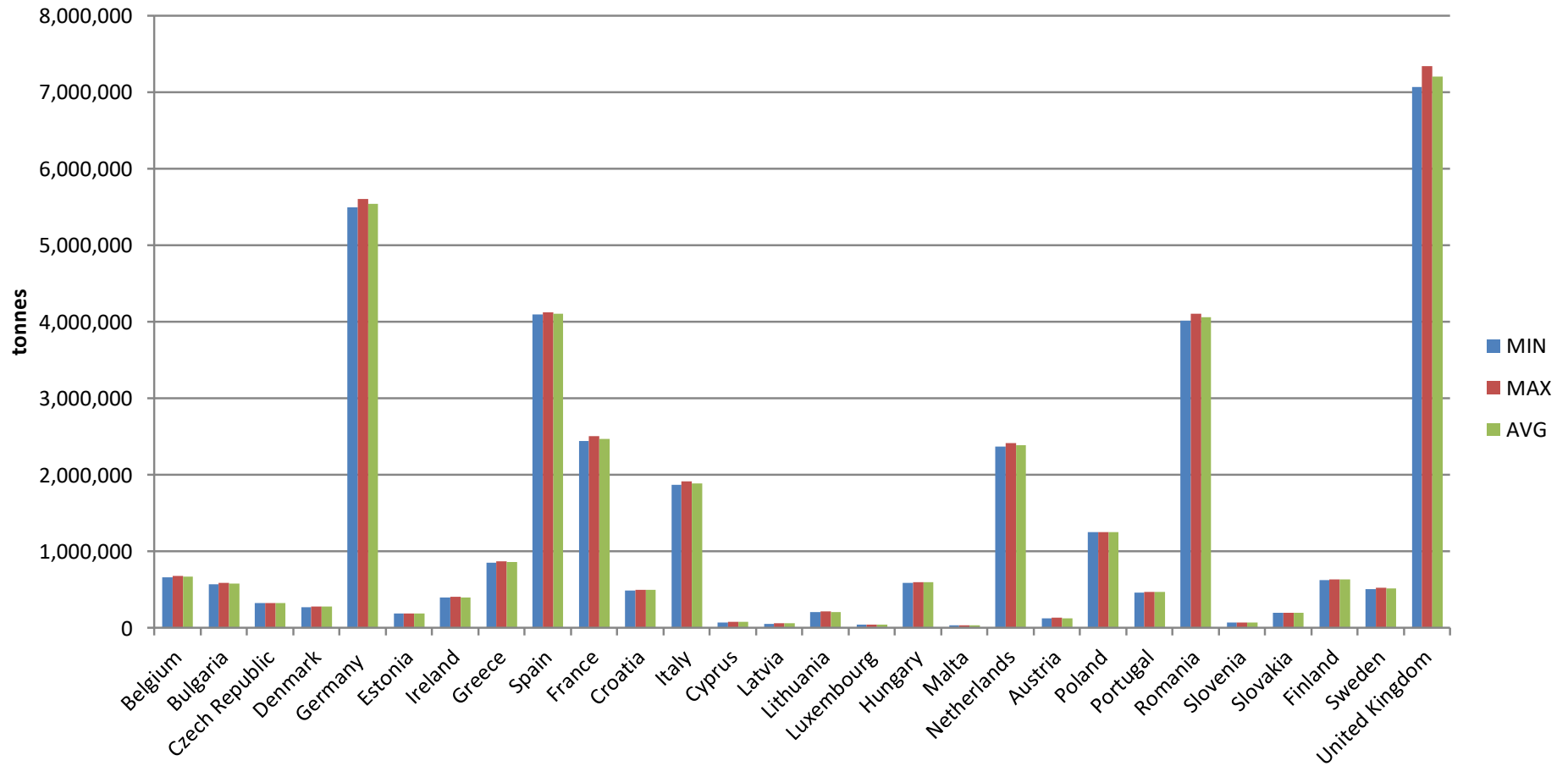


Figure 27 Tonnes of spilt or spoiled milk per country, 2010-2015

Table 24 Consumption of cheese (tonnes) per country, 2010-2015

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	165,309	167,760	169,196	170,215	170,508	171,368	165,309	171,368	169,059
Bulgaria	120,975	120,122	119,434	118,738	118,105	117,396	117,396	120,975	119,128
Czech Republic	170,532	170,934	171,239	171,413	171,352	171,774	170,532	171,774	171,207
Denmark	122,871	123,446	123,887	124,378	124,925	125,646	122,871	125,646	124,192
Germany	1,991,885	1,953,407	1,955,984	1,960,753	1,966,688	1,977,160	1,953,407	1,991,885	1,967,646
Estonia	28,132	28,056	27,962	27,856	27,764	27,744	27,744	28,132	27,919
Ireland	46,632	46,852	46,973	47,059	47,206	47,447	46,632	47,447	47,028
Greece	195,699	195,772	195,121	193,664	192,312	191,101	191,101	195,772	193,945
Spain	441,623	443,338	444,773	443,915	441,866	441,271	441,271	444,773	442,798
France	1,713,460	1,721,936	1,729,840	1,738,409	1,747,465	1,761,937	1,713,460	1,761,937	1,735,508
Croatia	61,316	61,130	60,933	60,735	60,517	60,211	60,211	61,316	60,807
Italy	1,225,236	1,228,849	1,229,460	1,235,484	1,258,201	1,258,469	1,225,236	1,258,469	1,239,283
Cyprus	14,417	14,780	15,171	15,239	15,101	14,907	14,417	15,239	14,936
Latvia	33,928	33,194	32,717	32,381	32,023	31,778	31,778	33,928	32,670
Lithuania	55,770	54,183	53,315	52,751	52,247	51,852	51,852	55,770	53,353
Luxembourg	8,836	9,008	9,237	9,452	9,674	9,908	8,836	9,908	9,353
Hungary	114,664	114,337	113,721	113,456	113,096	112,846	112,846	114,664	113,686
Malta	7,287	7,304	7,349	7,416	7,487	7,556	7,287	7,556	7,400
Netherlands	331,500	333,116	334,607	335,592	336,586	338,015	331,500	338,015	334,902
Austria	169,121	169,597	170,264	171,150	172,265	173,669	169,121	173,669	171,011
Poland	596,959	597,585	597,602	597,582	596,880	596,688	596,688	597,602	597,216
Portugal	186,093	186,080	185,546	184,576	183,520	182,597	182,597	186,093	184,735
Romania	357,186	355,503	353,690	352,353	351,073	349,723	349,723	357,186	353,255
Slovenia	36,027	36,083	36,177	36,235	36,275	36,307	36,027	36,307	36,184
Slovakia	59,834	59,856	59,988	60,060	60,117	60,177	59,834	60,177	60,005
Finland	130,307	130,888	131,521	132,140	132,738	133,237	130,307	133,237	131,805
Sweden	187,748	189,253	190,605	192,073	193,862	195,922	187,748	195,922	191,577
United Kingdom	718,867	724,759	730,196	734,911	740,038	746,064	718,867	746,064	732,473

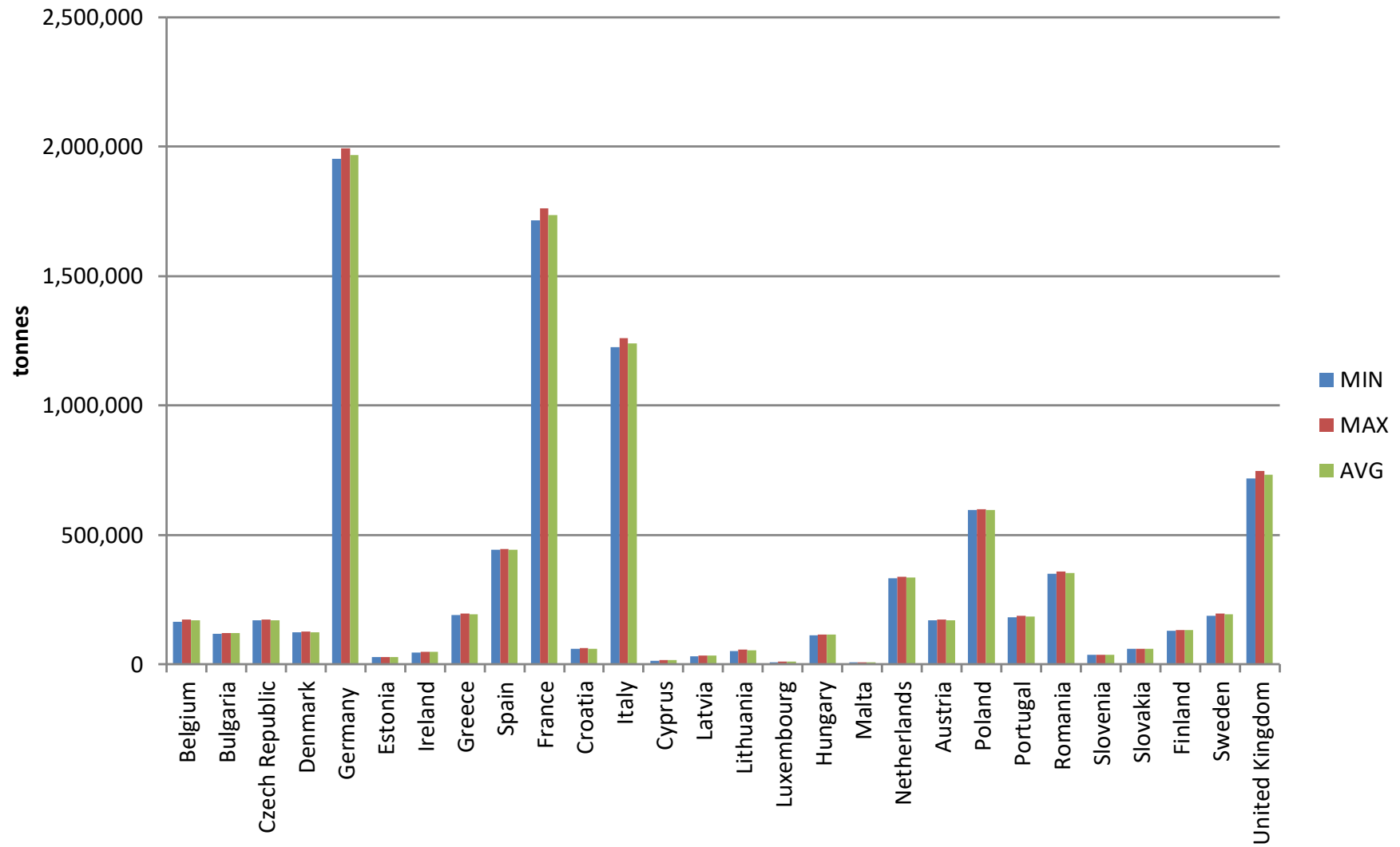


Figure 28 Consumption of cheese (tonnes) per country, 2010-2015

Table 25 Tonnes of rotten cheese per country, 2010-2015

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	27,607	28,016	28,256	28,426	28,475	28,619	27,607	28,619	28,233
Bulgaria	20,203	20,060	19,945	19,829	19,723	19,605	19,605	20,203	19,894
Czech Republic	28,479	28,546	28,597	28,626	28,616	28,686	28,479	28,686	28,592
Denmark	20,519	20,615	20,689	20,771	20,862	20,983	20,519	20,983	20,740
Germany	332,645	326,219	326,649	327,446	328,437	330,186	326,219	332,645	328,597
Estonia	4,698	4,685	4,670	4,652	4,637	4,633	4,633	4,698	4,662
Ireland	7,787	7,824	7,844	7,859	7,883	7,924	7,787	7,924	7,854
Greece	32,682	32,694	32,585	32,342	32,116	31,914	31,914	32,694	32,389
Spain	73,751	74,037	74,277	74,134	73,792	73,692	73,692	74,277	73,947
France	286,148	287,563	288,883	290,314	291,827	294,243	286,148	294,243	289,830
Croatia	10,240	10,209	10,176	10,143	10,106	10,055	10,055	10,240	10,155
Italy	204,614	205,218	205,320	206,326	210,120	210,164	204,614	210,164	206,960
Cyprus	2,408	2,468	2,534	2,545	2,522	2,490	2,408	2,545	2,494
Latvia	5,666	5,543	5,464	5,408	5,348	5,307	5,307	5,666	5,456
Lithuania	9,314	9,049	8,904	8,809	8,725	8,659	8,659	9,314	8,910
Luxembourg	1,476	1,504	1,543	1,578	1,616	1,655	1,476	1,655	1,562
Hungary	19,149	19,094	18,991	18,947	18,887	18,845	18,845	19,149	18,986
Malta	1,217	1,220	1,227	1,238	1,250	1,262	1,217	1,262	1,236
Netherlands	55,360	55,630	55,879	56,044	56,210	56,448	55,360	56,448	55,929
Austria	28,243	28,323	28,434	28,582	28,768	29,003	28,243	29,003	28,559
Poland	99,692	99,797	99,799	99,796	99,679	99,647	99,647	99,799	99,735
Portugal	31,078	31,075	30,986	30,824	30,648	30,494	30,494	31,078	30,851
Romania	59,650	59,369	59,066	58,843	58,629	58,404	58,404	59,650	58,994
Slovenia	6,016	6,026	6,042	6,051	6,058	6,063	6,016	6,063	6,043
Slovakia	9,992	9,996	10,018	10,030	10,040	10,050	9,992	10,050	10,021
Finland	21,761	21,858	21,964	22,067	22,167	22,251	21,761	22,251	22,011
Sweden	31,354	31,605	31,831	32,076	32,375	32,719	31,354	32,719	31,993
United Kingdom	120,051	121,035	121,943	122,730	123,586	124,593	120,051	124,593	122,323

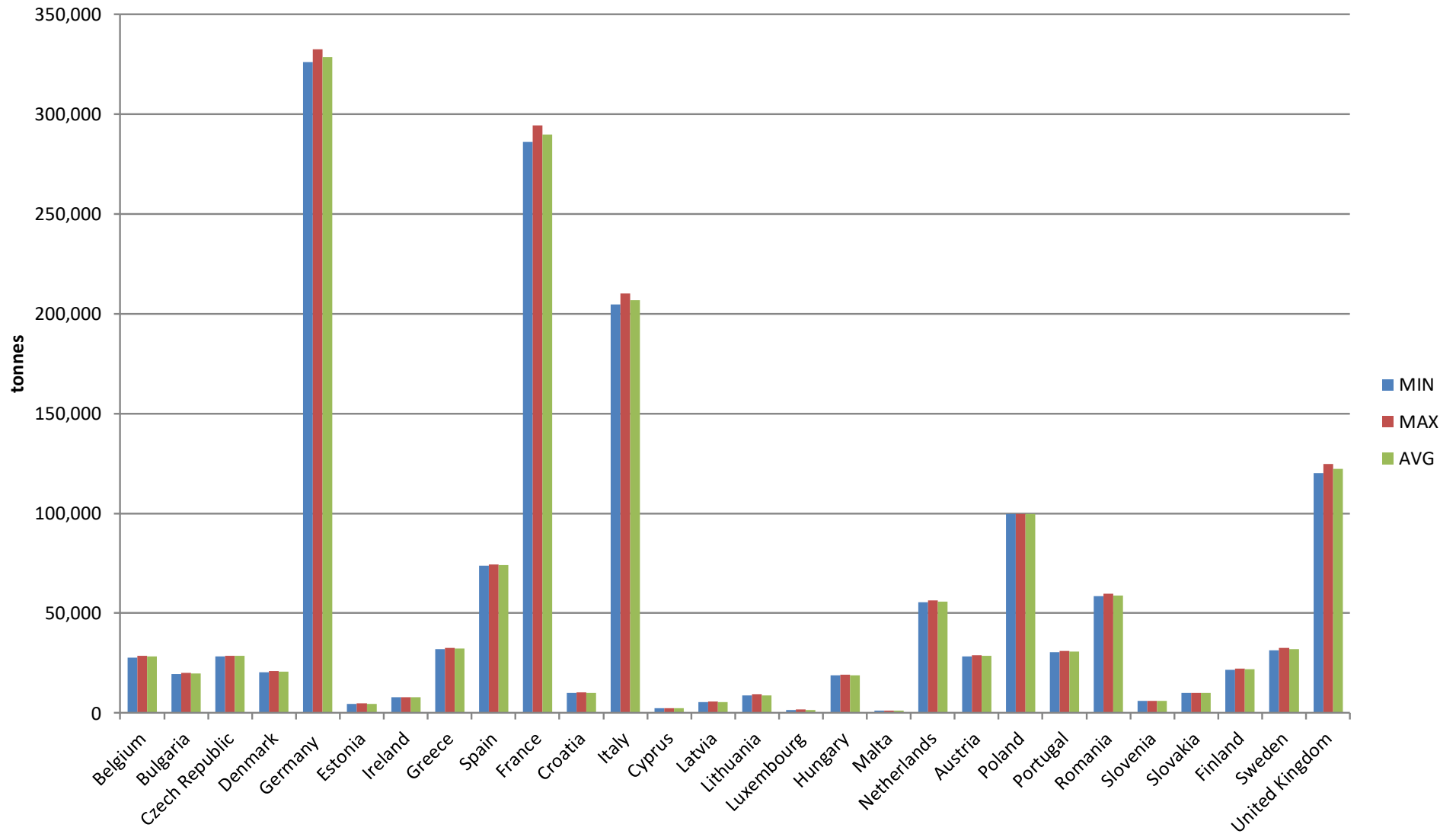


Figure 29 Tonnes of rotten cheese per country, 2010-2015

Table 26 Consumption of butter (tonnes) per country, 2010-2015

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	24,932	25,301	25,518	25,672	25,716	25,846	24,932	25,846	25,497
Bulgaria	27,461	27,267	27,111	26,953	26,809	26,648	26,648	27,461	27,041
Czech Republic	52,310	52,434	52,527	52,581	52,562	52,691	52,310	52,691	52,518
Denmark	26,567	26,691	26,786	26,893	27,011	27,167	26,567	27,167	26,852
Germany	498,994	489,355	490,000	491,195	492,682	495,305	489,355	498,994	492,922
Estonia	2,933	2,925	2,915	2,904	2,895	2,893	2,893	2,933	2,911
Ireland	10,919	10,970	10,998	11,019	11,053	11,109	10,919	11,109	11,011
Greece	41,141	41,157	41,020	40,713	40,429	40,175	40,175	41,157	40,772
Spain	23,243	23,334	23,409	23,364	23,256	23,225	23,225	23,409	23,305
France	536,669	539,323	541,799	544,483	547,319	551,852	536,669	551,852	543,574
Croatia	5,163	5,148	5,131	5,115	5,096	5,070	5,070	5,163	5,121
Italy	136,137	136,539	136,607	137,276	139,800	139,830	136,137	139,830	137,698
Cyprus	3,031	3,107	3,189	3,204	3,175	3,134	3,031	3,204	3,140
Latvia	5,513	5,394	5,317	5,262	5,204	5,164	5,164	5,513	5,309
Lithuania	9,426	9,158	9,011	8,916	8,830	8,764	8,764	9,426	9,017
Luxembourg	1,858	1,894	1,942	1,987	2,034	2,083	1,858	2,083	1,966
Hungary	12,017	11,983	11,918	11,891	11,853	11,827	11,827	12,017	11,915
Malta	1,532	1,535	1,545	1,559	1,574	1,589	1,532	1,589	1,556
Netherlands	49,725	49,967	50,191	50,339	50,488	50,702	49,725	50,702	50,235
Austria	44,264	44,388	44,563	44,795	45,087	45,454	44,264	45,454	44,758
Poland	155,894	156,057	156,062	156,056	155,873	155,823	155,823	156,062	155,961
Portugal	39,122	39,119	39,007	38,803	38,581	38,387	38,387	39,122	38,836
Romania	75,090	74,737	74,355	74,074	73,805	73,521	73,521	75,090	74,264
Slovenia	7,574	7,586	7,605	7,618	7,626	7,633	7,574	7,633	7,607
Slovakia	17,249	17,256	17,294	17,315	17,331	17,348	17,249	17,348	17,299
Finland	18,730	18,813	18,904	18,993	19,079	19,151	18,730	19,151	18,945
Sweden	21,484	21,656	21,811	21,979	22,183	22,419	21,484	22,419	21,922
United Kingdom	181,280	182,765	184,136	185,325	186,618	188,138	181,280	188,138	184,710

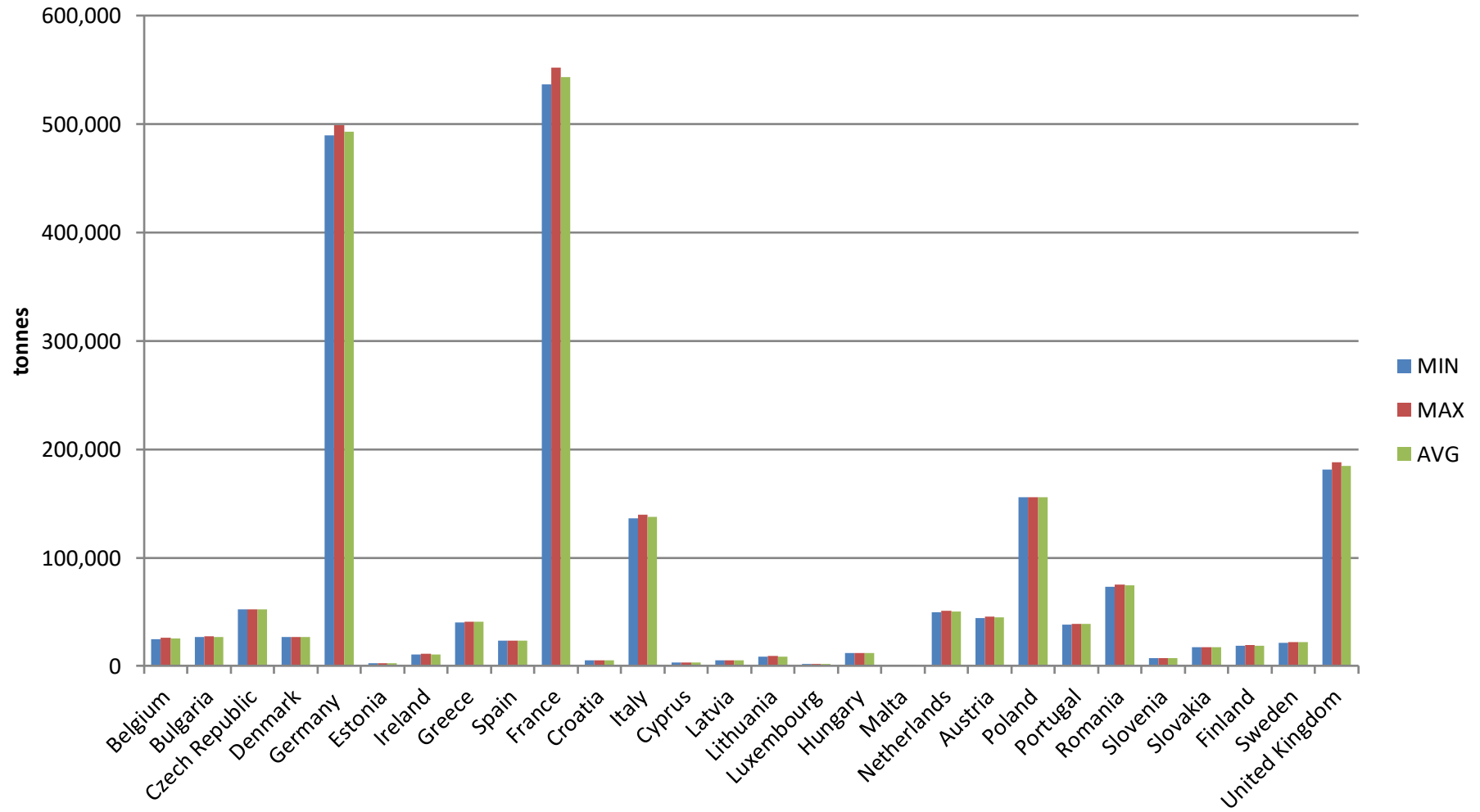


Figure 30 Consumption of butter (tonnes) per country, 2010-2015

Table 27 Tonnes of rotten butter per country, 2010-2015

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	4,164	4,225	4,262	4,287	4,295	4,316	4,164	4,316	4,258
Bulgaria	4,586	4,554	4,527	4,501	4,477	4,450	4,450	4,586	4,516
Czech Republic	8,736	8,756	8,772	8,781	8,778	8,799	8,736	8,799	8,770
Denmark	4,437	4,457	4,473	4,491	4,511	4,537	4,437	4,537	4,484
Germany	83,332	81,722	81,830	82,030	82,278	82,716	81,722	83,332	82,318
Estonia	490	489	487	485	483	483	483	490	486
Ireland	1,823	1,832	1,837	1,840	1,846	1,855	1,823	1,855	1,839
Greece	6,871	6,873	6,850	6,799	6,752	6,709	6,709	6,873	6,809
Spain	3,882	3,897	3,909	3,902	3,884	3,879	3,879	3,909	3,892
France	89,624	90,067	90,480	90,929	91,402	92,159	89,624	92,159	90,777
Croatia	862	860	857	854	851	847	847	862	855
Italy	22,735	22,802	22,813	22,925	23,347	23,352	22,735	23,352	22,996
Cyprus	506	519	533	535	530	523	506	535	524
Latvia	921	901	888	879	869	862	862	921	887
Lithuania	1,574	1,529	1,505	1,489	1,475	1,464	1,464	1,574	1,506
Luxembourg	310	316	324	332	340	348	310	348	328
Hungary	2,007	2,001	1,990	1,986	1,979	1,975	1,975	2,007	1,990
Malta	256	256	258	260	263	265	256	265	260
Netherlands	8,304	8,345	8,382	8,407	8,431	8,467	8,304	8,467	8,389
Austria	7,392	7,413	7,442	7,481	7,529	7,591	7,392	7,591	7,475
Poland	26,034	26,062	26,062	26,061	26,031	26,022	26,022	26,062	26,045
Portugal	6,533	6,533	6,514	6,480	6,443	6,411	6,411	6,533	6,486
Romania	12,540	12,481	12,417	12,370	12,325	12,278	12,278	12,540	12,402
Slovenia	1,265	1,267	1,270	1,272	1,274	1,275	1,265	1,275	1,270
Slovakia	2,881	2,882	2,888	2,892	2,894	2,897	2,881	2,897	2,889
Finland	3,128	3,142	3,157	3,172	3,186	3,198	3,128	3,198	3,164
Sweden	3,588	3,617	3,642	3,670	3,705	3,744	3,588	3,744	3,661
United Kingdom	30,274	30,522	30,751	30,949	31,165	31,419	30,274	31,419	30,847

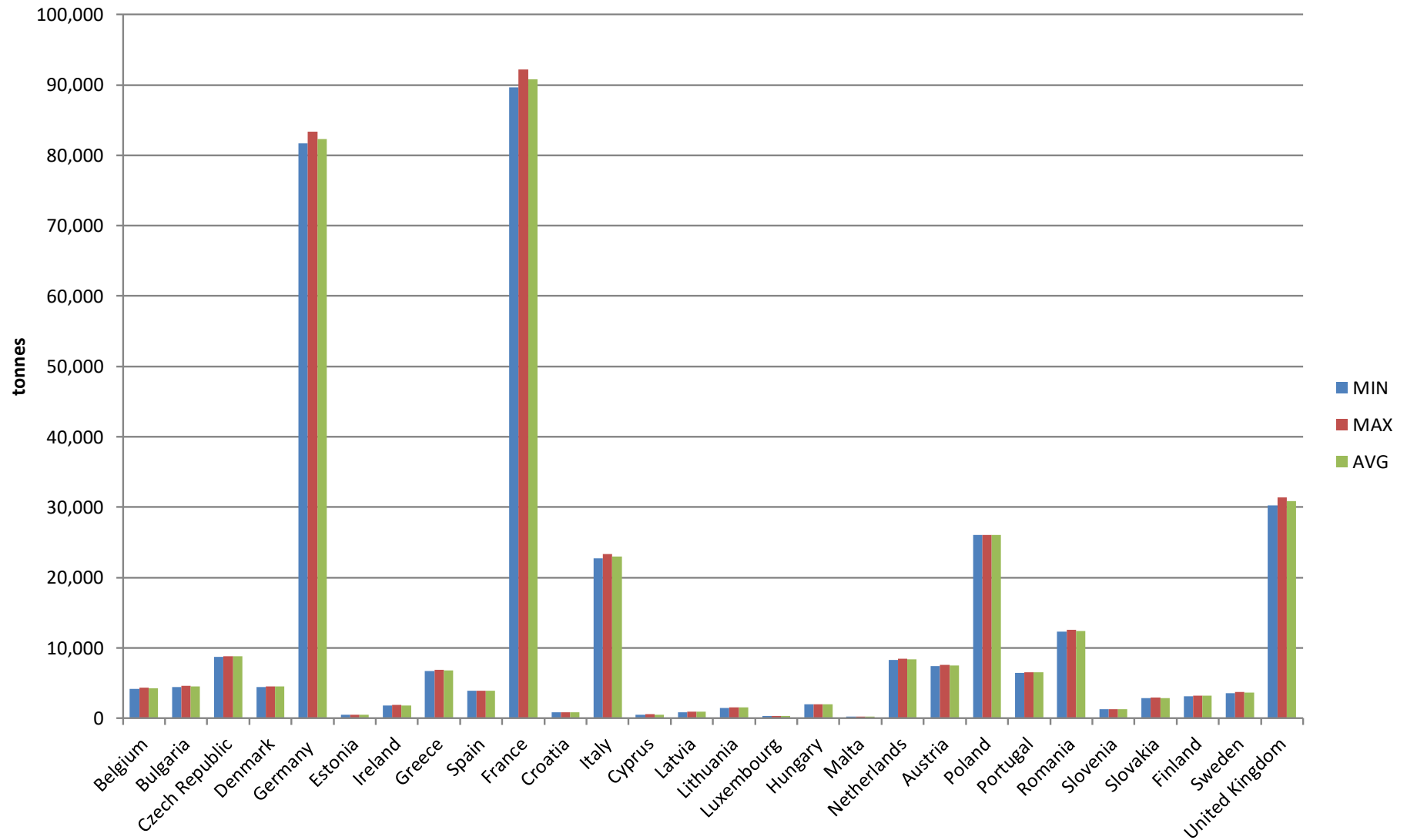


Figure 31 Tonnes of rotten butter per country, 2010-2015

2.3 Pigs

Pigs are animals that are reared for meat consumption. Pigs belong to the even-toed ungulates group. There are several species of pigs that can be found in nature, from domestic pig to wild boar. The domesticated pig is one of the most numerous large mammals on the planet. Average life period for a pig is up to 15 years, but factory farmed pigs are slaughtered after approximately six months (38). Figure 32 shows juvenile pigs after birth (piglets) (39).



Figure 32 Juvenile pigs (piglets) (39)

The main AWCB that occurs during the farming of pigs is manure. In comparison to other farmed animals, pigs are omnivorous, so they can eat almost everything that is provided to them (40). Nowadays, pigs are forced to eat only vegetables, primarily grains in order to increase their weight, which effects manure production and the chemical content of manure. After the pig reaches a certain weight (after approximately 6 months) it is slaughtered in a slaughterhouse. During slaughter, much more AWCB is generated. During the consumption phase of pig production, AWCB also occurs in the form of rotting (wasted) meat.

The flow chart in Figure 33 presents AWCB value chain for pigs and specific AWCB weight factors from Table 2.

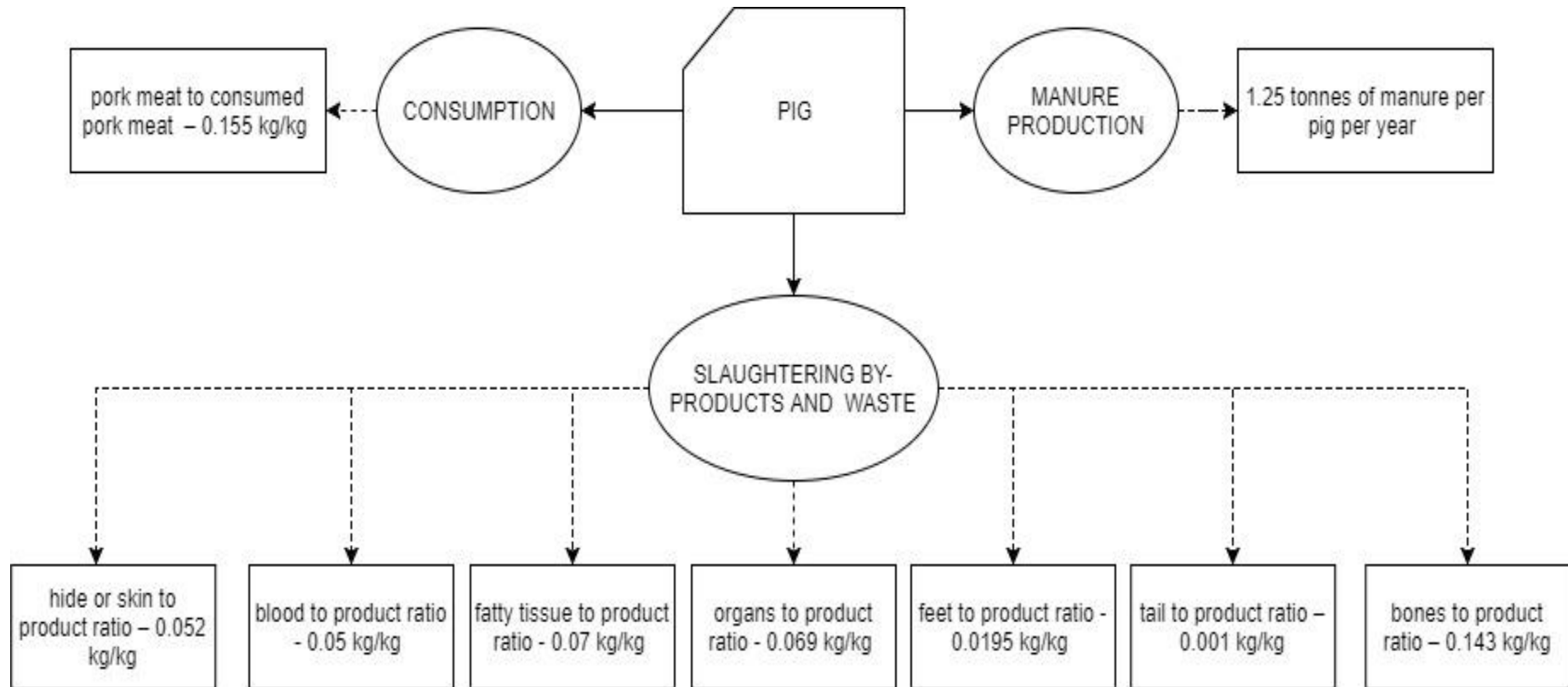


Figure 33 Pigs AWCB value chain

Data for farmed and slaughtered pigs are taken from EUROSTAT. From specific consumption of meat and population in the country, the quantity of consumed pork is calculated. By using relation (1-8), the quantity of manure is calculated for every country in each given year. Then the quantity of AWCB is calculated for every step and every year. An example of calculation for the Czech Republic in 2010 is now presented:

FARM = 1,845,950 heads

SLAUG = 3,115,770 heads

SPECMAN = 1.25 tonnes/year

MAN = 2,307,438 tonnes

CON = 432,084 tonnes

The average quantity of manure that one pig produces during a year is 1.25 tonnes and the total quantity of manure that Czech farmers produced was 2,307,438 tonnes in 2010. Slaughtering by-products and appropriate quantities that occurred in Czech slaughterhouses were: 15,579 tonnes of blood; 21,810 tonnes of fatty tissue; 21,499 tonnes of organs; 6,076 tonnes of feet, 312 tonnes of the tail, 16,202 tonnes of hide or skin and 44,556 of bones in 2010. The quantity of consumed pork for the Czech Republic was 432,084 tonnes, and 15.5% of that was rotten pork meat, 66,973 tonnes in 2010. Results for other countries are shown in the tables and figures below.

Table 28 Heads of farmed pigs per country, 2010-2015 (41)

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	6,176,260	6,327,860	6,447,750	6,351,280	6,350,290	6,364,160	6,176,260	6,447,750	6,336,267
Bulgaria	664,000	608,270	530,950	586,420	553,110	600,070	530,950	664,000	590,470
Czech Republic	1,845,950	1,487,250	1,533,810	1,547,690	1,606,860	1,555,400	1,487,250	1,845,950	1,596,160
Denmark	12,293,000	12,348,000	12,281,000	12,402,000	12,709,000	12,702,000	12,281,000	12,709,000	12,455,833
Germany	26,900,830	27,402,490	28,331,410	28,133,260	28,338,990	27,652,420	26,900,830	28,338,990	27,793,233
Estonia	371,700	365,700	375,100	358,700	357,900	304,500	304,500	375,100	355,600
Ireland	1,500,450	1,552,930	1,493,490	1,469,090	1,505,660	1,474,540	1,469,090	1,552,930	1,499,360
Greece	1,087,000	1,120,000	1,044,000	1,031,000	1,046,000	877,000	877,000	1,120,000	1,034,167
Spain	25,704,040	25,634,870	25,250,380	25,494,720	26,567,580	28,367,340	25,250,380	28,367,340	26,169,822
France	14,279,000	13,967,000	13,778,000	13,428,000	13,300,000	13,307,000	13,300,000	14,279,000	13,676,500
Croatia	1,230,700	1,233,400	1,182,000	1,110,000	1,156,000	1,167,000	1,110,000	1,233,400	1,179,850
Italy	9,321,120	9,350,780	8,661,530	8,561,280	8,676,100	8,683,190	8,561,280	9,350,780	8,875,667
Cyprus	463,730	439,240	394,710	357,900	342,070	327,830	327,830	463,730	387,580
Latvia	389,740	374,980	355,220	367,540	349,430	334,160	334,160	389,740	361,845
Lithuania	929,400	790,300	807,500	754,600	714,200	687,800	687,800	929,400	780,633
Luxembourg	89,390	91,250	88,610	89,550	92,690	88,500	88,500	92,690	89,998
Hungary	3,169,000	3,044,000	2,989,000	3,004,000	3,136,000	3,124,000	2,989,000	3,169,000	3,077,667
Malta	69,280	46,290	45,210	49,450	47,470	43,630	43,630	69,280	50,222
Netherlands	12,206,000	12,103,000	12,104,000	12,013,000	12,065,000	12,453,000	12,013,000	12,453,000	12,157,333
Austria	3,134,160	3,004,910	2,983,160	2,895,840	2,868,190	2,845,450	2,845,450	3,134,160	2,955,285
Poland	14,775,690	13,056,410	11,132,180	10,994,400	11,265,650	10,590,200	10,590,200	14,775,690	11,969,088
Portugal	1,917,300	1,985,030	2,024,120	2,014,380	2,126,910	2,247,330	1,917,300	2,247,330	2,052,512
Romania	5,428,300	5,363,800	5,234,300	5,180,200	5,041,700	4,926,900	4,926,900	5,428,300	5,195,867
Slovenia	395,590	347,310	296,100	288,350	281,320	271,380	271,380	395,590	313,342
Slovakia	687,260	580,390	631,440	637,170	641,830	633,110	580,390	687,260	635,200
Finland	1,339,900	1,289,700	1,270,500	1,258,300	1,222,600	1,239,000	1,222,600	1,339,900	1,270,000
Sweden	1,607,000	1,567,700	1,473,700	1,480,400	1,457,900	1,435,300	1,435,300	1,607,000	1,503,667
United Kingdom	4,385,000	4,326,000	4,216,000	4,383,000	4,510,000	4,422,000	4,216,000	4,510,000	4,373,667

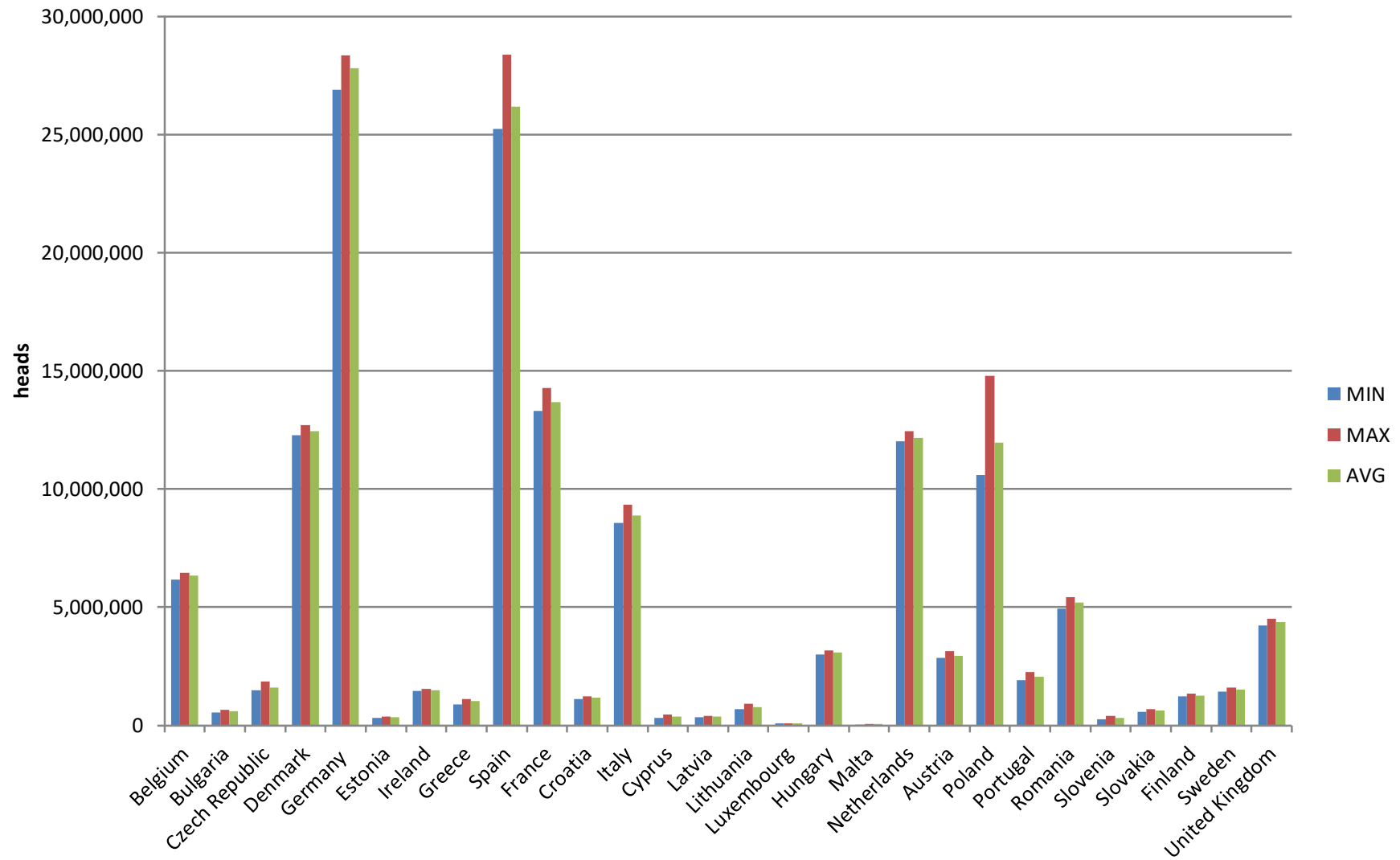


Figure 34 Heads of farmed pigs per country, 2010-2015

Table 29 Tonnes of pig manure per country, 2010-2015

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	7,720,325	7,909,825	8,059,688	7,939,100	7,937,863	7,955,200	7,720,325	8,059,688	7,920,333
Bulgaria	830,000	760,338	663,688	733,025	691,388	750,088	663,688	830,000	738,088
Czech Republic	2,307,438	1,859,063	1,917,263	1,934,613	2,008,575	1,944,250	1,859,063	2,307,438	1,995,200
Denmark	15,366,250	15,435,000	15,351,250	15,502,500	15,886,250	15,877,500	15,351,250	15,886,250	15,569,792
Germany	33,626,038	34,253,113	35,414,263	35,166,575	35,423,738	34,565,525	33,626,038	35,423,738	34,741,542
Estonia	464,625	457,125	468,875	448,375	447,375	380,625	380,625	468,875	444,500
Ireland	1,875,563	1,941,163	1,866,863	1,836,363	1,882,075	1,843,175	1,836,363	1,941,163	1,874,200
Greece	1,358,750	1,400,000	1,305,000	1,288,750	1,307,500	1,096,250	1,096,250	1,400,000	1,292,708
Spain	32,130,050	32,043,588	31,562,975	31,868,400	33,209,475	35,459,175	31,562,975	35,459,175	32,712,277
France	17,848,750	17,458,750	17,222,500	16,785,000	16,625,000	16,633,750	16,625,000	17,848,750	17,095,625
Croatia	1,538,375	1,541,750	1,477,500	1,387,500	1,445,000	1,458,750	1,387,500	1,541,750	1,474,813
Italy	11,651,400	11,688,475	10,826,913	10,701,600	10,845,125	10,853,988	10,701,600	11,688,475	11,094,583
Cyprus	579,663	549,050	493,388	447,375	427,588	409,788	409,788	579,663	484,475
Latvia	487,175	468,725	444,025	459,425	436,788	417,700	417,700	487,175	452,306
Lithuania	1,161,750	987,875	1,009,375	943,250	892,750	859,750	859,750	1,161,750	975,792
Luxembourg	111,738	114,063	110,763	111,938	115,863	110,625	110,625	115,863	112,498
Hungary	3,961,250	3,805,000	3,736,250	3,755,000	3,920,000	3,905,000	3,736,250	3,961,250	3,847,083
Malta	86,600	57,863	56,513	61,813	59,338	54,538	54,538	86,600	62,777
Netherlands	15,257,500	15,128,750	15,130,000	15,016,250	15,081,250	15,566,250	15,016,250	15,566,250	15,196,667
Austria	3,917,700	3,756,138	3,728,950	3,619,800	3,585,238	3,556,813	3,556,813	3,917,700	3,694,106
Poland	18,469,613	16,320,513	13,915,225	13,743,000	14,082,063	13,237,750	13,237,750	18,469,613	14,961,360
Portugal	2,396,625	2,481,288	2,530,150	2,517,975	2,658,638	2,809,163	2,396,625	2,809,163	2,565,640
Romania	6,785,375	6,704,750	6,542,875	6,475,250	6,302,125	6,158,625	6,158,625	6,785,375	6,494,833
Slovenia	494,488	434,138	370,125	360,438	351,650	339,225	339,225	494,488	391,677
Slovakia	859,075	725,488	789,300	796,463	802,288	791,388	725,488	859,075	794,000
Finland	1,674,875	1,612,125	1,588,125	1,572,875	1,528,250	1,548,750	1,528,250	1,674,875	1,587,500
Sweden	2,008,750	1,959,625	1,842,125	1,850,500	1,822,375	1,794,125	1,794,125	2,008,750	1,879,583
United Kingdom	5,481,250	5,407,500	5,270,000	5,478,750	5,637,500	5,527,500	5,270,000	5,637,500	5,467,083

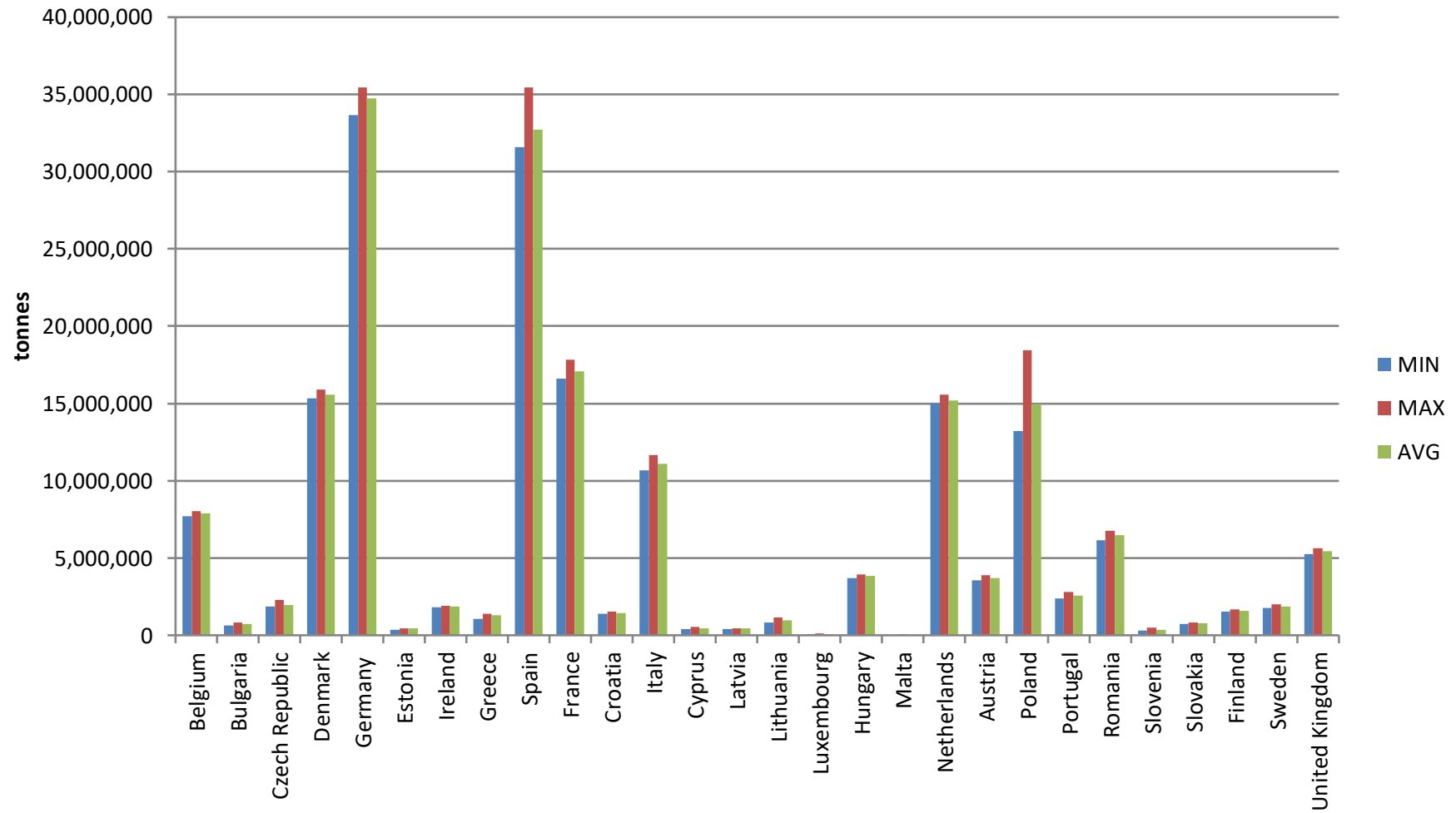


Figure 35 Tonnes of pig manure per country, 2010-2015

Table 30 Heads of slaughtered pigs per country, 2010-2015 (42)

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	11,896,080	11,764,960	11,695,150	11,915,000	11,855,070	11,886,690	11,695,150	11,915,000	11,835,492
Bulgaria	719,370	719,370	739,760	797,140	816,480	919,000	719,370	919,000	785,187
Czech Republic	3,115,770	2,982,360	2,717,450	2,651,690	2,640,130	2,508,270	2,508,270	3,115,770	2,769,278
Denmark	20,113,800	20,874,500	19,460,700	19,107,800	18,857,500	18,716,900	18,716,900	20,874,500	19,521,867
Germany	58,154,310	59,590,000	58,198,000	58,628,000	58,730,000	59,292,000	58,154,310	59,590,000	58,765,385
Estonia	408,050	419,530	457,440	464,130	510,560	533,050	408,050	533,050	465,460
Ireland	2,657,070	2,905,010	2,972,260	2,903,680	3,042,830	3,226,010	2,657,070	3,226,010	2,951,143
Greece	1,832,390	1,829,340	1,787,260	1,678,570	1,596,450	1,505,370	1,505,370	1,832,390	1,704,897
Spain	40,847,020	41,743,360	41,594,560	41,418,470	43,483,570	46,380,230	40,847,020	46,380,230	42,577,868
France	24,934,820	24,803,880	24,123,330	23,747,340	23,654,630	23,679,770	23,654,630	24,934,820	24,157,295
Croatia	1,193,000	1,253,600	1,208,300	1,102,800	976,800	1,088,600	976,800	1,253,600	1,137,183
Italy	12,907,890	12,346,250	12,663,940	13,098,670	10,930,710	11,304,240	10,930,710	13,098,670	12,208,617
Cyprus	734,060	710,690	651,090	608,620	563,690	577,490	563,690	734,060	640,940
Latvia	315,630	312,830	323,480	344,170	359,520	369,400	312,830	369,400	337,505
Lithuania	702,630	752,040	751,380	857,830	852,710	837,220	702,630	857,830	792,302
Luxembourg	134,460	131,360	138,340	147,530	157,700	157,870	131,360	157,870	144,543
Hungary	4,610,040	4,290,400	3,836,040	3,749,910	4,077,530	4,458,500	3,749,910	4,610,040	4,170,403
Malta	85,230	83,080	68,690	71,230	69,790	62,100	62,100	85,230	73,353
Netherlands	13,943,600	14,593,700	14,317,700	14,013,580	14,595,890	15,485,070	13,943,600	15,485,070	14,491,590
Austria	5,691,940	5,600,050	5,433,320	5,417,370	5,406,920	5,414,230	5,406,920	5,691,940	5,493,972
Poland	19,965,670	20,978,500	19,215,800	19,119,830	20,504,140	21,242,970	19,119,830	21,242,970	20,171,152
Portugal	5,959,940	5,887,370	5,526,350	5,178,370	5,371,800	5,637,950	5,178,370	5,959,940	5,593,630
Romania	2,900,930	3,256,830	3,473,580	3,753,080	3,980,380	4,037,550	2,900,930	4,037,550	3,567,058
Slovenia	289,300	273,900	252,510	227,860	238,870	238,290	227,860	289,300	253,455
Slovakia	758,120	641,740	604,300	573,900	369,330	496,790	369,330	758,120	574,030
Finland	2,247,760	2,267,420	2,142,230	2,144,590	2,054,730	2,079,790	2,054,730	2,267,420	2,156,087
Sweden	2,936,240	2,845,390	2,585,670	2,550,710	2,562,370	2,560,450	2,550,710	2,936,240	2,673,472
United Kingdom	9,635,340	10,062,490	10,298,970	10,298,840	10,465,460	10,847,950	9,635,340	10,847,950	10,268,175

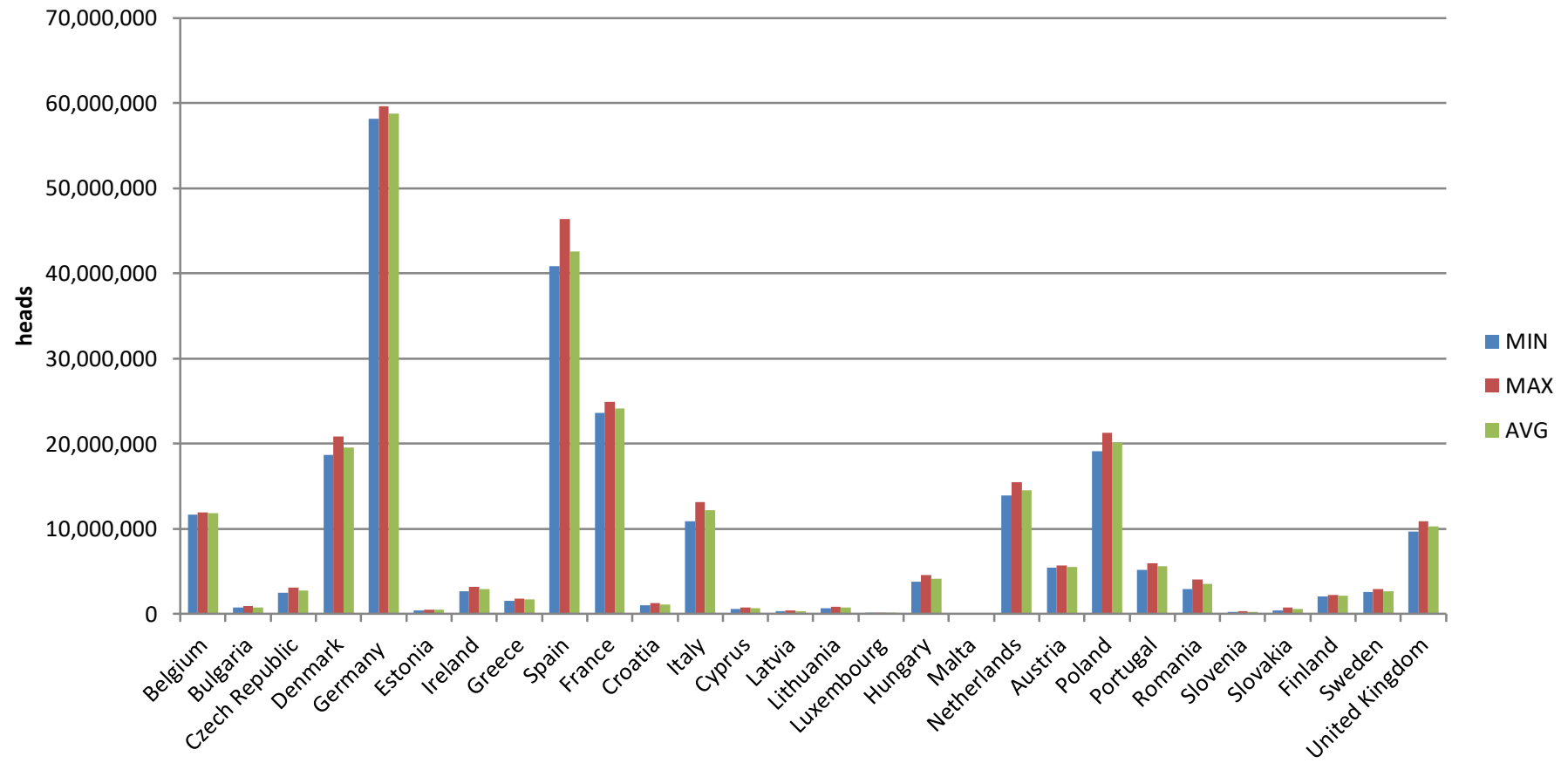


Figure 36 Heads of slaughtered pigs per country, 2010-2015

Table 31 Tonnes of pig blood after slaughtering per country, 2010-2015

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	59,480	58,825	58,476	59,575	59,275	59,433	58,476	59,575	59,177
Bulgaria	3,597	3,597	3,699	3,986	4,082	4,595	3,597	4,595	3,926
Czech Republic	15,579	14,912	13,587	13,258	13,201	12,541	12,541	15,579	13,846
Denmark	100,569	104,373	97,304	95,539	94,288	93,585	93,585	104,373	97,609
Germany	290,772	297,950	290,990	293,140	293,650	296,460	290,772	297,950	293,827
Estonia	2,040	2,098	2,287	2,321	2,553	2,665	2,040	2,665	2,327
Ireland	13,285	14,525	14,861	14,518	15,214	16,130	13,285	16,130	14,756
Greece	9,162	9,147	8,936	8,393	7,982	7,527	7,527	9,162	8,524
Spain	204,235	208,717	207,973	207,092	217,418	231,901	204,235	231,901	212,889
France	124,674	124,019	120,617	118,737	118,273	118,399	118,273	124,674	120,786
Croatia	5,965	6,268	6,042	5,514	4,884	5,443	4,884	6,268	5,686
Italy	64,539	61,731	63,320	65,493	54,654	56,521	54,654	65,493	61,043
Cyprus	3,670	3,553	3,255	3,043	2,818	2,887	2,818	3,670	3,205
Latvia	1,578	1,564	1,617	1,721	1,798	1,847	1,564	1,847	1,688
Lithuania	3,513	3,760	3,757	4,289	4,264	4,186	3,513	4,289	3,962
Luxembourg	672	657	692	738	789	789	657	789	723
Hungary	23,050	21,452	19,180	18,750	20,388	22,293	18,750	23,050	20,852
Malta	426	415	343	356	349	311	311	426	367
Netherlands	69,718	72,969	71,589	70,068	72,979	77,425	69,718	77,425	72,458
Austria	28,460	28,000	27,167	27,087	27,035	27,071	27,035	28,460	27,470
Poland	99,828	104,893	96,079	95,599	102,521	106,215	95,599	106,215	100,856
Portugal	29,800	29,437	27,632	25,892	26,859	28,190	25,892	29,800	27,968
Romania	14,505	16,284	17,368	18,765	19,902	20,188	14,505	20,188	17,835
Slovenia	1,447	1,370	1,263	1,139	1,194	1,191	1,139	1,447	1,267
Slovakia	3,791	3,209	3,022	2,870	1,847	2,484	1,847	3,791	2,870
Finland	11,239	11,337	10,711	10,723	10,274	10,399	10,274	11,337	10,780
Sweden	14,681	14,227	12,928	12,754	12,812	12,802	12,754	14,681	13,367
United Kingdom	48,177	50,312	51,495	51,494	52,327	54,240	48,177	54,240	51,341

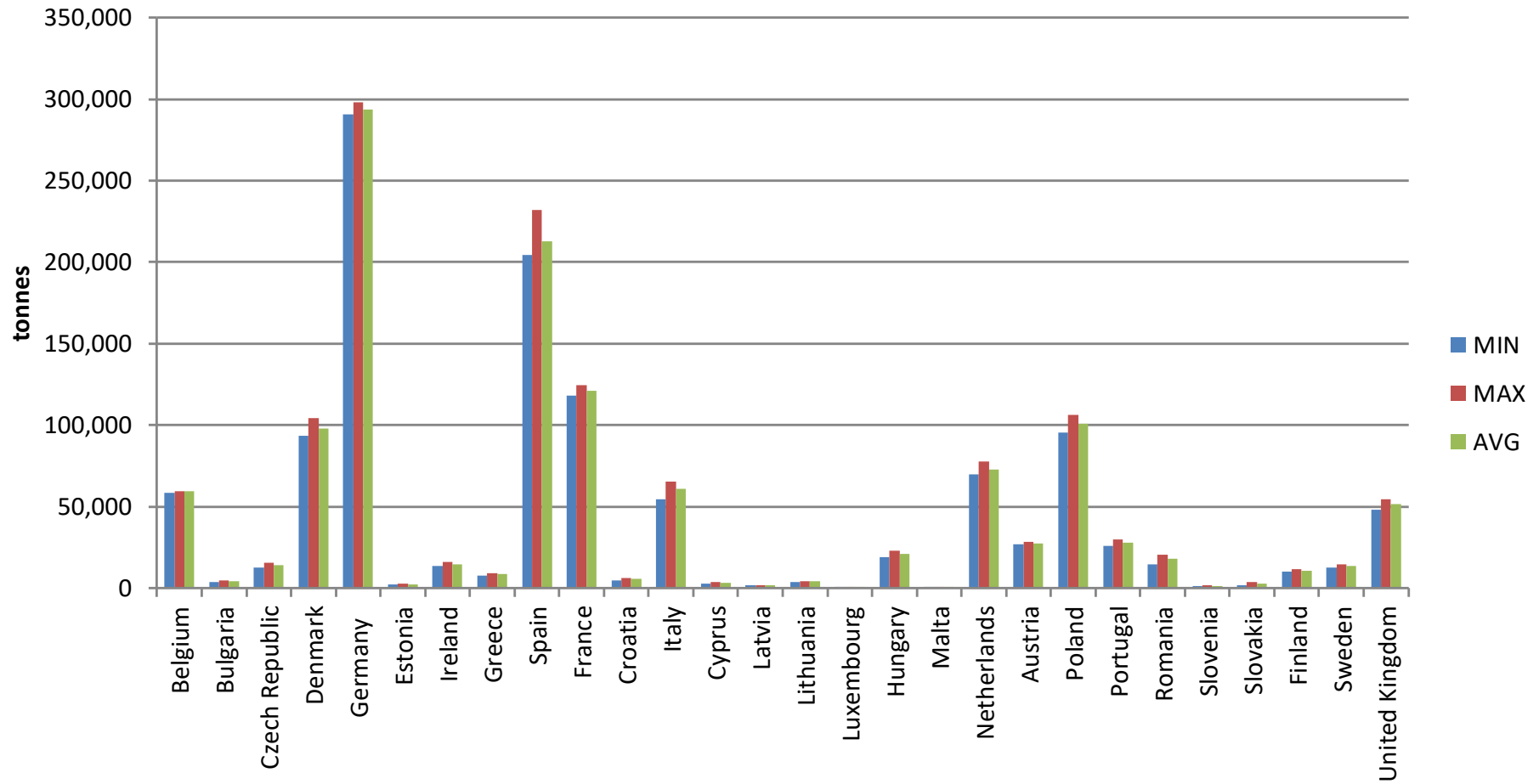


Figure 37 Tonnes of pig blood after slaughtering per country, 2010-2015

Table 32 Tonnes of pig fatty tissue after slaughtering per country, 2010-2015

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	83,273	82,355	81,866	83,405	82,985	83,207	81,866	83,405	82,848
Bulgaria	5,036	5,036	5,178	5,580	5,715	6,433	5,036	6,433	5,496
Czech Republic	21,810	20,877	19,022	18,562	18,481	17,558	17,558	21,810	19,385
Denmark	140,797	146,122	136,225	133,755	132,003	131,018	131,018	146,122	136,653
Germany	407,080	417,130	407,386	410,396	411,110	415,044	407,080	417,130	411,358
Estonia	2,856	2,937	3,202	3,249	3,574	3,731	2,856	3,731	3,258
Ireland	18,599	20,335	20,806	20,326	21,300	22,582	18,599	22,582	20,658
Greece	12,827	12,805	12,511	11,750	11,175	10,538	10,538	12,827	11,934
Spain	285,929	292,204	291,162	289,929	304,385	324,662	285,929	324,662	298,045
France	174,544	173,627	168,863	166,231	165,582	165,758	165,582	174,544	169,101
Croatia	8,351	8,775	8,458	7,720	6,838	7,620	6,838	8,775	7,960
Italy	90,355	86,424	88,648	91,691	76,515	79,130	76,515	91,691	85,460
Cyprus	5,138	4,975	4,558	4,260	3,946	4,042	3,946	5,138	4,487
Latvia	2,209	2,190	2,264	2,409	2,517	2,586	2,190	2,586	2,363
Lithuania	4,918	5,264	5,260	6,005	5,969	5,861	4,918	6,005	5,546
Luxembourg	941	920	968	1,033	1,104	1,105	920	1,105	1,012
Hungary	32,270	30,033	26,852	26,249	28,543	31,210	26,249	32,270	29,193
Malta	597	582	481	499	489	435	435	597	513
Netherlands	97,605	102,156	100,224	98,095	102,171	108,395	97,605	108,395	101,441
Austria	39,844	39,200	38,033	37,922	37,848	37,900	37,848	39,844	38,458
Poland	139,760	146,850	134,511	133,839	143,529	148,701	133,839	148,701	141,198
Portugal	41,720	41,212	38,684	36,249	37,603	39,466	36,249	41,720	39,155
Romania	20,307	22,798	24,315	26,272	27,863	28,263	20,307	28,263	24,969
Slovenia	2,025	1,917	1,768	1,595	1,672	1,668	1,595	2,025	1,774
Slovakia	5,307	4,492	4,230	4,017	2,585	3,478	2,585	5,307	4,018
Finland	15,734	15,872	14,996	15,012	14,383	14,559	14,383	15,872	15,093
Sweden	20,554	19,918	18,100	17,855	17,937	17,923	17,855	20,554	18,714
United Kingdom	67,447	70,437	72,093	72,092	73,258	75,936	67,447	75,936	71,877

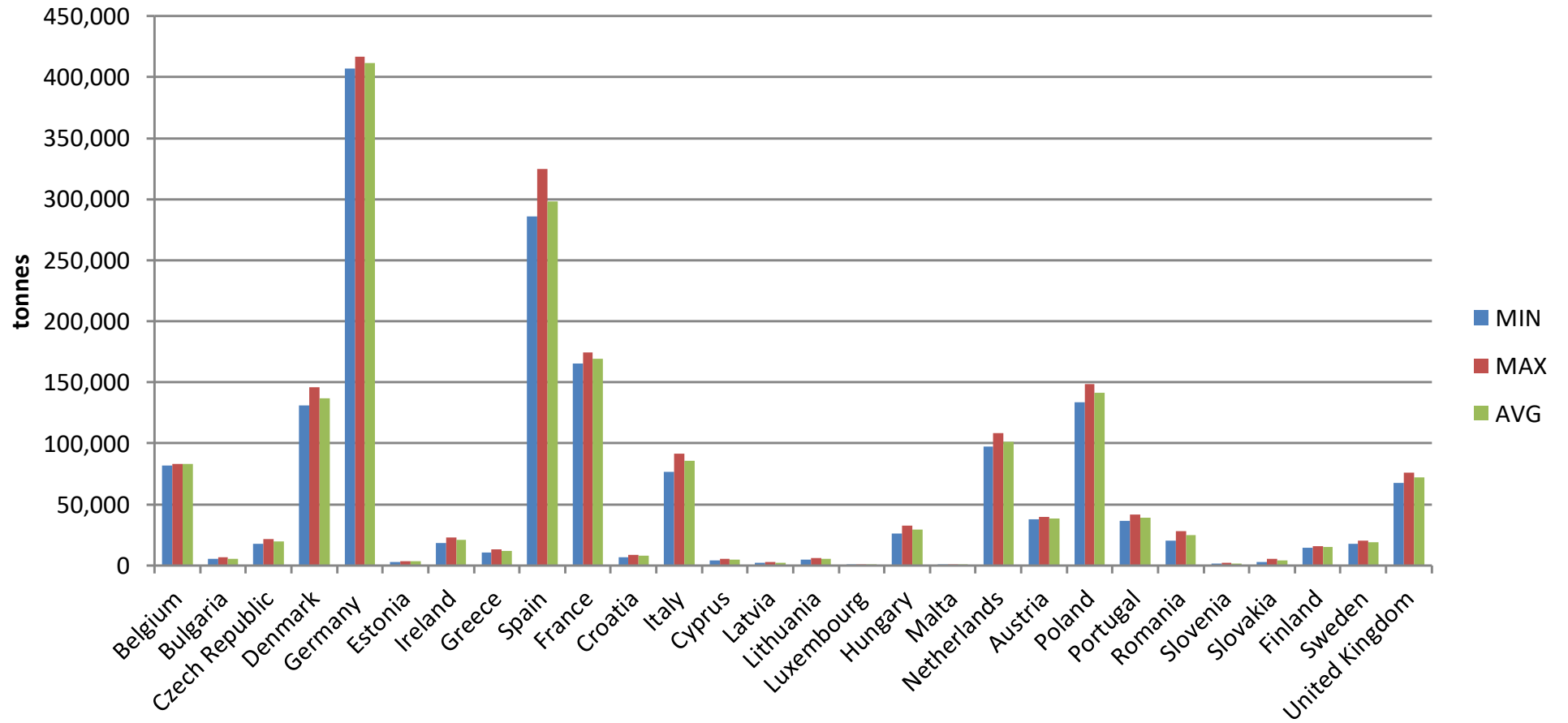


Figure 38 Tonnes of pig fatty tissue after slaughtering per country, 2010-2015

Table 33 Tonnes of pig feet after slaughtering per country, 2010-2015

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	23,197	22,942	22,806	23,234	23,117	23,179	22,806	23,234	23,079
Bulgaria	1,403	1,403	1,443	1,554	1,592	1,792	1,403	1,792	1,531
Czech Republic	6,076	5,816	5,299	5,171	5,148	4,891	4,891	6,076	5,400
Denmark	39,222	40,705	37,948	37,260	36,772	36,498	36,498	40,705	38,068
Germany	113,401	116,201	113,486	114,325	114,524	115,619	113,401	116,201	114,593
Estonia	796	818	892	905	996	1,039	796	1,039	908
Ireland	5,181	5,665	5,796	5,662	5,934	6,291	5,181	6,291	5,755
Greece	3,573	3,567	3,485	3,273	3,113	2,935	2,935	3,573	3,325
Spain	79,652	81,400	81,109	80,766	84,793	90,441	79,652	90,441	83,027
France	48,623	48,368	47,040	46,307	46,127	46,176	46,127	48,623	47,107
Croatia	2,326	2,445	2,356	2,150	1,905	2,123	1,905	2,445	2,218
Italy	25,170	24,075	24,695	25,542	21,315	22,043	21,315	25,542	23,807
Cyprus	1,431	1,386	1,270	1,187	1,099	1,126	1,099	1,431	1,250
Latvia	615	610	631	671	701	720	610	720	658
Lithuania	1,370	1,466	1,465	1,673	1,663	1,633	1,370	1,673	1,545
Luxembourg	262	256	270	288	308	308	256	308	282
Hungary	8,990	8,366	7,480	7,312	7,951	8,694	7,312	8,990	8,132
Malta	166	162	134	139	136	121	121	166	143
Netherlands	27,190	28,458	27,920	27,326	28,462	30,196	27,190	30,196	28,259
Austria	11,099	10,920	10,595	10,564	10,543	10,558	10,543	11,099	10,713
Poland	38,933	40,908	37,471	37,284	39,983	41,424	37,284	41,424	39,334
Portugal	11,622	11,480	10,776	10,098	10,475	10,994	10,098	11,622	10,908
Romania	5,657	6,351	6,773	7,319	7,762	7,873	5,657	7,873	6,956
Slovenia	564	534	492	444	466	465	444	564	494
Slovakia	1,478	1,251	1,178	1,119	720	969	720	1,478	1,119
Finland	4,383	4,421	4,177	4,182	4,007	4,056	4,007	4,421	4,204
Sweden	5,726	5,549	5,042	4,974	4,997	4,993	4,974	5,726	5,213
United Kingdom	18,789	19,622	20,083	20,083	20,408	21,154	18,789	21,154	20,023

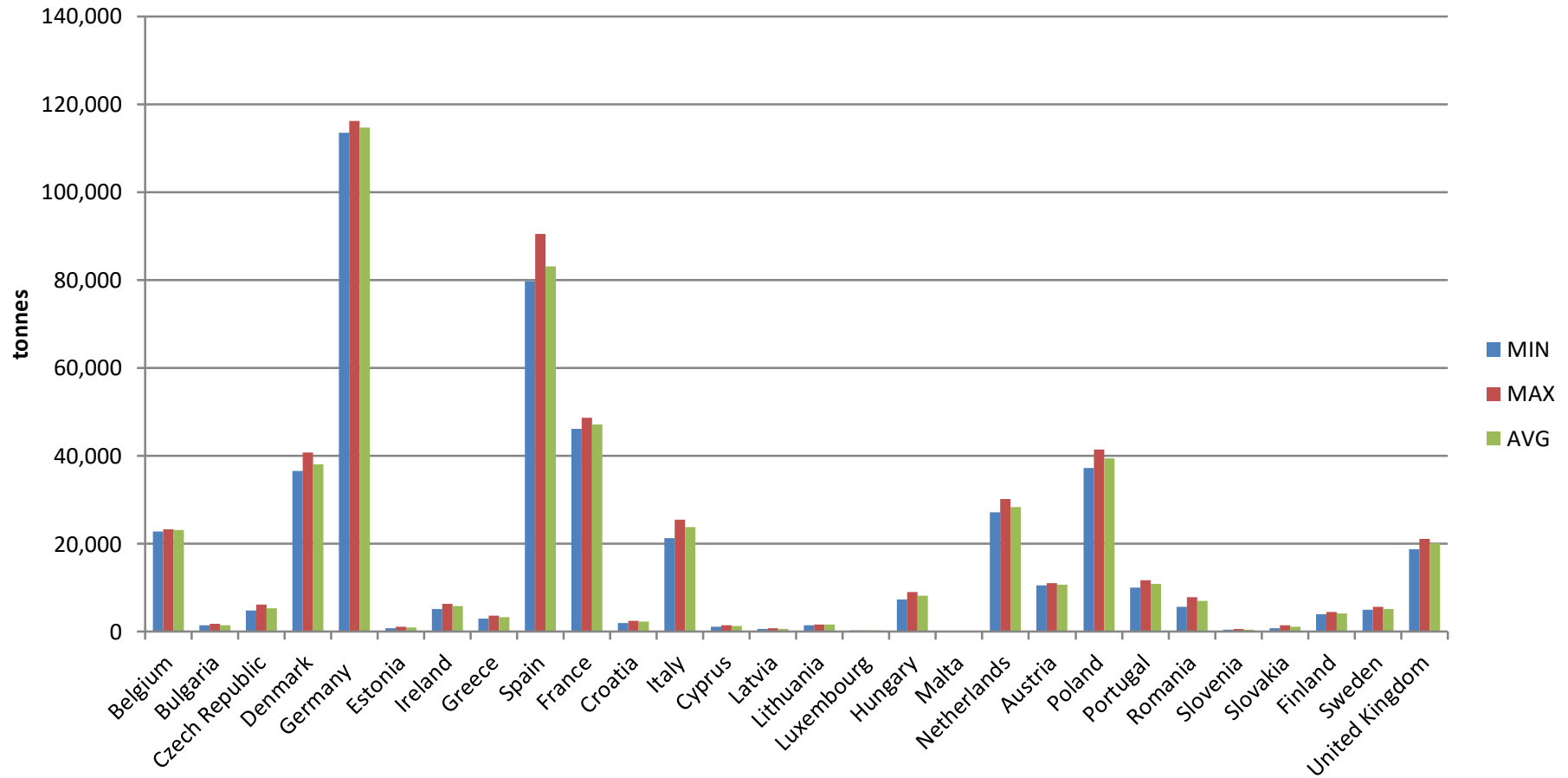


Figure 39 Tonnes of pig feet after slaughtering per country, 2010-2015

Table 34 Tonnes of pig tail after slaughtering per country, 2010-2015

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	1,190	1,176	1,170	1,192	1,186	1,189	1,170	1,192	1,184
Bulgaria	72	72	74	80	82	92	72	92	79
Czech Republic	312	298	272	265	264	251	251	312	277
Denmark	2,011	2,087	1,946	1,911	1,886	1,872	1,872	2,087	1,952
Germany	5,815	5,959	5,820	5,863	5,873	5,929	5,815	5,959	5,877
Estonia	41	42	46	46	51	53	41	53	47
Ireland	266	291	297	290	304	323	266	323	295
Greece	183	183	179	168	160	151	151	183	170
Spain	4,085	4,174	4,159	4,142	4,348	4,638	4,085	4,638	4,258
France	2,493	2,480	2,412	2,375	2,365	2,368	2,365	2,493	2,416
Croatia	119	125	121	110	98	109	98	125	114
Italy	1,291	1,235	1,266	1,310	1,093	1,130	1,093	1,310	1,221
Cyprus	73	71	65	61	56	58	56	73	64
Latvia	32	31	32	34	36	37	31	37	34
Lithuania	70	75	75	86	85	84	70	86	79
Luxembourg	13	13	14	15	16	16	13	16	14
Hungary	461	429	384	375	408	446	375	461	417
Malta	9	8	7	7	7	6	6	9	7
Netherlands	1,394	1,459	1,432	1,401	1,460	1,549	1,394	1,549	1,449
Austria	569	560	543	542	541	541	541	569	549
Poland	1,997	2,098	1,922	1,912	2,050	2,124	1,912	2,124	2,017
Portugal	596	589	553	518	537	564	518	596	559
Romania	290	326	347	375	398	404	290	404	357
Slovenia	29	27	25	23	24	24	23	29	25
Slovakia	76	64	60	57	37	50	37	76	57
Finland	225	227	214	214	205	208	205	227	216
Sweden	294	285	259	255	256	256	255	294	267
United Kingdom	964	1,006	1,030	1,030	1,047	1,085	964	1,085	1,027

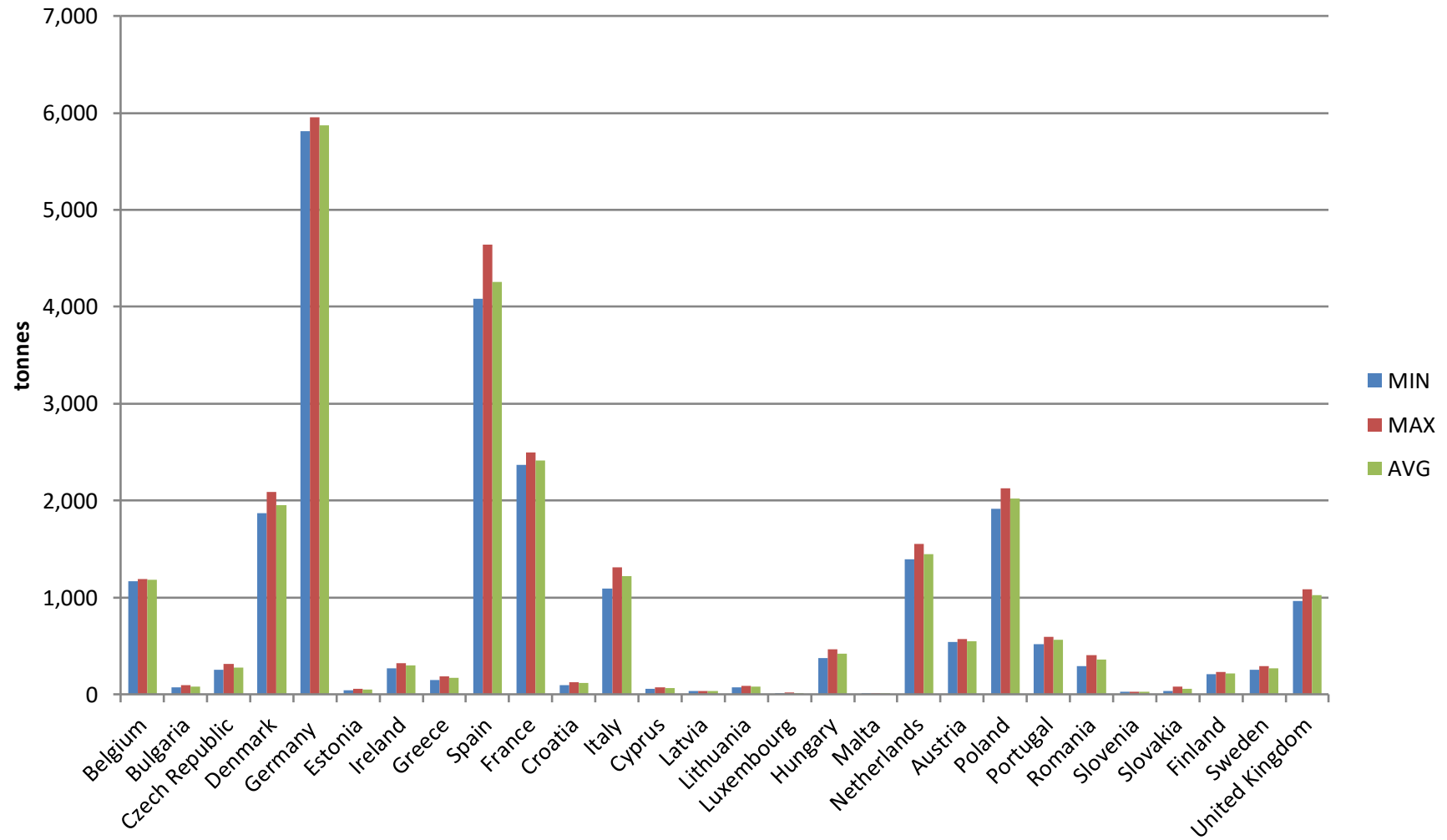


Figure 40 Tonnes of pig tail after slaughtering per country, 2010-2015

Table 35 Tonnes of pig organs after slaughtering per country, 2010-2015

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	82,083	81,178	80,697	82,214	81,800	82,018	80,697	82,214	81,665
Bulgaria	4,964	4,964	5,104	5,500	5,634	6,341	4,964	6,341	5,418
Czech Republic	21,499	20,578	18,750	18,297	18,217	17,307	17,307	21,499	19,108
Denmark	138,785	144,034	134,279	131,844	130,117	129,147	129,147	144,034	134,701
Germany	401,265	411,171	401,566	404,533	405,237	409,115	401,265	411,171	405,481
Estonia	2,816	2,895	3,156	3,202	3,523	3,678	2,816	3,678	3,212
Ireland	18,334	20,045	20,509	20,035	20,996	22,259	18,334	22,259	20,363
Greece	12,643	12,622	12,332	11,582	11,016	10,387	10,387	12,643	11,764
Spain	281,844	288,029	287,002	285,787	300,037	320,024	281,844	320,024	293,787
France	172,050	171,147	166,451	163,857	163,217	163,390	163,217	172,050	166,685
Croatia	8,232	8,650	8,337	7,609	6,740	7,511	6,740	8,650	7,847
Italy	89,064	85,189	87,381	90,381	75,422	77,999	75,422	90,381	84,239
Cyprus	5,065	4,904	4,493	4,199	3,889	3,985	3,889	5,065	4,422
Latvia	2,178	2,159	2,232	2,375	2,481	2,549	2,159	2,549	2,329
Lithuania	4,848	5,189	5,185	5,919	5,884	5,777	4,848	5,919	5,467
Luxembourg	928	906	955	1,018	1,088	1,089	906	1,089	997
Hungary	31,809	29,604	26,469	25,874	28,135	30,764	25,874	31,809	28,776
Malta	588	573	474	491	482	428	428	588	506
Netherlands	96,211	100,697	98,792	96,694	100,712	106,847	96,211	106,847	99,992
Austria	39,274	38,640	37,490	37,380	37,308	37,358	37,308	39,274	37,908
Poland	137,763	144,752	132,589	131,927	141,479	146,576	131,927	146,576	139,181
Portugal	41,124	40,623	38,132	35,731	37,065	38,902	35,731	41,124	38,596
Romania	20,016	22,472	23,968	25,896	27,465	27,859	20,016	27,859	24,613
Slovenia	1,996	1,890	1,742	1,572	1,648	1,644	1,572	1,996	1,749
Slovakia	5,231	4,428	4,170	3,960	2,548	3,428	2,548	5,231	3,961
Finland	15,510	15,645	14,781	14,798	14,178	14,351	14,178	15,645	14,877
Sweden	20,260	19,633	17,841	17,600	17,680	17,667	17,600	20,260	18,447
United Kingdom	66,484	69,431	71,063	71,062	72,212	74,851	66,484	74,851	70,850

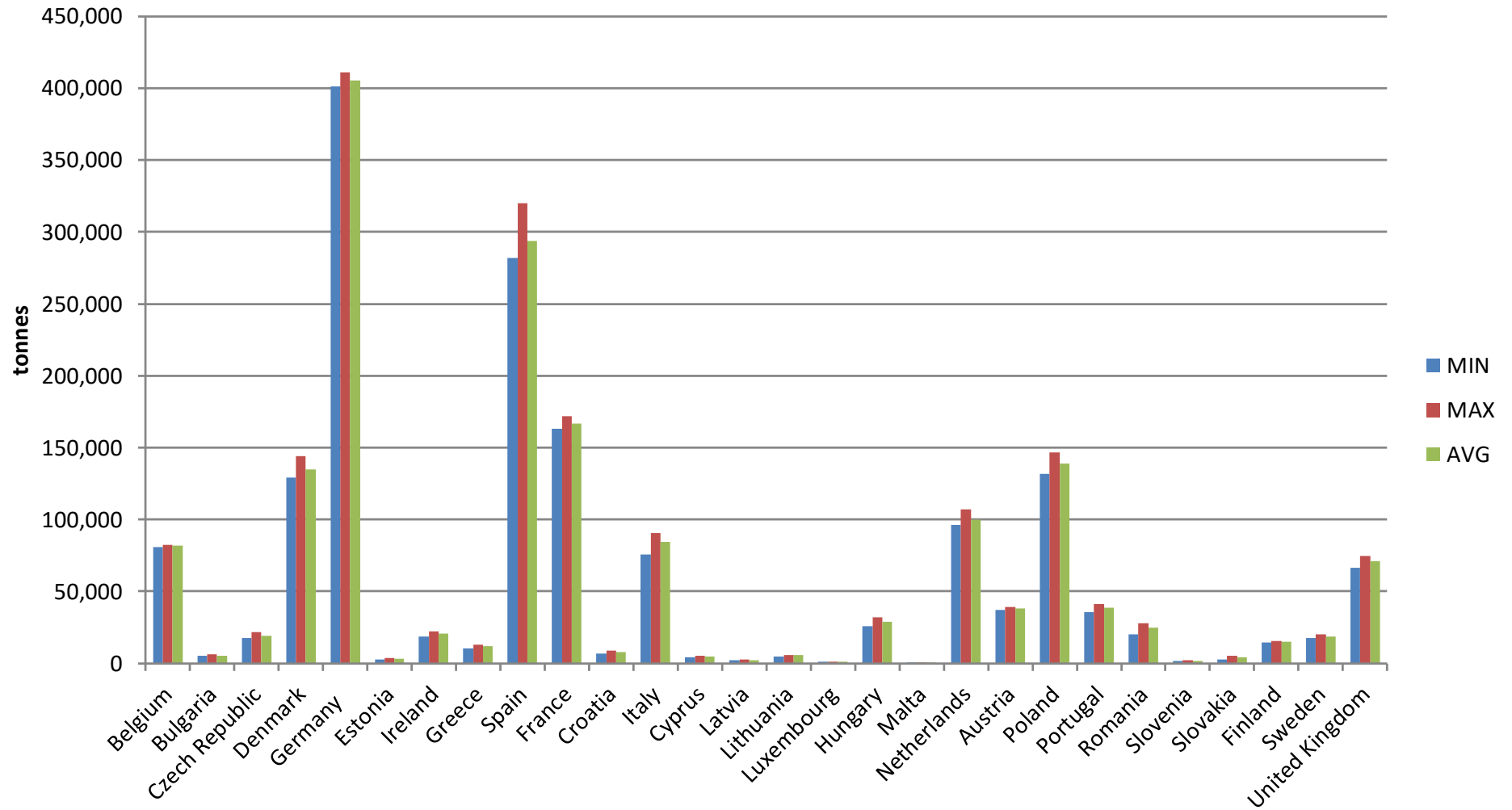


Figure 41 Tonnes of pig organs after slaughtering per country, 2010-2015

Table 36 Tonnes of pig hide or skin after slaughtering per country, 2010-2015

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	61,860	61,178	60,815	61,958	61,646	61,811	60,815	61,958	61,545
Bulgaria	3,741	3,741	3,847	4,145	4,246	4,779	3,741	4,779	4,083
Czech Republic	16,202	15,508	14,131	13,789	13,729	13,043	13,043	16,202	14,400
Denmark	104,592	108,547	101,196	99,361	98,059	97,328	97,328	108,547	101,514
Germany	302,402	309,868	302,630	304,866	305,396	308,318	302,402	309,868	305,580
Estonia	2,122	2,182	2,379	2,413	2,655	2,772	2,122	2,772	2,420
Ireland	13,817	15,106	15,456	15,099	15,823	16,775	13,817	16,775	15,346
Greece	9,528	9,513	9,294	8,729	8,302	7,828	7,828	9,528	8,865
Spain	212,405	217,065	216,292	215,376	226,115	241,177	212,405	241,177	221,405
France	129,661	128,980	125,441	123,486	123,004	123,135	123,004	129,661	125,618
Croatia	6,204	6,519	6,283	5,735	5,079	5,661	5,079	6,519	5,913
Italy	67,121	64,201	65,852	68,113	56,840	58,782	56,840	68,113	63,485
Cyprus	3,817	3,696	3,386	3,165	2,931	3,003	2,931	3,817	3,333
Latvia	1,641	1,627	1,682	1,790	1,870	1,921	1,627	1,921	1,755
Lithuania	3,654	3,911	3,907	4,461	4,434	4,354	3,654	4,461	4,120
Luxembourg	699	683	719	767	820	821	683	821	752
Hungary	23,972	22,310	19,947	19,500	21,203	23,184	19,500	23,972	21,686
Malta	443	432	357	370	363	323	323	443	381
Netherlands	72,507	75,887	74,452	72,871	75,899	80,522	72,507	80,522	75,356
Austria	29,598	29,120	28,253	28,170	28,116	28,154	28,116	29,598	28,569
Poland	103,821	109,088	99,922	99,423	106,622	110,463	99,423	110,463	104,890
Portugal	30,992	30,614	28,737	26,928	27,933	29,317	26,928	30,992	29,087
Romania	15,085	16,936	18,063	19,516	20,698	20,995	15,085	20,995	18,549
Slovenia	1,504	1,424	1,313	1,185	1,242	1,239	1,185	1,504	1,318
Slovakia	3,942	3,337	3,142	2,984	1,921	2,583	1,921	3,942	2,985
Finland	11,688	11,791	11,140	11,152	10,685	10,815	10,685	11,791	11,212
Sweden	15,268	14,796	13,445	13,264	13,324	13,314	13,264	15,268	13,902
United Kingdom	50,104	52,325	53,555	53,554	54,420	56,409	50,104	56,409	53,395

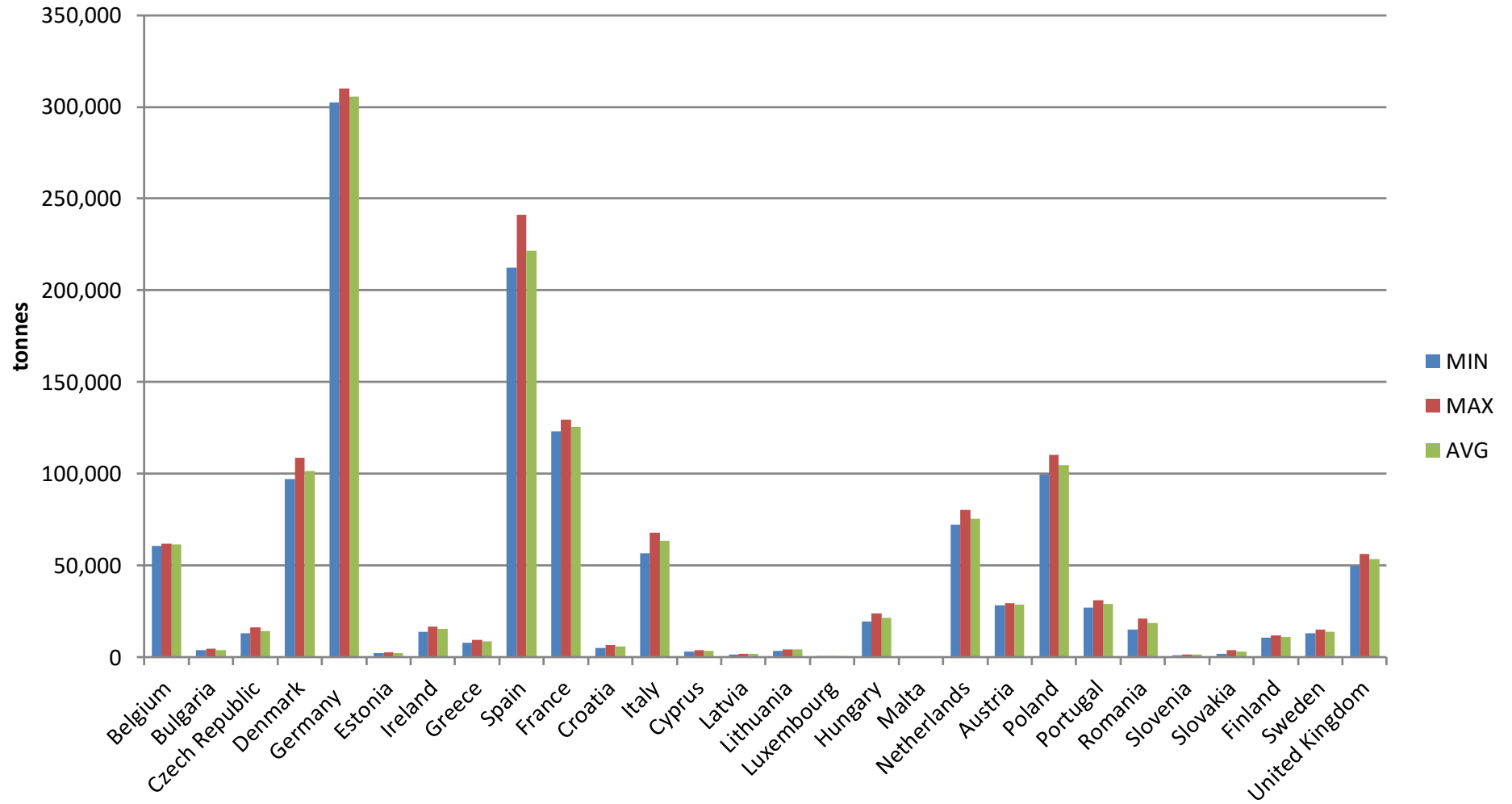


Figure 42 Tonnes of pig hide or skin after slaughtering per country, 2010-2015

Table 37 Tonnes of pig bones after slaughtering per country, 2010-2015

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	170,114	168,239	167,241	170,385	169,528	169,980	167,241	170,385	169,248
Bulgaria	10,287	10,287	10,579	11,399	11,676	13,142	10,287	13,142	11,228
Czech Republic	44,556	42,648	38,860	37,919	37,754	35,868	35,868	44,556	39,601
Denmark	287,627	298,505	278,288	273,242	269,662	267,652	267,652	298,505	279,163
Germany	831,607	852,137	832,231	838,380	839,839	847,876	831,607	852,137	840,345
Estonia	5,835	5,999	6,541	6,637	7,301	7,623	5,835	7,623	6,656
Ireland	37,996	41,542	42,503	41,523	43,512	46,132	37,996	46,132	42,201
Greece	26,203	26,160	25,558	24,004	22,829	21,527	21,527	26,203	24,380
Spain	584,112	596,930	594,802	592,284	621,815	663,237	584,112	663,237	608,864
France	356,568	354,695	344,964	339,587	338,261	338,621	338,261	356,568	345,449
Croatia	17,060	17,926	17,279	15,770	13,968	15,567	13,968	17,926	16,262
Italy	184,583	176,551	181,094	187,311	156,309	161,651	156,309	187,311	174,583
Cyprus	10,497	10,163	9,311	8,703	8,061	8,258	8,061	10,497	9,165
Latvia	4,514	4,473	4,626	4,922	5,141	5,282	4,473	5,282	4,826
Lithuania	10,048	10,754	10,745	12,267	12,194	11,972	10,048	12,267	11,330
Luxembourg	1,923	1,878	1,978	2,110	2,255	2,258	1,878	2,258	2,067
Hungary	65,924	61,353	54,855	53,624	58,309	63,757	53,624	65,924	59,637
Malta	1,219	1,188	982	1,019	998	888	888	1,219	1,049
Netherlands	199,393	208,690	204,743	200,394	208,721	221,437	199,393	221,437	207,230
Austria	81,395	80,081	77,696	77,468	77,319	77,423	77,319	81,395	78,564
Poland	285,509	299,993	274,786	273,414	293,209	303,774	273,414	303,774	288,447
Portugal	85,227	84,189	79,027	74,051	76,817	80,623	74,051	85,227	79,989
Romania	41,483	46,573	49,672	53,669	56,919	57,737	41,483	57,737	51,009
Slovenia	4,137	3,917	3,611	3,258	3,416	3,408	3,258	4,137	3,624
Slovakia	10,841	9,177	8,641	8,207	5,281	7,104	5,281	10,841	8,209
Finland	32,143	32,424	30,634	30,668	29,383	29,741	29,383	32,424	30,832
Sweden	41,988	40,689	36,975	36,475	36,642	36,614	36,475	41,988	38,231
United Kingdom	137,785	143,894	147,275	147,273	149,656	155,126	137,785	155,126	146,835

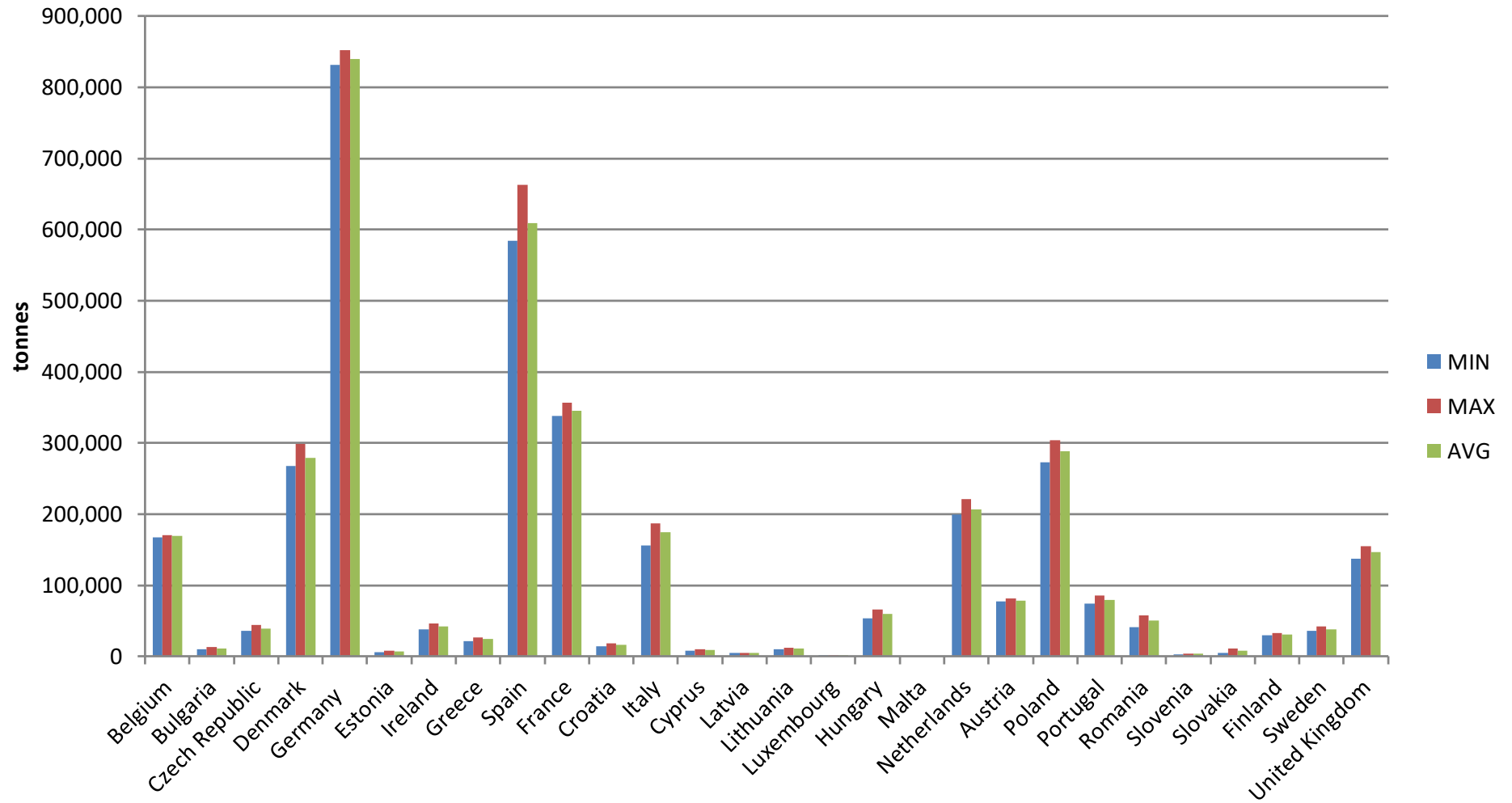


Figure 43 Tonnes of pig hide or skin after slaughtering per country, 2010-2015

Table 38 Consumption of pig meat (tonnes) per country, 2010-2015

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	541,995	550,032	554,743	558,082	559,042	561,864	541,995	561,864	554,293
Bulgaria	204,841	203,396	202,231	201,054	199,981	198,781	198,781	204,841	201,714
Czech Republic	432,084	433,102	433,875	434,316	434,163	435,231	432,084	435,231	433,795
Denmark	448,314	450,411	452,022	453,813	455,806	458,437	448,314	458,437	453,134
Germany	4,417,322	4,331,992	4,337,707	4,348,282	4,361,443	4,384,667	4,331,992	4,417,322	4,363,569
Estonia	49,332	49,197	49,033	48,846	48,685	48,650	48,650	49,332	48,957
Ireland	136,483	137,126	137,481	137,733	138,165	138,868	136,483	138,868	137,643
Greece	480,353	480,531	478,933	475,356	472,038	469,066	469,066	480,531	476,046
Spain	2,659,035	2,669,362	2,678,002	2,672,835	2,660,498	2,656,915	2,656,915	2,678,002	2,666,108
France	2,198,401	2,209,277	2,219,417	2,230,412	2,242,031	2,260,598	2,198,401	2,260,598	2,226,689
Croatia	74,870	74,644	74,402	74,161	73,894	73,520	73,520	74,870	74,249
Italy	2,249,225	2,255,858	2,256,980	2,268,039	2,309,741	2,310,233	2,249,225	2,310,233	2,275,013
Cyprus	58,978	60,462	62,065	62,343	61,776	60,985	58,978	62,343	61,101
Latvia	44,531	43,567	42,941	42,500	42,031	41,708	41,708	44,531	42,880
Lithuania	136,676	132,788	130,658	129,278	128,041	127,075	127,075	136,676	130,753
Luxembourg	22,141	22,572	23,146	23,683	24,241	24,826	22,141	24,826	23,435
Hungary	408,584	407,417	405,223	404,279	402,996	402,107	402,107	408,584	405,101
Malta	13,787	13,819	13,904	14,031	14,165	14,297	13,787	14,297	14,001
Netherlands	679,575	682,888	685,944	687,963	690,001	692,930	679,575	692,930	686,550
Austria	476,044	477,384	479,263	481,756	484,893	488,847	476,044	488,847	481,364
Poland	1,923,957	1,925,974	1,926,028	1,925,964	1,923,704	1,923,084	1,923,084	1,926,028	1,924,785
Portugal	441,971	441,940	440,672	438,369	435,861	433,668	433,668	441,971	438,747
Romania	588,546	585,773	582,784	580,582	578,472	576,249	576,249	588,546	582,068
Slovenia	89,043	89,183	89,414	89,559	89,657	89,735	89,043	89,735	89,432
Slovakia	189,203	189,275	189,692	189,920	190,100	190,289	189,203	190,289	189,747
Finland	185,159	185,985	186,884	187,763	188,614	189,323	185,159	189,323	187,288
Sweden	352,144	354,967	357,504	360,257	363,611	367,475	352,144	367,475	359,326
United Kingdom	1,250,204	1,260,451	1,269,906	1,278,106	1,287,023	1,297,503	1,250,204	1,297,503	1,273,865

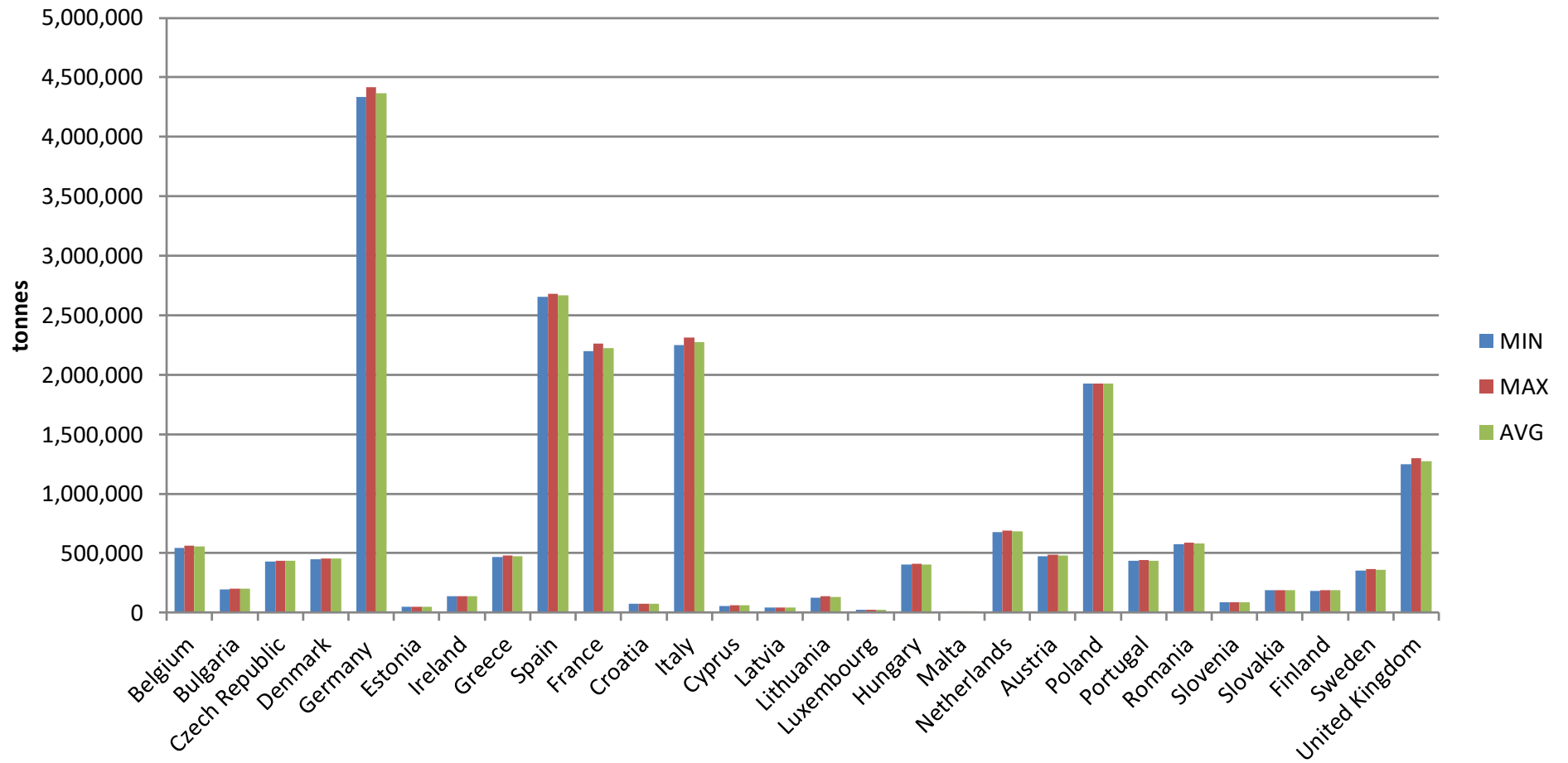


Figure 44 Consumption of pig meat (tonnes) per country, 2010-2015

Table 39 Tonnes of rotten pig meat per country, 2010-2015

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	84,009	85,255	85,985	86,503	86,652	87,089	84,009	87,089	85,915
Bulgaria	31,750	31,526	31,346	31,163	30,997	30,811	30,811	31,750	31,266
Czech Republic	66,973	67,131	67,251	67,319	67,295	67,461	66,973	67,461	67,238
Denmark	69,489	69,814	70,063	70,341	70,650	71,058	69,489	71,058	70,236
Germany	684,685	671,459	672,345	673,984	676,024	679,623	671,459	684,685	676,353
Estonia	7,646	7,626	7,600	7,571	7,546	7,541	7,541	7,646	7,588
Ireland	21,155	21,255	21,310	21,349	21,416	21,525	21,155	21,525	21,335
Greece	74,455	74,482	74,235	73,680	73,166	72,705	72,705	74,482	73,787
Spain	412,150	413,751	415,090	414,289	412,377	411,822	411,822	415,090	413,247
France	340,752	342,438	344,010	345,714	347,515	350,393	340,752	350,393	345,137
Croatia	11,605	11,570	11,532	11,495	11,454	11,396	11,396	11,605	11,509
Italy	348,630	349,658	349,832	351,546	358,010	358,086	348,630	358,086	352,627
Cyprus	9,142	9,372	9,620	9,663	9,575	9,453	9,142	9,663	9,471
Latvia	6,902	6,753	6,656	6,588	6,515	6,465	6,465	6,902	6,646
Lithuania	21,185	20,582	20,252	20,038	19,846	19,697	19,697	21,185	20,267
Luxembourg	3,432	3,499	3,588	3,671	3,757	3,848	3,432	3,848	3,632
Hungary	63,331	63,150	62,809	62,663	62,464	62,327	62,327	63,331	62,791
Malta	2,137	2,142	2,155	2,175	2,196	2,216	2,137	2,216	2,170
Netherlands	105,334	105,848	106,321	106,634	106,950	107,404	105,334	107,404	106,415
Austria	73,787	73,995	74,286	74,672	75,158	75,771	73,787	75,771	74,611
Poland	298,213	298,526	298,534	298,524	298,174	298,078	298,078	298,534	298,342
Portugal	68,506	68,501	68,304	67,947	67,558	67,218	67,218	68,506	68,006
Romania	91,225	90,795	90,332	89,990	89,663	89,319	89,319	91,225	90,220
Slovenia	13,802	13,823	13,859	13,882	13,897	13,909	13,802	13,909	13,862
Slovakia	29,327	29,338	29,402	29,438	29,465	29,495	29,327	29,495	29,411
Finland	28,700	28,828	28,967	29,103	29,235	29,345	28,700	29,345	29,030
Sweden	54,582	55,020	55,413	55,840	56,360	56,959	54,582	56,959	55,696
United Kingdom	193,782	195,370	196,835	198,106	199,489	201,113	193,782	201,113	197,449

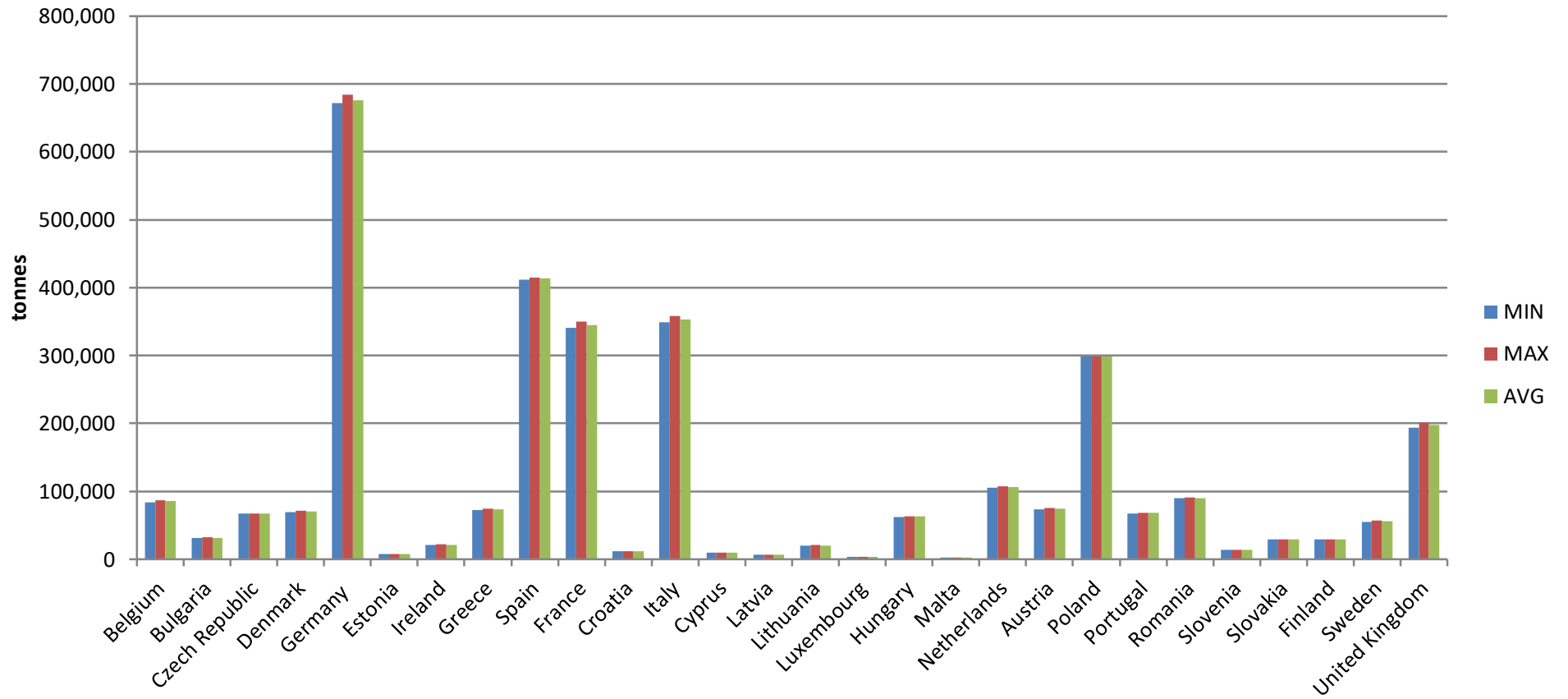


Figure 45 Tonnes of rotten pig meat per country, 2010-2015

2.4 Chicken (broiler)

Chickens are animals that are reared for meat and egg consumption (41). There are several types of chicken; some are farmed for egg production, some for meat production, and some for both (usually in domestic farms). This review analyses broiler chicken grown for meat production, as shown in Figure 46.



Figure 46 Broilers on farm (42)

A typical broiler has white feathers and yellow skin. Commercial broilers are slaughtered after they reach an age of five to seven weeks. There are slower growing breeds that exist which are processed at approximately 12 to 14 weeks (43). The main AWCB that occurs during the farming step is manure. In comparison to other farmed animals, chicken manure has the highest nitrogen content (44). In the consumption step, AWCB that occurs is in a form of rotten meat.

The flow chart in Figure 47 presents AWCB value chain for broilers and specific AWCB weight factors from Table 2.

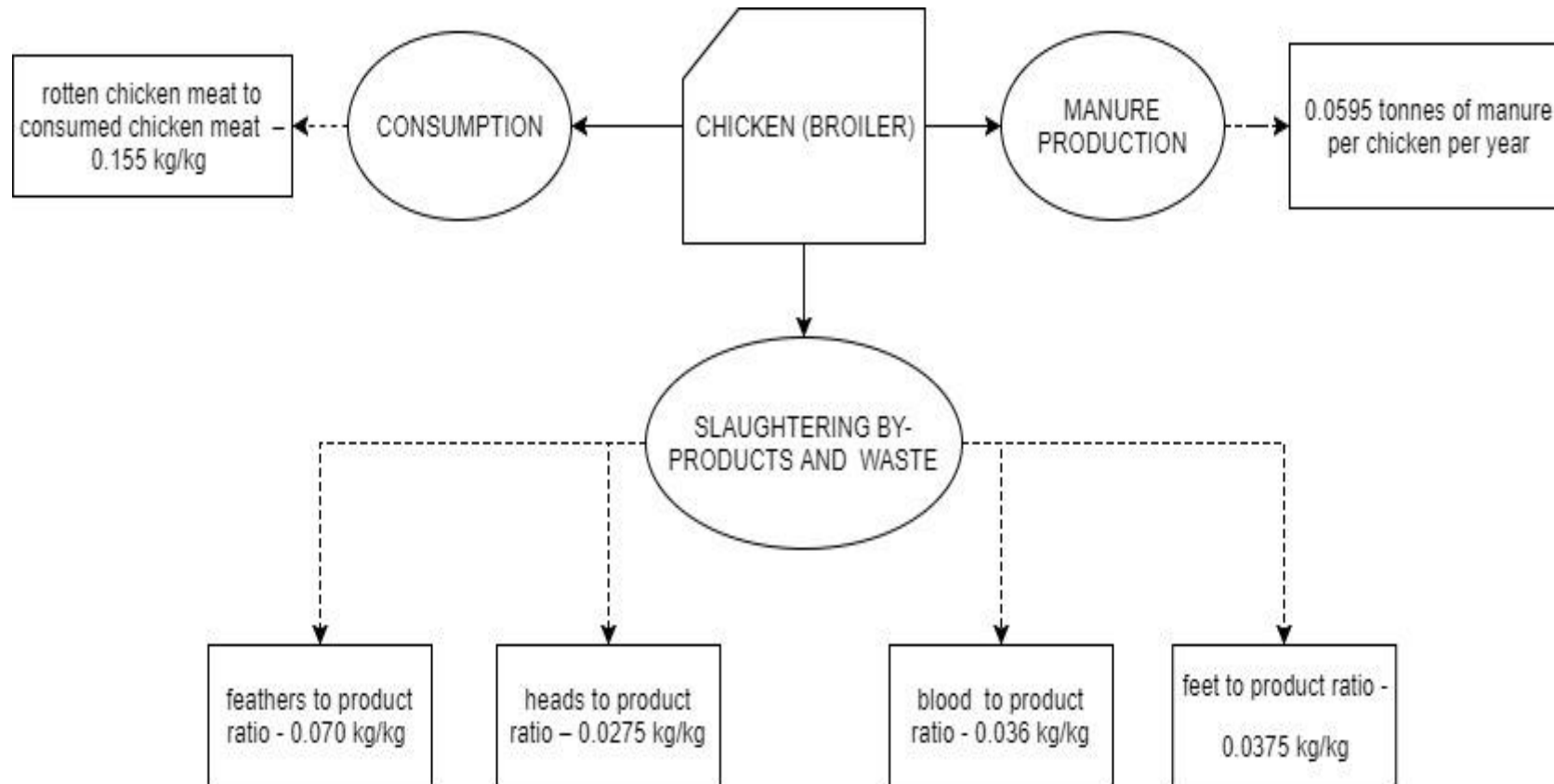


Figure 47 Broilers AWCB value chain

Data for farmed and slaughtered broilers is taken from EUROSTAT. From specific consumption of meat and population in the country, the quantity of consumed meat is calculated. By using relation (1-8), the quantity of manure is calculated for every country in each given year. Then the quantity of AWCB is calculated for every step and every year. An example of calculation for Denmark in 2010 is now presented:

FARM = 18,084,000 heads

SLAUG = 108,404,100 heads

SPECMAN = 0.0595 tonnes/year

MAN = 1,075,998 tonnes

CON = 124,789 tonnes

The average quantity of manure that one broiler produces during a year is 0.0595 tonnes and the total quantity of manure that Danish chicken farmers produced was 1,075,998 tonnes in 2010. Slaughtering by-products and appropriate quantities that occurred in Danish slaughterhouses were: 7,805 tonnes of blood; 15,177 tonnes of feathers; 12,900 tonnes of heads and 8,130 tonnes of feet in 2010. The quantity of consumed chicken meat in Denmark was 124,789 tonnes, and 15.5% of that was rotten chicken meat, 19,342 tonnes in 2010. Results for other countries are shown in the tables and figures below.

Table 40 Heads of farmed chickens per country, 2010-2014 (45)

GEO/TIME	2010	2011	2012	2013	2014	MIN	MAX	AVG
Belgium	34,375,000	35,376,000	35,618,000	36,219,000	33,700,000	33,700,000	36,219,000	35,057,600
Bulgaria	16,002,000	14,063,000	13,150,000	13,837,000	11,665,000	11,665,000	16,002,000	13,743,400
Czech Republic	24,284,000	20,577,000	20,107,000	22,534,000	20,656,000	20,107,000	24,284,000	21,631,600
Denmark	18,084,000	18,207,000	18,174,000	18,981,000	17,902,000	17,902,000	18,981,000	18,269,600
Germany	114,113,000	118,640,000	121,040,000	160,774,000	121,000,000	114,113,000	160,774,000	127,113,400
Estonia	1,769,000	2,006,000	1,973,000	2,097,000	2,048,000	1,769,000	2,097,000	1,978,600
Ireland	13,800,000	14,000,000	14,500,000	15,000,000	15,100,000	13,800,000	15,100,000	14,480,000
Greece	32,000,000	33,000,000	33,500,000	34,000,000	35,000,000	32,000,000	35,000,000	33,500,000
Spain	138,000,000	138,000,000	138,000,000	138,000,000	138,000,000	138,000,000	138,000,000	138,000,000
France	143,973,000	161,284,000	164,984,000	167,635,000	170,000,000	143,973,000	170,000,000	161,575,200
Croatia	5,041,000	4,222,000	9,434,000	8,717,000	9,802,000	4,222,000	9,802,000	7,443,200
Italy	130,000,000	138,000,000	140,000,000	136,000,000	137,400,000	130,000,000	140,000,000	136,280,000
Cyprus	2,981,000	3,058,000	2,693,000	3,090,000	2,810,000	2,693,000	3,090,000	2,926,400
Latvia	4,105,000	4,208,000	3,756,000	4,100,000	3,620,000	3,620,000	4,208,000	3,957,800
Lithuania	9,034,000	9,203,000	8,667,000	8,820,000	9,629,000	8,667,000	9,629,000	9,070,600
Luxembourg	90,000	102,000	113,000	111,000	116,000	90,000	116,000	106,400
Hungary	32,128,000	31,848,000	32,860,000	30,075,000	29,474,000	29,474,000	32,860,000	31,277,000
Malta	1,015,000	920,000	970,000	1,000,000	1,000,000	920,000	1,015,000	981,000
Netherlands	101,248,000	96,919,000	95,273,000	97,719,000	103,039,000	95,273,000	103,039,000	98,839,600
Austria	15,650,000	16,000,000	16,250,000	16,300,000	16,500,000	15,650,000	16,500,000	16,140,000
Poland	117,845,000	127,542,000	113,424,000	123,512,000	129,861,000	113,424,000	129,861,000	122,436,800
Portugal	40,000,000	40,000,000	42,000,000	43,000,000	45,000,000	40,000,000	45,000,000	42,000,000
Romania	83,843,000	80,845,000	79,842,000	80,136,000	79,440,000	79,440,000	83,843,000	80,821,200
Slovenia	2,945,000	2,529,000	2,155,000	3,172,000	2,827,000	2,155,000	3,172,000	2,725,600
Slovakia	13,104,000	12,519,000	11,376,000	11,850,000	10,970,000	10,970,000	13,104,000	11,963,800
Finland	4,616,000	5,421,000	6,038,000	6,861,000	7,341,000	4,616,000	7,341,000	6,055,400
Sweden	7,708,000	8,204,000	8,286,000	8,582,000	8,263,000	7,708,000	8,582,000	8,208,600
United Kingdom	152,000,000	151,000,000	149,000,000	152,000,000	158,778,000	149,000,000	158,778,000	152,555,600

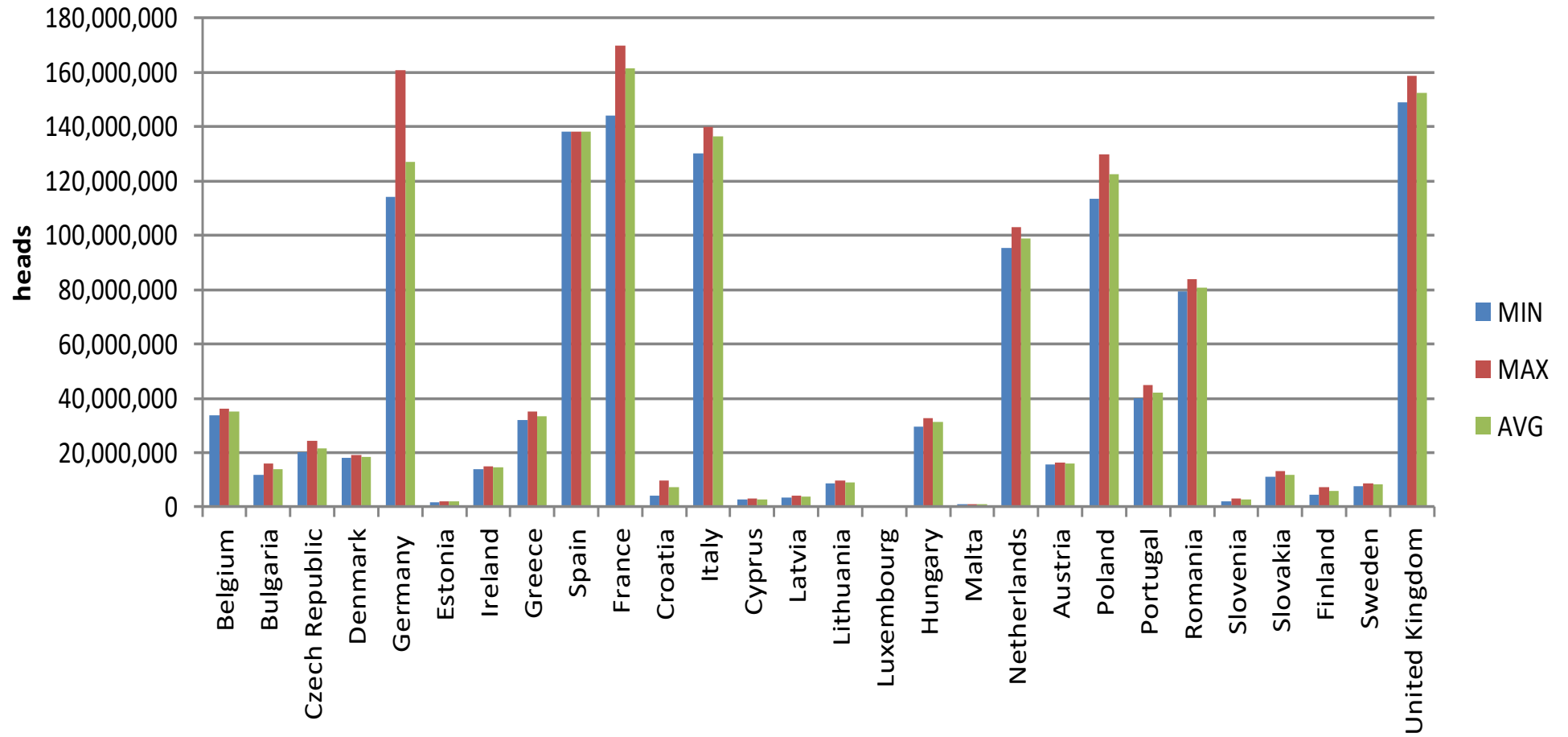


Figure 48 Heads of farmed chickens per country, 2010-2014

Table 41 Tonnes of chicken manure per country, 2010-2014

GEO/TIME	2010	2011	2012	2013	2014	MIN	MAX	AVG
Belgium	2.045.313	2.104.872	2.119.271	2.155.031	2.005.150	2.005.150	2.155.031	2.085.927
Bulgaria	952.119	836.749	782.425	823.302	694.068	694.068	952.119	817.732
Czech Republic	1.444.898	1.224.332	1.196.367	1.340.773	1.229.032	1.196.367	1.444.898	1.287.080
Denmark	1.075.998	1.083.317	1.081.353	1.129.370	1.065.169	1.065.169	1.129.370	1.087.041
Germany	6.789.724	7.059.080	7.201.880	9.566.053	7.199.500	6.789.724	9.566.053	7.563.247
Estonia	105.256	119.357	117.394	124.772	121.856	105.256	124.772	117.727
Ireland	821.100	833.000	862.750	892.500	898.450	821.100	898.450	861.560
Greece	1.904.000	1.963.500	1.993.250	2.023.000	2.082.500	1.904.000	2.082.500	1.993.250
Spain	8.211.000	8.211.000	8.211.000	8.211.000	8.211.000	8.211.000	8.211.000	8.211.000
France	8.566.394	9.596.398	9.816.548	9.974.283	10.115.000	8.566.394	10.115.000	9.613.724
Croatia	299.940	251.209	561.323	518.662	583.219	251.209	583.219	442.870
Italy	7.735.000	8.211.000	8.330.000	8.092.000	8.175.300	7.735.000	8.330.000	8.108.660
Cyprus	177.370	181.951	160.234	183.855	167.195	160.234	183.855	174.121
Latvia	244.248	250.376	223.482	243.950	215.390	215.390	250.376	235.489
Lithuania	537.523	547.579	515.687	524.790	572.926	515.687	572.926	539.701
Luxembourg	5.355	6.069	6.724	6.605	6.902	5.355	6.902	6.331
Hungary	1.911.616	1.894.956	1.955.170	1.789.463	1.753.703	1.753.703	1.955.170	1.860.982
Malta	60.393	54.740	57.715	59.500	59.500	54.740	60.393	58.370
Netherlands	6.024.256	5.766.681	5.668.744	5.814.281	6.130.821	5.668.744	6.130.821	5.880.956
Austria	931.175	952.000	966.875	969.850	981.750	931.175	981.750	960.330
Poland	7.011.778	7.588.749	6.748.728	7.348.964	7.726.730	6.748.728	7.726.730	7.284.990
Portugal	2.380.000	2.380.000	2.499.000	2.558.500	2.677.500	2.380.000	2.677.500	2.499.000
Romania	4.988.659	4.810.278	4.750.599	4.768.092	4.726.680	4.726.680	4.988.659	4.808.861
Slovenia	175.228	150.476	128.223	188.734	168.207	128.223	188.734	162.173
Slovakia	779.688	744.881	676.872	705.075	652.715	652.715	779.688	711.846
Finland	274.652	322.550	359.261	408.230	436.790	274.652	436.790	360.296
Sweden	458.626	488.138	493.017	510.629	491.649	458.626	510.629	488.412
United Kingdom	9.044.000	8.984.500	8.865.500	9.044.000	9.447.291	8.865.500	9.447.291	9.077.058

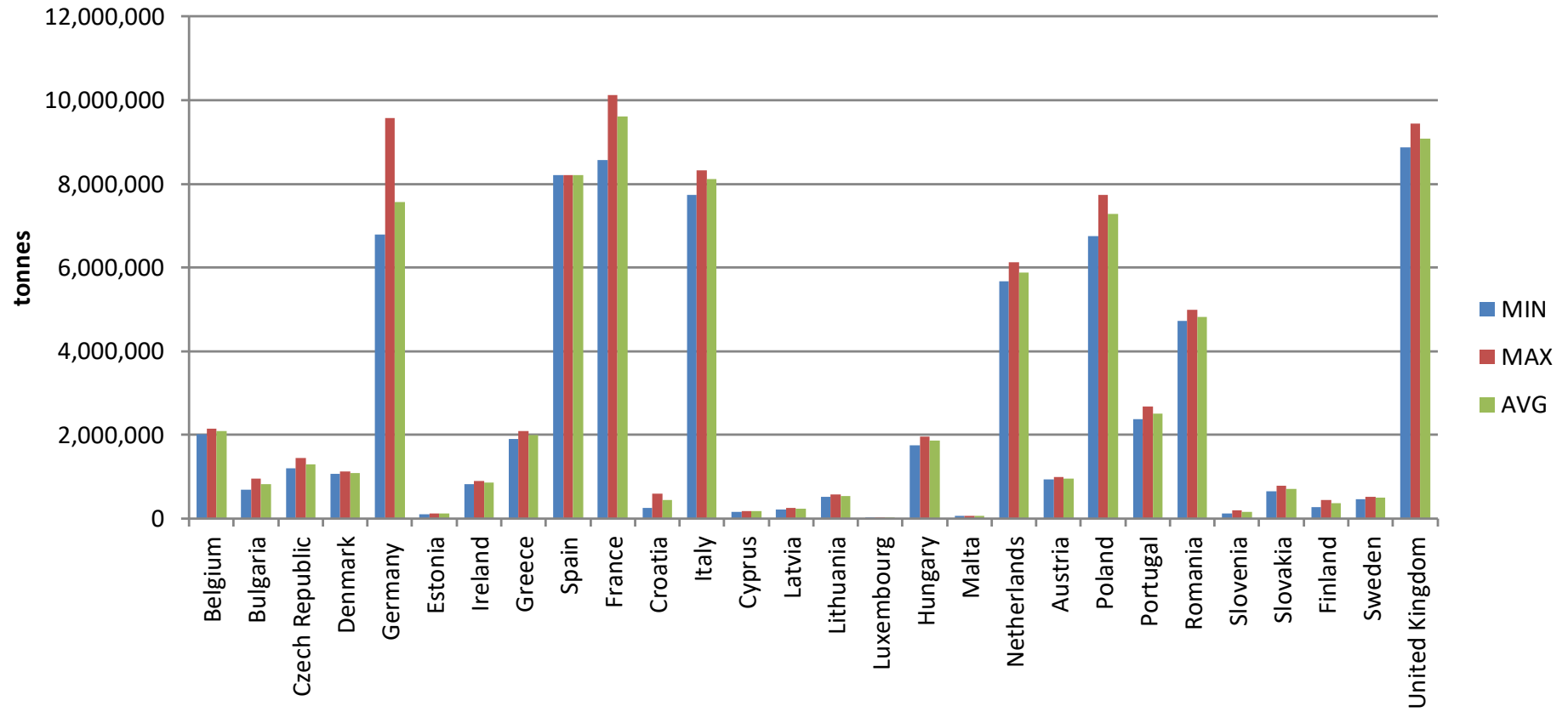


Figure 49 Tonnes of chicken manure per country, 2010-2014

Table 42 Heads of slaughtered chickens per country, 2010-2015 (48)

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	306,796,790	303,349,580	308,010,360	290,476,470	293,638,550	302,961,380	290,476,470	308,010,360	300,872,188
Bulgaria	46,450,530	44,779,910	45,523,990	42,777,870	43,138,100	45,903,120	42,777,870	46,450,530	44,762,253
Czech Republic	132,755,000	121,106,000	106,418,410	102,741,340	102,761,880	110,359,780	102,741,340	132,755,000	112,690,402
Denmark	108,404,100	106,194,100	101,073,800	107,104,900	102,945,600	95,693,100	95,693,100	108,404,100	103,569,267
Germany	591,180,000	609,015,000	595,886,000	613,381,000	638,172,000	622,036,000	591,180,000	638,172,000	611,611,667
Estonia	0	0	0	0	0	0	0	0	0
Ireland	77,538,520	79,920,590	82,773,620	61,678,880	59,612,460	62,117,080	59,612,460	82,773,620	70,606,858
Greece	115,368,670	112,987,270	114,954,380	110,703,670	114,100,550	112,934,950	110,703,670	115,368,670	113,508,248
Spain	585,842,320	603,747,000	604,962,300	589,666,340	624,364,140	636,311,740	585,842,320	636,311,740	607,482,307
France	789,185,000	823,691,000	807,381,000	829,789,000	782,629,000	817,035,000	782,629,000	829,789,000	808,285,000
Croatia	33,712,000	33,987,900	34,494,700	35,037,900	33,934,200	35,657,600	33,712,000	35,657,600	34,470,717
Italy	491,360,000	508,757,000	517,834,000	503,406,000	508,865,000	533,812,000	491,360,000	533,812,000	510,672,333
Cyprus	13,735,940	13,610,010	12,573,780	10,911,500	10,746,160	12,354,700	10,746,160	13,735,940	12,322,015
Latvia	15,100,780	14,640,690	15,154,530	16,596,540	17,256,870	17,493,240	14,640,690	17,493,240	16,040,442
Lithuania	37,776,830	38,645,640	41,795,430	45,215,060	47,511,390	48,998,880	37,776,830	48,998,880	43,323,872
Luxembourg	0	0	0	0	0	0	0	0	0
Hungary	119,389,320	121,965,650	131,803,300	128,631,490	138,700,230	158,281,480	119,389,320	158,281,480	133,128,578
Malta	2,681,600	2,437,040	2,562,360	2,353,200	2,230,350	2,250,980	2,230,350	2,681,600	2,419,255
Netherlands	479,015,450	505,632,100	535,752,610	551,885,540	574,324,370	592,146,010	479,015,450	592,146,010	539,792,680
Austria	72,309,880	72,557,880	73,393,860	74,308,970	76,953,950	80,722,640	72,309,880	80,722,640	75,041,197
Poland	591,906,780	614,779,210	740,913,400	784,906,120	845,308,620	932,999,250	591,906,780	932,999,250	751,802,230
Portugal	179,605,470	180,974,530	179,155,720	179,108,660	180,542,600	189,981,140	179,108,660	189,981,140	181,561,353
Romania	71,529,890	14,743,050	32,174,265	49,605,480	138,902,070	228,198,660	14,743,050	228,198,660	89,192,236
Slovenia	29,436,510	31,348,570	31,637,070	31,927,650	33,214,190	32,905,000	29,436,510	33,214,190	31,744,832
Slovakia	0	0	0	0	0	0	0	0	0
Finland	46,005,120	56,144,400	59,612,030	61,871,570	63,161,180	65,080,970	46,005,120	65,080,970	58,645,878
Sweden	78,507,150	78,182,280	76,840,260	81,825,750	87,921,690	94,111,230	76,840,260	94,111,230	82,898,060
United Kingdom	903,698,130	898,862,670	918,518,940	944,253,360	941,706,920	974,067,500	898,862,670	974,067,500	930,184,587

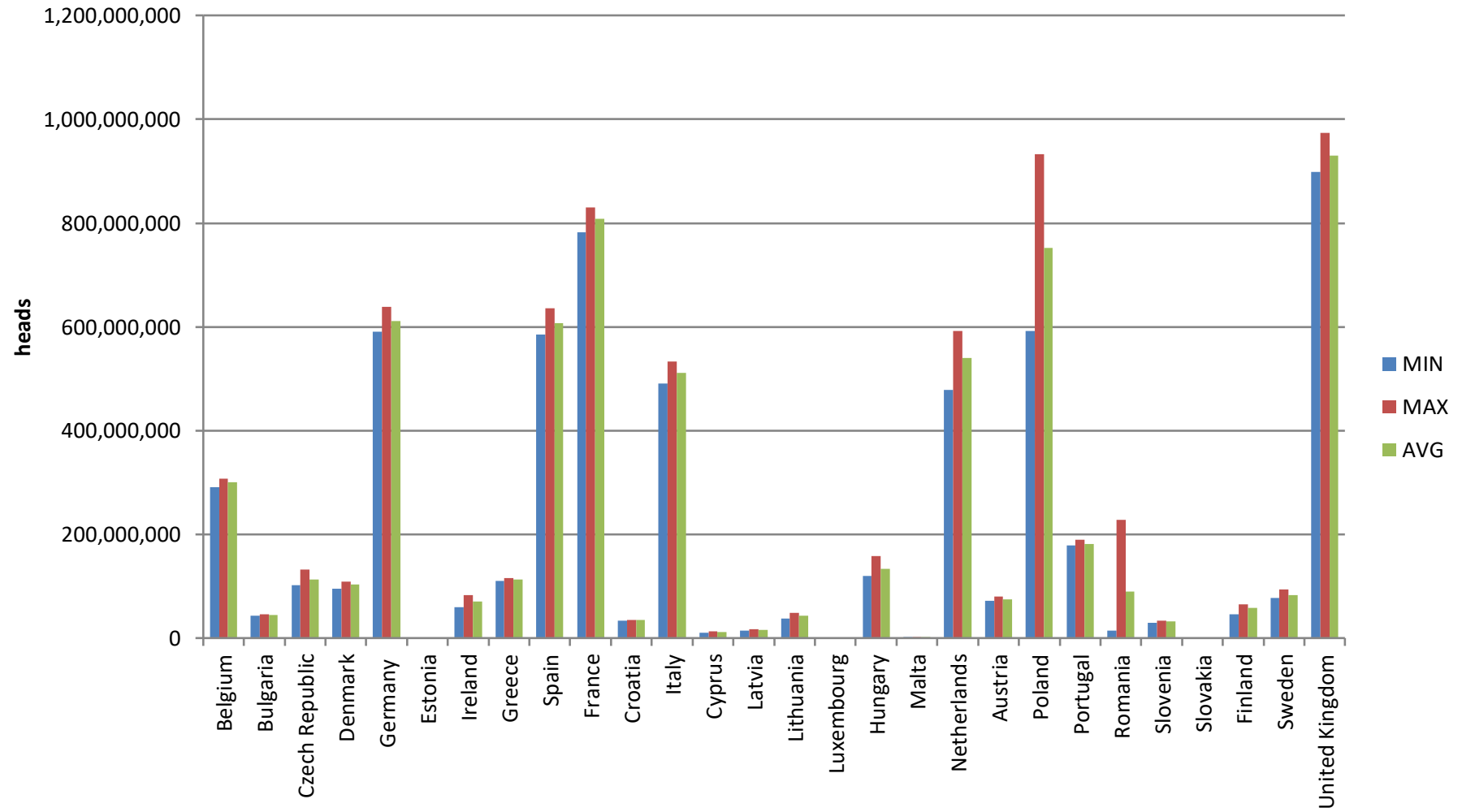


Figure 50 Heads of slaughtered chickens per country, 2010-2015

Table 43 Tonnes of chicken feathers after slaughtering per country, 2010-2015

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	42,952	42,469	43,121	40,667	41,109	42,415	40,667	43,121	42,122
Bulgaria	6,503	6,269	6,373	5,989	6,039	6,426	5,989	6,503	6,267
Czech Republic	18,586	16,955	14,899	14,384	14,387	15,450	14,384	18,586	15,777
Denmark	15,177	14,867	14,150	14,995	14,412	13,397	13,397	15,177	14,500
Germany	82,765	85,262	83,424	85,873	89,344	87,085	82,765	89,344	85,626
Estonia	0	0	0	0	0	0	0	0	0
Ireland	10,855	11,189	11,588	8,635	8,346	8,696	8,346	11,588	9,885
Greece	16,152	15,818	16,094	15,499	15,974	15,811	15,499	16,152	15,891
Spain	82,018	84,525	84,695	82,553	87,411	89,084	82,018	89,084	85,048
France	110,486	115,317	113,033	116,170	109,568	114,385	109,568	116,170	113,160
Croatia	4,720	4,758	4,829	4,905	4,751	4,992	4,720	4,992	4,826
Italy	68,790	71,226	72,497	70,477	71,241	74,734	68,790	74,734	71,494
Cyprus	1,923	1,905	1,760	1,528	1,504	1,730	1,504	1,923	1,725
Latvia	2,114	2,050	2,122	2,324	2,416	2,449	2,050	2,449	2,246
Lithuania	5,289	5,410	5,851	6,330	6,652	6,860	5,289	6,860	6,065
Luxembourg	0	0	0	0	0	0	0	0	0
Hungary	16,715	17,075	18,452	18,008	19,418	22,159	16,715	22,159	18,638
Malta	375	341	359	329	312	315	312	375	339
Netherlands	67,062	70,788	75,005	77,264	80,405	82,900	67,062	82,900	75,571
Austria	10,123	10,158	10,275	10,403	10,774	11,301	10,123	11,301	10,506
Poland	82,867	86,069	103,728	109,887	118,343	130,620	82,867	130,620	105,252
Portugal	25,145	25,336	25,082	25,075	25,276	26,597	25,075	26,597	25,419
Romania	10,014	2,064	4,504	6,945	19,446	31,948	2,064	31,948	12,487
Slovenia	4,121	4,389	4,429	4,470	4,650	4,607	4,121	4,650	4,444
Slovakia	0	0	0	0	0	0	0	0	0
Finland	6,441	7,860	8,346	8,662	8,843	9,111	6,441	9,111	8,210
Sweden	10,991	10,946	10,758	11,456	12,309	13,176	10,758	13,176	11,606
United Kingdom	126,518	125,841	128,593	132,195	131,839	136,369	125,841	136,369	130,226

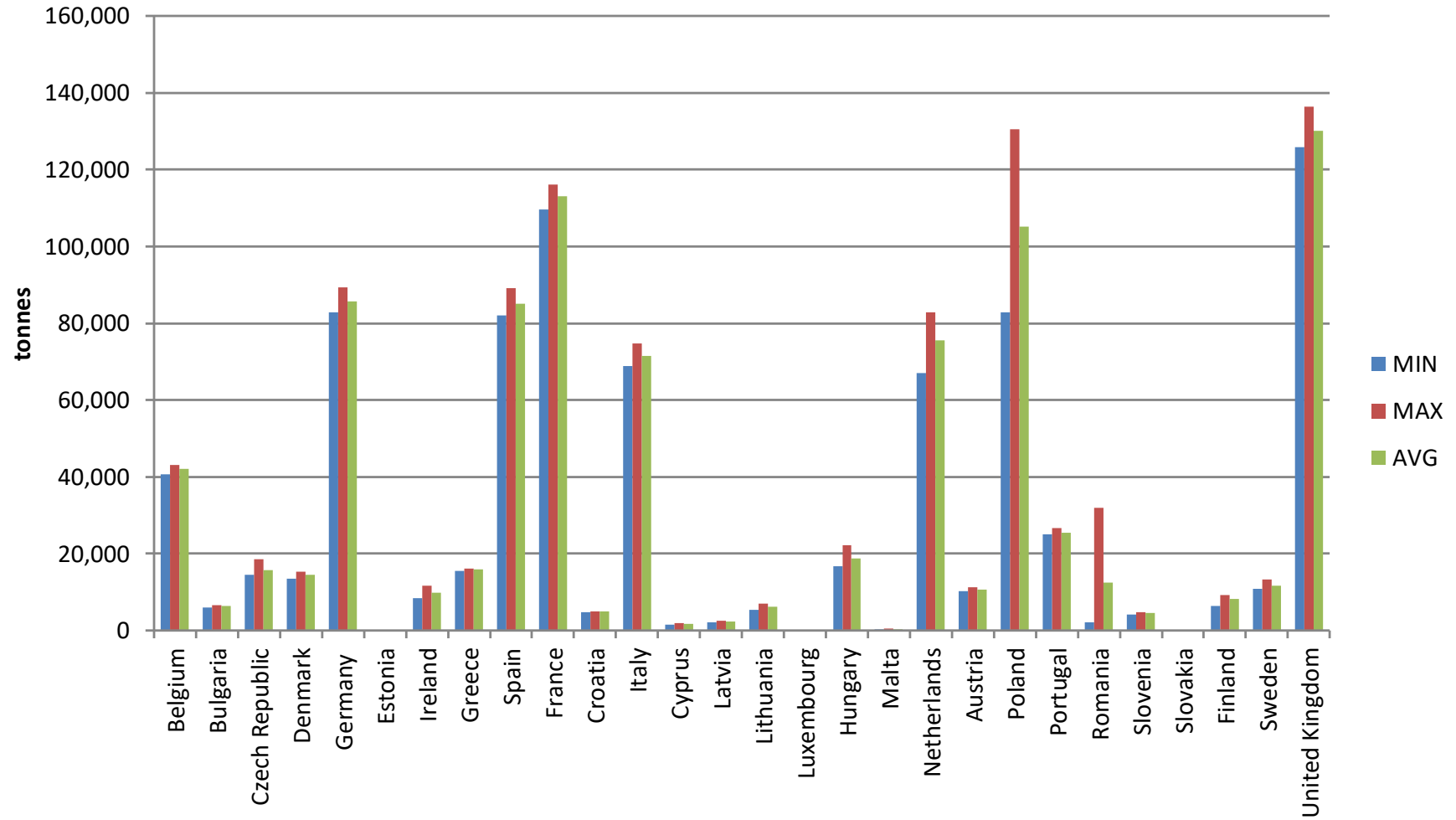


Figure 51 Tonnes of chicken feathers after slaughtering per country, 2010-2015

Table 44 Tonnes of chicken heads after slaughtering per country, 2010-2015

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	16.874	16.684	16.941	15.976	16.150	16.663	15.976	16.941	16.548
Bulgaria	2.555	2.463	2.504	2.353	2.373	2.525	2.353	2.555	2.462
Czech Republic	7.302	6.661	5.853	5.651	5.652	6.070	5.651	7.302	6.198
Denmark	5.962	5.841	5.559	5.891	5.662	5.263	5.263	5.962	5.696
Germany	32.515	33.496	32.774	33.736	35.099	34.212	32.515	35.099	33.639
Estonia	0	0	0	0	0	0	0	0	0
Ireland	4.265	4.396	4.553	3.392	3.279	3.416	3.279	4.553	3.883
Greece	6.345	6.214	6.322	6.089	6.276	6.211	6.089	6.345	6.243
Spain	32.221	33.206	33.273	32.432	34.340	34.997	32.221	34.997	33.412
France	43.405	45.303	44.406	45.638	43.045	44.937	43.045	45.638	44.456
Croatia	1.854	1.869	1.897	1.927	1.866	1.961	1.854	1.961	1.896
Italy	27.025	27.982	28.481	27.687	27.988	29.360	27.025	29.360	28.087
Cyprus	755	749	692	600	591	680	591	755	678
Latvia	831	805	833	913	949	962	805	962	882
Lithuania	2.078	2.126	2.299	2.487	2.613	2.695	2.078	2.695	2.383
Luxembourg	0	0	0	0	0	0	0	0	0
Hungary	6.566	6.708	7.249	7.075	7.629	8.705	6.566	8.705	7.322
Malta	147	134	141	129	123	124	123	147	133
Netherlands	26.346	27.810	29.466	30.354	31.588	32.568	26.346	32.568	29.689
Austria	3.977	3.991	4.037	4.087	4.232	4.440	3.977	4.440	4.127
Poland	32.555	33.813	40.750	43.170	46.492	51.315	32.555	51.315	41.349
Portugal	9.878	9.954	9.854	9.851	9.930	10.449	9.851	10.449	9.986
Romania	3.934	811	1.770	2.728	7.640	12.551	811	12.551	4.906
Slovenia	1.619	1.724	1.740	1.756	1.827	1.810	1.619	1.827	1.746
Slovakia	0	0	0	0	0	0	0	0	0
Finland	2.530	3.088	3.279	3.403	3.474	3.579	2.530	3.579	3.226
Sweden	4.318	4.300	4.226	4.500	4.836	5.176	4.226	5.176	4.559
United Kingdom	49.703	49.437	50.519	51.934	51.794	53.574	49.437	53.574	51.160

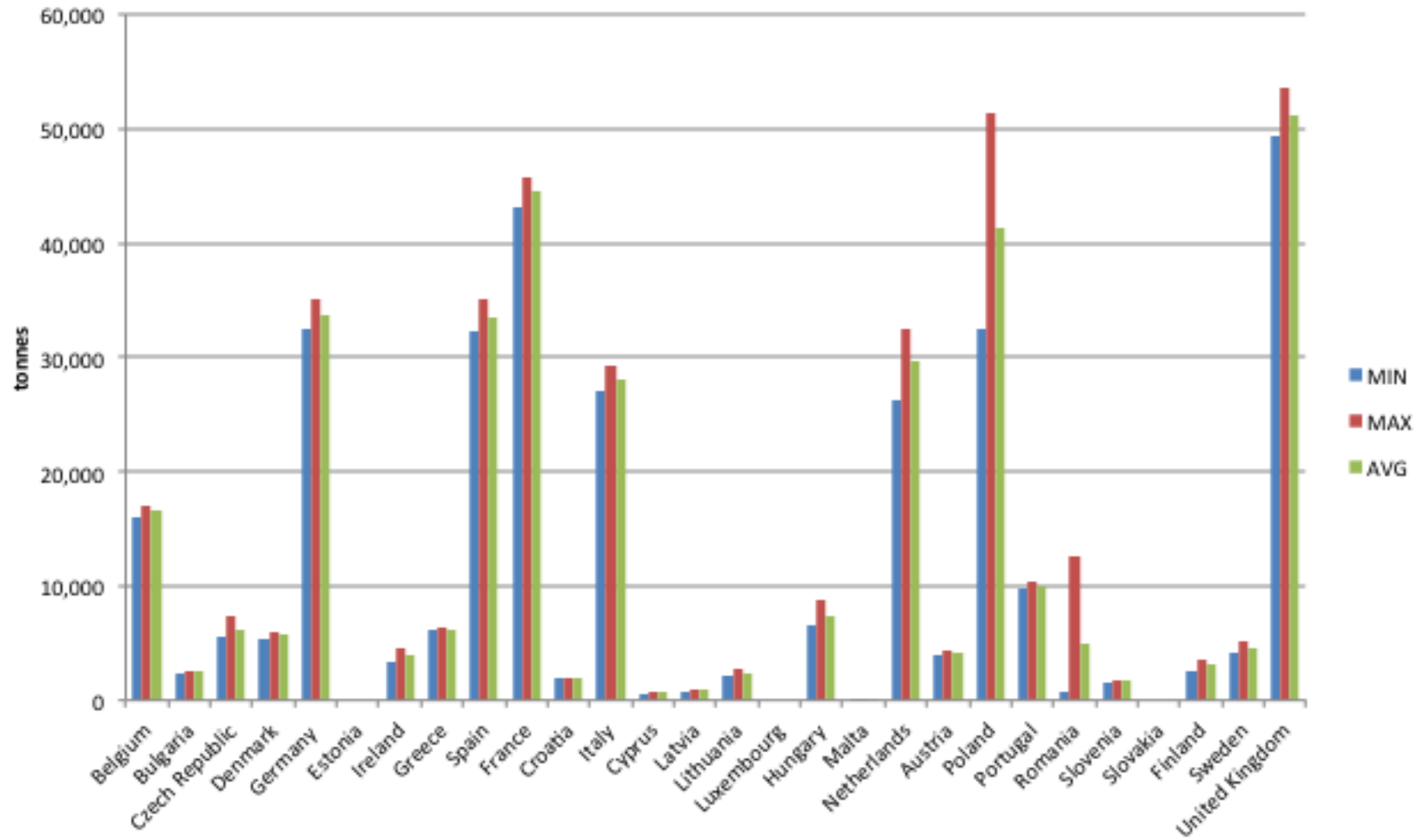


Figure 52 Tonnes of chicken heads after slaughtering per country, 2010-2015

Table 45 Tonnes of chicken blood after slaughtering per country, 2010-2015

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	22,089	21,841	22,177	20,914	21,142	21,813	20,914	22,177	21,663
Bulgaria	3,344	3,224	3,278	3,080	3,106	3,305	3,080	3,344	3,223
Czech Republic	9,558	8,720	7,662	7,397	7,399	7,946	7,397	9,558	8,114
Denmark	7,805	7,646	7,277	7,712	7,412	6,890	6,890	7,805	7,457
Germany	42,565	43,849	42,904	44,163	45,948	44,787	42,565	45,948	44,036
Estonia	0	0	0	0	0	0	0	0	0
Ireland	5,583	5,754	5,960	4,441	4,292	4,472	4,292	5,960	5,084
Greece	8,307	8,135	8,277	7,971	8,215	8,131	7,971	8,307	8,173
Spain	42,181	43,470	43,557	42,456	44,954	45,814	42,181	45,814	43,739
France	56,821	59,306	58,131	59,745	56,349	58,827	56,349	59,745	58,197
Croatia	2,427	2,447	2,484	2,523	2,443	2,567	2,427	2,567	2,482
Italy	35,378	36,631	37,284	36,245	36,638	38,434	35,378	38,434	36,768
Cyprus	989	980	905	786	774	890	774	989	887
Latvia	1,087	1,054	1,091	1,195	1,242	1,260	1,054	1,260	1,155
Lithuania	2,720	2,782	3,009	3,255	3,421	3,528	2,720	3,528	3,119
Luxembourg	0	0	0	0	0	0	0	0	0
Hungary	8,596	8,782	9,490	9,261	9,986	11,396	8,596	11,396	9,585
Malta	193	175	184	169	161	162	161	193	174
Netherlands	34,489	36,406	38,574	39,736	41,351	42,635	34,489	42,635	38,865
Austria	5,206	5,224	5,284	5,350	5,541	5,812	5,206	5,812	5,403
Poland	42,617	44,264	53,346	56,513	60,862	67,176	42,617	67,176	54,130
Portugal	12,932	13,030	12,899	12,896	12,999	13,679	12,896	13,679	13,072
Romania	5,150	1,061	0	3,572	0	16,430	0	16,430	4,369
Slovenia	2,119	2,257	2,278	2,299	2,391	2,369	2,119	2,391	2,286
Slovakia	0	0	0	0	0	0	0	0	0
Finland	3,312	4,042	4,292	4,455	4,548	4,686	3,312	4,686	4,223
Sweden	5,653	5,629	5,532	5,891	6,330	6,776	5,532	6,776	5,969
United Kingdom	65,066	64,718	66,133	67,986	67,803	70,133	64,718	70,133	66,973

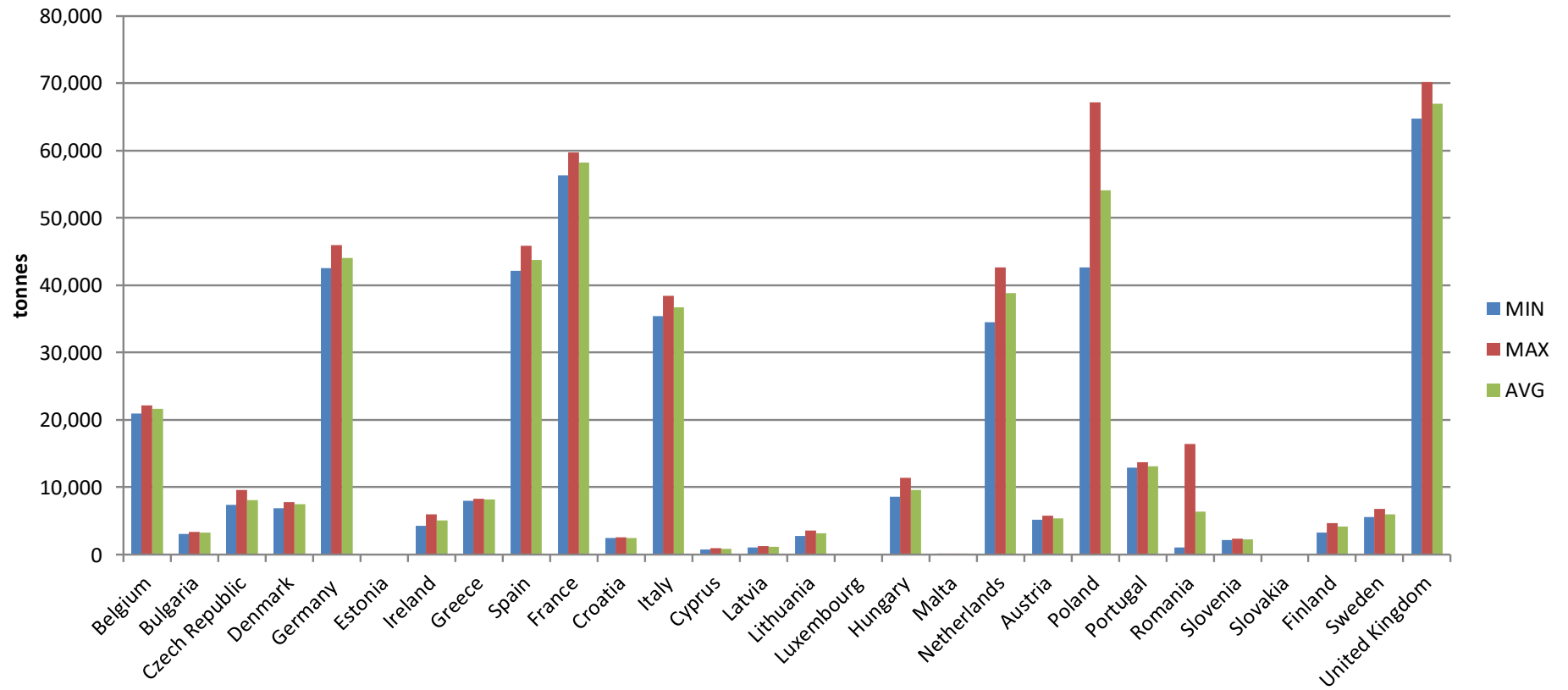


Figure 53 Tonnes of chicken blood after slaughtering per country, 2010-2015

Table 46 Tonnes of chicken feet after slaughtering per country, 2010-2015

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	23,010	22,751	23,101	21,786	22,023	22,722	21,786	23,101	22,565
Bulgaria	3,484	3,358	3,414	3,208	3,235	3,443	3,208	3,484	3,357
Czech Republic	9,957	9,083	7,981	7,706	7,707	8,277	7,706	9,957	8,452
Denmark	8,130	7,965	7,581	8,033	7,721	7,177	7,177	8,130	7,768
Germany	44,339	45,676	44,691	46,004	47,863	46,653	44,339	47,863	45,871
Estonia	0	0	0	0	0	0	0	0	0
Ireland	5,815	5,994	6,208	4,626	4,471	4,659	4,471	6,208	5,296
Greece	8,653	8,474	8,622	8,303	8,558	8,470	8,303	8,653	8,513
Spain	43,938	45,281	45,372	44,225	46,827	47,723	43,938	47,723	45,561
France	59,189	61,777	60,554	62,234	58,697	61,278	58,697	62,234	60,621
Croatia	2,528	2,549	2,587	2,628	2,545	2,674	2,528	2,674	2,585
Italy	36,852	38,157	38,838	37,755	38,165	40,036	36,852	40,036	38,300
Cyprus	1,030	1,021	943	818	806	927	806	1,030	924
Latvia	1,133	1,098	1,137	1,245	1,294	1,312	1,098	1,312	1,203
Lithuania	2,833	2,898	3,135	3,391	3,563	3,675	2,833	3,675	3,249
Luxembourg	0	0	0	0	0	0	0	0	0
Hungary	8,954	9,147	9,885	9,647	10,403	11,871	8,954	11,871	9,985
Malta	201	183	192	176	167	169	167	201	181
Netherlands	35,926	37,922	40,181	41,391	43,074	44,411	35,926	44,411	40,484
Austria	5,423	5,442	5,505	5,573	5,772	6,054	5,423	6,054	5,628
Poland	44,393	46,108	55,569	58,868	63,398	69,975	44,393	69,975	56,385
Portugal	13,470	13,573	13,437	13,433	13,541	14,249	13,433	14,249	13,617
Romania	5,365	1,106	0	3,720	0	17,115	0	17,115	4,551
Slovenia	2,208	2,351	2,373	2,395	2,491	2,468	2,208	2,491	2,381
Slovakia	0	0	0	0	0	0	0	0	0
Finland	3,450	4,211	4,471	4,640	4,737	4,881	3,450	4,881	4,398
Sweden	5,888	5,864	5,763	6,137	6,594	7,058	5,763	7,058	6,217
United Kingdom	67,777	67,415	68,889	70,819	70,628	73,055	67,415	73,055	69,764

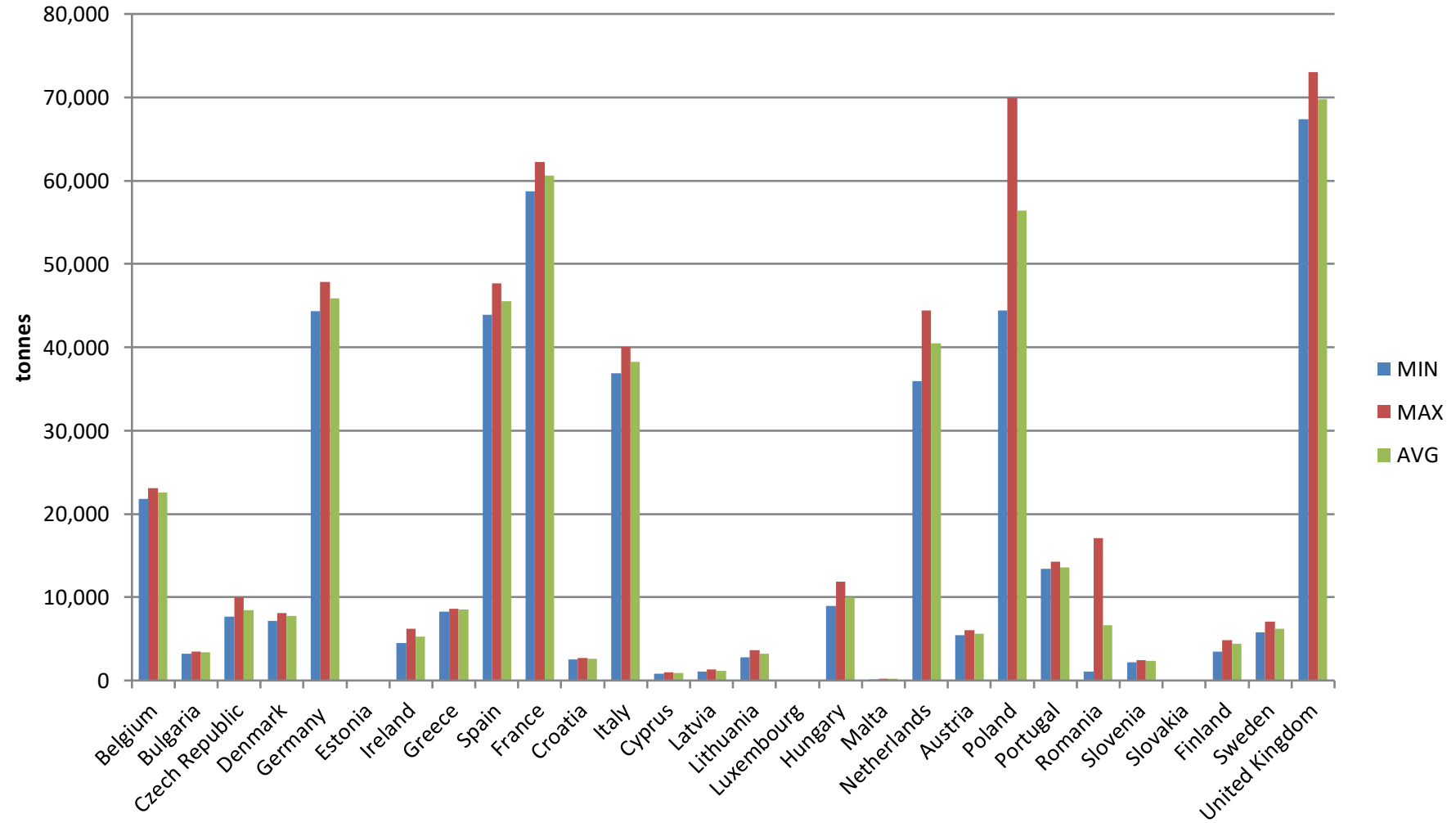


Figure 54 Tonnes of chicken feet after slaughtering per country, 2010-2015

Table 47 Consumption of chicken meat (tonnes) per country, 2010-2015

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	214,175	217,351	219,212	220,532	220,911	222,026	214,175	222,026	219,034
Bulgaria	132,107	131,176	130,425	129,665	128,973	128,199	128,199	132,107	130,091
Czech Republic	228,126	228,663	229,071	229,304	229,223	229,787	228,126	229,787	229,029
Denmark	124,789	125,373	125,821	126,320	126,874	127,607	124,789	127,607	126,131
Germany	1,303,192	1,278,018	1,279,704	1,282,824	1,286,706	1,293,558	1,278,018	1,303,192	1,287,334
Estonia	23,851	23,786	23,707	23,617	23,539	23,522	23,522	23,851	23,670
Ireland	90,292	90,718	90,953	91,119	91,405	91,871	90,292	91,871	91,060
Greece	146,463	146,517	146,030	144,940	143,928	143,022	143,022	146,517	145,150
Spain	1,107,706	1,112,009	1,115,608	1,113,456	1,108,316	1,106,823	1,106,823	1,115,608	1,110,653
France	1,146,046	1,151,715	1,157,002	1,162,733	1,168,791	1,178,470	1,146,046	1,178,470	1,160,793
Croatia	58,635	58,458	58,269	58,080	57,871	57,578	57,578	58,635	58,149
Italy	942,958	945,739	946,209	950,845	968,329	968,535	942,958	968,535	953,769
Cyprus	19,392	19,880	20,407	20,499	20,312	20,052	19,392	20,499	20,090
Latvia	32,728	32,019	31,560	31,236	30,891	30,653	30,653	32,728	31,514
Lithuania	67,768	65,840	64,784	64,100	63,486	63,007	63,007	67,768	64,831
Luxembourg	9,830	10,022	10,277	10,515	10,763	11,023	9,830	11,023	10,405
Hungary	218,362	217,739	216,566	216,061	215,376	214,901	214,901	218,362	216,501
Malta	9,617	9,640	9,699	9,788	9,881	9,973	9,617	9,973	9,766
Netherlands	210,950	211,978	212,927	213,554	214,186	215,096	210,950	215,096	213,115
Austria	141,970	142,369	142,930	143,673	144,609	145,788	141,970	145,788	143,556
Poland	789,811	790,639	790,661	790,635	789,707	789,453	789,453	790,661	790,151
Portugal	276,666	276,646	275,852	274,410	272,841	271,468	271,468	276,666	274,647
Romania	288,996	287,635	286,167	285,086	284,050	282,958	282,958	288,996	285,815
Slovenia	42,514	42,580	42,691	42,760	42,807	42,844	42,514	42,844	42,699
Slovakia	78,199	78,228	78,400	78,495	78,569	78,648	78,199	78,648	78,423
Finland	96,409	96,838	97,307	97,764	98,207	98,576	96,409	98,576	97,517
Sweden	168,422	169,772	170,985	172,302	173,907	175,755	168,422	175,755	171,857
United Kingdom	1,602,918	1,616,055	1,628,178	1,638,692	1,650,124	1,663,561	1,602,918	1,663,561	1,633,255

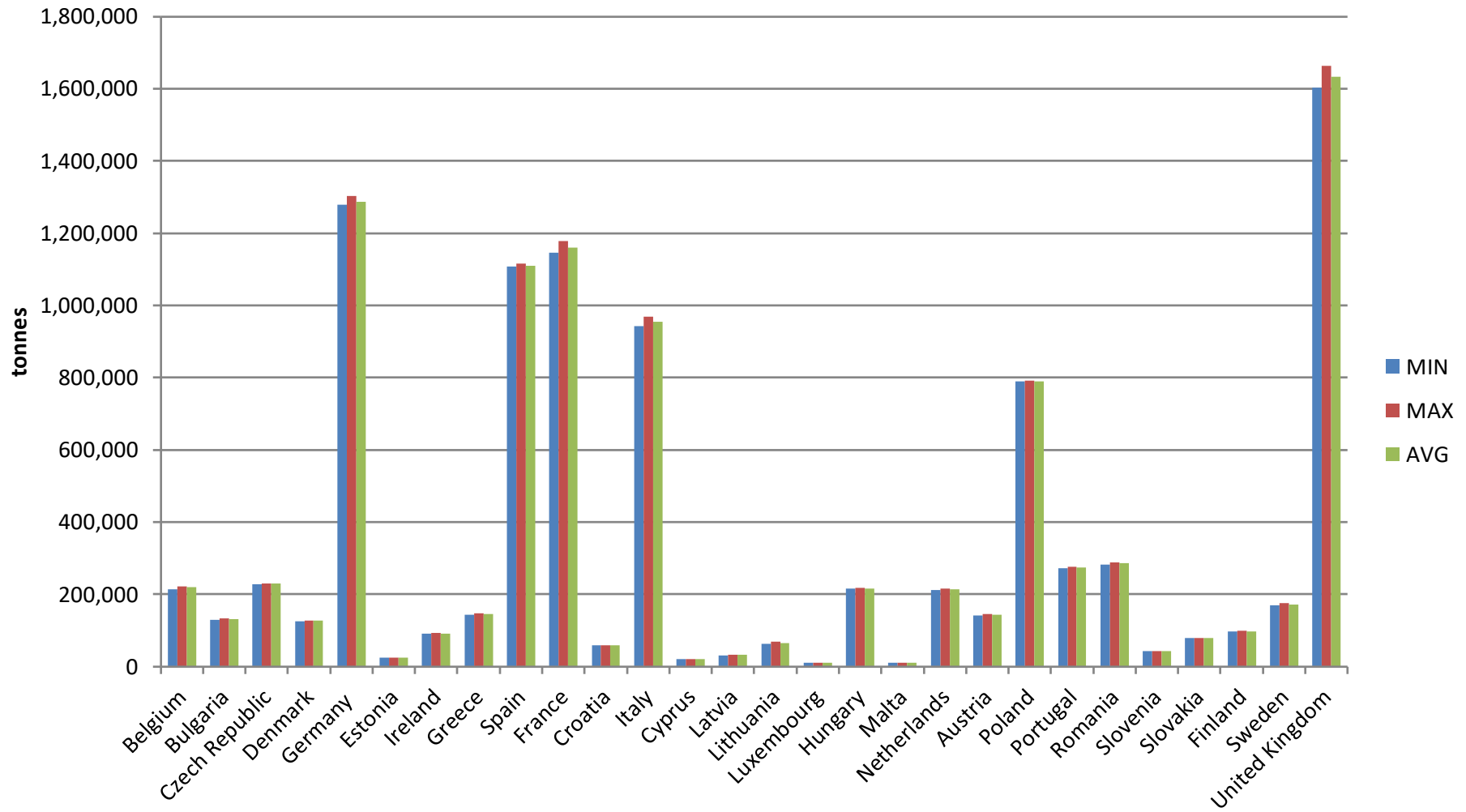


Figure 55 Consumption of chicken meat (tonnes) per country, 2010-2015

Table 48 Tonnes of rotten chicken meat per country, 2010-2015

GEO/TIME	2010	2011	2012	2013	2014	2015	MIN	MAX	AVG
Belgium	33,197	33,689	33,978	34,182	34,241	34,414	33,197	34,414	33,950
Bulgaria	20,477	20,332	20,216	20,098	19,991	19,871	19,871	20,477	20,164
Czech Republic	35,360	35,443	35,506	35,542	35,530	35,617	35,360	35,617	35,500
Denmark	19,342	19,433	19,502	19,580	19,666	19,779	19,342	19,779	19,550
Germany	201,995	198,093	198,354	198,838	199,440	200,501	198,093	201,995	199,537
Estonia	3,697	3,687	3,675	3,661	3,648	3,646	3,646	3,697	3,669
Ireland	13,995	14,061	14,098	14,123	14,168	14,240	13,995	14,240	14,114
Greece	22,702	22,710	22,635	22,466	22,309	22,168	22,168	22,710	22,498
Spain	171,694	172,361	172,919	172,586	171,789	171,558	171,558	172,919	172,151
France	177,637	178,516	179,335	180,224	181,163	182,663	177,637	182,663	179,923
Croatia	9,088	9,061	9,032	9,002	8,970	8,925	8,925	9,088	9,013
Italy	146,159	146,590	146,662	147,381	150,091	150,123	146,159	150,123	147,834
Cyprus	3,006	3,081	3,163	3,177	3,148	3,108	3,006	3,177	3,114
Latvia	5,073	4,963	4,892	4,842	4,788	4,751	4,751	5,073	4,885
Lithuania	10,504	10,205	10,042	9,935	9,840	9,766	9,766	10,504	10,049
Luxembourg	1,524	1,553	1,593	1,630	1,668	1,709	1,524	1,709	1,613
Hungary	33,846	33,749	33,568	33,490	33,383	33,310	33,310	33,846	33,558
Malta	1,491	1,494	1,503	1,517	1,532	1,546	1,491	1,546	1,514
Netherlands	32,697	32,857	33,004	33,101	33,199	33,340	32,697	33,340	33,033
Austria	22,005	22,067	22,154	22,269	22,414	22,597	22,005	22,597	22,251
Poland	122,421	122,549	122,552	122,548	122,405	122,365	122,365	122,552	122,473
Portugal	42,883	42,880	42,757	42,534	42,290	42,077	42,077	42,883	42,570
Romania	44,794	44,583	44,356	44,188	44,028	43,858	43,858	44,794	44,301
Slovenia	6,590	6,600	6,617	6,628	6,635	6,641	6,590	6,641	6,618
Slovakia	12,121	12,125	12,152	12,167	12,178	12,190	12,121	12,190	12,156
Finland	14,943	15,010	15,083	15,153	15,222	15,279	14,943	15,279	15,115
Sweden	26,105	26,315	26,503	26,707	26,956	27,242	26,105	27,242	26,638
United Kingdom	248,452	250,489	252,368	253,997	255,769	257,852	248,452	257,852	253,154

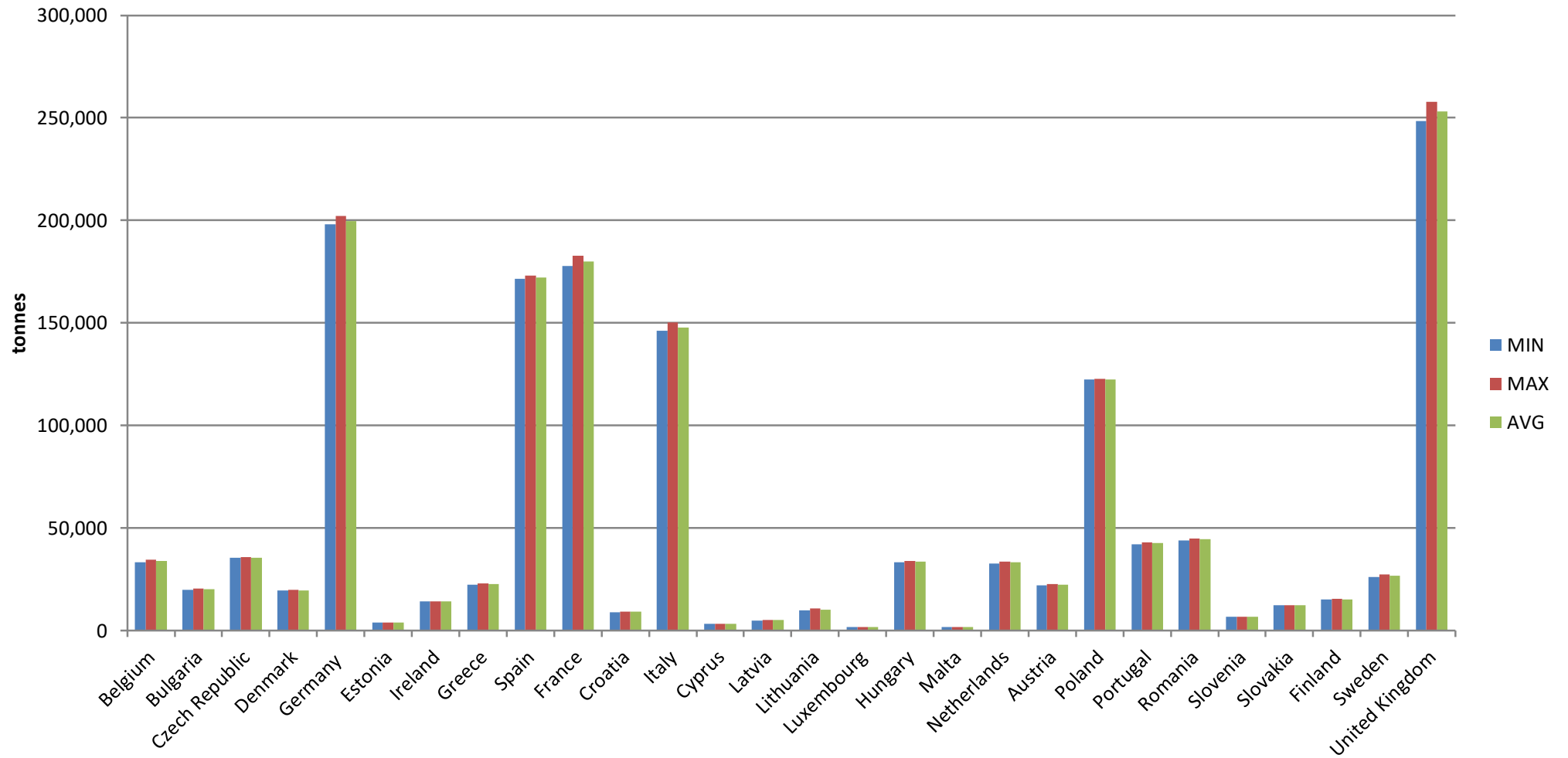


Figure 56 Tonnes of rotten chicken meat per country, 2010-2015

3 Total quantity of animal AWCB

Figure 57 and Figure 58 present cumulative data for average, minimum, and maximum AWCB quantities that occurred in the period 2010-2015 in the EU-28 country. Different colours were used in order to specify the type of AWCB. Figure 58 doesn't include whey from cheese production.

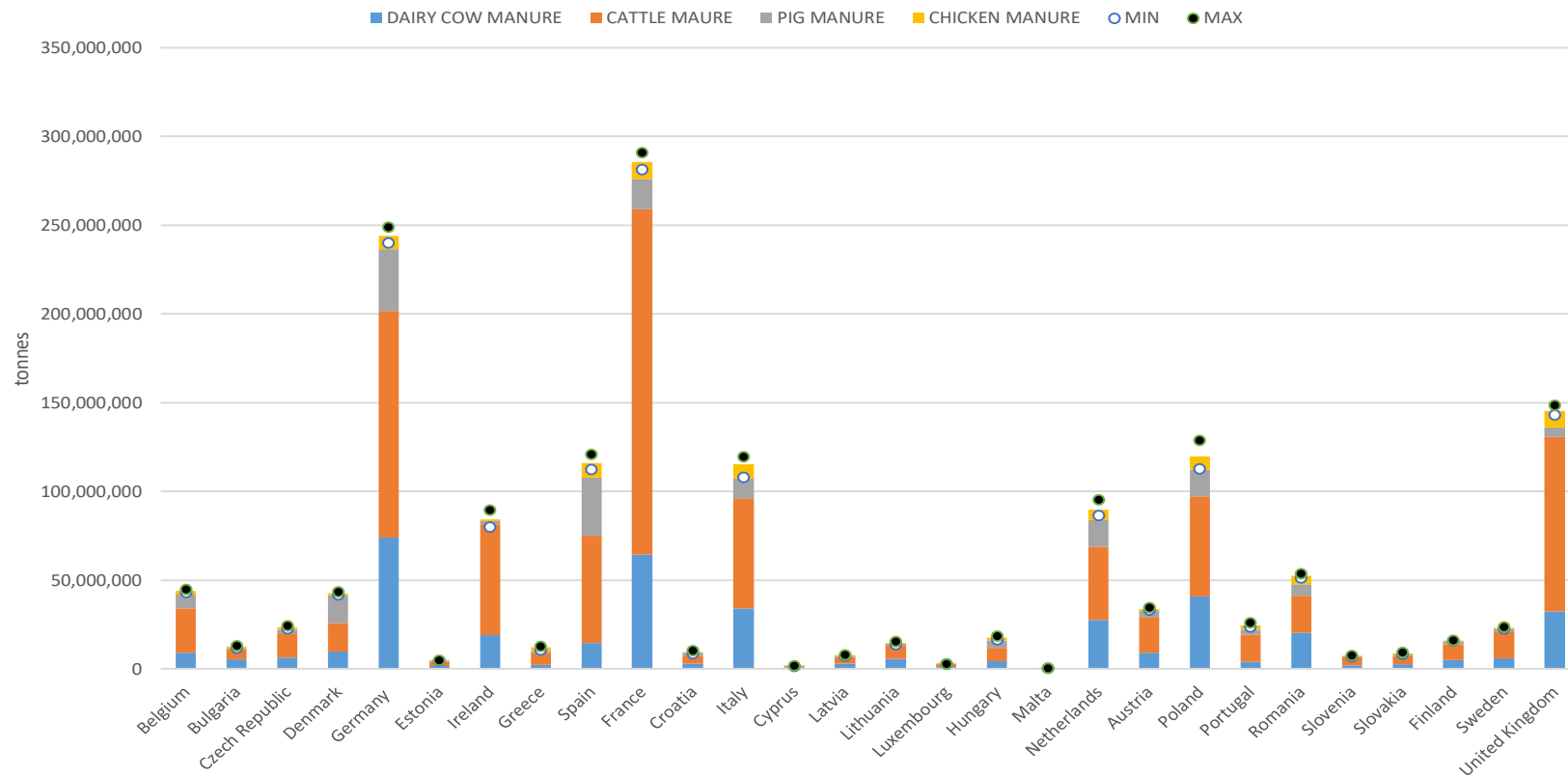


Figure 57 Average, minimum and maximum quantity of manure per country, 2010-2015

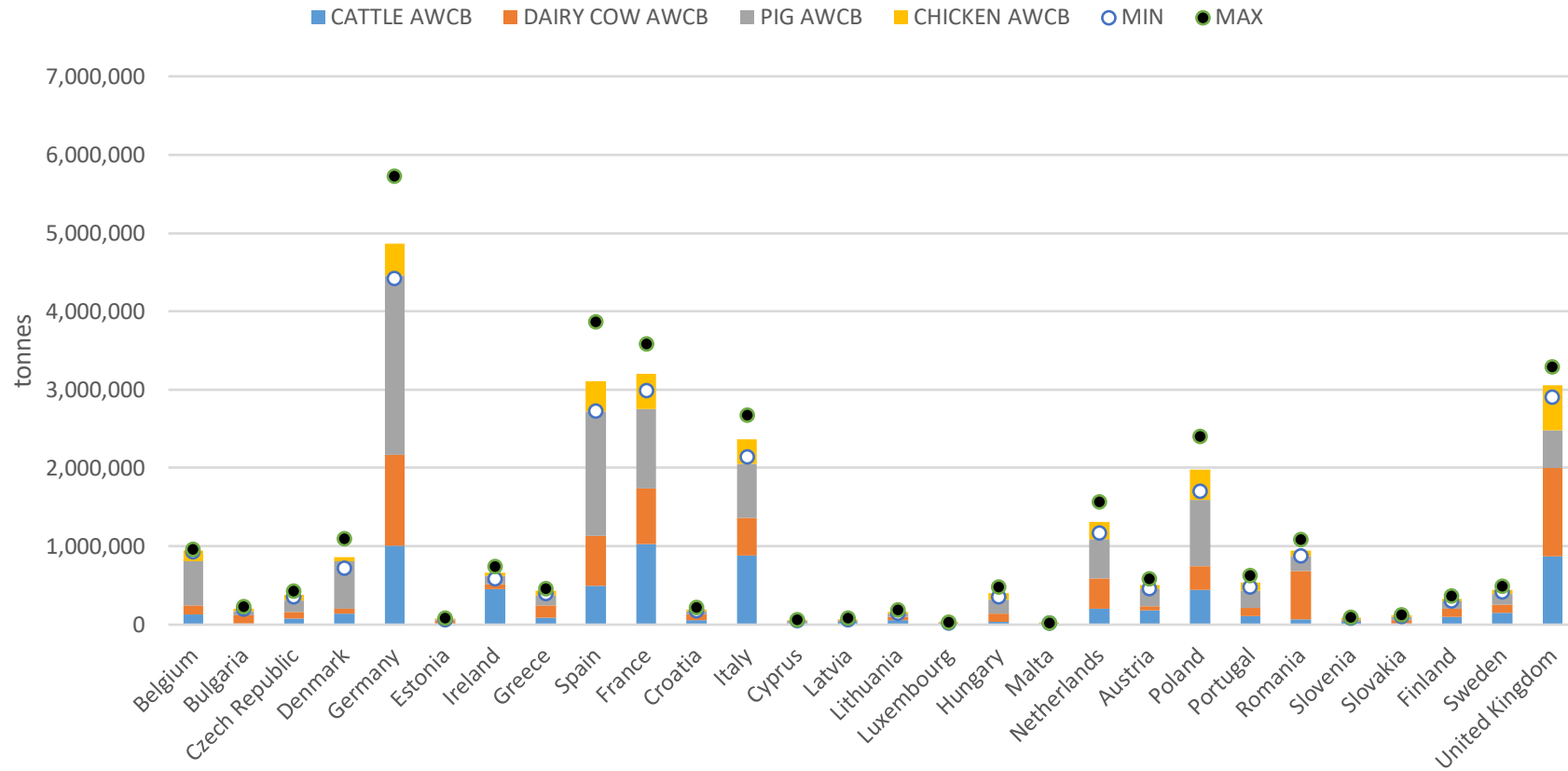


Figure 58 Average, minimum and maximum quantity of the AWCBs in the consumption and slaughtering stage per country, 2010-2015

4 Current practices of commodity AWCB valorisation

The use of manure as a fertiliser is a practice that has been employed for a long time period. Studies showed that pure manure is sometimes too volatile for crops due to high nitrogen content and presence of VFA (volatile fatty acids) (46). In that way soil can be damaged which reduces its ability to grow crops. In order to improve the suitability and effectiveness of manure, it can be used as a substrate in a process of anaerobic digestion in order to produce biogas.

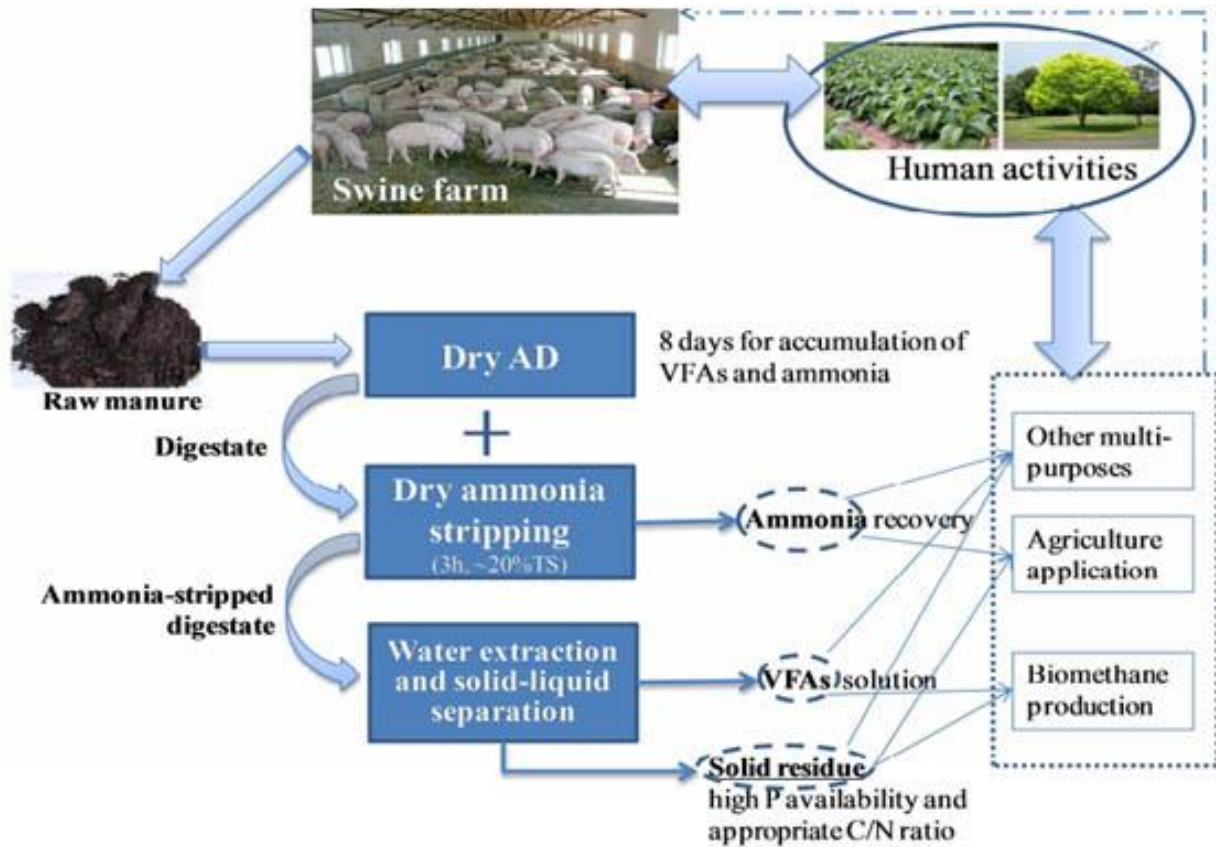


Figure 59 A schematic of swine manure processing (46)

Residues after biogas production have a lower content of nitrogen and other ingredients that are suitable for fertilising the crops (47), Figure 59 (48).



Figure 60 Fertiliser (manure after it passed through anaerobic digestion) (48)

Furthermore, cow manure can be used in a co-composting process that can be used for biodegradation of petroleum hydrocarbons (49). Due to specific chemical composition, chicken manure can be used for the preparation of catalysts than have different applications. One of them is to convert waste cooking oil in a reaction of transesterification to biodiesel (50). Slaughterhouse AWCBs present a big challenge to the cattle processing industry when trying to protect the environment (51). Slaughterhouse AWCB has specific chemical and biochemical composition which means it has to be treated in an appropriate way. One such pathway is to employ slaughterhouse remains (by-products) as a base for production of chemicals. As an example, the use of slaughterhouse water in microalgae cultivation for biofuel applications (52). Furthermore, one type of slaughterhouse by-product, cruor (coagulated blood), due to its high concentration of haemoglobin contains some antimicrobial peptides that can be used as preservatives in meat (53). In order to remove solids from wastewater and to inhibit soil erosion, polymeric flocculants are used. Their application is not environmentally acceptable because of their non-degradation. Research has shown that a fraction of chicken (poultry) blood can replace non-degradable polymeric flocculants (54). AWCB, cattle bones, can be used for the production of bone char via pyrolysis, Figure 61 (55). A bone char has an application in adsorption from aqueous solutions (56), (57) and (58).



Figure 61 A bone char (55)

Whey, as a by-product of milk processing for cheese and butter production, can be used for extraction of different chemicals. One application is to get acetic acid and whey protein (58). Also, whey waste and whey powder can be used in medicine, for example in dialysis (59). Another useful application of whey is in the production of lactulose (60). Lactulose is a non-absorbable sugar used in the treatment of constipation and hepatic encephalopathy. Figure 62 shows chemical structure of lactulose (61).

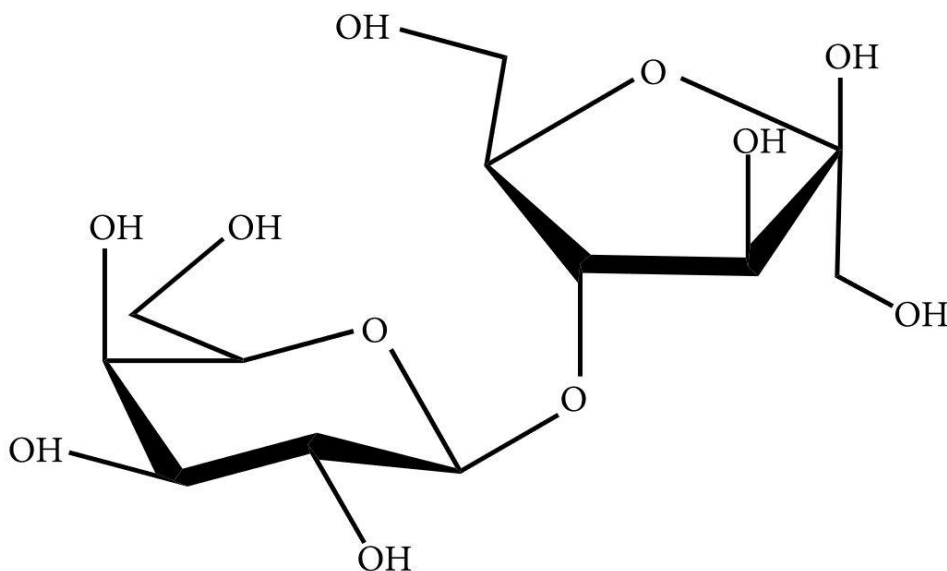


Figure 62 Lactulose structure (61)

Table 49 Characteristics, potential use and developed patents of animal AWCB

AWCB	Characteristics	Potential use	Patents
Manure	Consisted mainly of urine and faeces, but can contain: bedding material, dropped feed, scurf, etc. (62)	Fertiliser, substrate in anaerobic digestion (46), (63), in biodegradable processes (50), preparation of catalyst for application in chemical reactions (50), production of biofuels (64)	Chicken (poultry) manure for application in biological agriculture (65), (66); cattle manure in combination with straw for getting organic fertiliser (67); combination of manure from different animals with agriculture residues for preparation of organic fertilisers (68)
Slaughtering AWCB	Variety in composition of by-products which makes them suitable for different applications; mainly consisted of water, proteins and fat: offal by-products (liver, brain, heart, etc) are consisted of around 20-27 % of dry matter and 10-22 % of crude proteins (9), chicken slaughtering by-products (69): coagulated blood (cca 81% of moisture, cca 16% of protein); wet feathers (cca 72% of moisture, cca 25% of proteins, cca 1% of fat); heads and feet (cca 66% of moisture, cca 16% of proteins, cca 7% of fat)	Blood as an additive in human and animal diet (7), (10); bone as livestock and poultry feed (10), bone char (55), production of food additives (7); hide as an additive in food or in cosmetic industry (7), (10); offal (internal organs) as an edible products (7), (10), in pharmaceutical industry (10); feathers as a bedding material, decorative purposes, fertiliser or manure (7);	Use of slaughterhouse remains in a production of succinic acid (70); use of slaughterhouse remains in a production of hydrogen (71); psychrophilic anaerobic digestion of slaughterhouse remains together with other ammonia-rich waste (72)
Whey from milk processing	There are several types of whey (73): sweet whey (pH 5.38±0.04, lactic acid 0.25 ± 0.03); salty whey (pH 5.31±0.005, lactic acid 0.28 ± 0.03); native whey (pH 4.61±0.005, lactic acid 0.20 ± 0.01); acid whey (pH 4.52±0.06, lactic acid 0.55 ± 0.01); they differ also in particle size and surface characteristics (hydrophobicity and charge) (73)	Extraction of acetic acid and whey protein (58); whey powder can be used in medicine, for example in dialysis (59); production of different valuable chemicals in various chemical and biochemical processes (74), (75)	Extraction of lactose from whey (76); proceeding of dairy waste (whey products) to produce useful products (77)

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6 Annex-Consumption per capita

Consumption per capita of fresh (raw) or processed food on a domestic level is given in tables below. The key assumption is that quantity of consumed food does not change in the given period of time. References for consumption per capita are taken from available literature or online sources. If there are two references for consumption, the average value is used for the calculation.

Table 50 Cattle meat consumption per capita in kg/year

Country	Value 1 (Per Capita)	Value 2 (Per Capita)	Average (Per Capita)	Reference 1	Reference 2
Belgium	18.2		18.2	http://www.helgilibrary.com/indicators/cattle-meat-consumption-per-capita/ (accessed October 31, 2016)	
Bulgaria	5.0		5.0	http://www.helgilibrary.com/indicators/cattle-meat-consumption-per-capita/ (accessed October 31, 2016)	
Czech Republic	7.8		7.8	http://www.helgilibrary.com/indicators/cattle-meat-consumption-per-capita/ (accessed October 31, 2016)	
Denmark	29.3		29.3	http://www.helgilibrary.com/indicators/cattle-meat-consumption-per-capita/ (accessed October 31, 2016)	
Germany	12.6		12.6	http://www.helgilibrary.com/indicators/cattle-meat-consumption-per-capita/ (accessed October 31, 2016)	
Estonia	12.6		12.6	http://www.helgilibrary.com/indicators/cattle-meat-consumption-per-capita/ (accessed October 31, 2016)	
Ireland	24.6		24.6	http://www.helgilibrary.com/indicators/cattle-meat-consumption-per-capita/ (accessed October 31, 2016)	
Greece	20.3		20.3	http://www.helgilibrary.com/indicators/cattle-meat-consumption-per-capita/ (accessed October 31, 2016)	
Spain	13.7		13.7	http://www.helgilibrary.com/indicators/cattle-meat-consumption-per-capita/ (accessed October 31, 2016)	
France	25.9		25.9	http://www.helgilibrary.com/indicators/cattle-meat-consumption-per-capita/ (accessed October 31, 2016)	
Croatia	9.2	11.1	10.2	http://www.helgilibrary.com/indicators/cattle-meat-consumption-per-capita/ (accessed October 31, 2016)	http://www.safu.hr/datastore/filestore/98/CROATIA_IPARD_AR_DP_14_12_07.pdf (accessed October 31, 2016)
Italy	23.1		23.1	http://www.helgilibrary.com/indicators/cattle-meat-consumption-per-capita/ (accessed October 31, 2016)	

Cyprus	15.0		15.0	http://www.helgilibrary.com/indicators/cattle-meat-consumption-per-capita/ (accessed October 31, 2016)	
Latvia	5.4		5.4	http://www.helgilibrary.com/indicators/cattle-meat-consumption-per-capita/ (accessed October 31, 2016)	
Lithuania	4.0	4	4.0	http://www.helgilibrary.com/indicators/cattle-meat-consumption-per-capita/ (accessed October 31, 2016)	http://documents.worldbank.org/curated/en/279821468758705921/Main-report (accessed October 31, 2016)
Luxembourg	29.9		29.9	http://www.helgilibrary.com/indicators/cattle-meat-consumption-per-capita/ (accessed October 31, 2016)	
Hungary	5.3		5.3	http://www.helgilibrary.com/indicators/cattle-meat-consumption-per-capita/ (accessed October 31, 2016)	
Malta	17.2		17.2	http://www.helgilibrary.com/indicators/cattle-meat-consumption-per-capita/ (accessed October 31, 2016)	
Netherlands	19.0		19.0	http://www.helgilibrary.com/indicators/cattle-meat-consumption-per-capita/ (accessed October 31, 2016)	
Austria	17.4		17.4	http://www.helgilibrary.com/indicators/cattle-meat-consumption-per-capita/ (accessed October 31, 2016)	
Poland	2.8		2.8	http://www.helgilibrary.com/indicators/cattle-meat-consumption-per-capita/ (accessed October 31, 2016)	
Portugal	17.2		17.2	http://www.helgilibrary.com/indicators/cattle-meat-consumption-per-capita/ (accessed October 31, 2016)	
Romania	7.5		7.5	http://www.helgilibrary.com/indicators/cattle-meat-consumption-per-capita/ (accessed October 31, 2016)	
Slovenia	19.9		19.9	http://www.helgilibrary.com/indicators/cattle-meat-consumption-per-capita/ (accessed October 31, 2016)	
Slovakia	5.1		5.1	http://www.helgilibrary.com/indicators/cattle-meat-consumption-per-capita/ (accessed October 31, 2016)	
Finland	18.6		18.6	http://www.helgilibrary.com/indicators/cattle-meat-consumption-per-capita/ (accessed October 31, 2016)	
Sweden	23.8		23.8	http://www.helgilibrary.com/indicators/cattle-meat-consumption-per-capita/ (accessed October 31, 2016)	
United Kingdom	19.4		19.4	http://www.helgilibrary.com/indicators/cattle-meat-consumption-per-capita/ (accessed October 31, 2016)	

Table 51 Dairy cow whole milk consumption per capita in kg/year

Country	Consumption in 2012 (Per Capita)	Consumption in 2013 (Per Capita)	Average (Per Capita)	Reference
Belgium	53.77	67.55	60.66	http://www.fao.org/faostat/en/#data/CL (accessed October 31, 2016)
Bulgaria	80.41	78.95	79.68	http://www.fao.org/faostat/en/#data/CL (accessed October 31, 2016)
Czech Republic	30.07	31.71	30.89	http://www.fao.org/faostat/en/#data/CL (accessed October 31, 2016)
Denmark	51.13	47.65	49.39	http://www.fao.org/faostat/en/#data/CL (accessed October 31, 2016)
Germany	66.52	70.64	65.58	http://www.fao.org/faostat/en/#data/CL (accessed October 31, 2016)
Estonia	119.36	165.8	142.58	http://www.fao.org/faostat/en/#data/CL (accessed October 31, 2016)
Ireland	82.88	91.94	87.41	http://www.fao.org/faostat/en/#data/CL (accessed October 31, 2016)
Greece	81.70	75.52	78.61	http://www.fao.org/faostat/en/#data/CL (accessed October 31, 2016)
Spain	91.98	84.31	88.15	http://www.fao.org/faostat/en/#data/CL (accessed October 31, 2016)
France	34.98	40.51	37.75	http://www.fao.org/faostat/en/#data/CL (accessed October 31, 2016)
Croatia	117.70	113.76	115.73	http://www.fao.org/faostat/en/#data/CL (accessed October 31, 2016)
Italy	33.37	29.78	31.58	http://www.fao.org/faostat/en/#data/CL (accessed October 31, 2016)
Cyprus	95.26	83.55	89.41	http://www.fao.org/faostat/en/#data/CL (accessed October 31, 2016)
Latvia	25.07	32.22	28.65	http://www.fao.org/faostat/en/#data/CL (accessed October 31, 2016)
Lithuania	58.17	81.06	69.62	http://www.fao.org/faostat/en/#data/CL (accessed October 31, 2016)
Luxembourg	70.13	87.91	79.02	http://www.fao.org/faostat/en/#data/CL (accessed October 31, 2016)
Hungary	55.93	63.79	59.86	http://www.fao.org/faostat/en/#data/CL (accessed October 31, 2016)
Malta	89.05	85.07	87.06	http://www.fao.org/faostat/en/#data/CL (accessed October 31, 2016)
Netherlands	135.55	150.34	142.95	http://www.fao.org/faostat/en/#data/CL (accessed October 31, 2016)
Austria	14.65	15.83	15.24	http://www.fao.org/faostat/en/#data/CL (accessed October 31, 2016)
Poland	28.01	37.92	32.97	http://www.fao.org/faostat/en/#data/CL (accessed October 31, 2016)
Portugal	42.42	47.05	44.74	http://www.fao.org/faostat/en/#data/CL (accessed October 31, 2016)
Romania	201.96	202.62	202.29	http://www.fao.org/faostat/en/#data/CL (accessed October 31, 2016)
Slovenia	38.05	32.06	35.06	http://www.fao.org/faostat/en/#data/CL (accessed October 31, 2016)
Slovakia	30.38	43.16	36.77	http://www.fao.org/faostat/en/#data/CL (accessed October 31, 2016)
Finland	119.77	113.15	116.46	http://www.fao.org/faostat/en/#data/CL (accessed October 31, 2016)
Sweden	55.62	52.64	54.13	http://www.fao.org/faostat/en/#data/CL (accessed October 31, 2016)
United Kingdom	112.97	113.37	113.37	http://www.fao.org/faostat/en/#data/CL (accessed October 31, 2016)

Table 52 Cheese consumption per capita in kg/year

Country	Value 1 (Per Capita)	Value 2 (Per Capita)	Average (Per Capita)	Reference 1	Reference 2
Belgium	15.1	15.4	15.3	https://www.statista.com/statistics/527195/consumption-of-cheese-per-capita-worldwide-country/ (accessed October 31, 2016)	http://www.dairyinfo.gc.ca/index_e.php?s1=dff-fcil&s2=cons&s3=cons glo&s4=tc-ft (accessed October 31, 2016)
Bulgaria	16.4	16.2	16.3	https://www.statista.com/statistics/527195/consumption-of-cheese-per-capita-worldwide-country/ (accessed October 31, 2016)	http://www.dairyinfo.gc.ca/index_e.php?s1=dff-fcil&s2=cons&s3=cons glo&s4=tc-ft (accessed October 31, 2016)
Czech Republic	16.3	16.3	16.3	https://www.statista.com/statistics/527195/consumption-of-cheese-per-capita-worldwide-country/ (accessed October 31, 2016)	http://www.dairyinfo.gc.ca/index_e.php?s1=dff-fcil&s2=cons&s3=cons glo&s4=tc-ft (accessed October 31, 2016)
Denmark	24.6	19.8	22.2	https://www.statista.com/statistics/527195/consumption-of-cheese-per-capita-worldwide-country/ (accessed October 31, 2016)	http://www.dairyinfo.gc.ca/index_e.php?s1=dff-fcil&s2=cons&s3=cons glo&s4=tc-ft (accessed October 31, 2016)
Germany	24.6	24.1	24.4	https://www.statista.com/statistics/527195/consumption-of-cheese-per-capita-worldwide-country/ (accessed October 31, 2016)	http://www.dairyinfo.gc.ca/index_e.php?s1=dff-fcil&s2=cons&s3=cons glo&s4=tc-ft (accessed October 31, 2016)
Estonia	21.5	20.7	21.1	https://www.statista.com/statistics/527195/consumption-of-cheese-per-capita-worldwide-country/ (accessed October 31, 2016)	http://www.dairyinfo.gc.ca/index_e.php?s1=dff-fcil&s2=cons&s3=cons glo&s4=tc-ft (accessed October 31, 2016)
Ireland	11.5	9	10.3	https://www.statista.com/statistics/527195/consumption-of-cheese-per-capita-worldwide-country/ (accessed October 31, 2016)	http://www.dairyinfo.gc.ca/index_e.php?s1=dff-fcil&s2=cons&s3=cons glo&s4=tc-ft (accessed October 31, 2016)
Greece	17.9	17.3	17.6	https://www.statista.com/statistics/527195/consumption-of-cheese-per-capita-worldwide-country/ (accessed October 31, 2016)	http://www.dairyinfo.gc.ca/index_e.php?s1=dff-fcil&s2=cons&s3=cons glo&s4=tc-ft (accessed October 31, 2016)
Spain	9.5	9.5	9.5	https://www.statista.com/statistics/527195/consumption-of-cheese-per-capita-worldwide-country/ (accessed October 31, 2016)	http://www.dairyinfo.gc.ca/index_e.php?s1=dff-fcil&s2=cons&s3=cons glo&s4=tc-ft (accessed October 31, 2016)
France	26.7	26.3	26.5	https://www.statista.com/statistics/527195/consumption-of-cheese-per-capita-worldwide-country/ (accessed October 31, 2016)	http://www.dairyinfo.gc.ca/index_e.php?s1=dff-fcil&s2=cons&s3=cons glo&s4=tc-ft (accessed October 31, 2016)
Croatia	11.2	17.3	14.3	https://www.statista.com/statistics/527195/consumption-of-cheese-per-capita-worldwide-country/ (accessed October 31, 2016)	http://www.dairyinfo.gc.ca/index_e.php?s1=dff-fcil&s2=cons&s3=cons glo&s4=tc-ft (accessed October 31, 2016)

				2016)	2016)
Italy	20.1	21.3	20.7	https://www.statista.com/statistics/527195/consumption-of-cheese-per-capita-worldwide-country/ (accessed October 31, 2016)	http://www.dairyinfo.gc.ca/index_e.php?s1=dff-fcil&s2=cons&s3=consglo&s4=tc-ft (accessed October 31, 2016)
Cyprus	17.9	17.3	17.6	https://www.statista.com/statistics/527195/consumption-of-cheese-per-capita-worldwide-country/ (accessed October 31, 2016)	http://www.dairyinfo.gc.ca/index_e.php?s1=dff-fcil&s2=cons&s3=consglo&s4=tc-ft (accessed October 31, 2016)
Latvia	16.6	15.4	16.0	https://www.statista.com/statistics/527195/consumption-of-cheese-per-capita-worldwide-country/ (accessed October 31, 2016)	http://www.dairyinfo.gc.ca/index_e.php?s1=dff-fcil&s2=cons&s3=consglo&s4=tc-ft (accessed October 31, 2016)
Lithuania	18.6	16.9	17.8	https://www.statista.com/statistics/527195/consumption-of-cheese-per-capita-worldwide-country/ (accessed October 31, 2016)	http://www.dairyinfo.gc.ca/index_e.php?s1=dff-fcil&s2=cons&s3=consglo&s4=tc-ft (accessed October 31, 2016)
Luxembourg	17.9	17.3	17.6	https://www.statista.com/statistics/527195/consumption-of-cheese-per-capita-worldwide-country/ (accessed October 31, 2016)	http://www.dairyinfo.gc.ca/index_e.php?s1=dff-fcil&s2=cons&s3=consglo&s4=tc-ft (accessed October 31, 2016)
Hungary	11.6	11.3	11.5	https://www.statista.com/statistics/527195/consumption-of-cheese-per-capita-worldwide-country/ (accessed October 31, 2016)	http://www.dairyinfo.gc.ca/index_e.php?s1=dff-fcil&s2=cons&s3=consglo&s4=tc-ft (accessed October 31, 2016)
Malta	17.9	17.3	17.6	https://www.statista.com/statistics/527195/consumption-of-cheese-per-capita-worldwide-country/ (accessed October 31, 2016)	http://www.dairyinfo.gc.ca/index_e.php?s1=dff-fcil&s2=cons&s3=consglo&s4=tc-ft (accessed October 31, 2016)
Netherlands	20.1	19.9	20.0	https://www.statista.com/statistics/527195/consumption-of-cheese-per-capita-worldwide-country/ (accessed October 31, 2016)	http://www.dairyinfo.gc.ca/index_e.php?s1=dff-fcil&s2=cons&s3=consglo&s4=tc-ft (accessed October 31, 2016)
Austria	20.9	19.6	20.3	https://www.statista.com/statistics/527195/consumption-of-cheese-per-capita-worldwide-country/ (accessed October 31, 2016)	http://www.dairyinfo.gc.ca/index_e.php?s1=dff-fcil&s2=cons&s3=consglo&s4=tc-ft (accessed October 31, 2016)
Poland	17.9	13.5	15.7	https://www.statista.com/statistics/527195/consumption-of-cheese-per-capita-worldwide-country/ (accessed October 31, 2016)	http://www.dairyinfo.gc.ca/index_e.php?s1=dff-fcil&s2=cons&s3=consglo&s4=tc-ft (accessed October 31, 2016)
Portugal	17.9	17.3	17.6	https://www.statista.com/statistics/527195/consumption-of-cheese-per-capita-worldwide-country/ (accessed October 31, 2016)	http://www.dairyinfo.gc.ca/index_e.php?s1=dff-fcil&s2=cons&s3=consglo&s4=tc-ft (accessed October 31, 2016)
Romania	17.9	17.3	17.6	https://www.statista.com/statistics/527195/consumption-of-cheese-per-capita-worldwide-country/ (accessed October 31, 2016)	http://www.dairyinfo.gc.ca/index_e.php?s1=dff-fcil&s2=cons&s3=consglo&s4=tc-ft (accessed October 31, 2016)
Slovenia	17.9	17.3	17.6	https://www.statista.com/statistics/527195/consumption-of	http://www.dairyinfo.gc.ca/index_e.php?s1=dff-

				cheese-per-capita-worldwide-country/ (accessed October 31, 2016)	fcil&s2=cons&s3=consglo&s4=tc-ft (accessed October 31, 2016)
Slovakia	11.7	10.5	11.1	https://www.statista.com/statistics/527195/consumption-of-cheese-per-capita-worldwide-country/ (accessed October 31, 2016)	http://www.dairyinfo.gc.ca/index_e.php?s1=dff-fcil&s2=cons&s3=consglo&s4=tc-ft (accessed October 31, 2016)
Finland	25.6	23.1	24.4	https://www.statista.com/statistics/527195/consumption-of-cheese-per-capita-worldwide-country/ (accessed October 31, 2016)	http://www.dairyinfo.gc.ca/index_e.php?s1=dff-fcil&s2=cons&s3=consglo&s4=tc-ft (accessed October 31, 2016)
Sweden	20.8	19.4	20.1	https://www.statista.com/statistics/527195/consumption-of-cheese-per-capita-worldwide-country/ (accessed October 31, 2016)	http://www.dairyinfo.gc.ca/index_e.php?s1=dff-fcil&s2=cons&s3=consglo&s4=tc-ft (accessed October 31, 2016)
United Kingdom	11.7	11.3	11.5	https://www.statista.com/statistics/527195/consumption-of-cheese-per-capita-worldwide-country/ (accessed October 31, 2016)	http://www.dairyinfo.gc.ca/index_e.php?s1=dff-fcil&s2=cons&s3=consglo&s4=tc-ft (accessed October 31, 2016)

Table 53 Butter consumption per capita in kg/year

Country	Average (Per Capita)	Reference
Belgium	2.3	https://www.statista.com/statistics/415277/butter-consumption-per-capita-by-country-europe/ (accessed October 31, 2016)
Bulgaria	3.7	https://www.statista.com/statistics/415277/butter-consumption-per-capita-by-country-europe/ (accessed October 31, 2016)
Czech Republic	5	https://www.statista.com/statistics/415277/butter-consumption-per-capita-by-country-europe/ (accessed October 31, 2016)
Denmark	4.8	https://www.statista.com/statistics/415277/butter-consumption-per-capita-by-country-europe/ (accessed October 31, 2016)
Germany	6.1	https://www.statista.com/statistics/415277/butter-consumption-per-capita-by-country-europe/ (accessed October 31, 2016)
Estonia	2.2	https://www.statista.com/statistics/415277/butter-consumption-per-capita-by-country-europe/ (accessed October 31, 2016)
Ireland	2.4	https://www.statista.com/statistics/415277/butter-consumption-per-capita-by-country-europe/ (accessed October 31, 2016)
Greece	3.7	https://www.statista.com/statistics/415277/butter-consumption-per-capita-by-country-europe/ (accessed October 31, 2016)
Spain	0.5	https://www.statista.com/statistics/415277/butter-consumption-per-capita-by-country-europe/ (accessed October 31, 2016)
France	8.3	https://www.statista.com/statistics/415277/butter-consumption-per-capita-by-country-europe/ (accessed October 31, 2016)
Croatia	1.2	https://www.statista.com/statistics/415277/butter-consumption-per-capita-by-country-europe/ (accessed October 31, 2016)
Italy	2.3	https://www.statista.com/statistics/415277/butter-consumption-per-capita-by-country-europe/ (accessed October 31, 2016)
Cyprus	3.7	https://www.statista.com/statistics/415277/butter-consumption-per-capita-by-country-europe/ (accessed October 31, 2016)
Latvia	2.6	https://www.statista.com/statistics/415277/butter-consumption-per-capita-by-country-europe/ (accessed October 31, 2016)
Lithuania	3	https://www.statista.com/statistics/415277/butter-consumption-per-capita-by-country-europe/ (accessed October 31, 2016)
Luxembourg	3.7	https://www.statista.com/statistics/415277/butter-consumption-per-capita-by-country-europe/ (accessed October 31, 2016)
Hungary	1.2	https://www.statista.com/statistics/415277/butter-consumption-per-capita-by-country-europe/ (accessed October 31, 2016)
Malta	3.7	https://www.statista.com/statistics/415277/butter-consumption-per-capita-by-country-europe/ (accessed October 31, 2016)

		2016)
Netherlands	3	https://www.statista.com/statistics/415277/butter-consumption-per-capita-by-country-europe/ (accessed October 31, 2016)
Austria	5.3	https://www.statista.com/statistics/415277/butter-consumption-per-capita-by-country-europe/ (accessed October 31, 2016)
Poland	4.1	https://www.statista.com/statistics/415277/butter-consumption-per-capita-by-country-europe/ (accessed October 31, 2016)
Portugal	3.7	https://www.statista.com/statistics/415277/butter-consumption-per-capita-by-country-europe/ (accessed October 31, 2016)
Romania	3.7	https://www.statista.com/statistics/415277/butter-consumption-per-capita-by-country-europe/ (accessed October 31, 2016)
Slovenia	3.7	https://www.statista.com/statistics/415277/butter-consumption-per-capita-by-country-europe/ (accessed October 31, 2016)
Slovakia	3.2	https://www.statista.com/statistics/415277/butter-consumption-per-capita-by-country-europe/ (accessed October 31, 2016)
Finland	3.5	https://www.statista.com/statistics/415277/butter-consumption-per-capita-by-country-europe/ (accessed October 31, 2016)
Sweden	2.3	https://www.statista.com/statistics/415277/butter-consumption-per-capita-by-country-europe/ (accessed October 31, 2016)
United Kingdom	2.9	https://www.statista.com/statistics/415277/butter-consumption-per-capita-by-country-europe/ (accessed October 31, 2016)

Table 54 Pig meat consumption per capita in kg/year

Country	Value 1 (Per Capita)	Value 2 (Per Capita)	Average (PC)	Reference 1	Reference 2
Belgium	50.0		50.0	http://www.rungismarket.com/en/bleu/enquetesrungisactu/PaysBelgique615.asp (accessed October 31, 2016)	
Bulgaria	27.6		27.6	http://www.helgilibrary.com/indicators/pork-meat-consumption-per-capita/ (accessed October 31, 2016)	
Czech Republic	41.3		41.3	http://www.globalmeatnews.com/Industry-Markets/Czech-meat-consumption-falls (accessed October 31, 2016)	
Denmark	81.0		81.0	http://www.compassioninfoodbusiness.com/media/5823226/pig-meat-production-in-the-eu.pdf (accessed October 31, 2016)	
Germany	54.0		54.0	http://www.compassioninfoodbusiness.com/media/5823226/pig-meat-production-in-the-eu.pdf (accessed October 31, 2016)	
Estonia	37.0		37.0	http://news.postimees.ee/1239320/estonians-eat-37-kg-of-pork-per-year-statistics (accessed October 31, 2016)	
Ireland	30.0		30.0	http://www.cso.ie/en/media/csoie/releasespublications/documents/agriculture/2010/meatsup_2010.pdf (accessed October 31, 2016)	
Greece	43.2		43.2	http://vegetarian.procon.org/view.resource.php?resourceID=004716 (accessed October 31, 2016)	
Spain	52.4	62	57.2	https://www.statista.com/statistics/440759/pig-meat-per-capita-consumption-in-spain/ (accessed October 31, 2016)	http://www.compassioninfoodbusiness.com/media/5823226/pig-meat-production-in-the-eu.pdf (accessed October 31, 2016)
France	34.0		34.0	http://www.compassioninfoodbusiness.com/media/5823226/pig-meat-production-in-the-eu.pdf (accessed October 31, 2016)	
Croatia	16.7	18.1	17.4	http://www.safu.hr/datastore/filestore/98/CROATIA_IPARD_ARDP_14_12_07.pdf (accessed October 31, 2016)	http://s3.amazonaws.com/zanran_storage/www.ees.dk/ContentPages/44096394.pdf (accessed October 31, 2016)
Italy	38.0		38.0	http://www.compassioninfoodbusiness.com/media/5823226/pig-meat-production-in-the-eu.pdf (accessed October 31, 2016)	
Cyprus	72.0		72.0	http://www.compassioninfoodbusiness.com/media/5823226/pig-meat-production-in-the-eu.pdf (accessed October 31, 2016)	
Latvia	21.0		21.0	http://www.csb.gov.lv/en/notikumi/household-expenditure-food-monthly-comprises-lvl-55-capita-39101.html (accessed October 31, 2016)	
Lithuania	45.0	42	43.5	https://zum.lrv.lt/uploads/zum/documents/files/EN_versija/Information/Survey_of_Lithuanian_agriculture_2010%E2%80%932011/Survey%20of%20Lithuania	http://www.ddsis.lv/pdf/Raksti-viss-drukai.pdf (accessed October 31, 2016)

				anian%20agriculture%202010%E2%80%932011.pdf (accessed October 31, 2016)	
Luxembourg	44.1		44.1	http://www.helgilibrary.com/indicators/pork-meat-consumption-per-capita/ (accessed October 31, 2016)	
Hungary	40.8		40.8	http://www.helgilibrary.com/indicators/pork-meat-consumption-per-capita/malta (accessed October 31, 2016)	
Malta	33.3		33.3	http://www.helgilibrary.com/indicators/pork-meat-consumption-per-capita/malta (accessed October 31, 2016)	
Netherlands	41.0		41.0	http://www.compassioninfoodbusiness.com/media/5823226/pig-meat-production-in-the-eu.pdf (accessed October 31, 2016)	
Austria	57.0		57.0	http://www.compassioninfoodbusiness.com/media/5823226/pig-meat-production-in-the-eu.pdf (accessed October 31, 2016)	
Poland	50.6		50.6	http://www.helgilibrary.com/indicators/pork-meat-consumption-per-capita/malta (accessed October 31, 2016)	
Portugal	41.8		41.8	http://www.helgilibrary.com/indicators/pork-meat-consumption-per-capita/malta (accessed October 31, 2016)	
Romania	29.0		29.0	http://www.helgilibrary.com/indicators/pork-meat-consumption-per-capita/malta (accessed October 31, 2016)	
Slovenia	42.0	45	43.5	http://ec.europa.eu/agriculture/publi/peco/slovenia/slove_en.pdf (accessed October 31, 2016)	http://ec.europa.eu/agriculture/publi/peco/slovenia/slove_en.pdf (accessed October 31, 2016)
Slovakia	35.1		35.1	http://www.helgilibrary.com/indicators/pork-meat-consumption-per-capita/malta (accessed October 31, 2016)	
Finland	34.6		34.6	https://www.luke.fi/en/news/what-was-eaten-in-finland-in-2014/ (accessed October 31, 2016)	
Sweden	37.7		37.7	http://www.helgilibrary.com/indicators/pork-meat-consumption-per-capita/malta (accessed October 31, 2016)	
United Kingdom	20.0		20.0	http://www.compassioninfoodbusiness.com/media/5823226/pig-meat-production-in-the-eu.pdf (accessed October 31, 2016)	

Table 55 Chicken meat consumption per capita in kg/year

Country	Value 1 (Per Capita)	Value 2 (Per Capita)	Average (PC)	Reference 1	Reference 2
Belgium	19.8		19.8	http://www.helgilibrary.com/indicators/poultry-meat-consumption-per-capita (accessed October 31, 2016)	
Bulgaria	17.8		17.8	http://www.helgilibrary.com/indicators/poultry-meat-consumption-per-capita (accessed October 31, 2016)	
Czech Republic	21.8		21.8	http://www.helgilibrary.com/indicators/poultry-meat-consumption-per-capita (accessed October 31, 2016)	
Denmark	21.1	24.0	22.5	http://www.helgilibrary.com/indicators/poultry-meat-consumption-per-capita (accessed October 31, 2016)	http://www.scandistandard.com/en/Customer--markets/Markets-Consumption/ (accessed October 31, 2016)
Germany	15.9		15.9	http://www.helgilibrary.com/indicators/poultry-meat-consumption-per-capita (accessed October 31, 2016)	
Estonia	17.9		17.9	http://www.helgilibrary.com/indicators/poultry-meat-consumption-per-capita (accessed October 31, 2016)	
Ireland	19.8		19.8	http://www.helgilibrary.com/indicators/poultry-meat-consumption-per-capita (accessed October 31, 2016)	
Greece	13.2		13.2	http://www.helgilibrary.com/indicators/poultry-meat-consumption-per-capita (accessed October 31, 2016)	
Spain	23.4	24.25	23.8	http://www.helgilibrary.com/indicators/poultry-meat-consumption-per-capita (accessed October 31, 2016)	http://www.internationalpoultrycouncil.org/documents/TopChickenPerCapita.pdf (accessed October 31, 2016)
France	20.6	14.89	17.7	http://www.helgilibrary.com/indicators/poultry-meat-consumption-per-capita (accessed October 31, 2016)	http://www.internationalpoultrycouncil.org/documents/TopChickenPerCapita.pdf (accessed October 31, 2016)
Croatia	7.7	19.6	13.6	http://www.helgilibrary.com/indicators/poultry-meat-consumption-per-capita (accessed October 31, 2016)	http://s3.amazonaws.com/zanran_storage/www.ees.dk/ContentPages/44096394.pdf (accessed October 31, 2016)
Italy	15.9		15.9	http://www.helgilibrary.com/indicators/poultry-meat-consumption-per-capita (accessed October 31, 2016)	
Cyprus	23.7		23.7	http://www.helgilibrary.com/indicators/poultry-meat-consumption-per-capita (accessed October 31, 2016)	
Latvia	18.9	12	15.4	http://www.helgilibrary.com/indicators/poultry-meat-consumption-per-capita (accessed October 31, 2016)	http://www.gpwinfostrafa.pl/GPWIS2/en/index/news/info/519405,household-consumption-expenditure-grows-5-7-pct-in-latvia-in-2012# (accessed October 31, 2016)
Lithuania	20.7	22.4	21.6	http://www.helgilibrary.com/indicators/poultry-meat-consumption-per-capita (accessed October 31, 2016)	http://www.dds.lv/pdf/Raksti-viss-drukai.pdf (accessed October 31, 2016)
Luxembourg	19.6		19.6	http://www.helgilibrary.com/indicators/poultry-meat-consumption-per-capita	

				consumption-per-capita (accessed October 31, 2016)	
Hungary	21.8		21.8	http://www.helgilibrary.com/indicators/poultry-meat-consumption-per-capita (accessed October 31, 2016)	
Malta	23.2		23.2	http://www.helgilibrary.com/indicators/poultry-meat-consumption-per-capita (accessed October 31, 2016)	
Netherlands	12.7		12.7	http://www.helgilibrary.com/indicators/poultry-meat-consumption-per-capita (accessed October 31, 2016)	
Austria	17.0		17.0	http://www.helgilibrary.com/indicators/poultry-meat-consumption-per-capita (accessed October 31, 2016)	
Poland	19.2	22.32	20.8	http://www.helgilibrary.com/indicators/poultry-meat-consumption-per-capita (accessed October 31, 2016)	http://www.internationalpoultrycouncil.org/documents/TopChickenPerCapita.pdf (accessed October 31, 2016)
Portugal	26.2		26.2	http://www.helgilibrary.com/indicators/poultry-meat-consumption-per-capita (accessed October 31, 2016)	
Romania	14.2		14.2	http://www.helgilibrary.com/indicators/poultry-meat-consumption-per-capita (accessed October 31, 2016)	
Slovenia	21.5	20	20.8	http://www.helgilibrary.com/indicators/poultry-meat-consumption-per-capita (accessed October 31, 2016)	http://ec.europa.eu/agriculture/publi/peco/slovenia/slove_en.pdf (accessed October 31, 2016)
Slovakia	14.5		14.5	http://www.helgilibrary.com/indicators/poultry-meat-consumption-per-capita (accessed October 31, 2016)	
Finland	15.9	20.1	18.0	http://www.helgilibrary.com/indicators/poultry-meat-consumption-per-capita (accessed October 31, 2016)	https://www.luke.fi/en/news/what-was-eaten-in-finland-in-2014/ (accessed October 31, 2016)
Sweden	14.1	22	18.0	http://www.helgilibrary.com/indicators/poultry-meat-consumption-per-capita (accessed October 31, 2016)	http://www.scandistandard.com/en/Customermarkets/Markets-Consumption/ (accessed October 31, 2016)
United Kingdom	27.1	24.14	25.6	http://www.helgilibrary.com/indicators/poultry-meat-consumption-per-capita (accessed October 31, 2016)	http://www.internationalpoultrycouncil.org/documents/TopChickenPerCapita.pdf (accessed October 31, 2016)