

# Trends in the livestock production

- focusing on livestock types that uses mineral feeders and heated water troughs

*The number of cattle in the European Union is declining with about 1% per year, but the production volume of dairy and beef products is fairly stable, and in the case of dairy products even slightly increasing. The EU population drinks less milk but consumes more and more cheese and functional dairy food ingredients. Organic dairy farming has reached 3.5% of the production in EU, and is increasing, which means that an increasing number of livestock would be grazing in the future, since this is a legal requirement for achieving organic farming certification. Robotic milking is increasing in countries, where family dairy farms sizes prevail, but is of reducing or less importance in countries with the largest herd sizes. The European Commission states that "In the next 10 years, EU milk production will continue providing sustainable solutions to dairy farmers, climate and society." The number of sheep is declining, but apparently compensated by increasing productivity. Statistics about horse breeding is less accessible, but it is the impression that the number of horses is relatively stable. These conclusions are based on analysing up to date statistics as well as forecasts prepared by mainly the European Commission, Eurostat, FAO, and the International Committee for Animal Recording (ICAR).*

## Background

MicroFeeder offers a range of mineral feeders for livestock, including cattle, horses, and sheep, as well as heated water troughs for horses. We have made this review to follow major trends in the livestock sector. Our review is focusing on the type of livestock that MicroFeeders products are intended for and the markets that are relevant in that connection, namely European countries and in some cases other major livestock production countries.

## Trends in cattle production

Table 1 shows the development in the total number of cattle in the 27 EU Member States.

Som observations from the table:

- France has by far the largest number of cattle in EU, followed by Germany. Thereafter comes Ireland, Spain, Poland, and Italy, all with 6-7 million heads of cattle.
- Some countries have a declining number of cattle, such as Germany, where the number has fallen with about 14% over the 12 years that the table covers. Other countries have an increasing number of cattle, such as Ireland, where the number of cattle has increased 11%.
- In total for EU27, the number of cattle has declined with about 4% over the observed 12-year period, whereas in reality the decline has happened after 2015.

Table 1: Development in cattle number in the 27 EU Member States. Figures are in thousands. (Source: Eurostat)

Year	2010	2015	2020	2022
<i>Belgium</i>	2,510	2,503	2,335	2,286
<i>Bulgaria</i>	554	561	589	580
<i>Czechia</i>	1,319	1,366	1,340	1,390
<i>Denmark</i>	1,630	1,566	1,500	1,466
<i>Germany</i>	12,706	12,635	11,302	10,997
<i>Estonia</i>	236	256	253	250
<i>Ireland</i>	5,918	6,422	6,529	6,552
<i>Greece</i>	679	582	632	582
<i>Spain</i>	6,075	6,183	6,636	6,455
<i>France</i>	19,599	19,387	17,816	16,986
<i>Croatia</i>	444	441	423	422
<i>Italy</i>	5,832	6,156	6,400	6,049
<i>Cyprus</i>	55	59	83	81
<i>Latvia</i>	379	419	399	391
<i>Lithuania</i>	748	723	630	642
<i>Luxembourg</i>	194	201	191	186
<i>Hungary</i>	682	821	933	894
<i>Malta</i>	15	15	14	14
<i>Netherlands</i>	3,960	4,315	3,691	3,751
<i>Austria</i>	2,013	1,958	1,855	1,861
<i>Poland</i>	5,562	5,763	6,279	6,448
<i>Portugal</i>	1,503	1,606	1,691	1,579
<i>Romania</i>	2,001	2,092	1,875	1,834
<i>Slovenia</i>	470	484	486	465
<i>Slovakia</i>	467	457	442	433
<i>Finland</i>	909	903	835	822
<i>Sweden</i>	1,475	1,428	1,391	1,391
<b>Total</b>	<b>77,935</b>	<b>79,303</b>	<b>76,551</b>	<b>74,808</b>

In the same period from 2010 to 2022, the EU population has grown from 440,660,421 to 446,735,291 million people as seen from Figure 1, equal to an increase of 1.4%, which probably is affected negatively by an unusual high mortality rate in 2020 - 2022 due to COVID19.

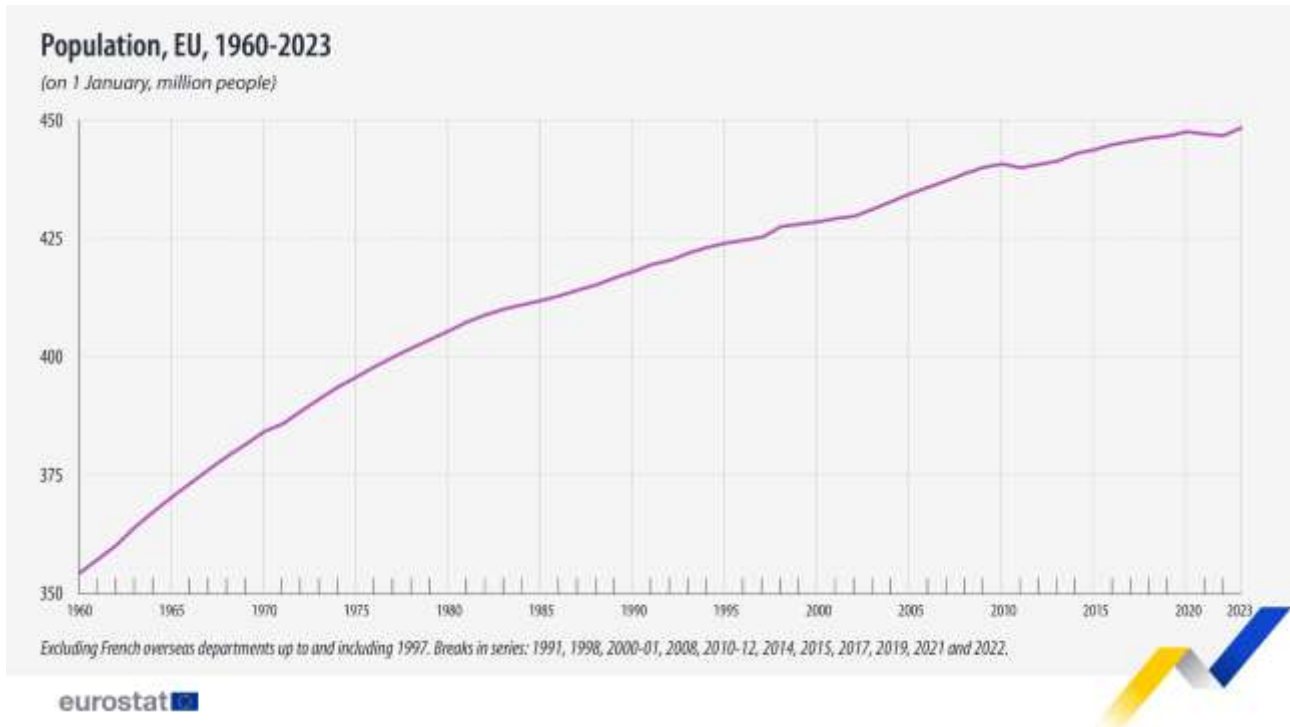


Figure 1: Development in EU's population from 1960 to 2023 (Source: Eurostat).

In combination, Table 1 and Figure 1 suggest that the per capita consumption of dairy and beef is declining.

However, there is a high productivity increase in the dairy production, see Table 2. Taking Denmark as an example, the annual yield per dairy cow has increased with more than 20% over the 12-year period covered by the table, equal to an impressive productivity increase of almost 2% per year. In Poland, the increase has been more than twice as large, although at a lower level. In any case, the milk productivity increase is per capita outweighing the declining number of dairy cows and the increase in population number.

Table 2: The number of dairy cows per herd, the milk yield per cow per year, and the share of cows milked with automated milking systems (AMS) for selected countries. Empty cells means that no data is available. (Source: ICAR).

	Dairy cows per herd				% of cows in AMS				Milk yield, kg/cow/year			
	2010	2015	2020	2022	2010	2015	2020	2022	2010	2015	2020	2022
<i>Austria</i>	11.3	17	19						6,100	6,579	7,286	
<i>Denmark</i>	140	171	219	240			25	23	8,750	9,350	9,940	10,571
<i>France</i>	49	55.6	67.4		3.9	9.1	13	13.9	6,468	7,259	6,900	
<i>Germany</i>	45.7	58.5	68.4	72	3.1	9.7	18.2		7,085	7,600	8,425	8,557
<i>Israel</i>	151	193.9	242	260					11,667	11,772	11,924	12,074
<i>Netherlands</i>	78.7	95	105	111			33	40	8,344	8,373	9,203	9,086
<i>Poland</i>	5.6	8.1	9.5	10.1			3.4	4.9	4,841	5,841	6,787	7,425
<i>USA</i>		214	302						9,593	10,157	10,785	

Table 2 is also clearly showing a structural change towards larger herd sizes. This is a result of technological changes that makes it cost effective to operate larger and larger herds. One of the

technological changes that are happening is migration from manual to automated milking systems (AMS) by use of robotic milking. ICAR is making statistics for the share of AMS, and Table 2 shows that the use of AMS is very different from country to country, AMS is especially used in the Netherlands. In Denmark it seems like the use of the technology has topped and is now declining, and some countries, Israel and USA, does not report the use, which indicates that it may not be an important technology in these countries. AMS is usually considered a relevant technology for dairy farms managed by the family itself with limited use of hired employees, meaning with herd sizes between 50 and 150 dairy cows, who often have difficulties in recruiting milkers. A reason for a declining number of cows milked with AMS in Denmark may therefore be that the average herd sizes are above the mentioned optimal range for AMS. Furthermore, the Danish farming institute, SEGES, has by analysing farm accounts revealed that the milk production costs are about 5% higher when AMS is used, compared to the use of conventional milking parlours (<https://www.maskinbladet.dk/artikel/56234-malkesystem-afgor-ikke-fremstillingsprisen>).

In line with the above, the EU AGRICULTURAL OUTLOOK FOR MARKETS, INCOME AND ENVIRONMENT 2021 - 2031 ([https://agriculture.ec.europa.eu/document/download/6ffe6666-676f-4d54-adb7-a36f4d15449a\\_en?filename=agricultural-outlook-2021-report\\_en\\_0.pdf](https://agriculture.ec.europa.eu/document/download/6ffe6666-676f-4d54-adb7-a36f4d15449a_en?filename=agricultural-outlook-2021-report_en_0.pdf)), foresees a continued increase in the dairy production and the average herd size in EU, see Figure 2.

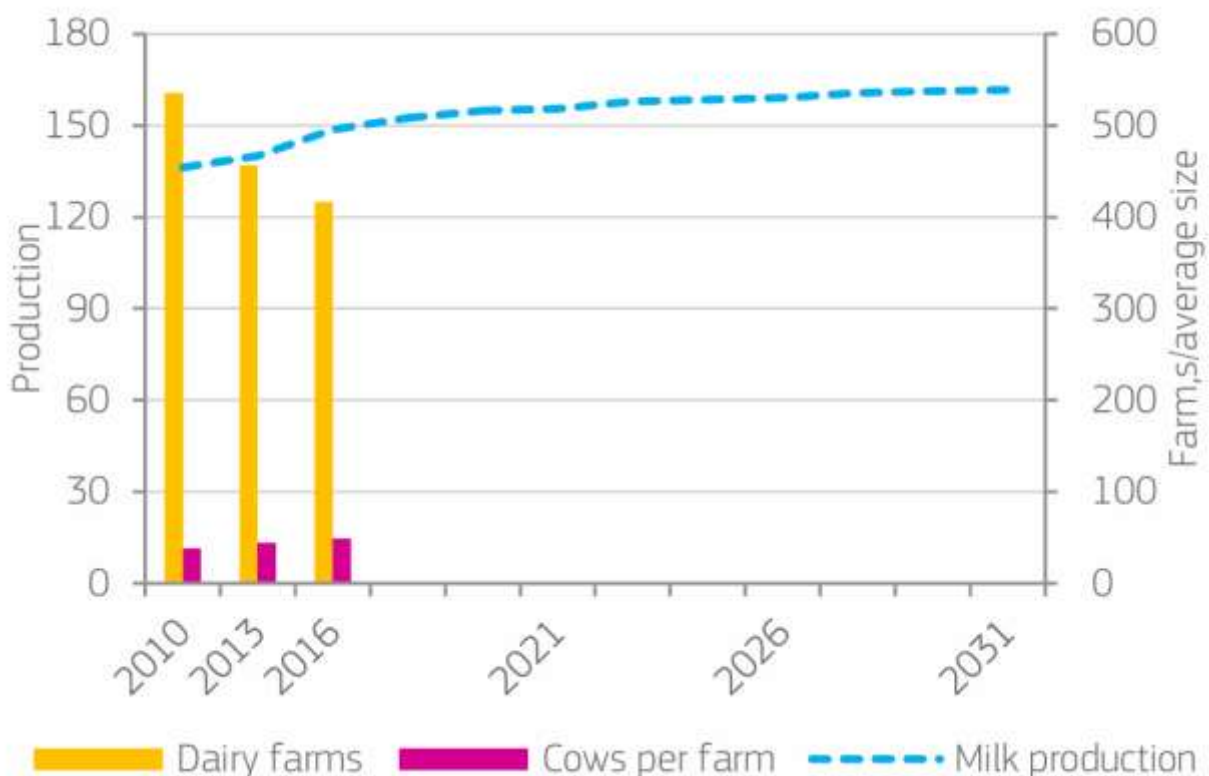
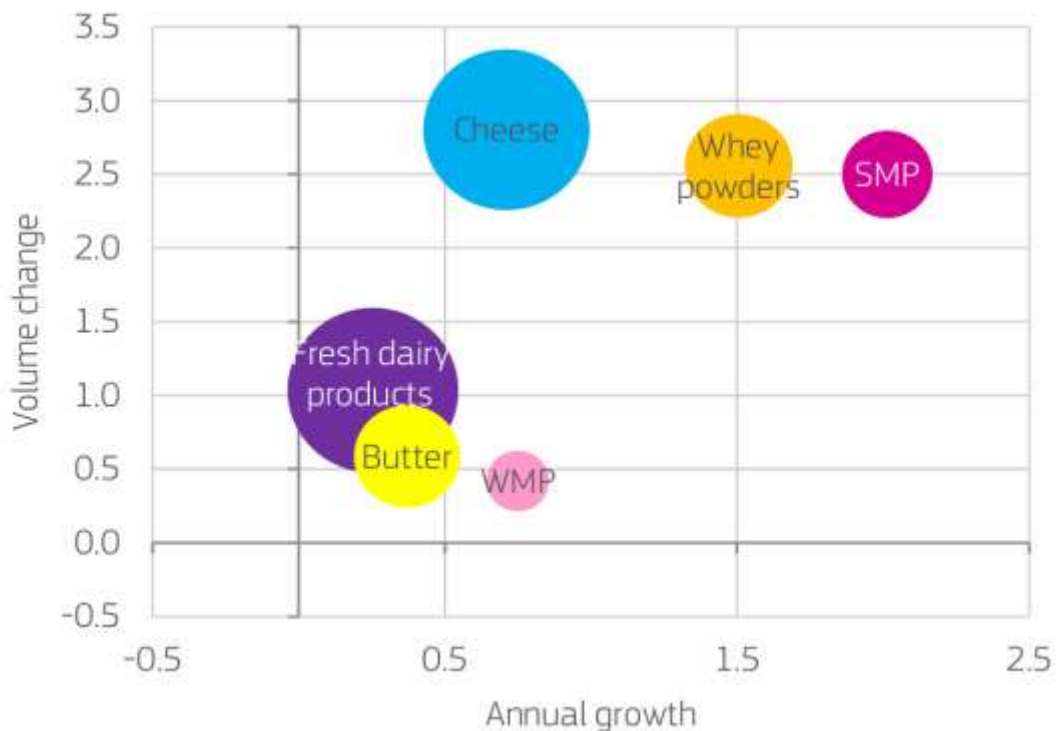


Figure 2: Development of EU milk production (million t), number of dairy farms (1 000) and their average size. (Source: EU agricultural outlook.)

In the case of dairy products, the following Figure 2 explains the types and amounts of products it is processed into as well as import and export.

The expected increase in dairy production means that there is also an expectation to a relative stable consumption of dairy products per capita. Figure 3 clarifies that the production of fresh dairy products like drinking milk and yoghurt, is expected to remain close to the current level, but a higher and higher share of the production, and therefore also the consumption, relates to cheese and various processed products, that are used as, for instance, functional food ingredients.



*Figure 3: EU production growth of selected dairy products in 2021-2031 (million t of milk equivalent and %). The size of bubbles illustrates average 2019-2021 volumes in milk equivalent. (Source: EU agricultural outlook.)*

Organic farming is, as indicated above, becoming more and more popular. The largest producers of organic milk in the EU28 in 2019 were Germany (1.19 million tonnes in 2019), France (1.03 million tonnes), Denmark (0.71 million tonnes), Austria (0.64 million tonnes), The United Kingdom (0.57 million tonnes), and Sweden (0.46 million tonnes). This accounted for 83.4% of organic production in the EU.

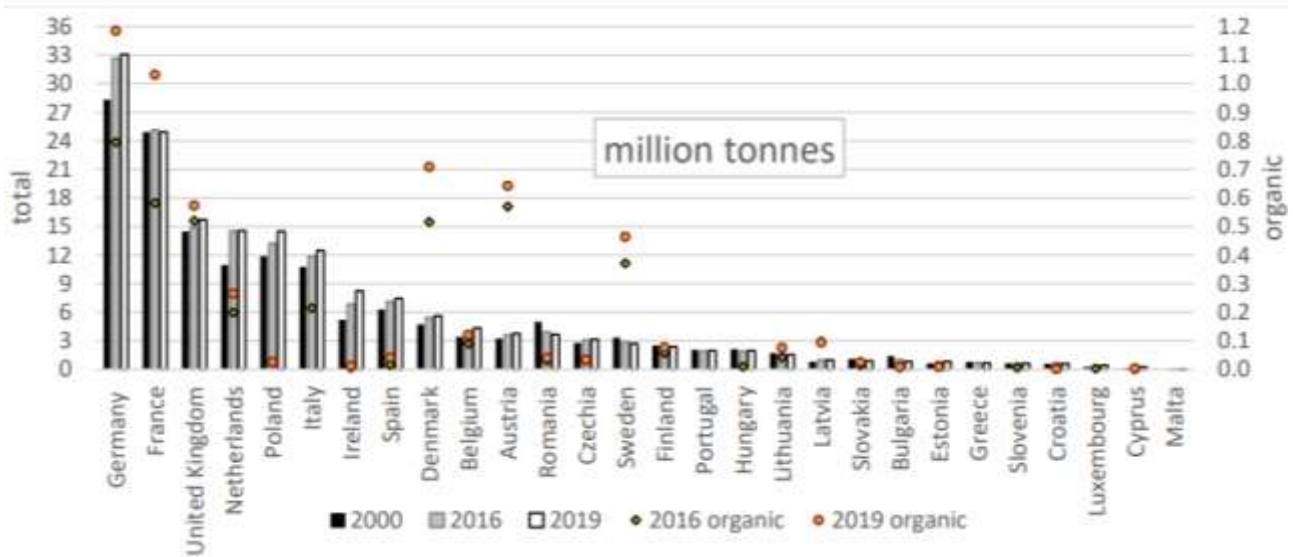


Figure 4: Figure 1. Production of cow milk, including organic milk, in the EU28 (Source: [https://www.researchgate.net/publication/354768780\\_Organic\\_Versus\\_Conventional\\_Raw\\_Cow\\_Milk\\_as\\_Material\\_for\\_Processing](https://www.researchgate.net/publication/354768780_Organic_Versus_Conventional_Raw_Cow_Milk_as_Material_for_Processing)).

Organic dairy farming has overall reached 3.5% of the production in EU, and Figure 4 shows that it is increasing, which means that an increasing number of livestock would be grazing in the future, since this is a legal requirement for achieving organic farming certification.

The European Commission states that “In the next 10 years, EU milk production will continue providing sustainable solutions to dairy farmers, climate and society.”

Concerning beef, the production is relatively stable as indicated in Figure 3. This means that the decreasing number of cattle produce the same amount of beef due to increasing productivity.

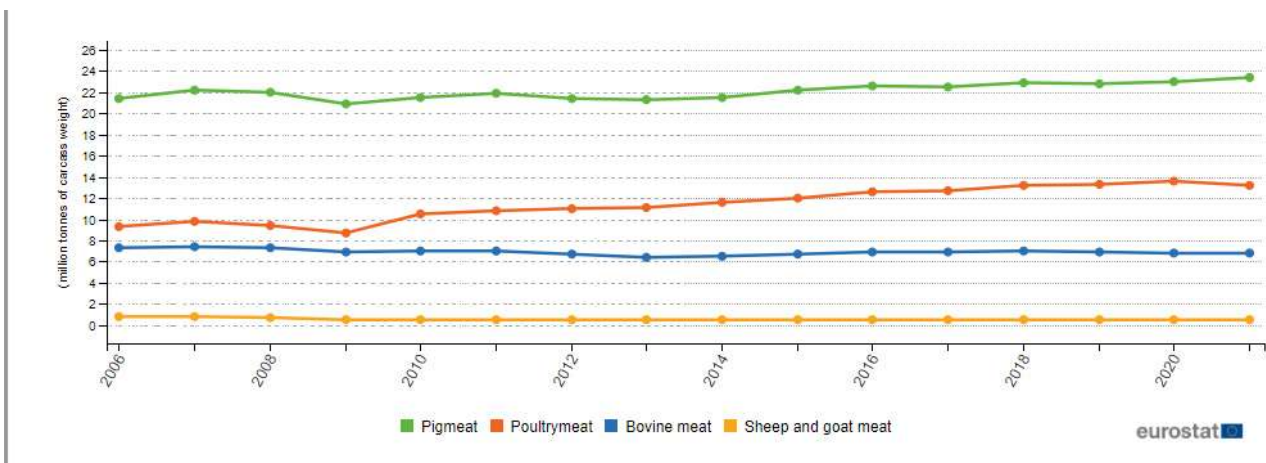


Figure 5: Development in EU's production of main meat types (Source: Eurostat).

### Trends in sheep production

Alike for cattle, the number of sheep in the EU is declining – see Table 3. Based on Figure 5, this decline is not reflected in a decline in sheep and goat meat production, indicating that the declining number of animals has an increasing productivity. It should in this connection be

noticed that the goat production is marginal in comparison to sheep production, and the EU has only about 1.1 million goats in 2021.

*Table 3: The number of sheep in EU27. All figures in thousands. Empty cells means that no data is available. (Source: Eurostat).*

<i>Year</i>	<i>2010</i>	<i>2015</i>	<i>2020</i>
<i>Austria</i>	358,42	353,71	393,76
<i>Belgium</i>	:	117,32	:
<i>Bulgaria</i>	1.367,99	1.331,89	1.307,77
<i>Croatia</i>	630,00	608,00	662,00
<i>Cyprus</i>	328,22	296,86	326,33
<i>Czechia</i>	:	218,49	:
<i>Denmark</i>	:	144,95	:
<i>Estonia</i>	:	85,90	:
<i>Finland</i>	:	155,20	:
<i>France</i>	7.955,00	7.057,00	6.998,71
<i>Germany</i>	1.799,70	1.579,79	1.483,70
<i>Greece</i>	9.791,00	8.852,00	7.721,80
<i>Hungary</i>	1.181,00	1.190,00	944,00
<i>Ireland</i>	3.121,97	3.324,84	3.877,22
<i>Italy</i>	7.900,02	7.148,53	7.034,16
<i>Latvia</i>	76,81	102,28	91,89
<i>Lithuania</i>	58,50	147,10	140,60
<i>Luxembourg</i>	7,51	8,95	:
<i>Malta</i>	12,38	11,08	13,15
<i>Netherlands</i>	1.211,00	1.032,00	710,00
<i>Poland</i>	213,65	221,19	:
<i>Portugal</i>	2.226,26	2.042,61	2.303,72
<i>Romania</i>	8.417,40	9.809,50	10.281,50
<i>Slovakia</i>	394,18	381,39	:
<i>Slovenia</i>	:	109,41	:
<i>Spain</i>	18.551,64	16.026,37	15.439,22
<i>Sweden</i>	564,92	594,73	367,74
<i>Total EU27</i>	<b>66.167,57</b>	<b>62.951,09</b>	<b>60.097,27</b>

## Trends in horse breeding

Statistics on the development in the number of horses is not so accessible as for other livestock types. Figure 6 shows the number of horses in EU countries in 2018. It is the impression that the number is fairly stable.

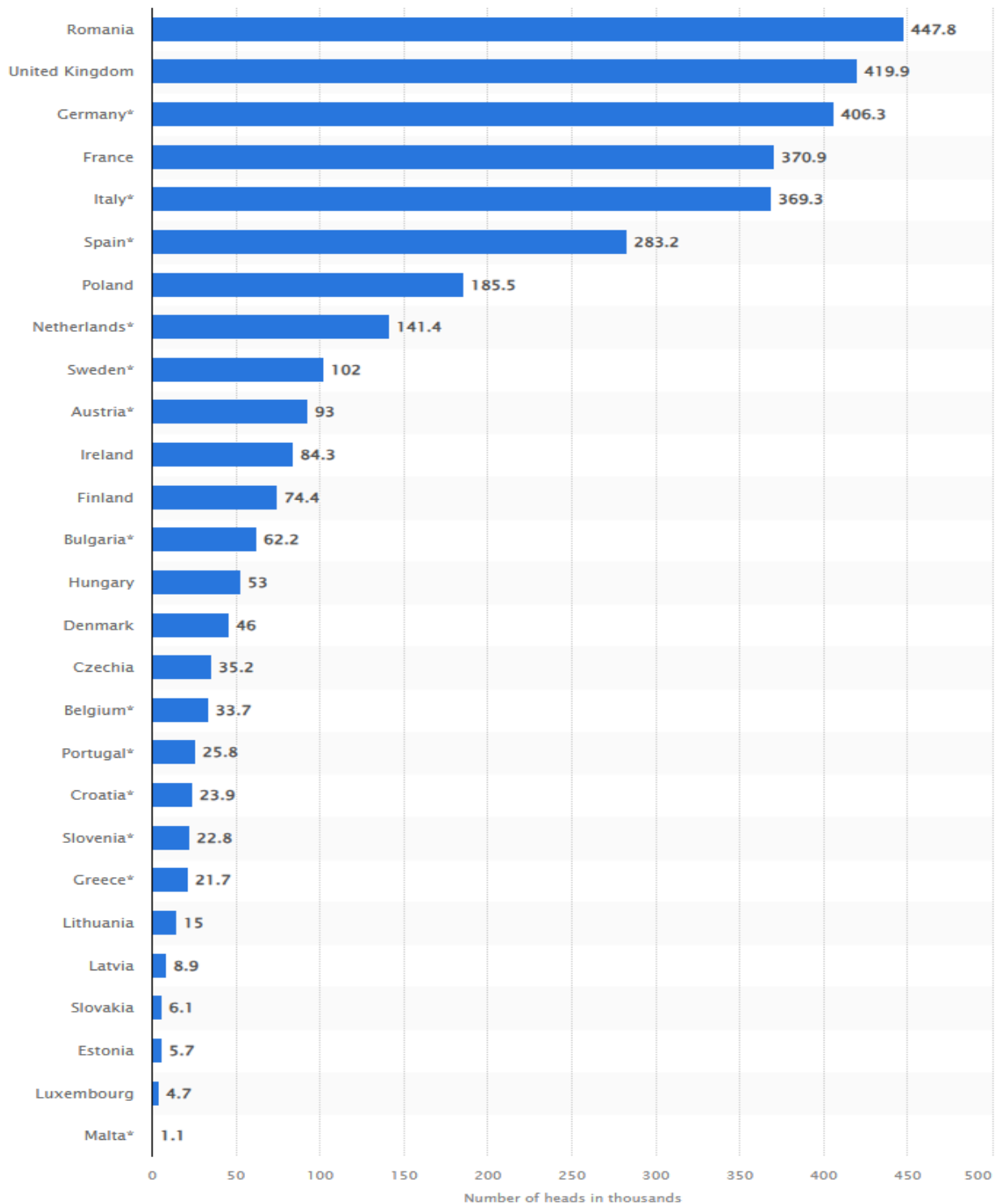


Figure 6: The number of horses in EU28 countries in 2018, ranked according to the importance in horse breeding. (Source: Based on data from FAO).