

## 4.4 Europe

### 4.4.1 Regional Demographics and Poultry Stocks

The European broiler industry has 6.4 million farms with 62,973 (1.1%) of those being commercial farms

and 5.63 million (98.9%) being household or micro-producer farms. European broiler farms have stocks of 2.3 billion chickens with 97.7% being on commercial farms and 2.3% being on household or micro-producer farms (Figure 119). The average size of commercial broiler farms is 36,405 head. The average size of the household or micro-producer farms is 10 head. There are 397,187 duck farms in Europe with an inventory of 74.99 million head. The average size duck farm is 189 head. There are 56,992 turkey farms in Europe with 102.9 million head of inventory. The average turkey farm has an inventory of 1,806 head.

Overall poultry stocks have increased in Europe since 2010. Chicken stocks are up 14.6%, duck stocks are down 12.5%, and turkey stocks are up 5.8%. In 2020, Europe had 2.35 billion chickens with 1.86 billion in commercial chicken meat farms and 1.84 billion on household farms. Duck stocks in Europe were 74.99 million head and turkey stocks were 102.9 million head. Total poultry stocks on European farms were 2.53 billion birds (Figure 120).

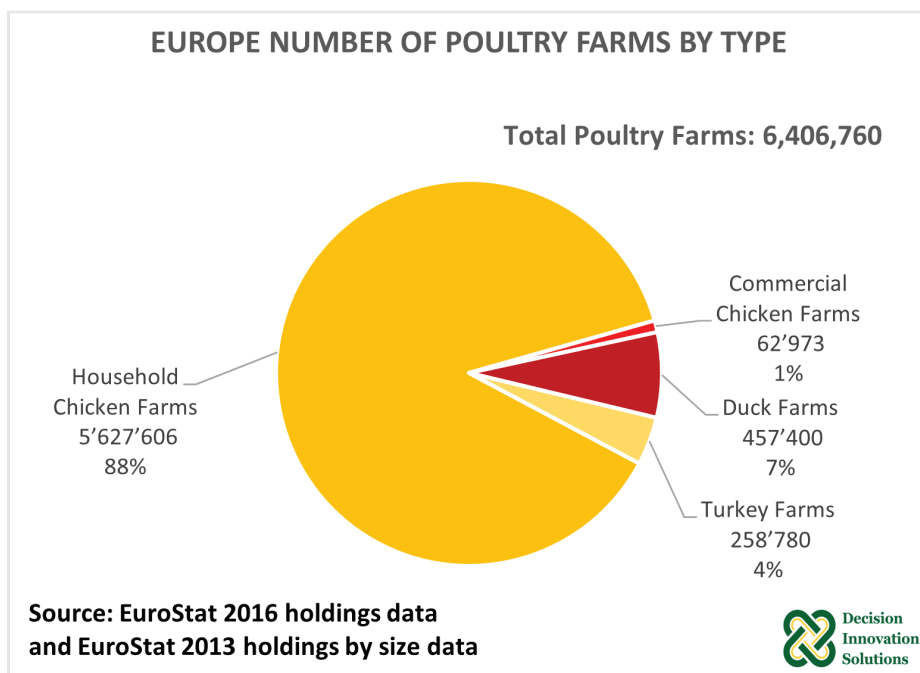


Figure 119. Europe number of poultry farms by type

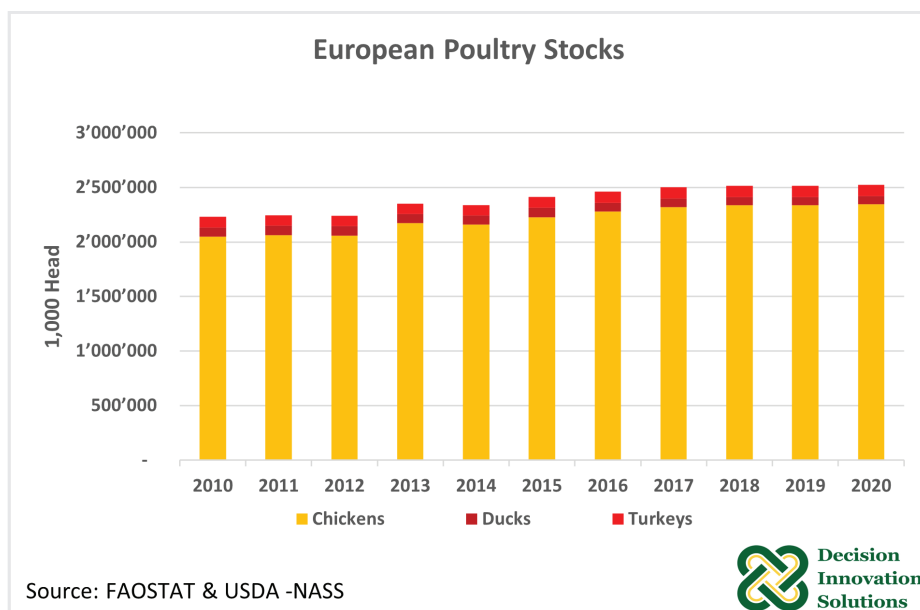


Figure 120. Europe poultry stocks

#### 4.4.2 Regional Economics

In 2020, the value of European GDP was nearly \$22.0 trillion. The agricultural production sector contributed 2% of the total GDP. Crop production in Europe was valued at \$294.6 billion. Red meat production was valued at \$209.6 billion. Poultry production was less than 1% of the total GDP (Figure 121).

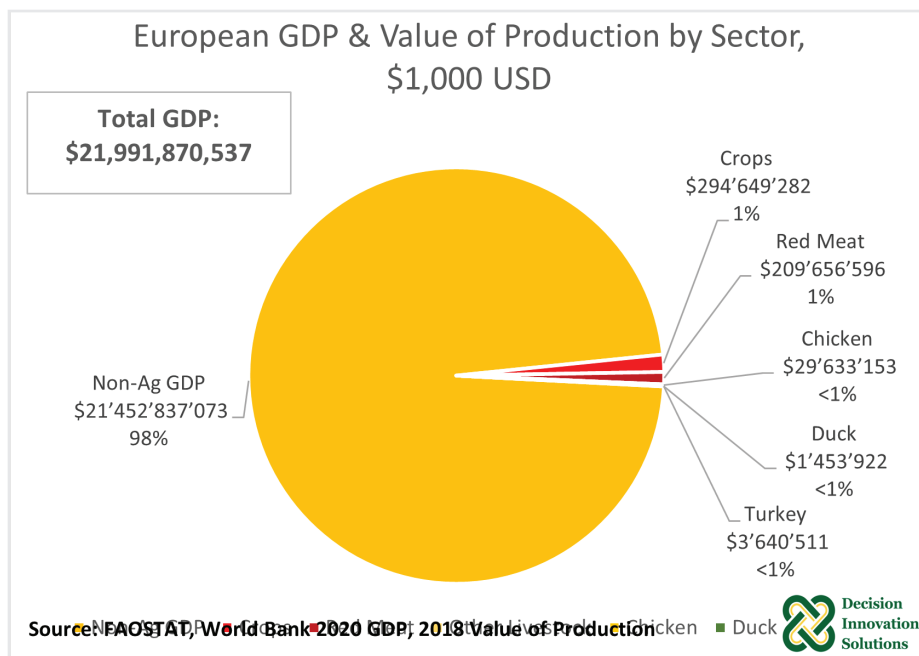


Figure 121. Europe GDP & value of production by sector

#### 4.4.3 Regional Production Volume and Value

Europe produced 22.3 million metric tons of poultry meat in 2020 with 88% being chicken meat, 2% being duck meat, and 10% being turkey meat (Figure 122).

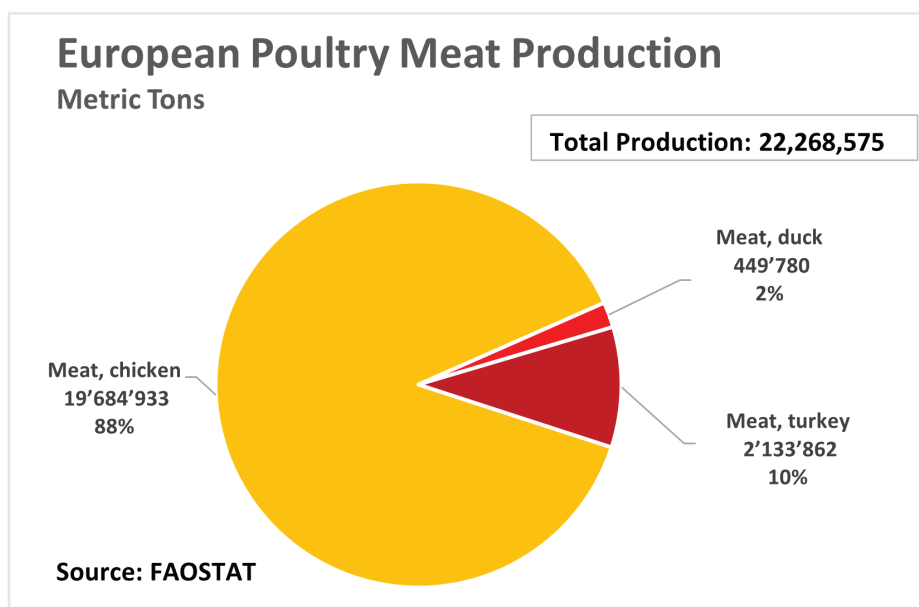


Figure 122. Europe poultry meat production

European poultry production has increased 12.3% since 2010. European poultry production in 2020 was valued at \$34.7 billion with 85% due to chicken production, 11% due to turkey production and 4% due to duck production (Figure 123).

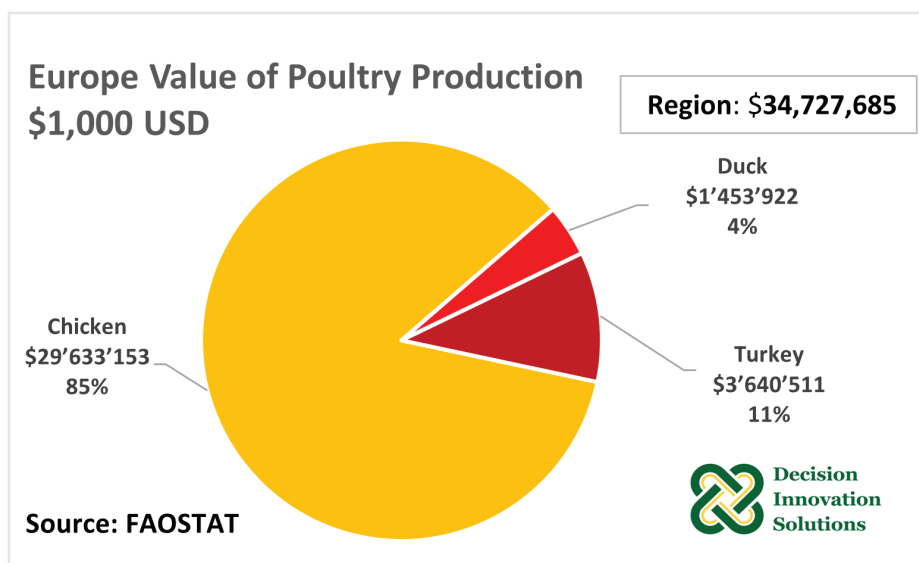


Figure 123. Europe value of poultry production

#### 4.4.4 Regional Cost of Production

Within the European region, the share of feed relative to total broiler production cost ranged from 59% in the United Kingdom to 65% in Poland in 2017 (Figure 124). Overall, the cost of day-old chicks was the second largest component in the broiler production cost in Europe, which averaged 18% across these countries. In the United Kingdom the share of day-old chicks (22%) was the highest among the other European countries, followed by France with a share of 19% of total cost.

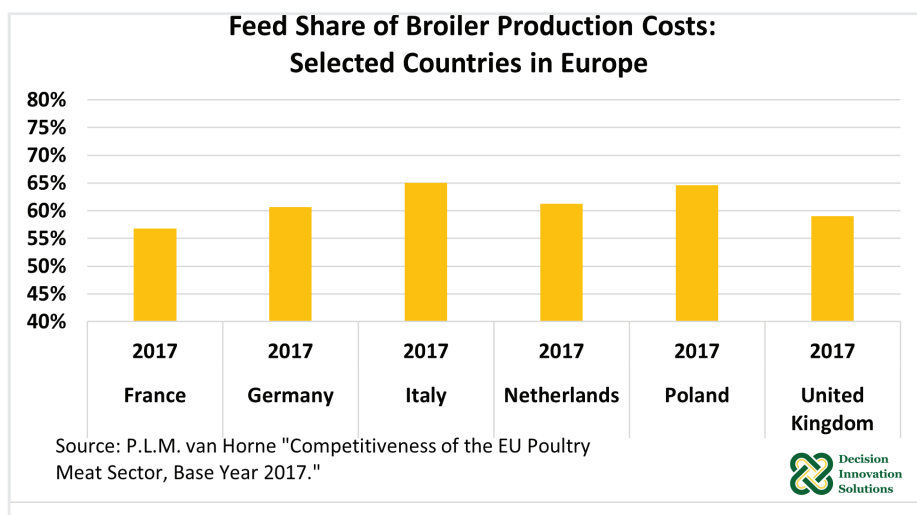


Figure 124. Feed share of broiler production costs: Europe

France had the highest other variable costs, which includes heating, electricity, and animal health at 10% of total costs, while the United Kingdom had the lowest other variable costs relative to total cost at 8%. For the Netherlands, Germany, Italy, and Poland other variable costs accounted for 9% of total cost of broiler production. Some countries such as the Netherlands and Germany, incur in manure disposal expenses. However, other countries such as the United Kingdom and Poland, manure disposal represents a small source of income.

## 4.4.5 France

### 4.4.5.1 Demographics

The number of poultry farms in France was estimated at 31,070 with household or micro-producer chicken farms accounting for 39% or 12,212 of the total poultry farms (Figure 125). The share of poultry farms which were commercial farms was an estimated 19% or 5,878 of the total. Duck farms accounted for the second largest share of poultry farms with 29% of the total or 8,870 duck farms, altogether. Turkey farms were the smallest share of poultry farms with 13% or 4,110 farms.

The average size of the household or micro-producer chicken farm was 87 head. Commercial chicken farms had an average 25,467 head. The average size duck farm was 2,478 head. The average turkey farm has an inventory of 4,313 head.

Poultry production has declined since 2010, while poultry consumption has increased. In 2019 poultry production totaled nearly 1.7 million metric tons, a 5% decline compared to 2010 (see Figure 126). Poultry consumption in 2019 was 1.5 million metric tons, an increase of 2% since 2010.

In 2020, France's poultry stocks included 242 million chickens, nearly 22 million ducks, and 17.7 million turkeys (Table 34). Chicken stocks increased 5%, duck stocks decreased 16%, and turkey stocks decreased 27% since 2010.

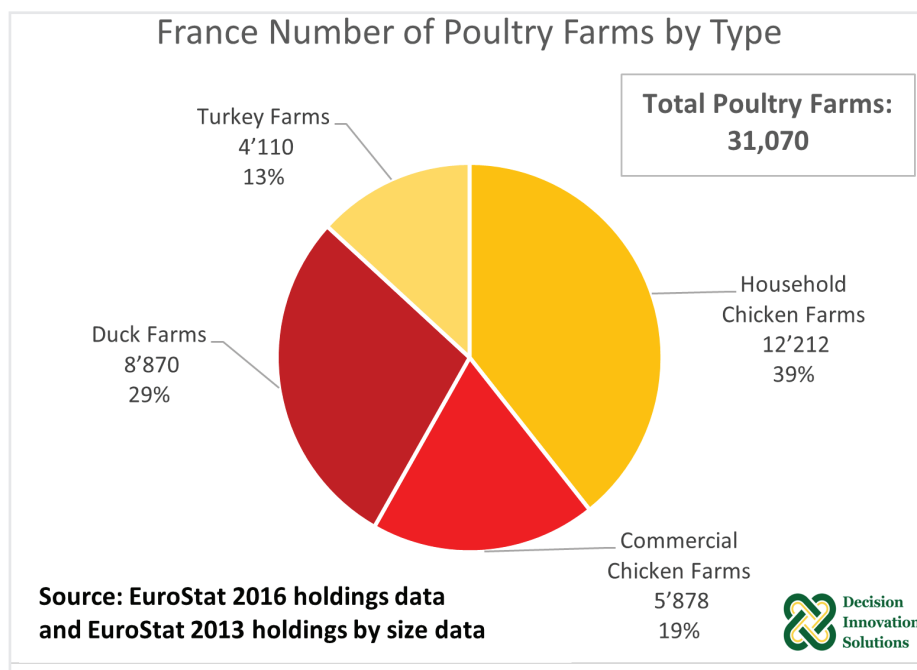


Figure 125.

France number of poultry farms by type

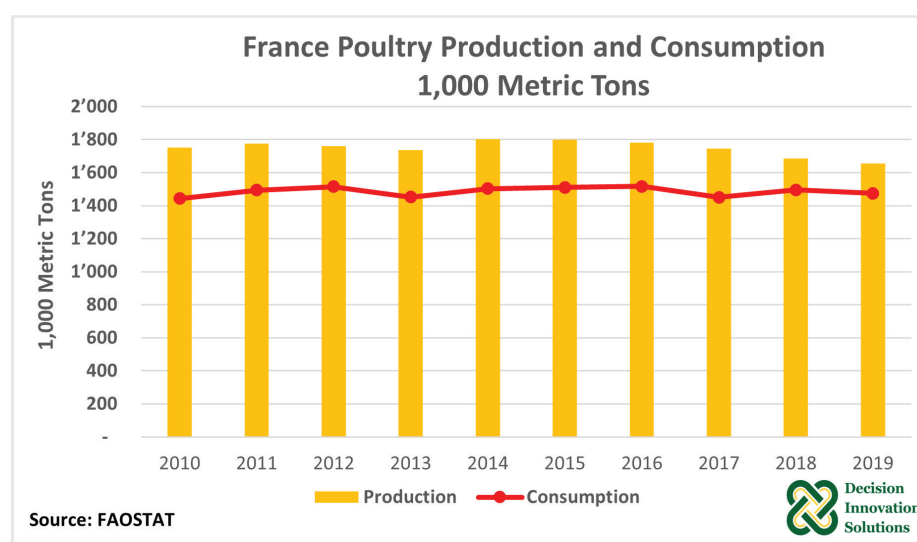


Figure 126.

France poultry production & consumption

FRANCE POULTRY STOCKS, SLAUGHTER, AND PRODUCTION				
1,000 head	Chickens	Ducks	Turkeys	Total
Stocks	242'015	21'978	17'725	281'718
Producing Animals/Slaughtered	770'478	61'119	39'087	870'684
Production (1,000 MT)	1'130	192	321	1'643

Sources: FAO, 2020

Table 34. France poultry stocks, slaughter & production

Overall, poultry slaughter in France decreased for all sectors from 2010 to 2020. Poultry slaughter in France totaled 870.7 million head in 2020. An estimated 88% or 770,478 head of poultry slaughter were chickens. Duck slaughter was the second largest share of poultry slaughter, representing 7% or 61,119 head. Turkey slaughter was the smallest share of poultry slaughter with about 6% or 17.7 million head. Chicken slaughter declined 5%, duck slaughter declined 24%, and turkey slaughter declined 34% from 2010.

Poultry production included 1.1 million metric tons of chicken, 321,000 metric tons of turkey, and 192,000 metric tons of duck. Compared to 2010, chicken production increased 16%, duck production declined 32%, and turkey production declined 21%.

#### 4.4.5.2 GDP and Value of Production

The GDP of France was valued at \$2.6 trillion in 2020. Non-agricultural GDP was approximately 97% or \$2.5 billion of the total GDP. The agricultural production sector was estimated to contribute 3% of the total GDP. Crop production represented about 2% or \$47.2 billion of the total GDP. An estimated \$23.5 billion or 1% of GDP was derived from red meat production. Although less than 1%, chicken production was the third largest share of agricultural production with \$2.0 billion in contributions. Following chicken production, duck production was valued at \$760.6 million. Turkey production contributed an estimated \$602 million or less than 1% of the total GDP (Figure 127).

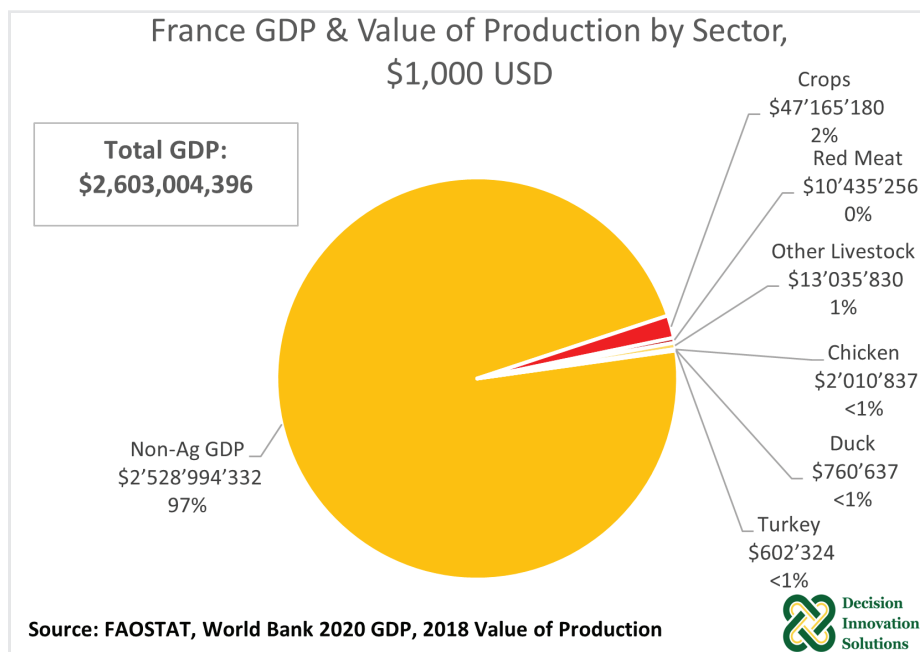


Figure 127. France GDP & value of production by sector

The combined (direct and indirect) effects of agricultural production in France are estimated to be \$163.7 billion. Of this amount, \$8.5 billion comes from the poultry industry, with \$5.0 billion from chicken meat production, \$1.9 billion from duck production, and \$1.5 billion from turkey production. Agriculture pays a net value of \$1.9 billion in taxes, \$73.7 million of which is estimated to be from the poultry industry (Table 35).

ECONOMIC EFFECTS - FRANCE (\$1,000 USD)				
	Direct	Indirect	Total	Taxes paid*
All agriculture	\$74'010'064	\$89'702'665	\$163'712'729	\$1'927'326
Livestock	\$26'844'884	\$32'536'895	\$59'381'779	\$699'079
Poultry	\$3'373'798	\$5'077'566	\$8'451'364	\$73'653
Chicken	\$2'010'837	\$3'026'310	\$5'037'147	\$43'898
Duck	\$760'637	\$1'144'759	\$1'905'396	\$16'605
Turkey	\$602'324	\$906'498	\$1'508'822	\$13'149

Source: FAOSTAT, OECD Input-Output Tables. \*Taxes is equal to total taxes net of subsidies

Table 35. Economic effects - France

### 4.4.5.3 Labor

The labor force in France had an estimated 30.6 million individuals in 2020 (Table 36). Approximately, 29.9 million people worked in non-agricultural labor sectors. Overall, the agricultural labor accounted for 674,058 people. Among those employed in the agricultural sector, 31,418 people were employed in the poultry sector. Of that total, 18,726 people worked in poultry production. The total number of meat processing jobs in France was 130,022 during 2020. Wages earned in meat processing totaled \$4.7 billion. Livestock meat processing accounted for 98,255 jobs and nearly \$3.6 billion in wages earned. Poultry meat processing accounted for 31,767 jobs and nearly \$1.2 billion in wages earned.

### 4.4.5.4 Cost of Production

In France the cost of feed represented the largest share of broiler production total cost at 57% in 2017. Day-old chicks was the second largest cost component of the cost of production structure at 19%, followed by other variable costs (heating, electricity, litter, and animal health, 10%) and housing (7%).

Labor cost accounted for 6% of total costs. France's share of labor relative to total broiler production cost was the highest compared with other European countries included in this study (see Figure 128).

### 4.4.5.5 Trade

Belgium was the largest market for France's poultry exports in 2020. France exported more than \$168 million worth of poultry products to Belgium. The second and third largest markets for France poultry exports were Germany (\$158.6 million) and the UK (\$117.4 million). The value of poultry products exported by France to its top ten markets was over \$824.3 million in 2020.

AGRICULTURAL LABOR FORCE CHARACTERISTICS - FRANCE			
	Total	Female	Male
Total Country Labor	30'549'303	14'661'392	15'887'911
Non-Agricultural Labor	29'875'245	14'468'438	15'406'806
Agricultural Labor	674'058	192'954	481'105
Total Non-Poultry Agricultural Labor	642'641		
Total Poultry Labor	31'418		
Chicken Labor	18'726		
Turkey Labor	5'609		
Other Poultry Labor	7'083		
Wages (\$1,000 USD)			
Total Meat Processing Labor	130'022	\$4'717'203	
Livestock Processing Labor	98'255	\$3'564'706	
Poultry Processing Labor	31'767	\$1'152'497	

Source: ILO 2020, World Bank 2020, UNIDO Database, INDSTAT 4 2021, ISIC Revision 3

Table 36. Agricultural labor force characteristics - France

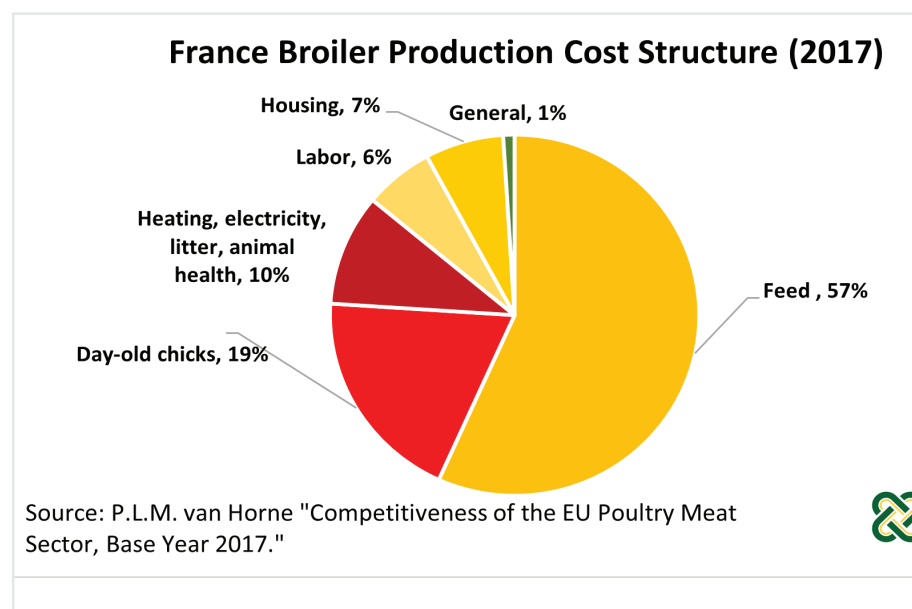


Figure 129. France broiler production cost structure

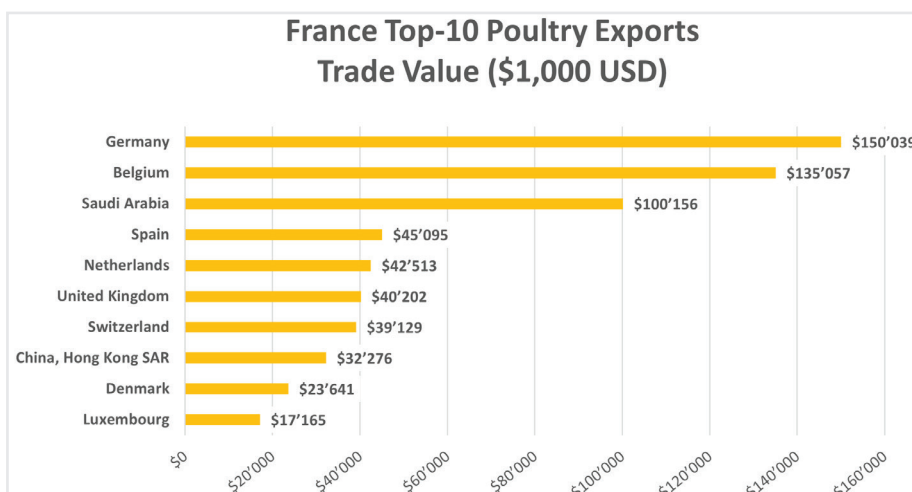


Figure 128. France top 10 poultry exports, trade value



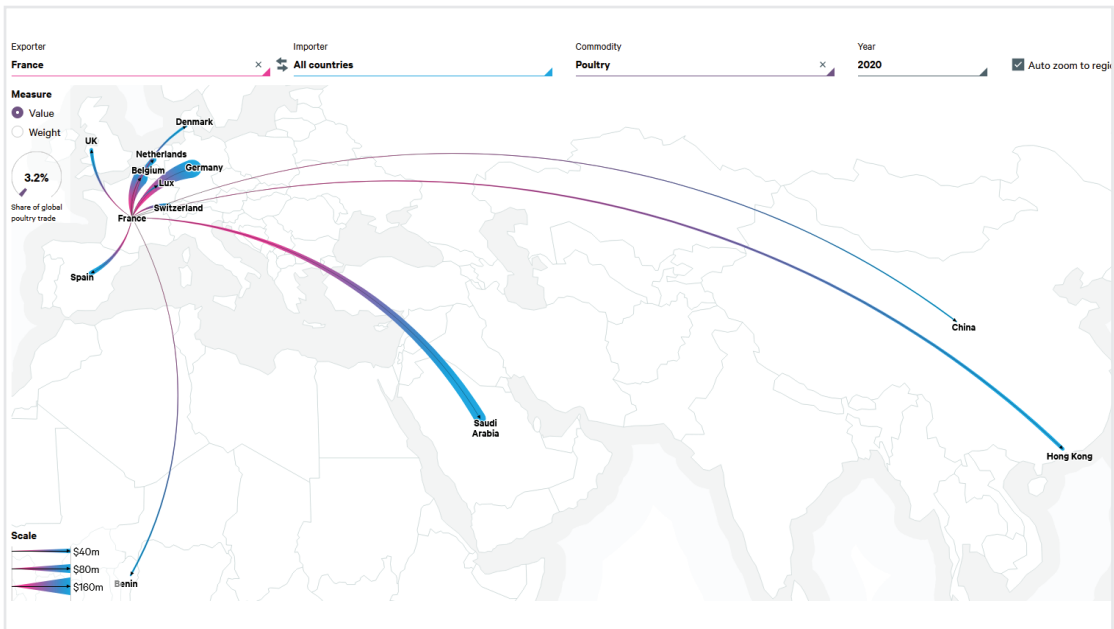


Figure 130. France poultry export flows

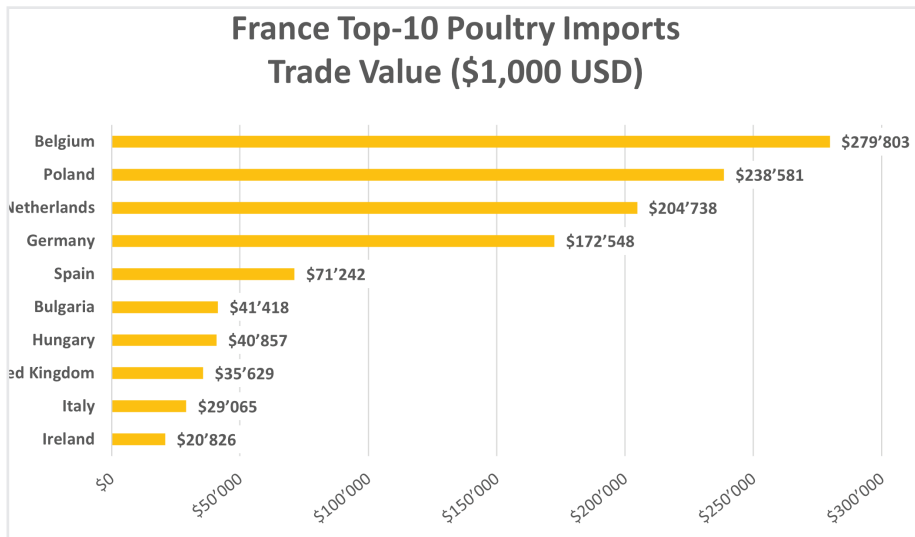


Figure 131. France top 10 poultry imports, trade value

2020, France's top five suppliers of poultry meat were Belgium, Poland, Germany, the Netherlands, and Spain. The total value of poultry meat exported by these five countries to France was estimated at \$1.3 billion (see Figure 131 and Figure 132).

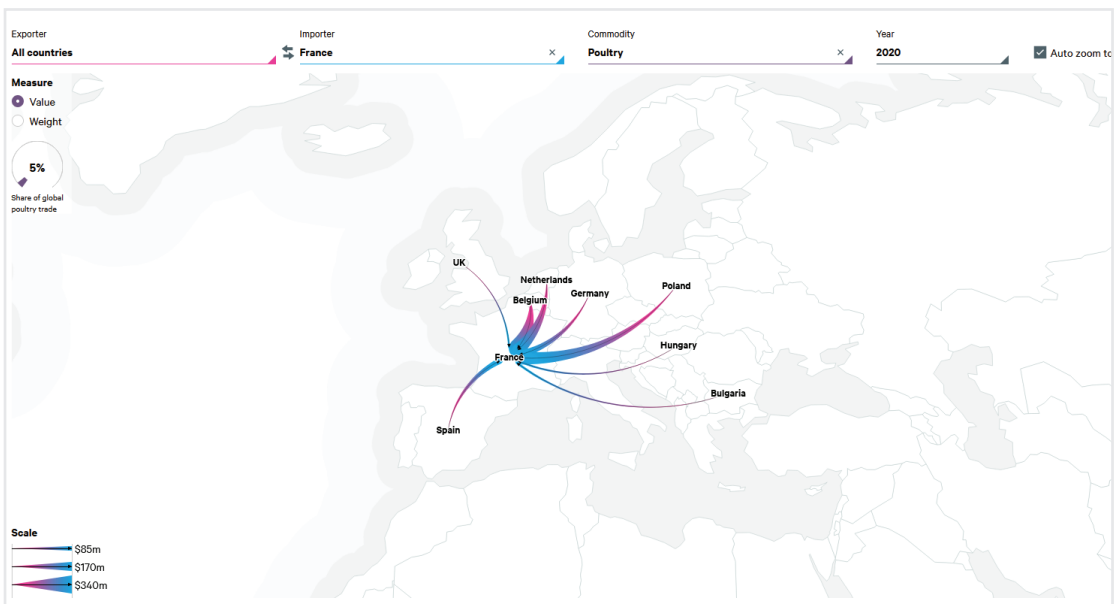


Figure 132. France poultry import flows

## 4.4.6 Germany

### 4.4.6.1 Demographics

In Germany, the number of poultry farms totaled 9,040 with the 4,260 duck farms representing the largest share of poultry farms at 47% (Figure 133). Approximately, 24% of the total poultry farms, or 2,116 farms were household chicken farms. The 1,730 turkey farms accounted for 19% of Germany's poultry farms and the 934 commercial chicken farms accounted for 10% of Germany's poultry farms.

The average commercial chicken farm had 171,180 chickens. The average turkey farm had 9,148 head. The average size of the household or micro-producer farm was 71 head. The average size duck farm was 1,019 head.

Poultry production and consumption are both rising in Germany. Poultry production in 2019 totaled 1.5 million metric tons. Poultry consumption in 2019 was 1.5 million metric tons. Poultry production increased 12% since 2010. Consumption of poultry in Germany increased 11% (Figure 134).

In Germany, poultry stocks included 160 million chickens, 15.8 million turkeys, and 4.3 million ducks (Table 37). Poultry slaughter totaled 670.1 million head.

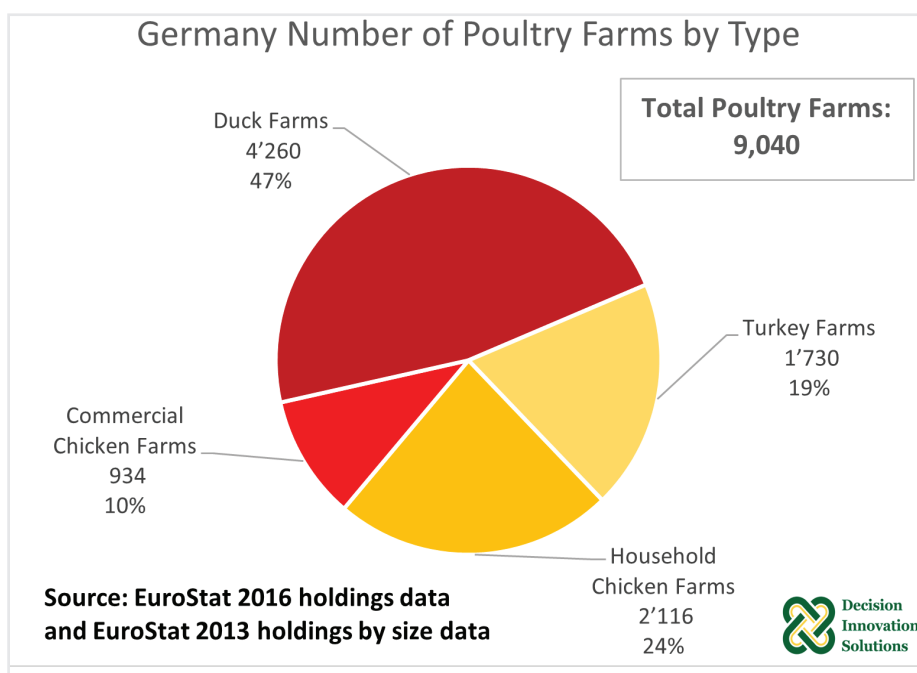


Figure 133. Germany number of poultry farms by type

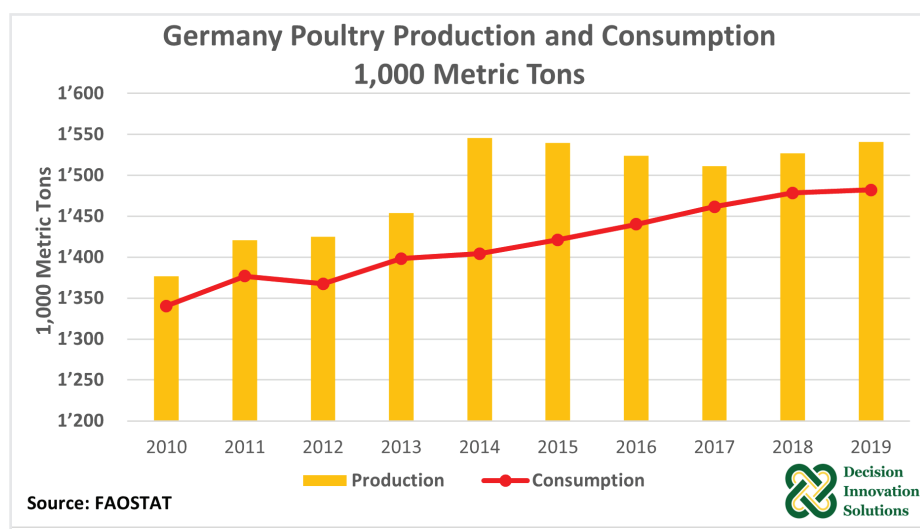


Figure 134. Germany poultry production & consumption

GERMANY POULTRY STOCKS, SLAUGHTER, AND PRODUCTION				
1,000 head	Chickens	Ducks	Turkeys	Total
Stocks	114'523		31'985	146'508
Producing Animals/Slaughtered	291'985		5'912	297'897
Production (1,000 MT)	696		71	767

Sources: FAO, 2020

Table 37. Germany poultry stocks, slaughter & production

Chicken slaughter was estimated at 623.2 million head. Turkey slaughter was an estimated 34.9 million head. Germany's chicken slaughter increased from 2010 to 2020 by 1%. Duck and turkey slaughter decreased 55% and 9%, respectively. Poultry production included nearly 1.1 million metric tons of chicken, 476,000 metric tons of turkey, and 27,000 metric tons of duck. Since 2010, chicken production increased 27%, duck production declined 57%, and turkey production declined 1%.



#### 4.4.6.2 GDP and Value of Production

In 2020, the value of GDP in Germany was an estimated \$3.8 trillion. The non-agricultural sector represented approximately 99% of the total GDP. The agricultural production sector was dominated by red meat production. About \$27.5 billion was derived from red meat production. Crop production was the second largest share of agricultural production with \$18.6 billion. An estimated \$1.4 billion was derived from chicken production. Turkey production represented \$830.5 million. The smallest share of agricultural production was duck production with approximately \$233.5 million in contributions.

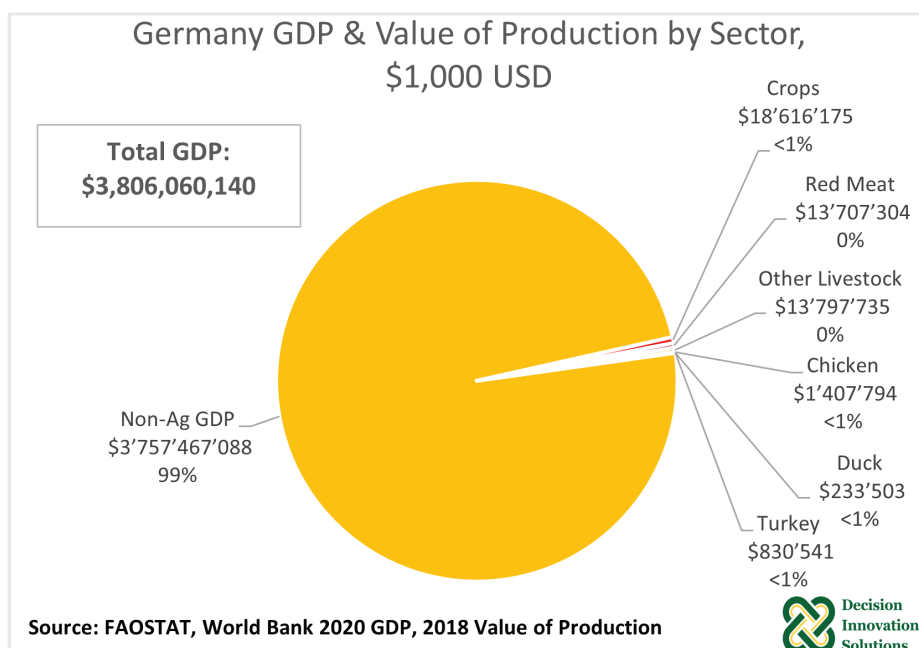


Figure 135. Germany GDP & value of production by sector

The combined (direct and indirect) effects of agricultural production in Germany are estimated to be \$110.8 billion. Of this amount, \$6.2 billion comes from the poultry industry, with \$3.5 billion from chicken meat production, \$582 million from duck production, and \$2.1 billion from turkey production. Agriculture pays a net value of \$1.8 billion in taxes, \$95.5 million of which is estimated to be from the poultry industry.

ECONOMIC EFFECTS - GERMANY (\$1,000 USD)				
	Direct	Indirect	Total	Taxes paid*
All agriculture	\$160'000	\$4'341	\$ 15'826	\$180'167
Livestock	\$623'161	\$12'072	\$34'901	\$670'134
Poultry	\$ 1'066	\$ 27	\$ 476	\$ 1'569
Chicken	\$160'000	\$4'341	\$ 15'826	\$180'167
Duck	\$623'161	\$12'072	\$34'901	\$670'134
Turkey	\$ 1'066	\$ 27	\$ 476	\$ 1'569

Source: FAOSTAT, OECD Input-Output Tables. \*Taxes is equal to total taxes net of subsidies

Table 38. Economic effects - Germany

#### 4.4.6.3 Labor

According to data from the World Bank, 44.1 million people comprised the labor force in Germany during 2020 (Table 39). Of that total, 43.6 million people worked in non-agricultural labor sectors. Approximately, 534,549 people were in employed in agricultural sectors.

Among those in agriculture, 27,080 people were employed in poultry production.

The total number of meat processing jobs in Germany was 218,275 during 2020. Wages earned in meat processing totaled \$5.7 billion. Livestock meat processing accounted for 184,927 jobs and \$4.8 billion in wages earned. Poultry processing accounted for 33,348 jobs and \$869.5 million in wages earned.

AGRICULTURAL LABOR FORCE CHARACTERISTICS - GERMANY			
	Total	Female	Male
Total Country Labor	44'120'268	20'728'495	23'391'773
Non-Agricultural Labor	43'585'719	20'560'272	23'025'447
Agricultural Labor	534'549	168'223	366'326
Total Non-Poultry Agricultural Labor	507'468		
Total Poultry Labor	27'080		
Chicken Labor	15'423		
Turkey Labor	9'099		
Other Poultry Labor	2'558		
Wages (\$1,000 USD)			
Total Meat Processing Labor	218'275	\$5'690'899	
Livestock Processing Labor	184'927	\$4'821'448	
Poultry Processing Labor	33'348	\$869'452	

Source: ILO 2020, World Bank 2020, UNIDO Database, INDSTAT 4 2021, ISIC Revision 3

Table 39. Agricultural labor force characteristics - Germany

#### 4.4.6.4 Cost of Production

After feed cost (61%), which was the largest proportion of broiler production cost in Germany in 2017, day-old chick cost was the second largest share in the production cost at 17%. Over one fifth of total cost was distributed among variable costs (9%), housing (7%) and labor (5%). General costs relate to the costs at farm level for insurance, bookkeeping, consultancy, telephone, and transport was 1%. Germany also had the added cost of 1% related to manure disposal.

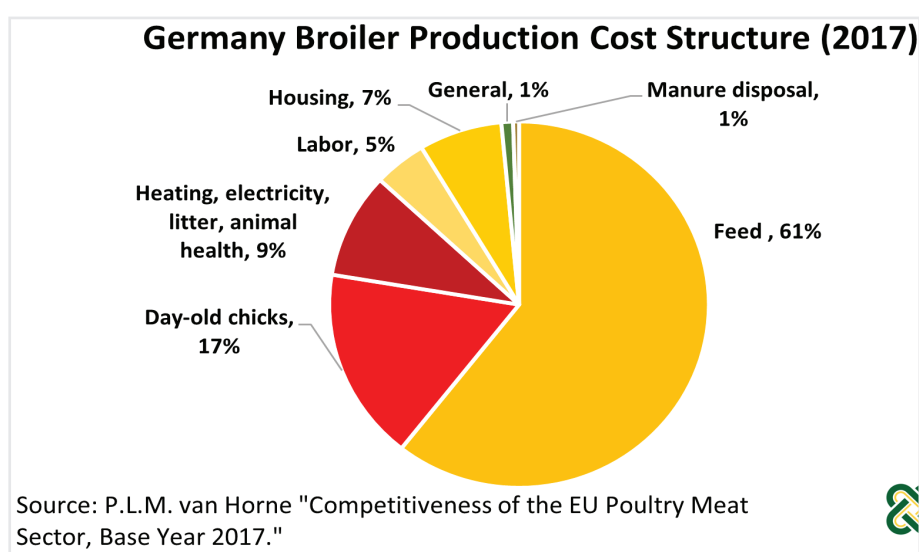


Figure 137. Germany broiler production cost structure

#### 4.4.6.5 Trade

The three largest destinations for Germany's poultry meat exports were the Netherlands (\$330.8 million), France (\$270.5), and the United Kingdom (\$220.1) in 2020. The top ten markets for Germany's poultry meat exports were located in Europe (see Figure 137 and Figure 138). Overall, Germany exported poultry meat to 116 countries in 2020.

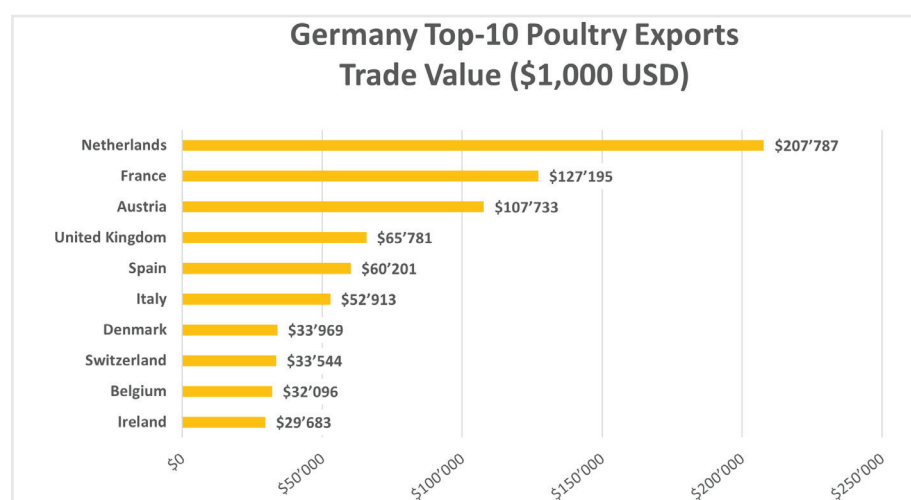


Figure 136. Germany top 10 poultry exports, trade value

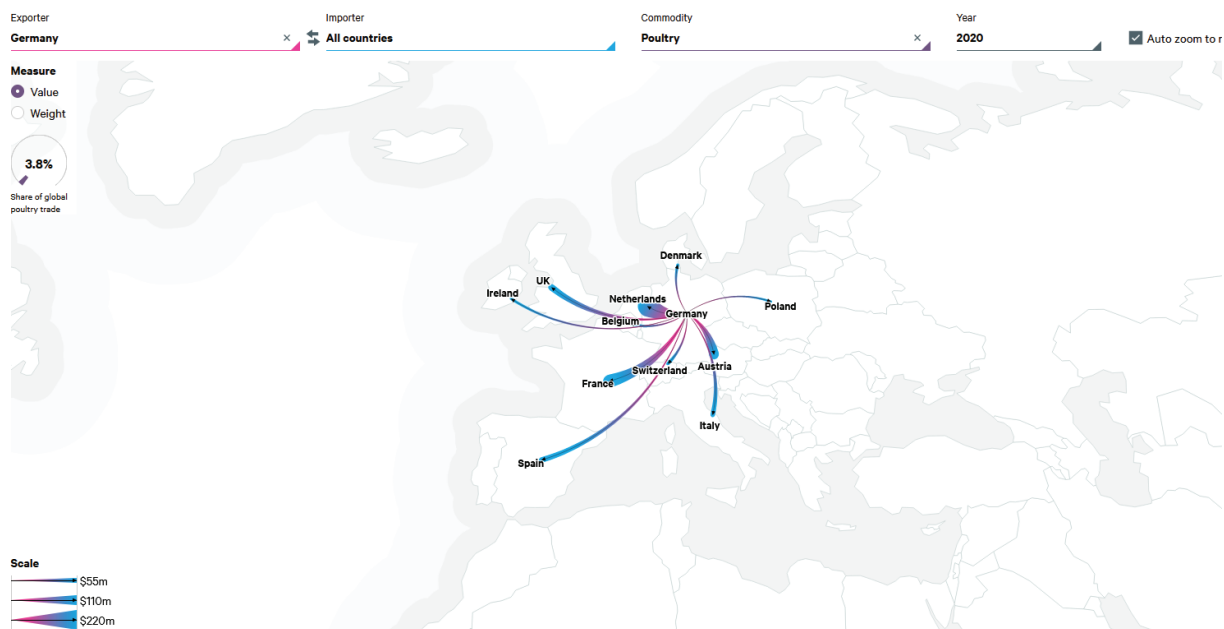
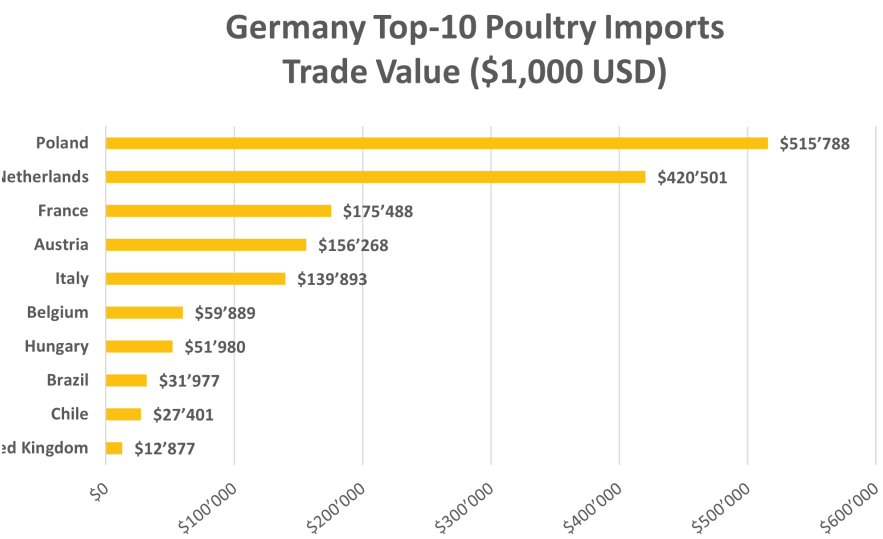


Figure 138. Germany poultry export flows



26% (\$550.3 million) of the value of poultry meat imported by Germany was shipped from Poland. Four other countries supplied over \$1.1 billion worth of poultry meat to Germany in 2020: The Netherlands, Austria, France, and Italy (see Figure 139 and Figure 140).

Figure 139. Germany top 10 poultry imports, trade value

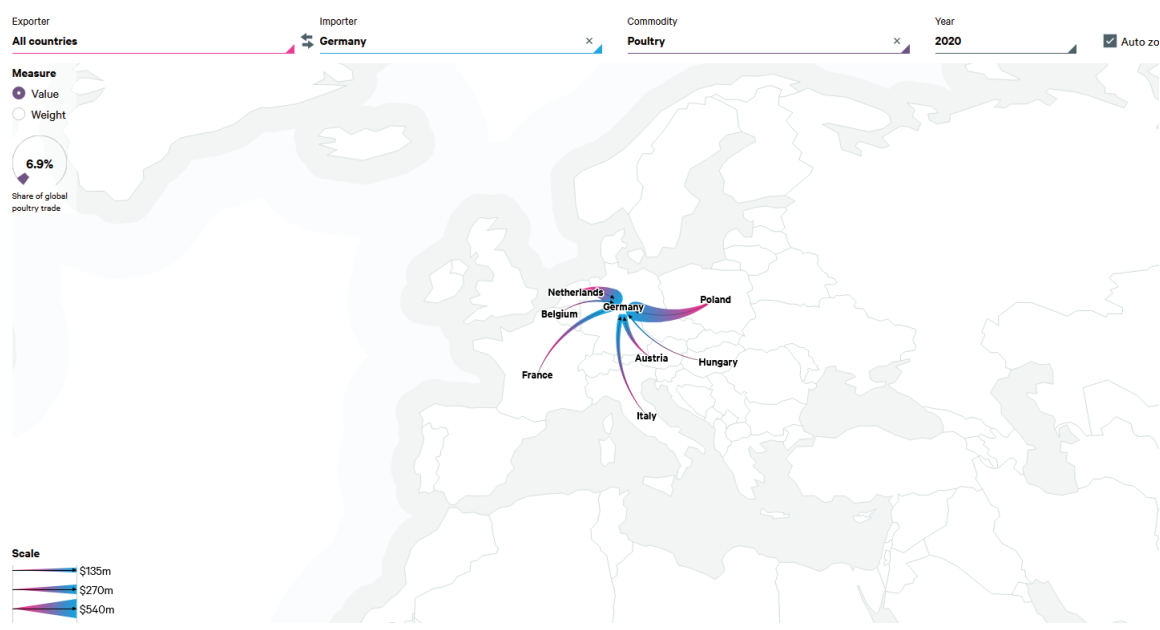


Figure 140. Germany poultry import flows

## 4.4.7 Italy

### 4.4.7.1 Demographics

The number of poultry farms in Italy was estimated at 11,690. About 62% or 7,231 poultry farms were household or micro-producer chicken farms (Figure 141). The next largest share of poultry farms were commercial chicken farms, representing 14% or 1,649 of the total poultry farms. Approximately 13% or 1,530 poultry farms were turkey farms. The smallest share of poultry farms were duck farms. About 11% or 1,280 of poultry farms in Italy were duck farms.

The average size duck farm was 201 ducks. The average size turkey farm was 8,723 head. Household or micro-producer chicken farms had an average 53 head. The average number of chickens on commercial farms was 60,164 head.

Poultry production and consumption in Italy has increased since 2010. Poultry production totaled 1.4 million metric tons in 2019, an increase of 17% compared to 2010 (see Figure 142). Poultry consumption in 2019 was 1.1 million metric tons in 2019. Consumption of poultry in Italy has increased 8%.

Of the 167.6 million head in Italy's poultry stocks during 2020, 154 million were chickens, 13.3 million were turkeys, and 257,000 were ducks (Table 40).

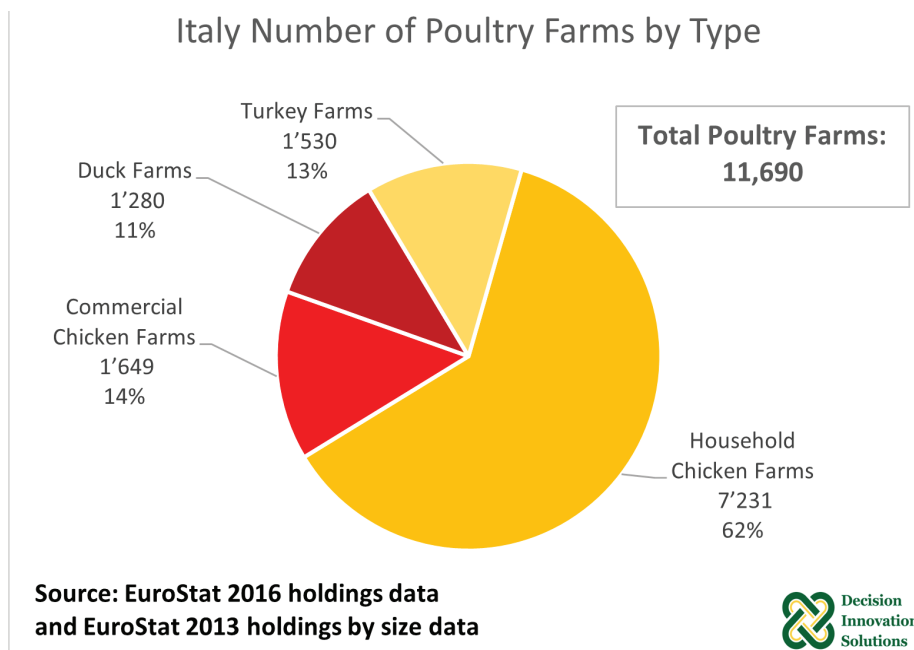


Figure 141. Italy number of poultry farms by type

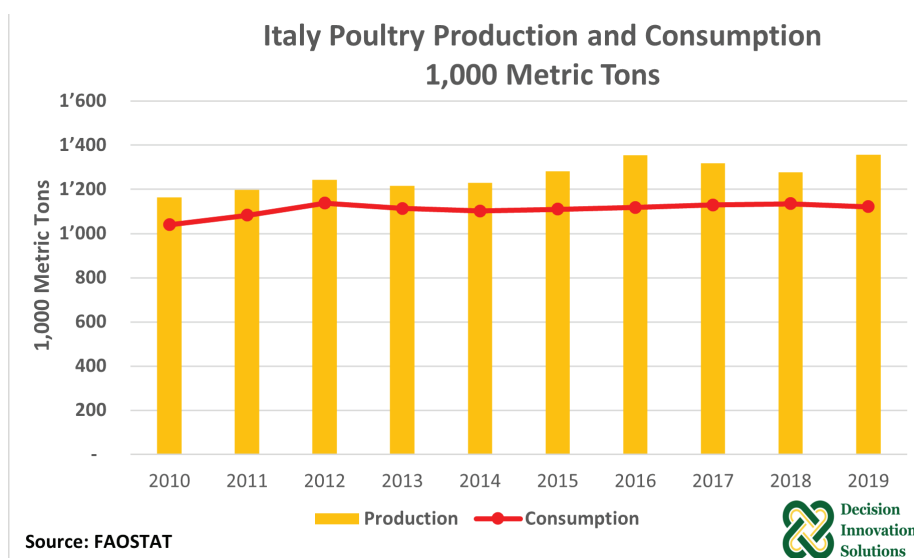


Figure 142. Italy poultry production & consumption

ITALY POULTRY STOCKS, SLAUGHTER, AND PRODUCTION					
1,000 head	Chickens	Ducks	Turkeys	Total	
Stocks	154'000	257	13'346	167'603	
Producing Animals/Slaughtered	573'846	714	29'431	603'991	
Production (1,000 MT)	1'067	2	313	1'382	

Sources: FAO, 2020

Table 40. Italy poultry stocks, slaughter & production

Poultry slaughter totaled 604.1 head. Chicken slaughter was estimated at 573.8 million head. Turkey slaughter was an estimated 29.4 million head. Duck slaughter was 714,000 head. Since 2010, Italy's chicken slaughter increased 17%. Turkey slaughter increased 4%.

Poultry production included 1.1 million chickens, 313,000 metric tons of turkeys, and 2,000 ducks. Since 2010, chicken production increased 23% and turkey production increased 5%.

#### 4.4.7.2 GDP and Value of Production

The total GDP value of Italy was estimated at \$1.9 trillion in 2020. About 97% of the total GDP was produced by non-agricultural sectors. Crop production, valued at \$31.1 billion, represented about 2% of the total GDP. Red meat production represented about 1% or \$15.6 billion. Although less than 1% of Italy's total GDP, chicken production contributed \$2.2 billion to the total. Turkey production was valued at \$465.8 million (Figure 143).

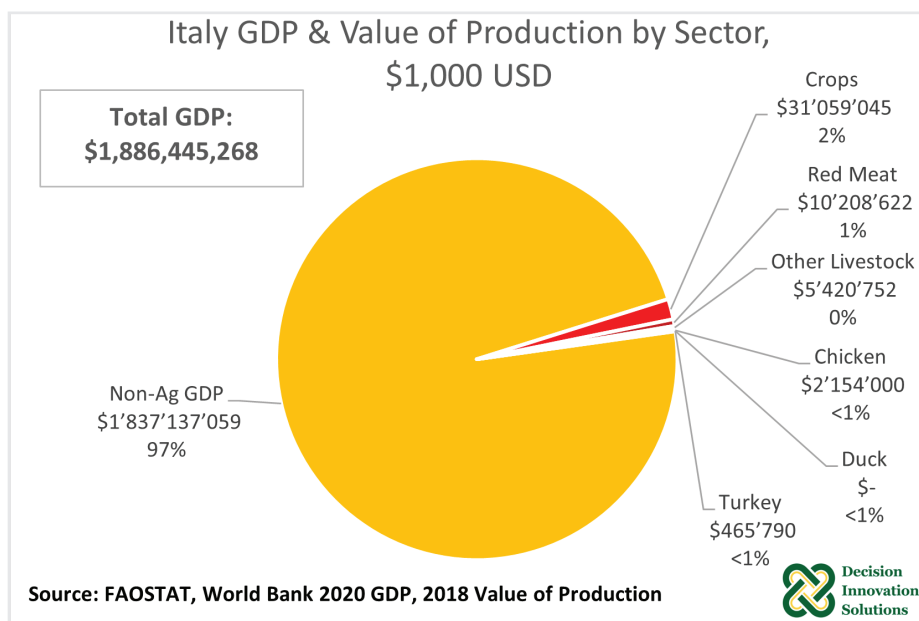


Figure 143. Italy GDP & value of production by sector

ECONOMIC EFFECTS - ITALY (\$1,000 USD)				
	Direct	Indirect	Total	Taxes paid*
All agriculture	\$49'308'209	\$62'811'518	\$112'119'727	\$1'036'492
Livestock	\$18'249'164	\$23'246'792	\$41'495'956	\$383'610
Poultry	\$2'619'790	\$4'571'534	\$7'191'324	\$44'027
Chicken	\$2'154'000	\$3'758'730	\$5'912'730	\$36'199
Duck	-	-	-	-
Turkey	\$465'790	\$812'804	\$1'278'594	\$7'828

Source: FAOSTAT, OECD Input-Output Tables. \*Taxes is equal to total taxes net of subsidies

Table 41. Economic effects - Italy

The combined (direct and indirect) effects of agricultural production in Italy are estimated to be \$112.1 billion. Of this amount, \$7.2 billion comes from the poultry industry, with \$5.9 billion from chicken meat production and \$1.3 billion from turkey production. Agriculture pays a net value of \$1.0 billion in taxes, \$44.0 million of which is estimated to be from the poultry industry (Table 41).

#### 4.4.7.3 Labor

The total number of people in Italy's labor force was 25.1 million in 2020 (see Table 42). By gender, males represented 58% or 15.1 million of the total labor force. Females represented 42% of the total labor force. More than 24.2 million individuals worked in non-agricultural sectors. The remaining 898,007 worked in agriculture. Poultry production labor totaled 47,544 in 2020.

In 2020, an estimated 59,796 people were employed in Italy's meat processing sector. The total wages earned from meat processing was \$2.1 billion. Livestock meat processing was the largest share of meat processing with 47,585 jobs and \$1.7 billion in wages earned. Poultry meat processing accounted for 12,211 jobs and \$424.9 million in wages earned.

AGRICULTURAL LABOR FORCE CHARACTERISTICS - ITALY			
	Total	Female	Male
Total Country Labor	25'137'672	10'679'248	14'458'424
Non-Agricultural Labor	24'239'665	10'445'679	13'793'986
Agricultural Labor	898'007	233'569	664'438
Total Non-Poultry Agricultural Labor	850'464		
Total Poultry Labor	47'544		
Chicken Labor	39'090		
Turkey Labor	8'453		
Other Poultry Labor	-		
Wages (\$1,000 USD)			
Total Meat Processing Labor	59'796	\$2'080'723	
Livestock Processing Labor	47'585	\$1'655'802	
Poultry Processing Labor	12'211	\$424'921	

Source: ILO 2020, World Bank 2020, UNIDO Database, INDSTAT 4 2021, ISIC Revision 3

Table 42. Agricultural labor force characteristics - Italy

#### 4.4.7.4 Cost of Production

By far the largest component of the cost of broiler production in Italy was feed at 65% of total costs in 2017. Three components together, day-old chicks (17%), other variables cost (heating, electricity, litter, and animal health, 9%) and housing (6%), accounted about one third of total costs. Labor and general costs (i.e., insurance, booking, consultancy, telephone, and transport) made up the lowest share of total cost with a share of 3% and 1%, respectively (see Figure 144).

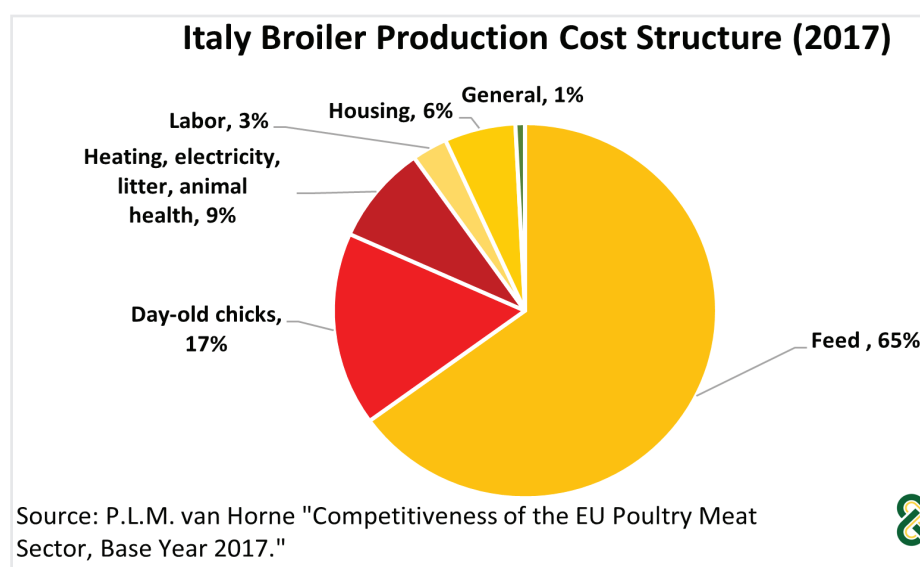


Figure 144. Italy broiler production cost structure

#### 4.4.7.5 Trade

Germany was by far the main market for Italy's poultry meat exports in 2020. Italy exported more than \$183 million in poultry meat to Germany equivalent to about 51,801 MT. The value of poultry products exported by Italy to its top ten destinations reached more than \$348.5 million (see Figure 145 and Figure 146).

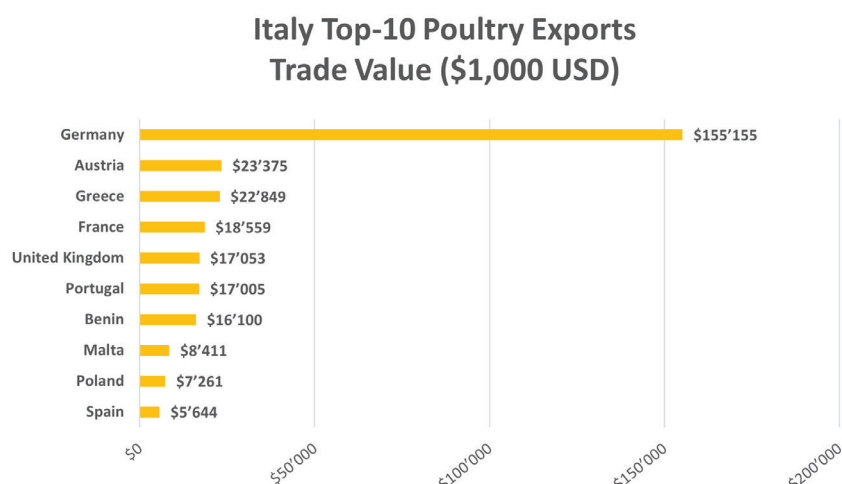


Figure 145. Italy top 10 poultry exports, trade value



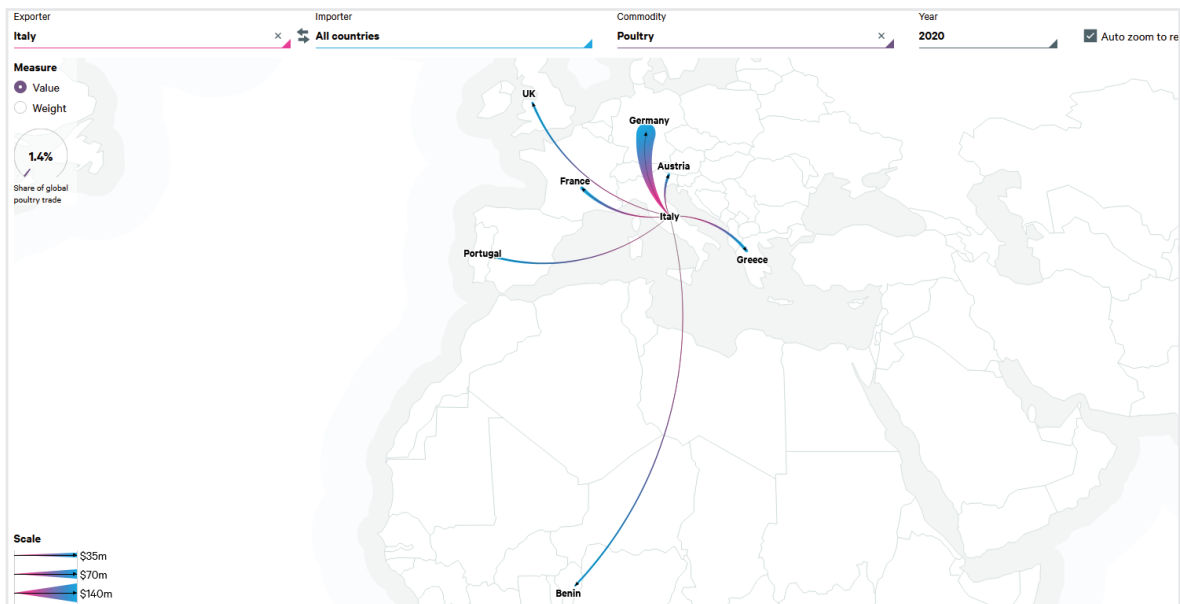
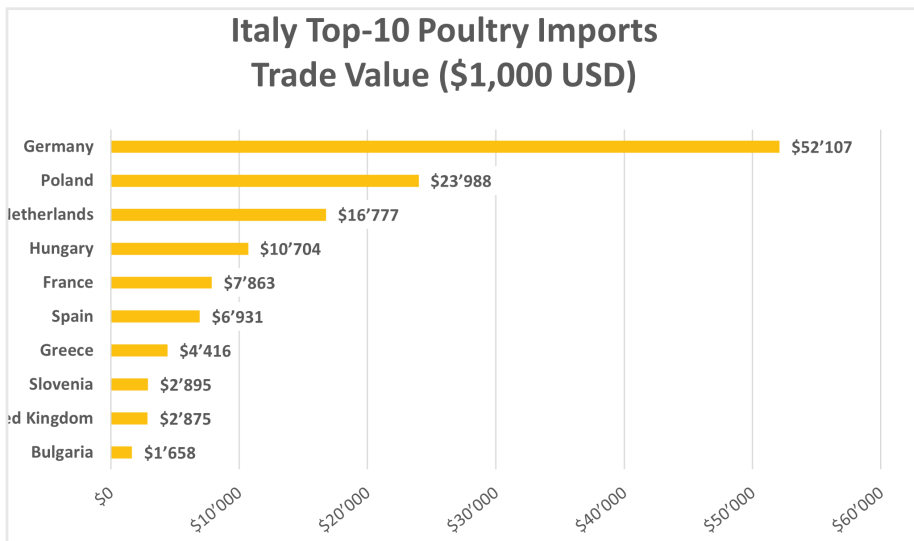


Figure 146. Italy poultry export flows



Italy imported from Germany, its main supplier of poultry meat in 2020, more than 32,656 MT of poultry meat valued at \$76.4 million. Overall, Italy imported 83,285 MT of poultry meat with an estimated value of \$208.4 million. Ninety four percent of those imports were sourced from the top ten suppliers of poultry meat to Italy in 2020 (see Figure 147 and Figure 148).

Figure 147. Italy top 10 poultry imports, trade value

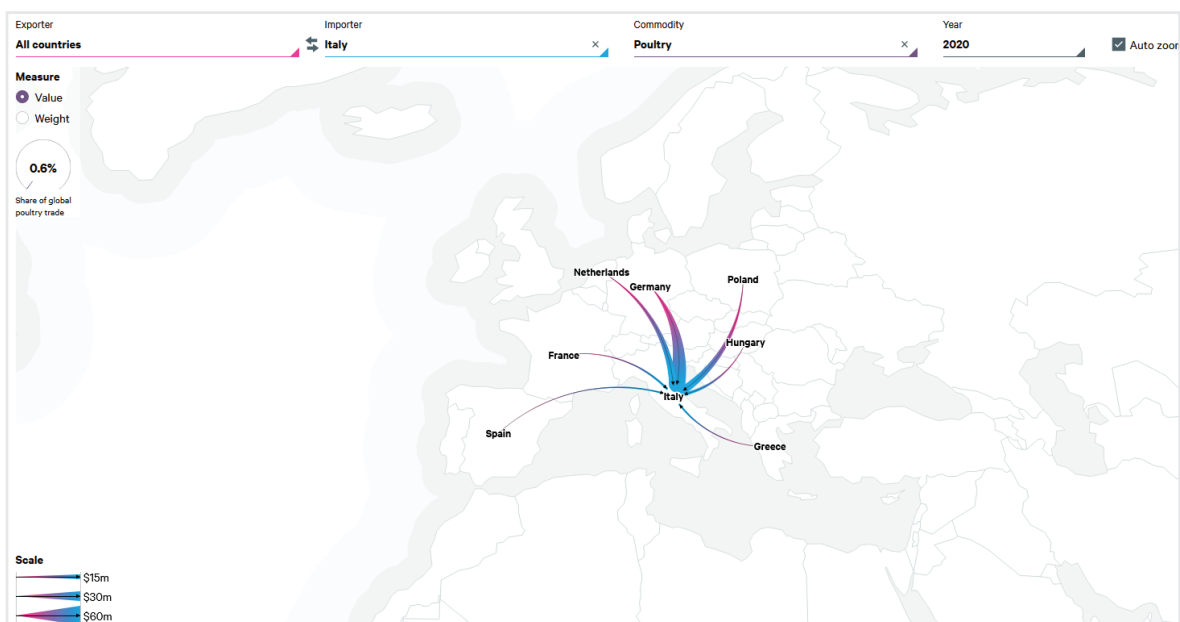


Figure 148. Italy top 10 poultry exports, trade value

## 4.4.8 Netherlands

### 4.4.8.1 Demographics

Out of an estimated 731 poultry farms in the Netherlands, about 85%, or 619 farms, were commercial chicken farms. The next largest share of poultry farms were duck farms, accounting for 8% or 60 poultry farms. Approximately 5% or 11 of the total poultry farms in the Netherlands were turkey farms. Household or micro-producer chicken farms represented 2% or 11 poultry farms (Figure 149).

Poultry production in the Netherlands increased since 2010, while poultry consumption has declined. In 2019, poultry production totaled 1.0 million metric tons, a 21% gain compared to 2010 (see Figure 150). Consumption totaled 64,753 metric tons in 2019, reflecting a 70% decrease from 2010.

Of the 113.2 million head in the Netherlands' poultry stocks, 101.9 million were chickens, 9.2 million were turkeys, and 2.2 million were ducks (See Table 43). Since 2010, chicken stocks increased 1%, and chicken slaughter increased 25%. Poultry slaughter in the Netherlands totaled 626.0 million head in 2020. An estimated 597.5 million chickens were slaughtered, representing % of the total poultry slaughter. Turkeys represented the second largest share of poultry slaughter with 20.3 million head. Duck slaughter was an estimated 8.2 million head.

Poultry production included 996,000 metric tons of chicken, 167,000 metric tons of turkey, and 18,000 metric tons of ducks.

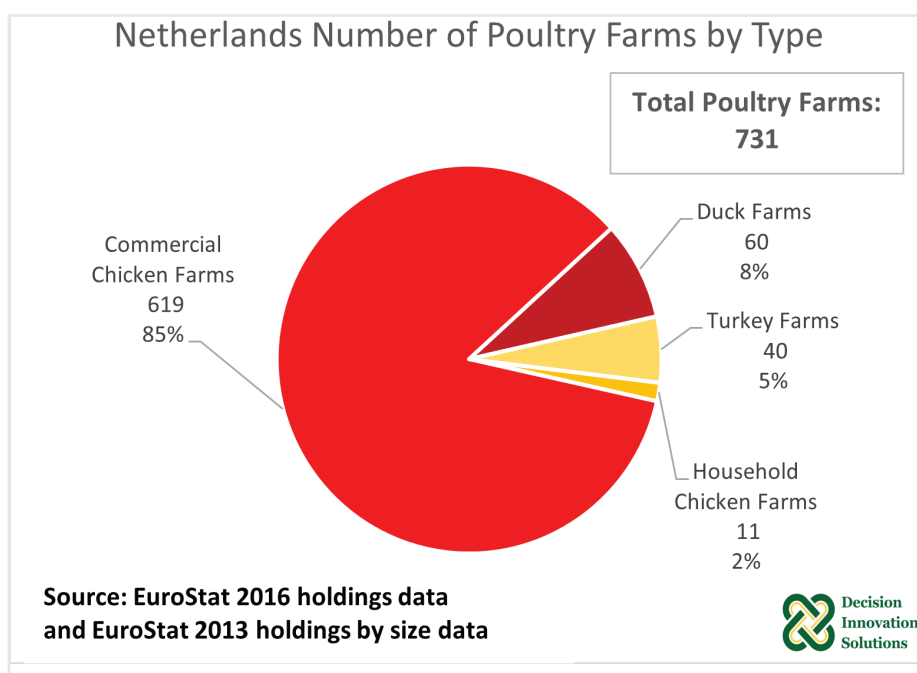


Figure 149. Netherlands number of poultry farms by type

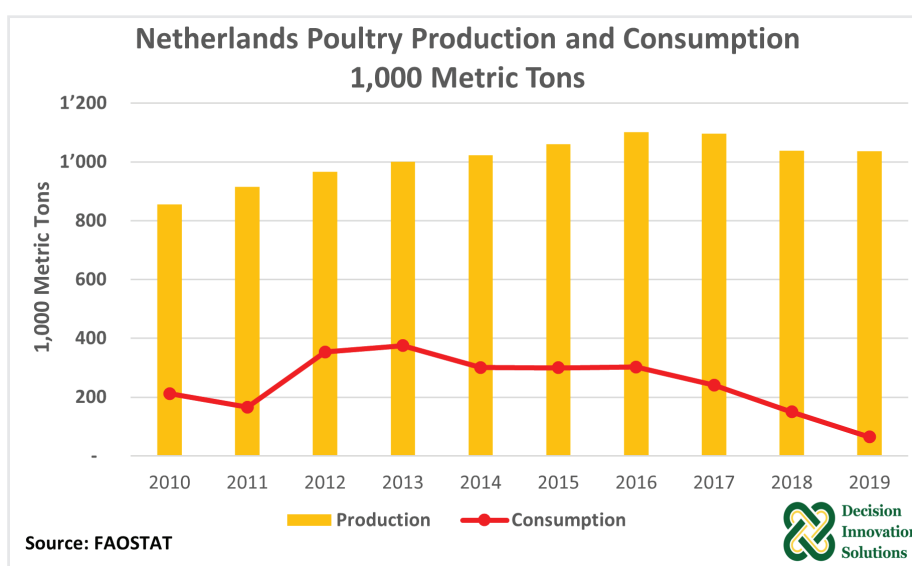


Figure 150. Netherlands poultry production & consumption

NETHERLANDS POULTRY STOCKS, SLAUGHTER, AND PRODUCTION				
1,000 head	Chickens	Ducks	Turkeys	Total
Stocks	101'863	2'171	9'208	113'242
Producing Animals/Slaughtered	597'529	8'197	20'305	626'031
Production (1,000 MT)	996	18	167	1'181

Sources: FAO, 2020

Table 43. Netherlands poultry stocks, slaughter & production

#### 4.4.8.2 GDP and Value of Production

The GDP of the Netherlands was valued at \$912.2 billion in 2020 with agricultural production representing about 2% of the total GDP. More than \$9.9 billion was derived from the red meat production sector which represented 1% of the total GDP. Crop production also represented about 1% of GDP with \$6.0 billion in contributions. Less than 1% of the total GDP was represented by chicken production. Turkey production also represented less than 1% of the total GDP and was valued at \$88.9 million (Figure 151).

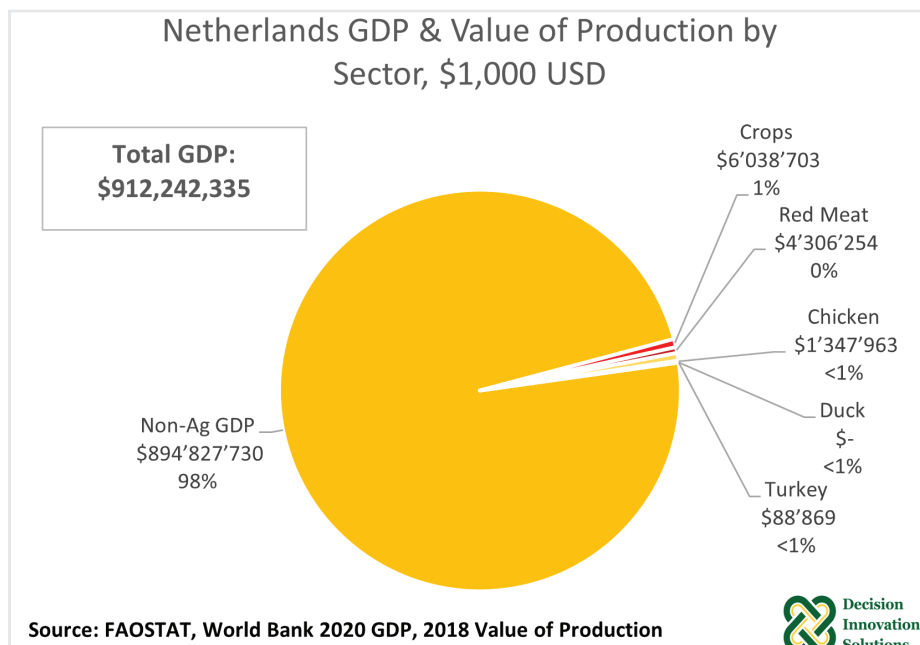


Figure 151. Netherlands GDP & value of production by sector

The combined (direct and indirect) effects of agricultural production in the Netherlands are estimated to be \$40.3 billion. Of this amount, \$3.8 billion comes from the poultry industry, with \$3.6 billion from chicken meat production and \$235 million from turkey production. Agriculture pays a net value of \$382 million in taxes, \$30 million of which is estimated to be from the poultry industry (Table 44).

ECONOMIC EFFECTS - NETHERLANDS (\$1,000 USD)				
	Direct	Indirect	Total	Taxes paid*
All agriculture	\$17'414'605	\$22'868'972	\$40'283'577	\$381'999
Livestock	\$11'375'902	\$14'938'908	\$26'314'810	\$249'536
Poultry	\$1'436'832	\$2'370'773	\$3'807'605	\$29'934
Chicken	\$1'347'963	\$2'224'139	\$3'572'102	\$28'083
Duck	-	-	-	-
Turkey	\$88'869	\$146'634	\$235'503	\$1'851

Source: FAOSTAT, OECD Input-Output Tables . \*Taxes is equal to total taxes net of subsidies

Table 44. Economic effects - Netherlands

#### 4.4.8.3 Labor

The total number of individuals in the labor force in the Netherlands was 9.5 million in 2020 (Table 45). Approximately, 53%, or 5.0 million, were male and 47%, or 4.4 million, were female.

The agricultural sector employed 178,629 individuals in 2020. Approximately 72,405 individuals were employed in the poultry production industry.

AGRICULTURAL LABOR FORCE CHARACTERISTICS - NETHERLANDS			
	Total	Female	Male
Total Country Labor	9'490'523	4'441'774	5'048'749
Non-Agricultural Labor	9'311'894	4'390'146	4'921'748
Agricultural Labor	178'629	51'628	127'001
Total Non-Poultry Agricultural Labor	106'224		
Total Poultry Labor	72'405		
Chicken Labor	14'101		
Turkey Labor	29'152		
Other Poultry Labor	29'152		
Wages (\$1,000 USD)			
Total Meat Processing Labor	15'731	\$680'348	
Livestock Processing Labor	11'795	\$510'135	
Poultry Processing Labor	3'936	\$170'213	

Source: ILO 2020, World Bank 2020, UNIDO Database, INDSTAT 4 2021, ISIC Revision 3

Table 45. Agricultural labor force characteristics - Netherlands

Turkey production and “other” poultry labor accounted for the highest shares of jobs within the poultry production industry with 29,152 or 40% of the total for each. The remaining 20% or 14,101 individuals employed in poultry production worked in chicken production.

Meat processing labor totaled 15,731 jobs and \$680.3 million in wages earned. Livestock meat processing was the largest share of meat processing jobs with 11,795 jobs and \$510.1 million in wages earned. Poultry meat processing accounted for 3,936 jobs and \$170.2 million in wages earned.

#### 4.4.8.4 Cost of Production

The Netherlands’ cost of feed represented the largest share of broiler production total costs (61%). Day-old chicks was the second largest cost component at 17%, followed by the variable costs of heating, electricity, litter, and animal health (10%). Around 10% came from housing (6%) and labor (4%). The costs at farm level for insurance, bookkeeping, consultancy, telephone, and transport represented 1% of total costs. The Netherlands also had an added cost related to manure disposal accounting for 1% of total cost (Figure 152).

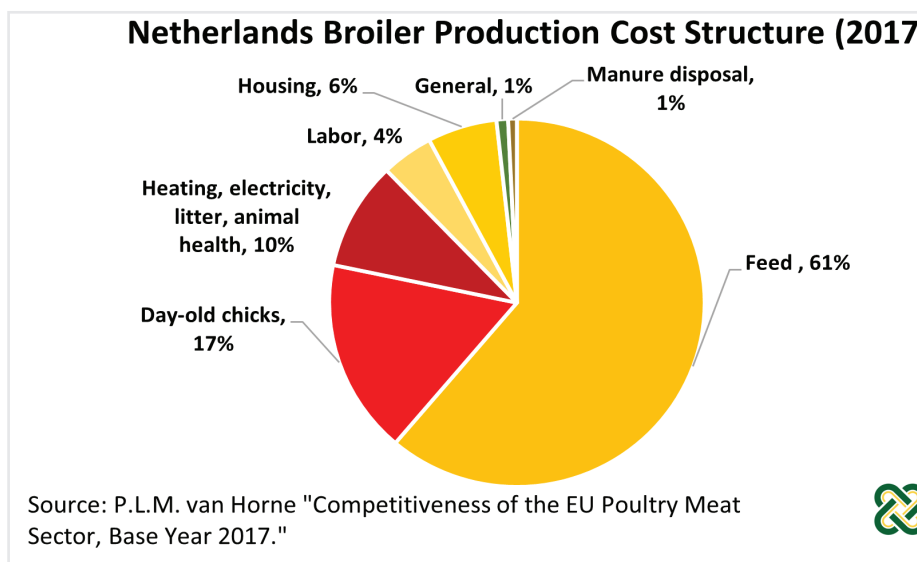


Figure 153. Netherlands broiler production cost structure

#### 4.4.8.5 Trade

The United Kingdom was the main destination for the Netherlands’ poultry meat exports in 2020. The Netherlands exported about 241,719 MT of poultry meat to the United Kingdom valued at \$772.5 million. The value of poultry meat exported by the Netherlands to its top ten destinations was estimated at \$2.6 billion in 2020, which made up about 86% of its total value of exports that year (see Figure 153 and Figure 154).

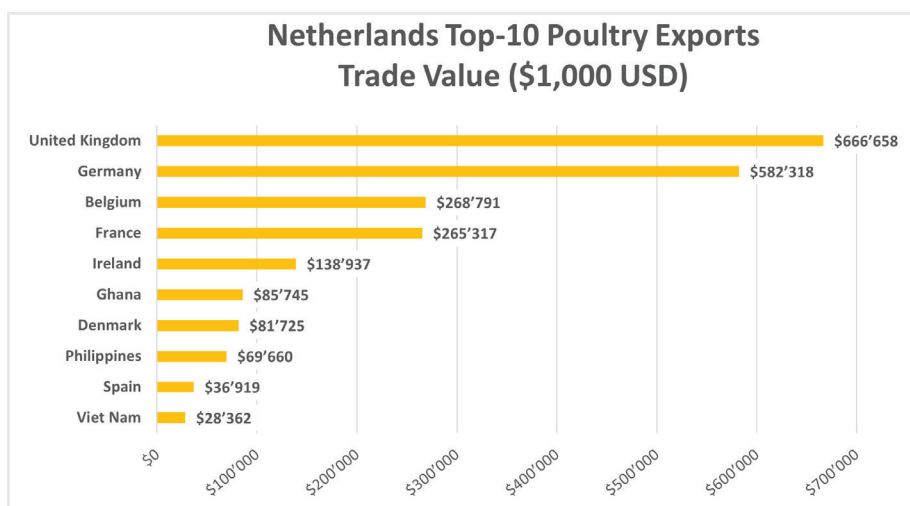


Figure 152. Netherlands top 10 poultry exports, trade value

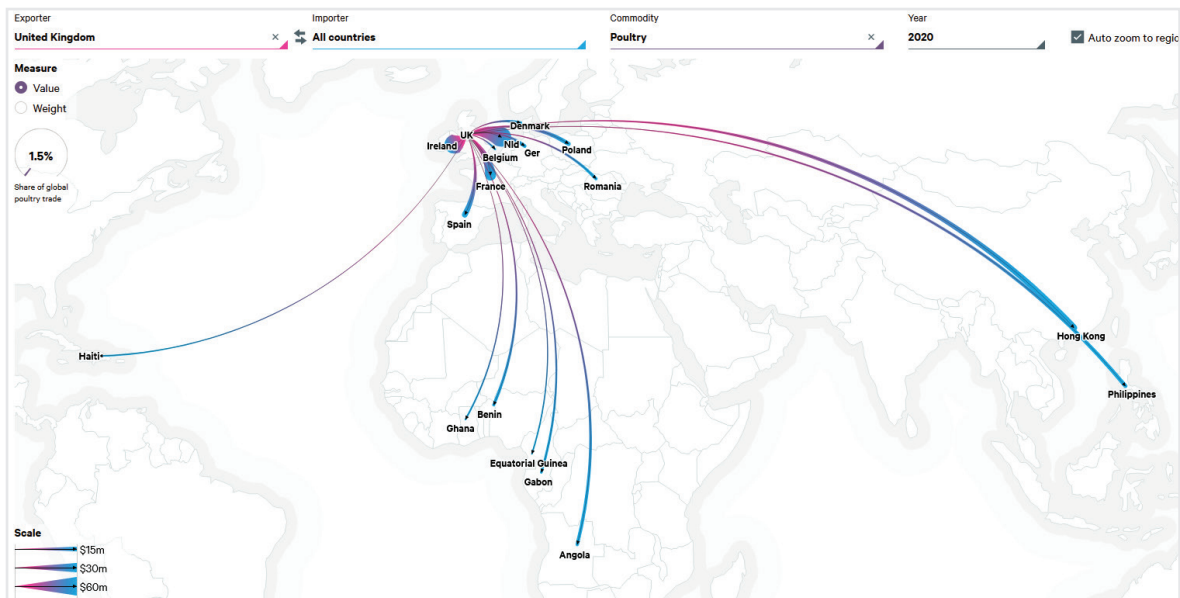


Figure 154. Netherlands poultry export flows

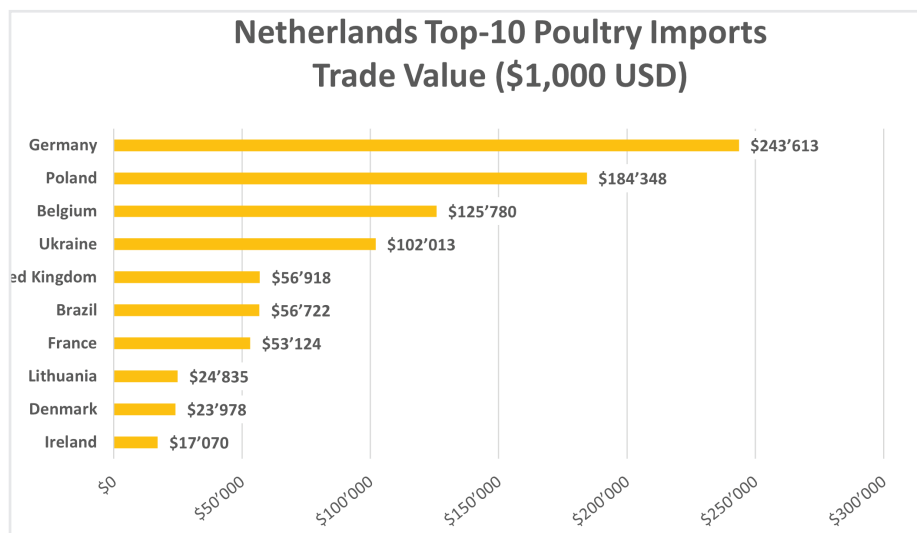


Figure 155. Netherlands top 10 poultry imports, trade value

The value of poultry imports by the Netherlands from its top ten suppliers was estimated at \$888.4 million equivalent to 541,393 MT in 2020. Almost 60% of the value of poultry imported by the Netherlands was from three countries Germany, the main supplier, Poland, and Belgium (see Figure 155 and Figure 156).

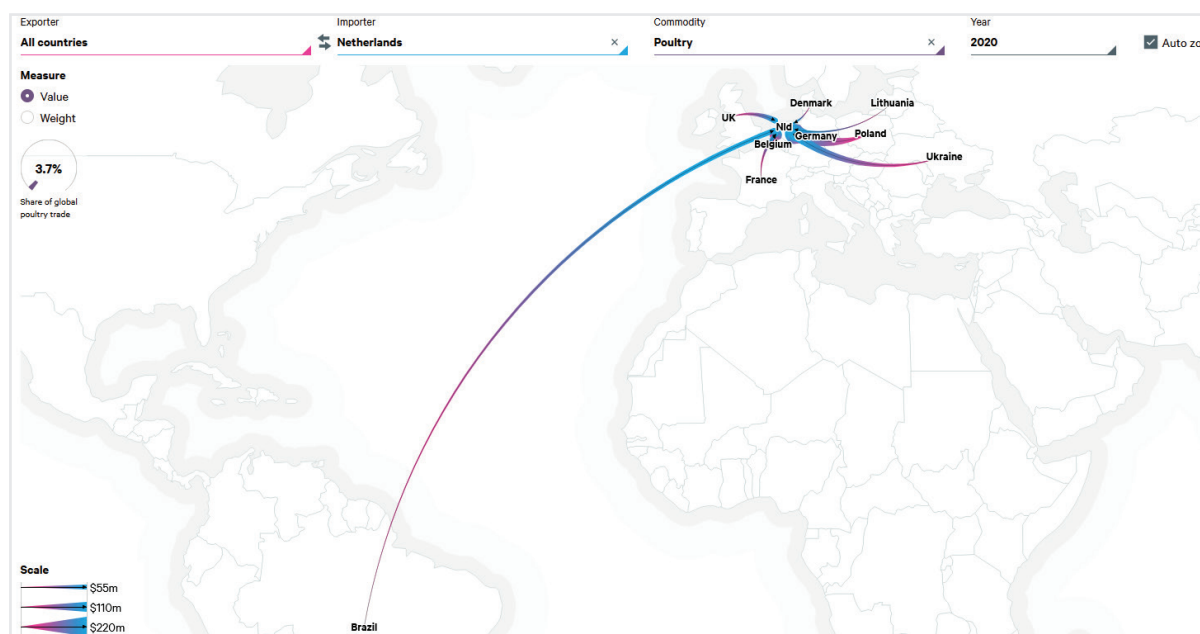


Figure 156. Netherlands poultry import flows



## 4.4.9 Poland

### 4.4.9.1 Demographics

The total number of poultry farms in Poland is 200,531. Of this total, duck farms comprise the largest percentage with 114,620 farms accounting for 57% of poultry farms in Poland. Household or micro-producer chicken farms comprised 63,852 farms which is 32% of poultry farms, the 21,420 turkey farms account for 11% of Poland's poultry farms, and the 638 commercial chicken farms make up less than 1% of Poland's poultry farms (Figure 157).

The average number of chickens on a commercial farm in Poland was 279,151 head. Household or micro-producer farms had an average 40 head. Duck farms had an average 56 head. Turkey farms had an average 742 head.

Poultry production and consumption are both rising in Poland. Compared to 2010, poultry production doubled from 1.2 million metric tons to 2.6 million metric tons in 2019. Poultry consumption, totaling 889,419 metric tons in 2019, has fallen 2% since 2010 (Figure 158).

Of the 204.8 million head in Poland's poultry stocks, 182.5 million were chickens, 15.9 million were turkeys, and 6.4 million were ducks (see Table 46). Since 2010, chicken stocks in Poland increased 19%, duck stocks increased 9%, and turkey stocks increased 57% since 2010.

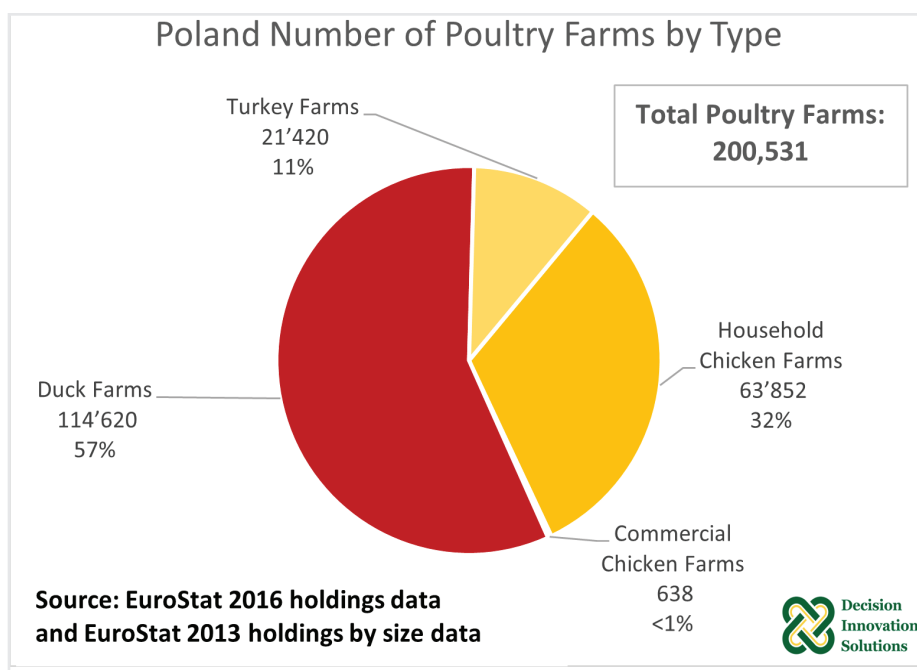


Figure 157. Poland number of poultry farms by type

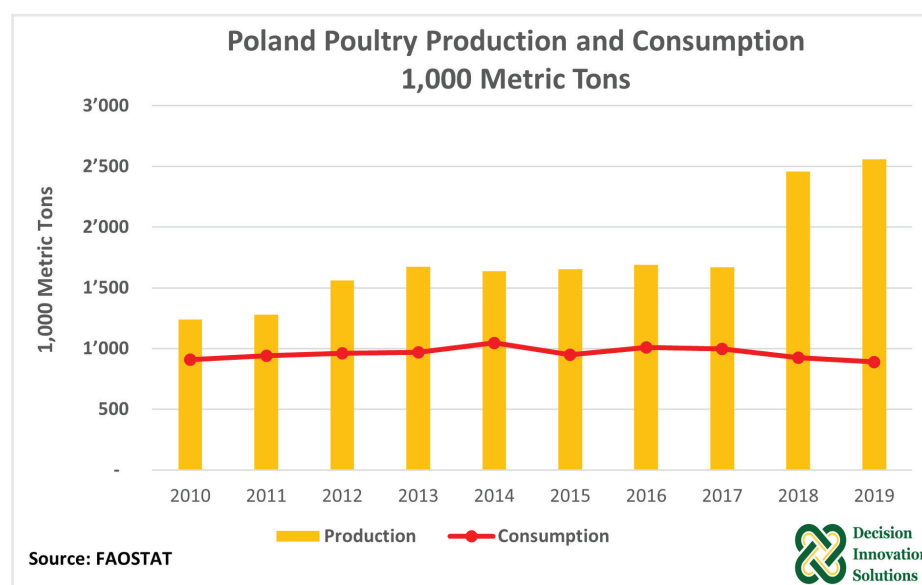


Figure 158. Poland poultry production & consumption

POLAND POULTRY STOCKS, SLAUGHTER, AND PRODUCTION				
1,000 head	Chickens	Ducks	Turkeys	Total
Stocks	182'473	6'406	15'892	204'771
Producing Animals/Slaughtered	1'178'807	27'429	40'905	1'247'141
Production (1,000 MT)	2'200	64	407	2'671

Sources: FAO, 2020

Table 46. Poland poultry stocks, slaughter & production



Poultry slaughter in Poland totaled 1.2 billion in 2020. An estimated 95% or 1.18 billion head of poultry slaughter were chickens. Turkey slaughter represented 3% or 40.9 million head of poultry slaughter. Duck slaughter was an estimated 2% or 27.4 million head of poultry slaughter. Poland's poultry slaughter also increased compared to 2010. Chicken slaughter increased 75%, duck slaughter increased 357%, and turkey slaughter increased 75%.

Poland's poultry production included 2.2 million metric tons of chickens, 407,000 metric tons of turkey, and 64,000 metric tons of ducks in 2020. Compared to 2010, chicken production was 96%, duck production was 9% higher, and turkey production was 307% higher in 2020.

#### 4.4.9.2 GDP and Value of Production

In 2020, the GDP value in Poland was estimated at \$594.2 billion. Agricultural production sectors represented about 4% of the total GDP. Crop production was the largest share of agricultural production representing 2% or \$10.6 billion of the total GDP. Red meat production also represented 2% or \$9.6 billion of the total GDP. The poultry production sector represented less than 1% of the total GDP. Chicken production was the largest share of poultry production with \$2.9 billion in value. Turkey production followed with \$754.8 million in contributions. The smallest of the poultry production sector was duck production, representing about \$153.8 million of the total GDP in Poland (Figure 159).

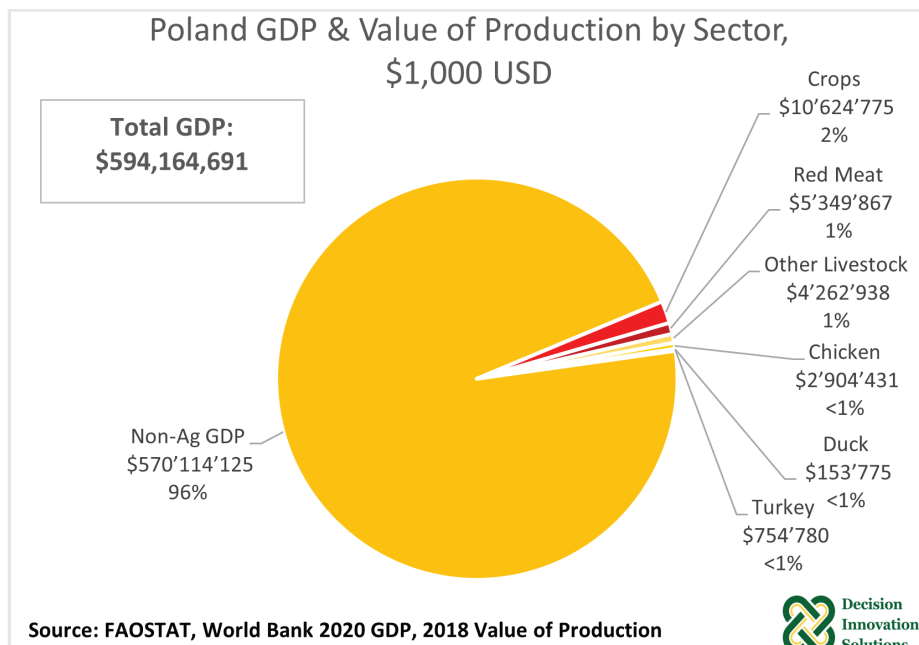


Figure 159. Poland GDP & value of production by sector

The combined (direct and indirect) effects of agricultural production in Poland are estimated to be \$56.3 billion. Of this amount, \$10.2 billion comes from the poultry industry, with \$ 7.8 billion from chicken meat production, \$411 million from duck production, and \$2.0 billion from turkey production. Agriculture pays a net value of \$1.1 billion in taxes, \$163 million of which is estimated to be from the poultry industry (Table 47).

ECONOMIC EFFECTS - POLAND (\$1,000 USD)				
	Direct	Indirect	Total	Taxes paid*
All agriculture	\$24'050'566	\$32'221'132	\$56'271'698	\$1'144'254
Livestock	\$13'425'791	\$17'986'861	\$31'412'652	\$628'759
Poultry	\$3'812'986	\$6'382'938	\$10'195'924	\$213'885
Chicken	\$2'904'431	\$4'862'017	\$7'766'448	\$162'920
Duck	\$153'775	\$257'419	\$411'194	\$8'626
Turkey	\$754'780	\$1'263'502	\$2'018'282	\$42'338

Source: FAOSTAT, OECD Input-Output Tables. \*Taxes is equal to total taxes net of subsidies

Table 47. Economic effects - Poland

### 4.4.9.3 Labor

An estimated 18 million people worked in Poland's labor force in 2020, according to the World Bank. Among those working, more than 16.4 million worked for non-agricultural sectors. The total number of people working in the agricultural sector was 1.6 million. Approximately, 337,686 individuals were employed in the poultry production industry. Of that total, chicken production labor accounted for 202,758. Turkey production labor accounted for 52,691 jobs in poultry production. The remaining 82,237 individuals worked in "other" poultry labor sectors.

AGRICULTURAL LABOR FORCE CHARACTERISTICS - POLAND			
	Total	Female	Male
Total Country Labor	18'047'272	8'016'532	10'030'740
Non-Agricultural Labor	16'395'819	7'375'352	9'020'468
Agricultural Labor	1'651'453	641'180	1'010'272
Total Non-Poultry Agricultural Labor	1'313'767		
Total Poultry Labor	337'686		
Chicken Labor	202'758		
Turkey Labor	52'691		
Other Poultry Labor	82'237		
Wages (\$1,000 USD)			
Total Meat Processing Labor	120'958	\$1'517'954	
Livestock Processing Labor	70'623	\$886'280	
Poultry Processing Labor	50'335	\$631'674	

Source: ILO 2020, World Bank 2020, UNIDO Database, INDSTAT 4 2021, ISIC Revision 3

Table 48. Agricultural labor force characteristics - Poland

In 2020, an estimated 120,958 people were employed in Poland's meat processing sector. The total wages earned from meat processing was \$1.5 billion. Livestock meat processing accounted for 70,623 jobs and \$886.2 million in wages earned. Poultry meat processing accounted for 50,335 jobs and \$631.7 million in wages earned.

### 4.4.9.4 Cost of Production

Sixty five percent of Poland's broiler total production cost was due to feed cost in 2017. Day-old chicks, variable costs, and housing accounted for 33% of production costs. Labor cost represented 2% of total costs. Poland's share of labor relative to total broiler production cost was the lowest compared with other European countries included in this study (see Figure 160).

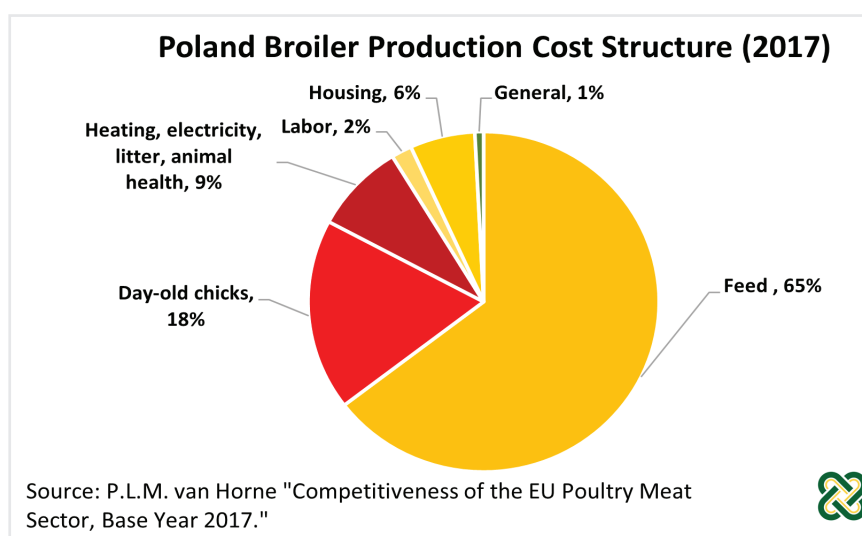


Figure 161. Poland broiler production cost structure

### 4.4.9.5 Trade

Poland exported over 1.6 million MT of poultry meat valued at \$3.1 billion in 2020. The top three markets for Poland's poultry meat exports were Germany (\$612.5 million), the United Kingdom (\$577.1 million), and France (\$350.9 million) (see Figure 161 and Figure 162).



Figure 160. Poland top 10 poultry exports, trade value

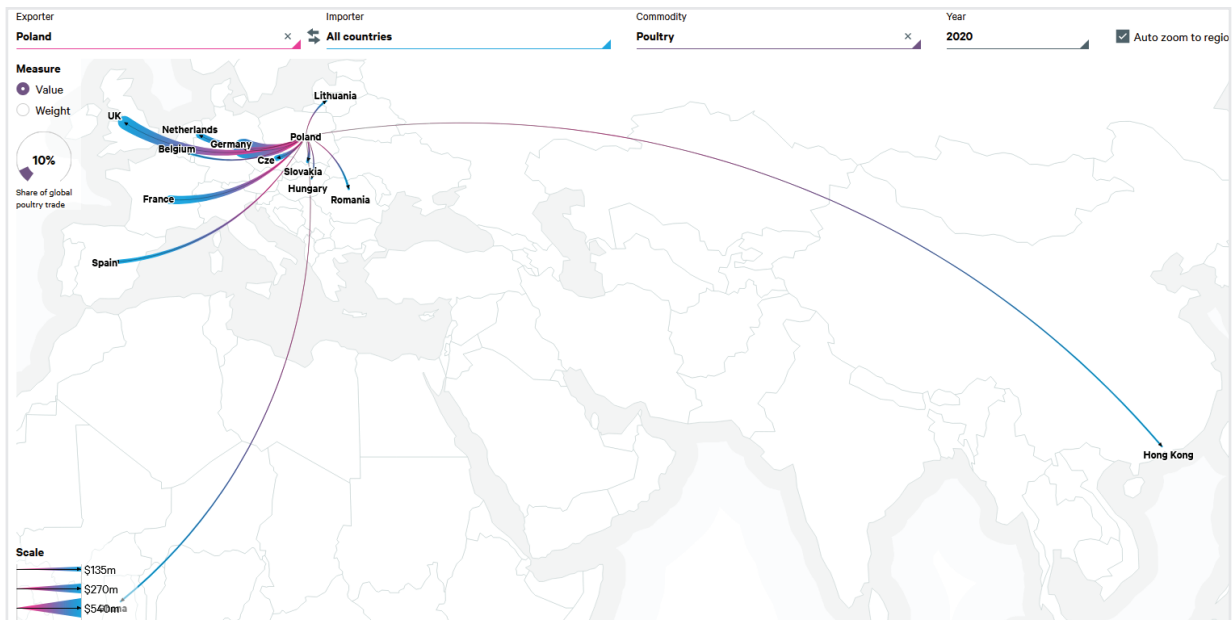
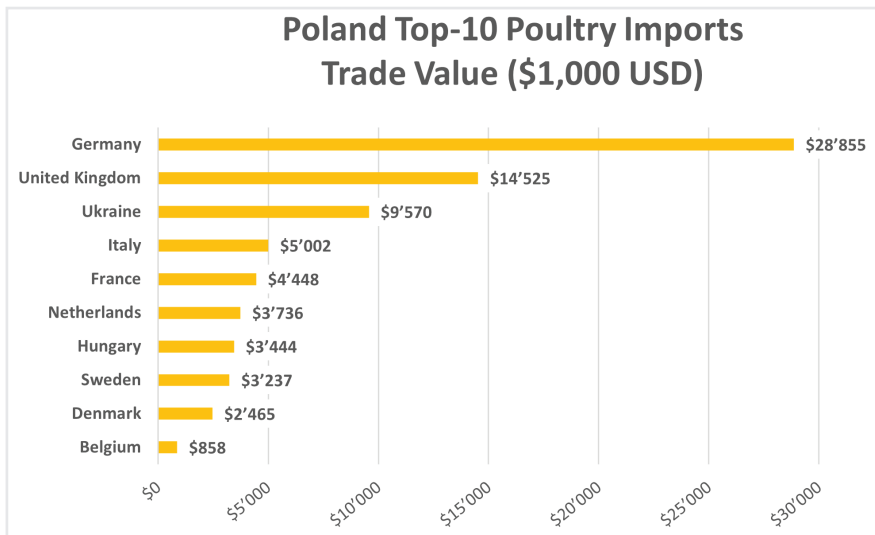


Figure 162. Poland poultry export flows



Most of the poultry meat imported by Poland was from Germany (\$66.2 million) in 2020. The second and third largest supplier of poultry meat to Poland were the United Kingdom (\$16.4 million) and Austria (\$13.1 million) (see Figure 163 and Figure 164).

Figure 163. Poland top 10 poultry imports, trade value

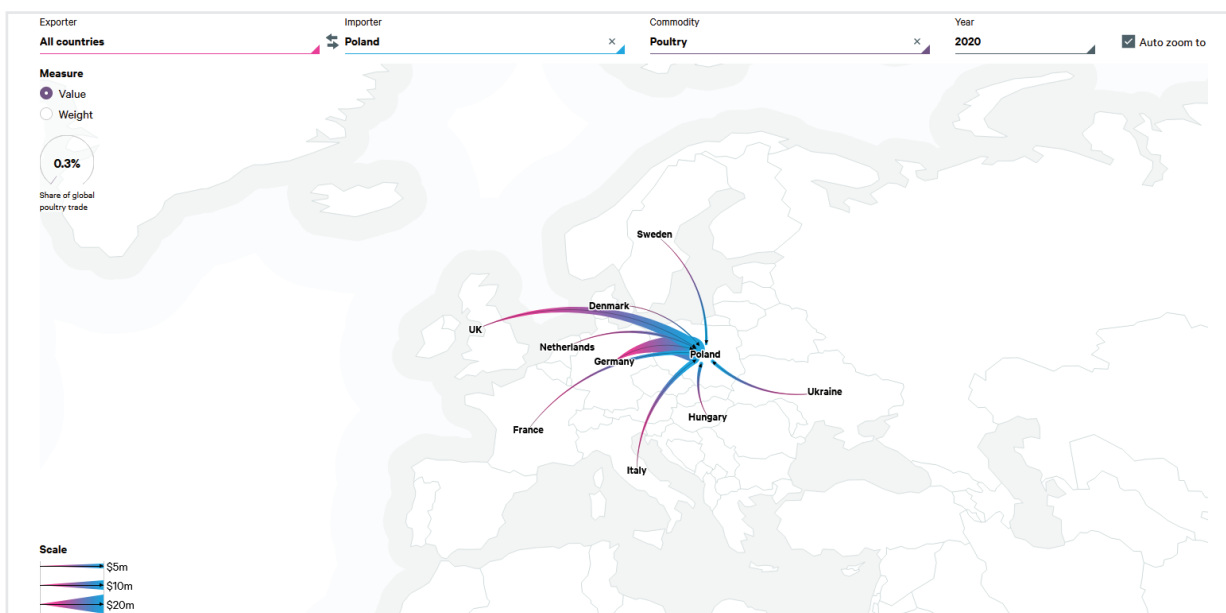


Figure 164. Poland poultry import flows

## 4.4.10 United Kingdom

### 4.4.10.1 Demographics

Poultry farms accounted for 9,041 farms in the United Kingdom. Duck farms were the largest share of poultry farms with a 60% share, or 5,460 farms. Turkey farms were the second largest share of poultry farms with 18% or 15,900 farms. About 15%, or 1,387 poultry farms, were commercial chicken farms. Household or micro-producer farms were 7% or 603 of the total poultry farms in the United Kingdom (Figure 165).

Commercial chicken farms had 82,473 head on average. Household chicken or micro-producer farms had 140 head on average. The average number of turkeys per farm was 2,327. Duck farms had an average of 371 head.

Since 2010, poultry production and consumption have both increased in the United Kingdom. The total production volume of poultry in the United Kingdom was 1.9 million metric tons in 2021, representing a 26% increase compared to 2010 (Figure 166). The total poultry consumption reported in 2021 was 2.1 million metric tons, a 23% increase since 2010.

Of the 177.7 million head in poultry stocks, 172.0 million were chickens, 3.7 million were turkeys, and 2.0 million were ducks. Since 2010, chicken stocks increased 7%, duck stocks increased 11%, and turkey stocks decreased 8% since 2010.

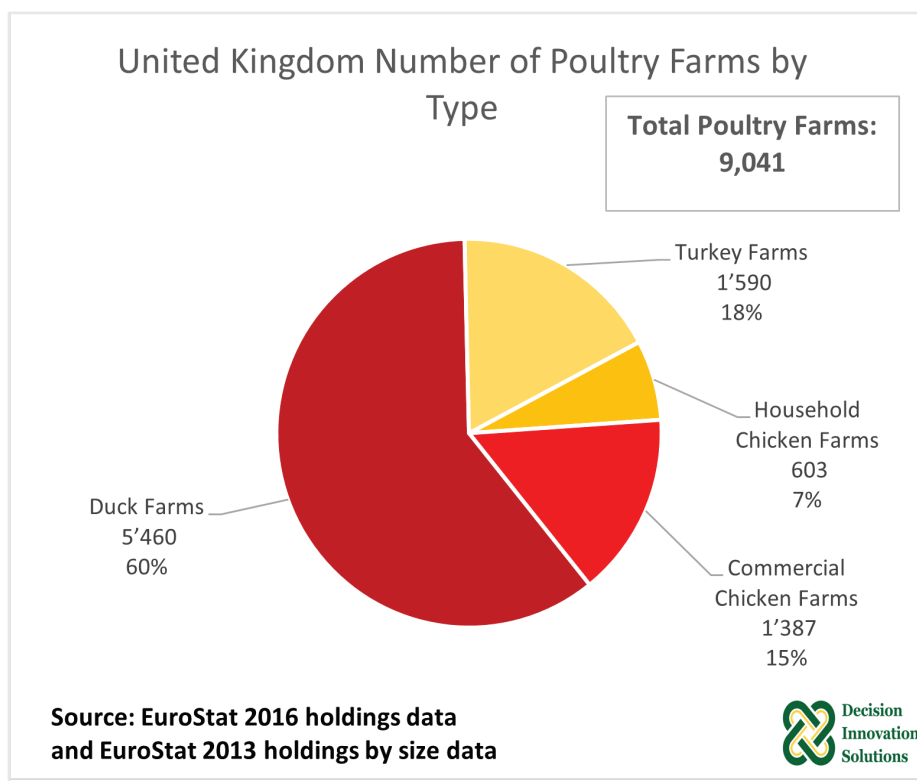


Figure 165. United Kingdom number of poultry farms by type

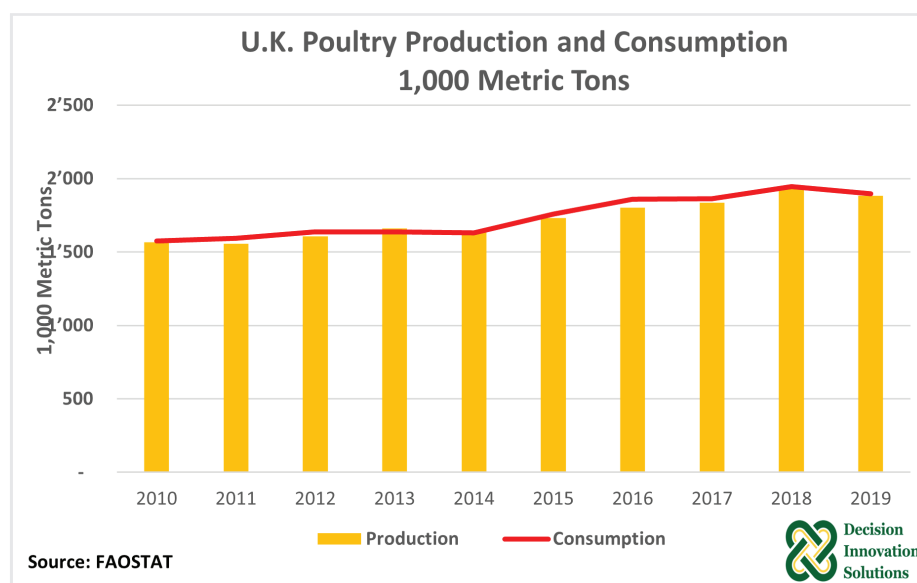


Figure 166. United Kingdom poultry production & consumption

UNITED KINGDOM POULTRY STOCKS, SLAUGHTER, AND PRODUCTION				
1,000 head	Chickens	Ducks	Turkeys	Total
Stocks	172'000	2'026	3'700	177'726
Producing Animals/Slaughtered	1'149'000	10'600	13'600	1'173'200
Production (1,000 MT)	1'784	22	143	1'949

Sources: FAO, 2020

Table 49. United Kingdom poultry stocks, slaughter & production

In 2020, poultry slaughter in the United Kingdom totaled 1.2 billion head. Chicken slaughter was estimated at 1.1 billion head. Turkey slaughter was an estimated 13.6 million head. Duck slaughter was 10.6 million head. During this time, chicken slaughter increased 27% compared to 2010. Duck slaughter declined 20%. Turkey slaughter declined 13% compared to 2010. Poultry production included nearly 1.8 million metric tons of chicken, 143,000 metric tons of turkeys, and 22,000 metric tons of ducks in 2020. Compared to 2010, chicken production increased 30%, duck production decreased 25% and turkey production decreased 12%.

#### 4.4.10.2 GDP and Value of Production

In 2020, the GDP of the United Kingdom was valued at \$2.7 trillion. The agricultural production sectors represented about 1% of the total GDP. Red meat production, estimated at nearly \$15 billion, was the largest share (0.55%) of agricultural production. Crop production was valued at \$11.1 billion and represented about 0.41% of the total GDP. Chicken production represented an estimated 0.1% percent, or \$2.8 billion. About 0.01% or \$319.3 of the total GDP production was derived from turkey production. The smallest share of agricultural production was duck production with \$112.7 or 0.004% of the total GDP (Figure 167).

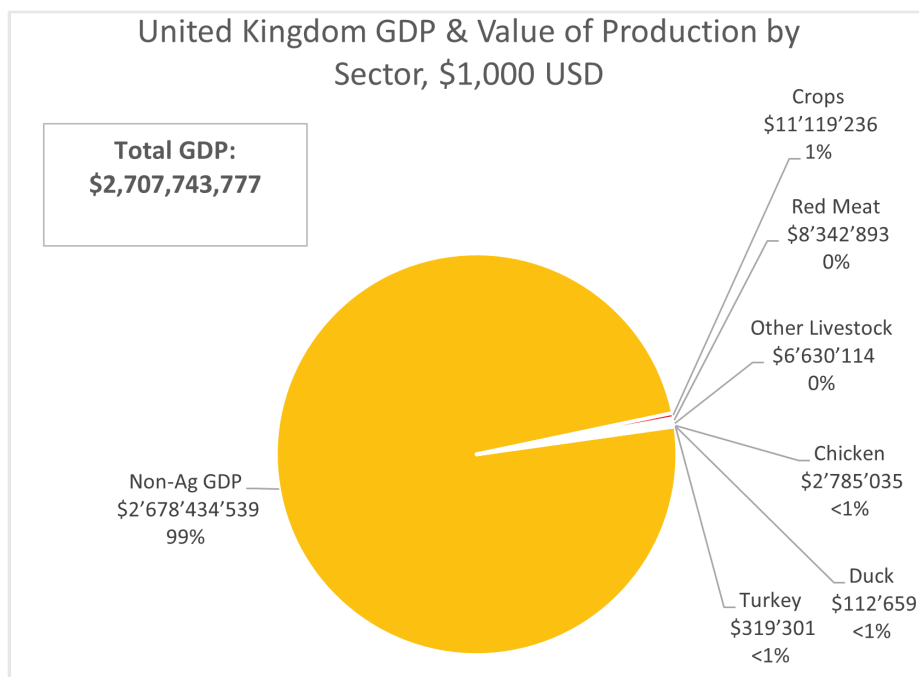


Figure 167. United Kingdom GDP & value of production by sector

ECONOMIC EFFECTS - UNITED KINGDOM (\$1,000 USD)				
	Direct	Indirect	Total	Taxes paid*
All agriculture	\$29'309'238	\$33'753'815	\$63'063'053	\$1'103'350
Livestock	\$18'190'002	\$20'948'411	\$39'138'413	\$684'765
Poultry	\$3'216'995	\$4'458'755	\$7'675'750	\$107'084
Chicken	\$2'785'035	\$3'860'059	\$6'645'094	\$92'705
Duck	\$112'659	\$156'145	\$268'804	\$3'750
Turkey	\$319'301	\$442'551	\$761'852	\$10'629

Source: FAOSTAT, OECD Input-Output Tables. \*Taxes is equal to total taxes net of subsidies

Table 50. Economic effects - United Kingdom

The combined (direct and indirect) effects of agricultural production in the U.K. are estimated to be \$63.1 billion. Of this amount, \$7.7 billion comes from the poultry industry, with \$6.6 billion from chicken meat production, \$269 million from duck production, and \$762 million from turkey production. Agriculture pays a net value of \$1.1 billion in taxes, \$107 million of which is estimated to be from the poultry industry (Table 50).

#### 4.4.10.3 Labor

An estimated 34.8 million people worked in the United Kingdom's labor force (Table 51). Approximately 52%, or 18.2 million of the total work force were male. The remaining 48%, or 16.5 million were female. The non-agricultural sectors employed 34.4 million people in 2020.



An estimated 356,588 people worked in the agricultural sector. Among those working in the agricultural sectors, an estimated 39,420 people worked in poultry production. The total number of meat processing jobs was 96,390 in 2020. More than \$3.0 billion in wages earned were derived from meat processing jobs. Livestock meat processing accounted for 69,566 jobs and \$2.2 billion in wages earned. Poultry meat processing accounted for 26,824 jobs and \$843.4 million in wages earned.

AGRICULTURAL LABOR FORCE CHARACTERISTICS - UNITED KINGDOM			
	Total	Female	Male
Total Country Labor	34'749'413	16'527'254	18'222'159
Non-Agricultural Labor	34'392'825	16'433'124	17'959'700
Agricultural Labor	356'588	94'130	262'459
Total Non-Poultry Agricultural Labor	317'169		
Total Poultry Labor	39'420		
Chicken Labor	34'127		
Turkey Labor	3'913		
Other Poultry Labor	1'380		
	Wages (\$1,000 USD)		
Total Meat Processing Labor	96'390	\$3'030'548	
Livestock Processing Labor	69'566	\$2'187'179	
Poultry Processing Labor	26'824	\$843'370	

Source: ILO 2020, World Bank 2020, UNIDO Database, INDSTAT 4 2021, ISIC Revision 3

Table 51. Agricultural labor force characteristics - United Kingdom

#### 4.4.10.4 Cost of Production

The United Kingdom's cost of feed accounted for the largest share of broiler production total cost at 59% in 2017. Day-old chicks ranked as the second largest cost relative to total broiler production cost at 22%, followed by other variable costs (heating, electricity, litter, and animal health, 8%) and housing (6%). Labor cost accounts for 4% of total costs. The costs at farm level for insurance, bookkeeping, consultancy, telephone, and transport represent 1% of total costs (see Figure 168).

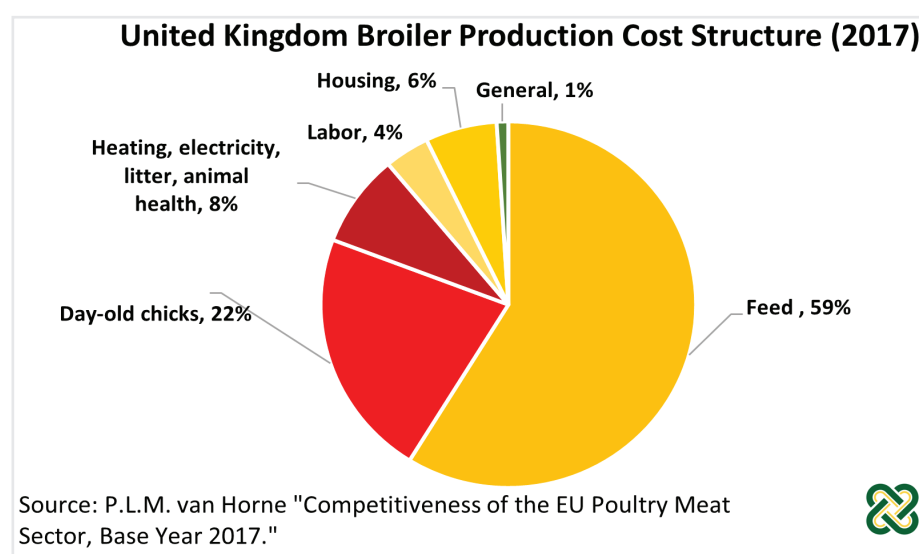


Figure 169. United Kingdom broiler production cost structure

#### 4.4.10.5 Trade

Ireland, the Netherlands, and France were the top three markets for the United Kingdom's poultry exports in 2020. The United Kingdom exported \$155.1 million in poultry meat to Ireland. At the same time, the United Kingdom's value of poultry exported to the Netherlands and France was assessed at \$77.5 million and \$43.4 million, correspondingly (see Figure 169 and Figure 170). Overall, the United Kingdom exported 481,961 MT of poultry in 2020.

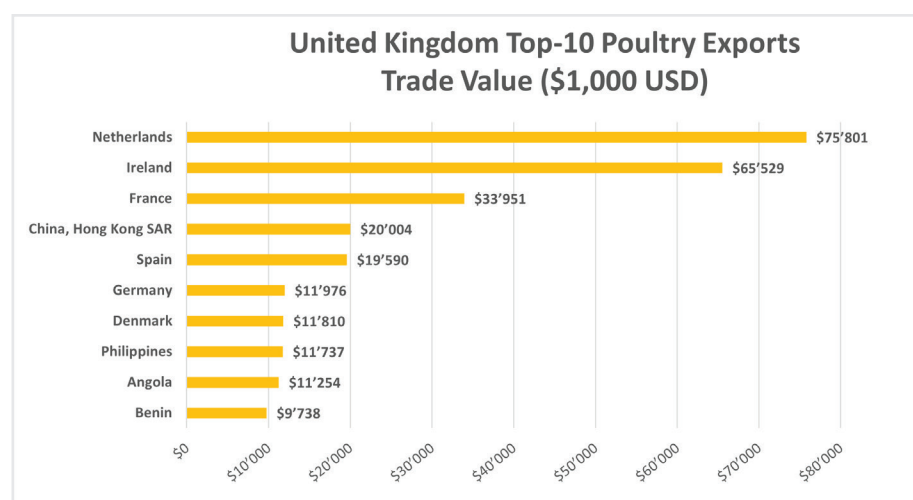


Figure 168. United Kingdom top 10 poultry exports, trade value



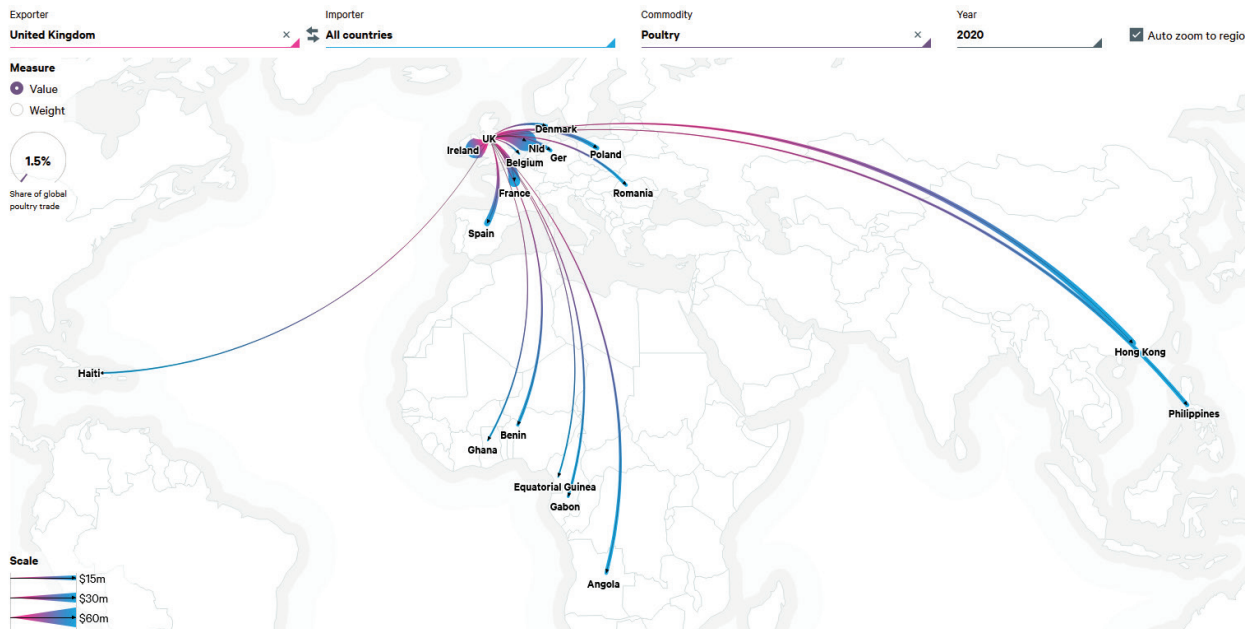
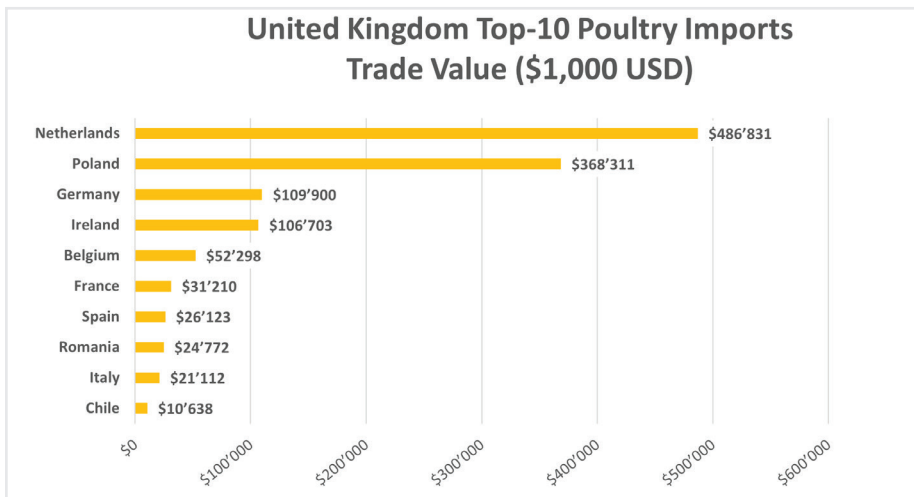


Figure 170. Africa number of poultry farms by type



The value of poultry meat imports by the United Kingdom from all countries was estimated at \$2.7 billion in 2020. The top supplier of imported poultry meat to United Kingdom were the Netherlands, Poland, and Germany. Exports by three countries to the United Kingdom reached more than \$1.8 billion (see Figure 171 and Figure 172).

Figure 171. Africa number of poultry farms by type

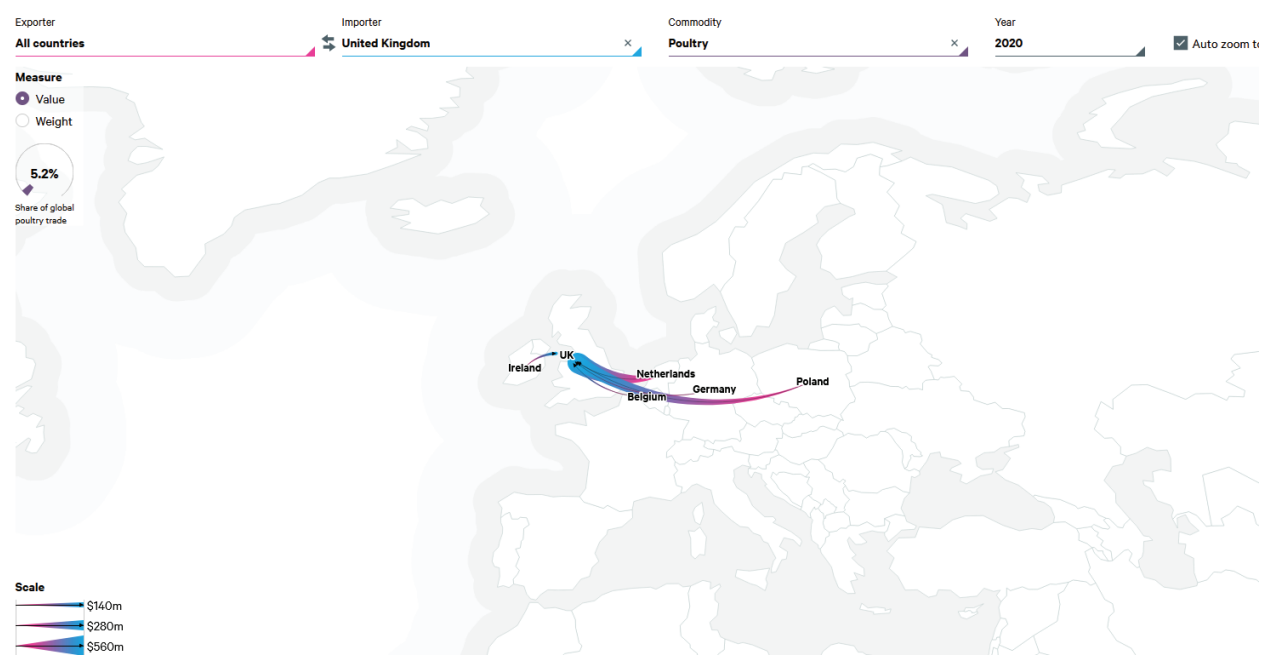


Figure 172. Africa number of poultry farms by type