



Brussels, 11.10.2021
SWD(2021) 1001 final

PART 1/38

COMMISSION STAFF WORKING DOCUMENT

Accompanying the document

REPORT FROM THE COMMISSION TO THE COUNCIL AND THE EUROPEAN PARLIAMENT

**on the implementation of Council Directive 91/676/EEC concerning the protection of
waters against pollution caused by nitrates from agricultural sources based on Member
State reports for the period 2016–2019**

{COM(2021) 1000 final}

Contents

| | |
|---|-----|
| 1. EVOLUTION OF PRESSURES FROM AGRICULTURE | 9 |
| Agricultural area and livestock | 9 |
| Use of fertilisers | 23 |
| Nutrient balance | 28 |
| N-discharge into the environment from agriculture | 31 |
| 2. WATER QUALITY | 32 |
| Monitoring..... | 32 |
| Groundwater quality..... | 40 |
| Surface water quality | 58 |
| 3. NITRATE VULNERABLE ZONES | 107 |
| 4. COUNTRY FICHES..... | 111 |

TABLES

| | |
|---|----|
| Table 1: Average livestock numbers (10 ⁶) presented in the article 10 reports of the Member States (MS) for reporting periods 2012-2015 and 2016-2019, and the change between the two reporting periods. | 9 |
| Table 2: Utilized agricultural area (1 000 ha) in the periods 2008-2011, 2012-2016, 2016-2019, and the change between periods (Source: Eurostat, December 2020). | 10 |
| Table 3: Number of total cattle (1 000 heads) in the periods 2008-2011, 2012-2016, 2016-2019, and the change between the periods (Source: Eurostat, December 2020). | 11 |
| Table 4: Number of dairy cattle (1 000 heads) in the periods 2008-2011, 2012-2016, 2016-2019, and the change between the periods (Source: Eurostat, December 2020). | 12 |
| Table 5: Number of pigs (1 000 heads) in the periods 2008-2011, 2012-2016, 2016-2019, and the change between the periods (Source: Eurostat, December 2020). | 13 |
| Table 6: Number of sheep (1 000 heads) in the periods 2008-2011, 2012-2016, 2016-2019, and the change between the periods (Source: Eurostat, December 2020). | 14 |
| Table 7: Number of poultry (1 000 heads) in the 2010, 2013 and 2016, and change between years (Source: Eurostat, December 2020). | 15 |
| Table 8: Number of Livestock Units (1 000) in 2010, 2013 and 2016, and the change between the years (Source: Eurostat, December 2020). | 16 |
| Table 9: Livestock density index (LU per ha UAA) in 2010, 2013 and 2016, and the change between the years (Source: Eurostat, December 2020). | 17 |
| Table 10: Average annual animal manure nitrogen and mineral fertiliser nitrogen use (1 000 tons N) presented in the article 10 reports of the Member States for reporting periods 2012-2015 and 2016-2019, and the change between the two reporting periods. | 23 |
| Table 11: Mineral fertiliser nitrogen use (1 000 kg N) in the periods 2008-2011, 2012-2015 and 2016-2019, and the change between the reporting periods (Source: Eurostat, December 2020). | 24 |
| Table 12: Mineral fertiliser phosphate use (1 000 kg P) in the periods 2008-2011, 2012-2015 and 2016-2019, and the change between the reporting periods (Source: Eurostat, December 2020). | 25 |
| Table 13: Animal manure nitrogen use (1 000 kg N) in the periods 2008-2011, 2012-2015 and 2016-2019, and the change between the reporting periods (Source: Eurostat, December 2020). | 26 |
| Table 14: Animal manure phosphate use (1 000 kg P) in the periods 2008-2011, 2012-2015 and 2016-2019, and the change between the reporting periods (Source: Eurostat, December 2020). | 27 |
| Table 15: Gross nitrogen balance per hectare UAA (kg/ha N - UAA) in the periods 2008-2011, 2012-2015 and 2015-2019, and the change between the periods in kg N per ha. (Source: Eurostat, December 2020) | 28 |
| Table 16: Net nitrogen balance per hectare UAA (kg/ha N - UAA) in the periods 2008-2011, 2012-2015 and 2015-2019, and the change between the periods in kg N per ha. (Source: Eurostat, December 2020). | 29 |

| | |
|---|----|
| Table 17: Gross phosphate balance per hectare UAA (kg/ha P - UAA) in the periods 2008-2011, 2012-2015 and 2015-2019, and the change between the periods in kg N per ha (Source: Eurostat, December 2020). | 30 |
| Table 18: Annual average nitrogen discharge (kton N) to the aquatic environment and relative contribution of agriculture (%), presented in the article 10 reports of the Member States for reporting periods 2008-2011, 2012-2015 and 2016-2019. | 31 |
| Table 19: Number of stations and station density (stations per 1 000 km ² of land) of reported groundwater monitoring of annual average nitrate measurements in reporting periods 2008-2011, 2012-2015 and 2016-2019, the change (%) between the last two periods, and the annual average sampling frequency in 2016-2019. | 32 |
| Table 20: Number of stations and station density (stations per 1 000 km ² of land) of reported fresh surface water monitoring of annual average nitrate measurements in reporting periods 2008-2011, 2012-2015 and 2016-2019, the change (%) between the last two periods, and the annual average sampling frequency in 2016 -2019. | 34 |
| Table 21: Number of stations of reported saline surface water monitoring of annual average nitrate measurements in reporting periods 2008-2011, 2012-2015 and 2016-2019, and the change (%) between the last two periods. | 36 |
| Table 22: Number of stations with trends for groundwater monitoring points in the periods 2008-2011, 2012-2015 and 2016-2019. | 38 |
| Table 23: Number of stations with trends for surface water monitoring points in the periods 2008-2011, 2012-2015 and 2016-2019. | 39 |
| Table 24: Percentage of groundwater monitoring points per water quality class (annual average nitrate concentration in mg nitrate per l) for all stations of the EU 27 Member States and UK for the period 2016-2019. | 40 |
| Table 25: Percentage of groundwater stations (at all depth) with decreasing, stable or increasing trends in average groundwater nitrate concentrations between the reporting periods 2012-2015 and 2016-2019. | 42 |
| Table 26: Percentage of groundwater stations by classes of annual nitrate concentration, at different sampling depths, aggregated over all Member States. Reporting period 2016-2019. | 44 |
| Table 27: Percentage of groundwater stations with decreasing, stable or increasing trends at different depths, aggregated over all Member States. Reporting period 2016-2019 | 45 |
| Table 28: Percentage of fresh surface water monitoring points per water quality class (annual average nitrate concentration in mg nitrate per l) for all stations of the EU27 Member States and UK for the period 2016-2019. | 58 |
| Table 29: Percentage of saline surface water monitoring points per water quality class (annual average nitrate concentration in mg nitrate per l) for all stations of the EU27 Member States and UK for the period 2016-1019. | 60 |
| Table 30: Percentage of fresh surface water stations (rivers and lakes) with decreasing, stable or increasing trends in average fresh surface water nitrate concentrations between the reporting periods 2012-2015 and 2016-2019. | 62 |

| | |
|--|-----|
| Table 31: Percentage of saline surface water stations with decreasing, stable or increasing trends in average saline surface water nitrate concentrations between the reporting periods 2012-2015 and 2016-2019..... | 64 |
| Table 32: Percentage of surface water stations by classes of annual nitrate concentrations for different stations type and aggregated over all Member States. Reporting period 2016-2019..... | 66 |
| Table 33: Percentage of river stations at different trophic status for all EU27 Member States and UK in reporting period 2016-2019..... | 67 |
| Table 34: Percentage of lake stations at different trophic status for all EU27 Member States and UK in reporting period 2016-2019..... | 69 |
| Table 35: Percentage of transitional water stations at different trophic status for all EU27 Member States and UK in reporting period 2016-2019..... | 71 |
| Table 36: Percentage coastal water stations at different trophic status for all EU27 Member States and UK in reporting period 2016-2019..... | 73 |
| Table 37: Percentage of marine water stations at different trophic status for all EU27 Member States and UK in reporting period 2016-2019..... | 75 |
| Table 38: Percentage of surface water stations at different trophic status for the reporting period 2016-2019. Note that the number of underlying Member States is different per water type..... | 77 |
| Table 39: Percentage of fresh surface water monitoring points per water quality class, aggregated by sea regions and sub-regions. Reporting period 2016-2019..... | 78 |
| Table 40: Percentage of fresh surface water monitoring points per water quality class, aggregated by sea regions. Reporting period 2016-2019..... | 78 |
| Table 41: Percentage of marine, coastal and transitional water monitoring points per water quality class, aggregated by sea regions and sub-regions. Reporting period 2016-2019..... | 79 |
| Table 42: Percentage of marine, coastal and transitional water monitoring points per water quality class, aggregated by sea regions. Reporting period 2016-2019..... | 79 |
| Table 43: Percentage of marine, coastal and transitional water monitoring points per water trophic status classes, aggregated by sea regions and sub-regions. Reporting period 2016-2019..... | 80 |
| Table 44: Percentage of marine, coastal and transitional water monitoring points per water trophic status classes, aggregated by sea regions. Reporting period 2016-2019..... | 80 |
| Table 45: Implementation of Article 3 of the Nitrates Directive in 2016-2019. In blue the MS that changed NVZ in RP7, in grey the not valid or drafted zone that are excluded from the total value. (Source: JRC)..... | 107 |
| Table 46: Analysis of added and removed NVZ respect to the previous reporting periods. In the table only the countries that changed NVZ. See countries in blue in Table 45 (Source: JRC)..... | 108 |

FIGURES

Figure 1: Groundwater station density (stations per 1 000 km² of land) in reporting period 2016-2019. Stations with data of average annual nitrate measurements. 33

Figure 2: Average annual groundwater sampling frequency in reporting period 2016-2019. Stations with data of average annual nitrate measurements. 33

Figure 3: Fresh surface water station density (stations per 1 000 km² of land) in reporting period 2016-2019. Stations with data of average annual nitrate measurements. 35

Figure 4: Annual average fresh surface water sampling frequency in reporting period 2016-2019. Stations with data of average annual nitrate measurements. 35

Figure 5: Annual average saline surface water sampling frequency in reporting period 2016-2019. Stations with data of average annual nitrate measurements. 37

Figure 6: Frequency diagram of annual average nitrate concentrations in groundwater, at all depths, in reporting period 2016-2019. 41

Figure 7: Frequency diagram of trends in annual average nitrate concentrations in groundwater, at all depths, in reporting period 2016-2019. 43

Figure 8: Frequency diagram of annual average nitrate concentrations in groundwater at different depths, aggregated over all Member States. Reporting period 2016-2019 44

Figure 9: Frequency diagram of trends in annual average nitrate concentrations in groundwater at different depths, aggregated over all Member States. Reporting period 2016-2019..... 45

Figure 10: Frequency diagram of annual average nitrate concentrations in fresh surface waters (rivers and lakes), in reporting period 2016-2019. 59

Figure 11: Frequency diagram of annual average nitrate concentrations in saline surface waters, in reporting period 2016-2019. 61

Figure 12: Frequency diagram of trends in annual average nitrate concentrations in fresh surface water (rivers and lakes). Reporting period 2016-2019 63

Figure 13: Frequency diagram of trends in annual average nitrate concentrations in saline surface water. Reporting period 2016-2019 65

Figure 14: Frequency diagram of annual average nitrate concentrations in different surface waters, aggregated over all Member States. Reporting period 2016-2019. 66

Figure 15: Frequency diagram of the trophic status of rivers in reporting period 2016-2019. 68

Figure 16: Frequency diagram of the trophic status of lakes in reporting period 2016-2019.. 70

Figure 17: Frequency diagram of trophic status classes of transitional waters in reporting period 2016-2019. 72

Figure 18: Frequency diagram of trophic status classes of coastal waters in reporting period 2016-2019..... 74

Figure 19: Frequency diagram of trophic status classes of marine waters in reporting period 2016-2019..... 76

| | |
|---|----|
| Figure 20: Frequency diagram of trophic status classes of different water types in reporting period 2016-2019. | 77 |
|---|----|

MAPS

| | |
|---|----|
| Map 1: Livestock density by NUTS2 expressed as livestock units per hectare of UAA, year 2016 (Source: Eurostat, February 2021) | 18 |
| Map 2: Bovine density by NUTS2 expressed as livestock units per hectare of UAA, year 2016 (Source: Eurostat, February 2021). | 19 |
| Map 3: Poultry density by NUTS2 expressed as livestock units per hectare of UAA, year 2016 (Source: Eurostat, February 2021).. | 20 |
| Map 4: Sheep density by NUTS2 expressed as livestock units per hectare of UAA, year 2016 (Source: Eurostat, February 2021).. | 21 |
| Map 5: Swine density by NUTS2 expressed as livestock units per hectare of UAA, year 2016 (Source: Eurostat, February 2021).. | 22 |
| Map 6: Annual average nitrate concentrations in groundwater at the NUTS2 level, for the reporting period 2016-2019..... | 46 |
| Map 7: Annual average nitrate concentrations in groundwater at the NUTS3 level, for the reporting period 2016-2019..... | 47 |
| Map 8: Annual average nitrate concentrations in groundwater for the reporting period 2016-2019..... | 48 |
| Map 9: Comparison between annual average nitrate concentrations in groundwater for each concentration class separately. Reporting period 2016-2019..... | 49 |
| Map 10: Stations with annual average nitrate concentrations equal to or exceeding 50 mg/l in groundwater for the reporting period 2016-2019 | 50 |
| Map 11: Maximum nitrate concentrations in groundwater for the reporting period 2016-2019.. .. | 51 |
| Map 12: Strong trends in nitrates concentrations in groundwater between the reporting periods 2012-2015 and 2016-2019 in all stations. | 52 |
| Map 13: Strong trends in nitrates concentrations in groundwater between the reporting periods 2012-2015 and 2016-2019, for stations with an average annual nitrate concentration below 25 mg/l in 2016-2019 | 53 |
| Map 14: Strong trends in nitrates concentrations in groundwater between the reporting periods 2012-2015 and 2016-2019, for stations with an average annual nitrate concentration between 25 and 40 mg/l in 2016-2019 | 54 |
| Map 15: Strong trends in nitrates concentrations in groundwater between the reporting periods 2012-2015 and 2016-2019, for stations with an average annual nitrate concentration between 40 and 50 mg/l in 2016-2019 | 55 |
| Map 16: Strong trends in nitrates concentrations in groundwater between the reporting periods 2012-2015 and 2016-2019, for stations with an average annual nitrate concentration equal to or above 50 mg/l in 2016-2019 | 56 |

| | |
|--|----|
| Map 17: Map of stations with no trend in nitrates concentrations in groundwater between the reporting periods 2012-2015 and 2016-2019 | 57 |
| Map 18: Annual average nitrate concentrations in surface water (all categories) at the NUTS2 level, for the reporting period 2016-2019. | 81 |
| Map 19: Annual average nitrate concentrations in surface water (all categories) at the NUTS3 level, for the reporting period 2016-2019. | 82 |
| Map 20: Annual average nitrate concentrations in fresh surface water (river, lake/reservoir) at the NUTS2 level, for the reporting period 2016-2019. | 83 |
| Map 21: Annual average nitrate concentrations in fresh surface water (river, lake/reservoir) at the NUTS3 level, for the reporting period 2016-2019. | 84 |
| Map 22: Annual average nitrate concentrations in saline surface water (transitional, coastal, and marine waters) at the NUTS2 level, for the reporting period 2016-2019. | 85 |
| Map 23: Annual average nitrate concentrations in saline surface water (transitional, coastal, and marine waters) at the NUTS3 level, for the reporting period 2016-2019. | 86 |
| Map 24: Percentage of surface waters stations (all categories) in eutrophic status at the NUTS2 level, for the reporting period 2016-2019. | 87 |
| Map 25: Percentage of surface waters stations (all categories) in eutrophic status at the NUTS3 level, for the reporting period 2016-2019. | 88 |
| Map 26: Trophic status in surface water (all categories) for the reporting period 2016-2019. | 89 |
| Map 27: Percentage of fresh surface water stations (river, lake/reservoir) in eutrophic status at the NUTS2 level, for the reporting period 2016-2019. | 90 |
| Map 28: Percentage of fresh surface water stations (river, lake/reservoir) in eutrophic status at the NUTS3 level, for the reporting period 2016-2019. | 91 |
| Map 29: Percentage of saline surface waters stations (transitional, coastal, and marine waters) in eutrophic status at the NUTS2 level, for the reporting period 2016-2019. | 92 |
| Map 30: Percentage of saline surface waters stations (transitional, coastal, and marine waters) in eutrophic status at the NUTS3 level, for the reporting period 2016-2019. | 93 |
| Map 31: Annual average nitrate concentrations in surface water (all categories) for the reporting period 2016-2019. | 94 |
| Map 32: Comparison between annual average nitrate concentrations in surface water for each concentration class separately. Reporting period 2016-2019. | 95 |
| Map 33: Winter average nitrate concentrations in surface water for the reporting period 2016-2019. Higher values are plotted on the top. | 96 |
| Map 34: Maximum nitrate concentrations in surface water for the reporting period 2016-2019 | 97 |
| Map 35: Strong trends in annual average nitrate concentrations in surface water (all categories) between the reporting periods 2012-2015 and 2016-2019 for all stations | 98 |
| Map 36: Strong trends in winter average nitrate concentrations in surface water (all categories) between the reporting periods 2012-2015 and 2016-2019 | 99 |

| | |
|---|-----|
| Map 37: Strong trends in annual average nitrate concentrations in surface water (all categories) between the reporting periods 2012-2015 and 2016-2019 for stations with an average annual nitrate concentration below 2 mg/l in 2016-2019 | 100 |
| Map 38: Strong trends in annual average nitrate concentrations in surface water (all categories) between the reporting periods 2012-2015 and 2016-2019 for stations with an average annual nitrate concentration between 2 and 10 mg/l in 2016-2019 | 101 |
| Map 39: Strong trends in annual average nitrate concentrations in surface water (all categories) between the reporting periods 2012-2015 and 2016-2019 for stations with an average annual nitrate concentration between 10 and 25 mg/l in 2016-2019 | 102 |
| Map 40: Strong trends in annual average nitrate concentrations in surface water (all categories) between the reporting periods 2012-2015 and 2016-2019 for stations with an average annual nitrate concentration between 25 and 40 mg/l in 2016-2019 | 103 |
| Map 41: Strong trends in annual average nitrate concentrations in surface water (all categories) between the reporting periods 2012-2015 and 2016-2019 for stations with an average annual nitrate concentration between 40 and 50 mg/l in 2016-2019 | 104 |
| Map 42: Strong trends in annual average nitrate concentrations in surface water (all categories) between the reporting periods 2012-2015 and 2016-2019 for stations with an average annual nitrate concentration equal to or above 50 mg/l in 2016-2019 | 105 |
| Map 43: Map of stations with no trend in nitrates concentrations in surface water between the reporting periods 2012-2015 and 2016-2019 | 106 |
| Map 44: Implementation of Article 3 of the Nitrates Directive in 2016-2019..... | 109 |
| Map 45: Analysis of added and removed NVZ respect to the previous reporting periods. | 110 |

1. EVOLUTION OF PRESSURES FROM AGRICULTURE

Agricultural area and livestock

Table 1: Average livestock numbers (10⁶) presented in the article 10 reports of the Member States (MS) for reporting periods 2012-2015 and 2016-2019, and the change between the two reporting periods. In blue, the values taken from the staff working document of reporting period 2012-2015 because not available in the current reports

| MS | Cattle | | | Pigs | | | Poultry | | |
|-------|-----------|-----------|----------|-----------|-----------|----------|-----------|-----------|----------|
| | 2012-2015 | 2016-2019 | Change % | 2012-2015 | 2016-2019 | Change % | 2012-2015 | 2016-2019 | Change % |
| AT | 1.96 | 1.93 | -1.5 | 2.92 | 2.78 | -4.8 | 15.21 | 17.46 | 15 |
| BE-FL | 1.3 | NA | - | 6.3 | NA | - | 29.88 | NA | - |
| BE-WA | 1.22 | 1.13 | -7.4 | 0.34 | 0.38 | 12 | 4.98 | 8.12 | 63 |
| BG | 0.55 | 0.534 | -2.9 | 0.568 | 0.589 | 3.7 | 14.67 | 14.89 | 1.46 |
| CY | 0.06 | NA | - | 0.36 | NA | - | 3.3 | NA | - |
| CZ | 1.41 | NA | - | 1.56 | NA | - | 22.51 | NA | - |
| DE | 12.64 | 12.08 | -4.4 | 28.11 | 26.86 | -4.5 | 177 | 174 | -2.1 |
| DK | 1.52 | 1.54 | 1.3 | 20.1 | 17 | -15.4 | 18.6 | 20.8 | 11.8 |
| EE | 0.26 | 0.25 | -3.8 | 0.35 | 0.29 | -17 | 2.2 | 2.16 | -1.8 |
| EL | 0.43 | 0.78 | 81 | 0.2 | 0.55 | 175 | 46.6 | 91 | 95 |
| ES | NA | NA | - | NA | NA | - | NA | NA | - |
| FI | 0.91 | 0.88 | -3.7 | 1.24 | 1.04 | -16 | 12.6 | 14.14 | 12 |
| FR | 18.91 | 19.02 | 0.58 | 13.47 | 13.6 | 0.97 | 297.08 | 308.14 | 3.7 |
| HR | 0.46 | 0.43 | -6.1 | 1.51 | 1.09 | -28 | 12.9 | 11.1 | -14 |
| HU | 0.82 | 0.88 | 7.3 | 3.12 | 2.82 | -9.6 | 37.12 | 39.94 | 7.6 |
| IE | 6.9 | 7.28 | 5.5 | 1.58 | 1.6 | 1.3 | NA | NA | - |
| IT | 5 | 5 | 0 | 9 | 9 | 0 | 177 | 176 | -0.56 |
| LT | 0.73 | NA | - | 0.76 | NA | - | 9.4 | NA | - |
| LU | 0.195 | 0.198 | 1.5 | 0.09 | 0.091 | 1.1 | 0.113 | 0.123 | 8.8 |
| LV | 0.051 | 0.048 | -5.9 | 0.11 | 0.13 | 12 | 3.96 | 4.09 | 3.2 |
| MT | 0.01 | NA | - | 0.03 | NA | - | 0.08 | NA | - |
| NL | 4 | 4 | 0 | 12.3 | 12.4 | 0.8 | 101 | 101 | 0 |
| PL | 5.76 | 6.26 | 8.6 | 10.6 | 11.2 | 5.9 | 151 | 201 | 31 |
| PT | 1.4 | NA | - | 1.8 | NA | - | NA | NA | - |
| RO | 2.048 | 2.01 | -1.7 | 5.10 | 4.35 | -15 | 78 | 74 | -5.2 |
| SE | 1.496 | 1.489 | -0.51 | 1.399 | 1.354 | -3.2 | 16.5 | 18.8 | 13 |
| SI | 0.46 | NA | - | 0.29 | NA | - | 5 | NA | - |
| SK | 0.47 | 0.44 | -5.2 | 0.64 | 0.61 | -4.2 | 12.0 | 13.2 | 9.5 |
| UK-EN | | | | | | | | | |
| UK-WA | | | | | | | | | |
| UN-SC | | | | | | | | | |
| UK-NI | 1.609 | 1.612 | 0.19 | 0.57 | 0.68 | 18 | 21.2 | 24.8 | 17 |

(*) NA: not available (no data from MS report); - : not applicable

Table 2: Utilized agricultural area (1 000 ha) in the periods 2008-2011, 2012-2016, 2016-2019, and the change between periods (Source: Eurostat, December 2020).

| MS | Reporting period | | | Change (%) | |
|----------------|------------------|---------------|---------------|-----------------------|-----------------------|
| | 2008-2011 | 2012-2015 | 2016-2019 | 2012-2015 / 2008-2011 | 2016-2019 / 2012-2015 |
| AT | 3093 | 2791 | 2663 | -9.8 | -4.6 |
| BE | 1359 | 1334 | 1349 | -1.8 | 1.1 |
| BG | 5068 | 5027 | 5030 | -0.8 | 0.1 |
| CY | 120 | 114 | 123 | -5.2 | 7.7 |
| CZ | 3536 | 3514 | 3514 | -0.6 | 0.0 |
| DE | 16810 | 16706 | 16664 | -0.6 | -0.2 |
| DK | 2668 | 2644 | 2629 | -0.9 | -0.6 |
| EE | 933 | 973 | 990 | 4.2 | 1.8 |
| EL | 5306 | 5262 | 5228 | -0.8 | -0.6 |
| ES | 24131 | 23607 | 24058 | -2.2 | 1.9 |
| FI | 2293 | 2271 | 2273 | -0.9 | 0.1 |
| FR | 30682 | 29005 | 29059 | -5.5 | 0.2 |
| HR | 1312 | 1353 | 1508 | 3.1 | 11.5 |
| HU | 5563 | 5343 | 5339 | -4.0 | -0.1 |
| IE | 4587 | 4477 | 4498 | -2.4 | 0.5 |
| IT | 12964 | 12589 | 12977 | -2.9 | 3.1 |
| LT | 2735 | 2923 | 2953 | 6.9 | 1.0 |
| LU | 131 | 131 | 131 | 0.2 | 0.0 |
| LV | 1820 | 1869 | 1940 | 2.7 | 3.8 |
| MT | 11 | 12 | 12 | 6.8 | -0.4 |
| NL | 1896 | 1843 | 1806 | -2.8 | -2.0 |
| PL | 15154 | 14440 | 14481 | -4.7 | 0.3 |
| PT | 3681 | 3694 | 3610 | 0.4 | -2.3 |
| RO | 13848 | 13832 | 13438 | -0.1 | -2.8 |
| SE | 3070 | 3033 | 3009 | -1.2 | -0.8 |
| SI | 475 | 479 | 479 | 0.8 | 0.0 |
| SK | 1929 | 1926 | 1916 | -0.2 | -0.5 |
| UK | 17358 | 17231 | 17429 | -0.7 | 1.1 |
| EU27+UK | 179292 | 178421 | 171223 | -0.5 | -4.0 |

Table 3: Number of total cattle (1 000 heads) in the periods 2008-2011, 2012-2016, 2016-2019, and the change between the periods (Source: Eurostat, December 2020).

| MS | Reporting period | | | Change (%) | |
|----------------|------------------|--------------|--------------|-----------------------|-----------------------|
| | 2008-2011 | 2012-2015 | 2016-2019 | 2012-2015 / 2008-2011 | 2016-2019 / 2012-2015 |
| AT | 2003 | 1958 | 1923 | -2.3 | -1.8 |
| BE | 2514 | 2465 | 2415 | -1.9 | -2.0 |
| BG | 561 | 561 | 548 | 0.0 | -2.3 |
| CY | 55 | 58 | 69 | 5.0 | 18.3 |
| CZ | 1343 | 1348 | 1360 | 0.4 | 0.8 |
| DE | 12780 | 12643 | 12084 | -1.1 | -4.4 |
| DK | 1616 | 1577 | 1536 | -2.4 | -2.6 |
| EE | 237 | 257 | 251 | 8.6 | -2.3 |
| EL | 679 | 645 | 546 | -5.1 | -15.4 |
| ES | 6025 | 5969 | 6474 | -0.9 | 8.5 |
| FI | 907 | 904 | 865 | -0.3 | -4.3 |
| FR | 19650 | 19196 | 18773 | -2.3 | -2.2 |
| HR | 448 | 444 | 432 | -0.9 | -2.6 |
| HU | 695 | 791 | 879 | 13.8 | 11.1 |
| IE | 6095 | 6307 | 6610 | 3.5 | 4.8 |
| IT | 6254 | 6196 | 6338 | -0.9 | 2.3 |
| LT | 758 | 725 | 665 | -4.2 | -8.3 |
| LU | 193 | 197 | 197 | 1.9 | -0.2 |
| LV | 380 | 410 | 402 | 8.0 | -1.9 |
| MT | 16 | 15 | 14 | -5.2 | -6.7 |
| NL | 3966 | 4140 | 3934 | 4.4 | -5.0 |
| PL | 5554 | 5633 | 6113 | 1.4 | 8.5 |
| PT | 1491 | 1531 | 1653 | 2.7 | 8.0 |
| RO | 2296 | 2048 | 1990 | -10.8 | -2.8 |
| SE | 1478 | 1438 | 1431 | -2.7 | -0.5 |
| SI | 469 | 468 | 482 | -0.1 | 2.9 |
| SK | 473 | 465 | 439 | -1.5 | -5.6 |
| UK | 9846 | 9735 | 9666 | -1.1 | -0.7 |
| EU27+UK | 88781 | 88125 | 88087 | -0.7 | 0.0 |

Table 4: Number of dairy cattle (1 000 heads) in the periods 2008-2011, 2012-2016, 2016-2019, and the change between the periods (Source: Eurostat, December 2020).

| MS | Reporting period | | | Change (%) | |
|----------------|------------------|--------------|--------------|-----------------------|-----------------------|
| | 2008-2011 | 2012-2015 | 2016-2019 | 2012-2015 / 2008-2011 | 2016-2019 / 2012-2015 |
| AT | 531 | 531 | 535 | 0.1 | 0.7 |
| BE | 516 | 517 | 529 | 0.2 | 2.4 |
| BG | 310 | 298 | 253 | -3.7 | -15.2 |
| CY | 24 | 25 | 31 | 6.3 | 25.2 |
| CZ | 383 | 371 | 363 | -3.2 | -2.1 |
| DE | 4193 | 4260 | 4132 | 1.6 | -3.0 |
| DK | 573 | 566 | 568 | -1.3 | 0.4 |
| EE | 97 | 95 | 86 | -2.3 | -10.0 |
| EL | 143 | 127 | 96 | -11.3 | -24.4 |
| ES | 840 | 840 | 822 | 0.0 | -2.2 |
| FI | 285 | 282 | 267 | -1.1 | -5.2 |
| FR | 3747 | 3660 | 3568 | -2.3 | -2.5 |
| HR | 204 | 165 | 138 | -19.1 | -16.4 |
| HU | 250 | 252 | 242 | 0.8 | -4.0 |
| IE | 1022 | 1128 | 1358 | 10.3 | 20.5 |
| IT | 1803 | 2052 | 1979 | 13.9 | -3.6 |
| LT | 370 | 315 | 264 | -14.7 | -16.3 |
| LU | 46 | 47 | 53 | 3.8 | 11.7 |
| LV | 166 | 164 | 147 | -0.9 | -10.7 |
| MT | 7 | 6 | 6 | -5.0 | -2.1 |
| NL | 1543 | 1616 | 1650 | 4.8 | 2.1 |
| PL | 2564 | 2257 | 2166 | -12.0 | -4.0 |
| PT | 251 | 236 | 237 | -6.1 | 0.3 |
| RO | 1313 | 1178 | 1166 | -10.3 | -1.0 |
| SE | 354 | 343 | 316 | -3.1 | -7.9 |
| SI | 111 | 110 | 105 | -0.9 | -4.8 |
| SK | 162 | 144 | 129 | -11.2 | -10.5 |
| UK | 1854 | 1851 | 1887 | -0.1 | 1.9 |
| EU27+UK | 23661 | 23438 | 23095 | -0.9 | -1.5 |

Table 5: Number of pigs (1 000 heads) in the periods 2008-2011, 2012-2016, 2016-2019, and the change between the periods (Source: Eurostat, December 2020).

| MS | Reporting period | | | Change (%) | |
|----------------|------------------|---------------|---------------|-----------------------|-----------------------|
| | 2008-2011 | 2012-2015 | 2016-2019 | 2012-2015 / 2008-2011 | 2016-2019 / 2012-2015 |
| AT | 3085 | 2898 | 2791 | -6.1 | -3.7 |
| BE | 6235 | 6378 | 6145 | 2.3 | -3.7 |
| BG | 696 | 568 | 589 | -18.5 | 3.8 |
| CY | 458 | 356 | 354 | -22.3 | -0.4 |
| CZ | 1845 | 1561 | 1507 | -15.4 | -3.5 |
| DE | 26966 | 28114 | 26863 | 4.3 | -4.4 |
| DK | 12427 | 12524 | 12621 | 0.8 | 0.8 |
| EE | 367 | 349 | 287 | -4.9 | -17.8 |
| EL | 1085 | 1000 | 735 | -7.9 | -26.4 |
| ES | 25743 | 26420 | 30313 | 2.6 | 14.7 |
| FI | 1346 | 1248 | 1102 | -7.3 | -11.7 |
| FR | 14402 | 13453 | 13342 | -6.6 | -0.8 |
| HR | 1204 | 1154 | 1089 | -4.2 | -5.6 |
| HU | 3211 | 3063 | 2821 | -4.6 | -7.9 |
| IE | 1517 | 1486 | 1582 | -2.0 | 6.5 |
| IT | 7125 | 8643 | 8513 | 21.3 | -1.5 |
| LT | 886 | 741 | 600 | -16.4 | -19.1 |
| LU | 87 | 90 | 88 | 3.5 | -1.8 |
| LV | 381 | 352 | 319 | -7.8 | -9.3 |
| MT | 62 | 46 | 37 | -24.8 | -21.2 |
| NL | 12038 | 12159 | 12002 | 1.0 | -1.3 |
| PL | 14082 | 10996 | 11315 | -21.9 | 2.9 |
| PT | 1950 | 2103 | 2184 | 7.8 | 3.9 |
| RO | 5690 | 5096 | 4218 | -10.4 | -17.2 |
| SE | 1623 | 1462 | 1429 | -9.9 | -2.2 |
| SI | 398 | 284 | 256 | -28.5 | -10.1 |
| SK | 689 | 636 | 604 | -7.7 | -5.0 |
| UK | 4421 | 4383 | 4660 | -0.9 | 6.3 |
| EU27+UK | 150019 | 147561 | 148365 | -1.6 | 0.5 |

Table 6: Number of sheep (1 000 heads) in the periods 2008-2011, 2012-2016, 2016-2019, and the change between the periods (Source: Eurostat, December 2020).

| MS | Reporting period | | | Change (%) | |
|----------------|------------------|--------------|--------------|-----------------------|-----------------------|
| | 2008-2011 | 2012-2015 | 2016-2019 | 2012-2015 / 2008-2011 | 2016-2019 / 2012-2015 |
| AT | 349 | 356 | 397 | 2.0 | 11.5 |
| BE | 123 | 116 | 87 | -6.0 | -25.2 |
| BG | 1424 | 1350 | 1327 | -5.3 | -1.7 |
| CY | 313 | 329 | 319 | 5.0 | -2.9 |
| CZ | 203 | 224 | 218 | 10.6 | -2.7 |
| DE | 1807 | 1598 | 1570 | -11.6 | -1.7 |
| DK | 124 | 151 | 147 | 21.3 | -2.4 |
| EE | 74 | 82 | 77 | 11.1 | -5.8 |
| EL | 9356 | 9123 | 8547 | -2.5 | -6.3 |
| ES | 18806 | 15979 | 15814 | -15.0 | -1.0 |
| FI | 117 | 140 | 156 | 19.7 | 11.4 |
| FR | 7705 | 7218 | 7076 | -6.3 | -2.0 |
| HR | 633 | 628 | 638 | -0.8 | 1.5 |
| HU | 1190 | 1194 | 1114 | 0.3 | -6.6 |
| IE | 3262 | 3351 | 3757 | 2.7 | 12.1 |
| IT | 8008 | 7128 | 7170 | -11.0 | 0.6 |
| LT | 55 | 113 | 162 | 107.1 | 43.3 |
| LU | 8 | 9 | 9 | 3.2 | 0.7 |
| LV | 74 | 91 | 106 | 23.5 | 17.2 |
| MT | 12 | 11 | 12 | -11.5 | 12.1 |
| NL | 1240 | 1067 | 889 | -13.9 | -16.7 |
| PL | 230 | 228 | 267 | -0.9 | 17.0 |
| PT | 2331 | 2060 | 2203 | -11.6 | 6.9 |
| RO | 8743 | 9324 | 10098 | 6.6 | 8.3 |
| SE | 562 | 593 | 483 | 5.4 | -18.6 |
| SI | 136 | 113 | 112 | -16.7 | -1.4 |
| SK | 382 | 396 | 351 | 3.6 | -11.1 |
| UK | 21611 | 22702 | 22987 | 5.0 | 1.3 |
| EU27+UK | 88879 | 85672 | 86095 | -3.6 | 0.5 |

Note:

The blue color indicates where data from Eurostat was completed with FAO data (FAODATA extends until 2018)

Table 7: Number of poultry (1 000 heads) in the 2010, 2013 and 2016, and change between years (Source: Eurostat, December 2020).

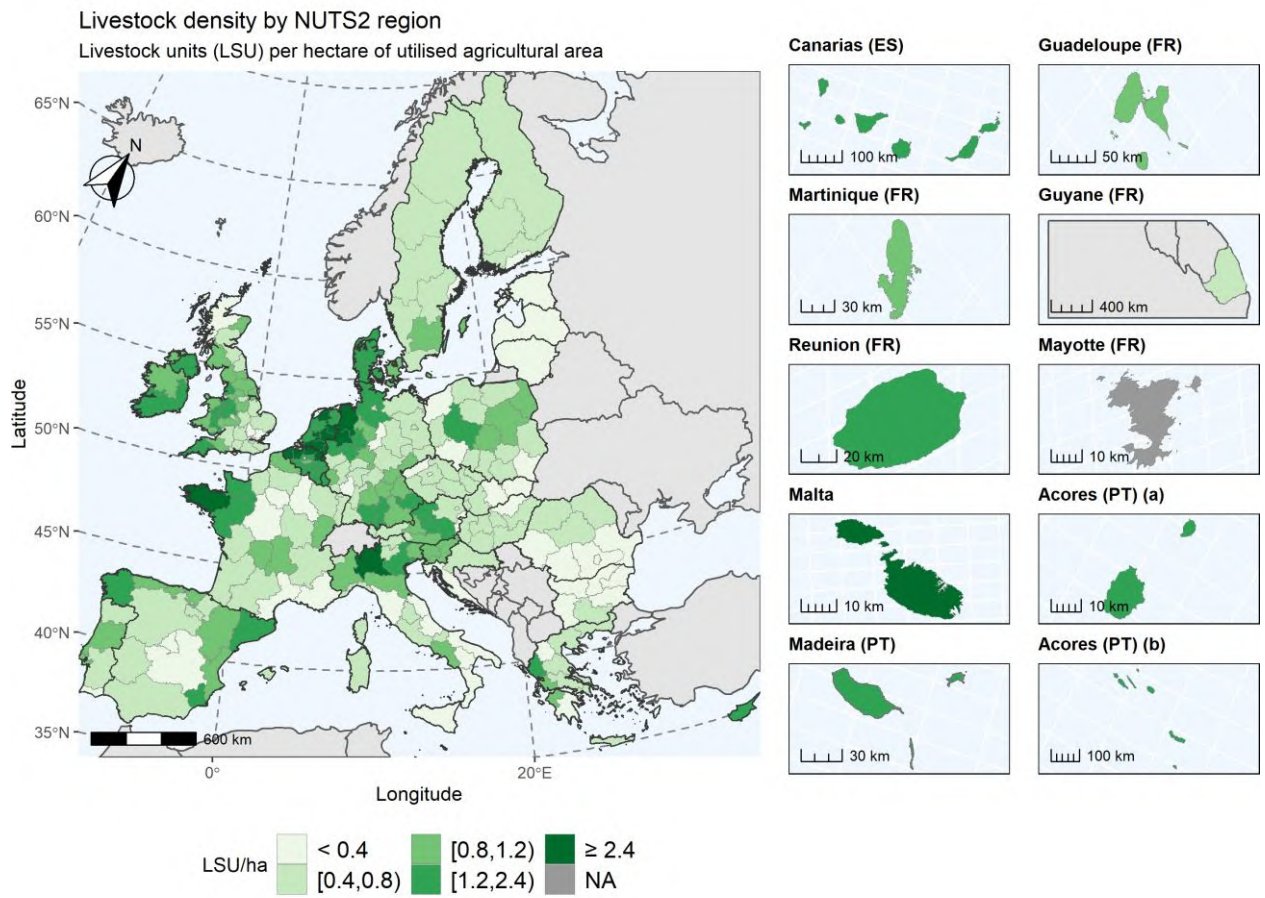
| MS | Reporting period | | | Change (%) | |
|----------------|------------------|----------------|----------------|-------------|-------------|
| | 2010 | 2013 | 2016 | 2013 / 2010 | 2016 / 2013 |
| AT | 14620 | 15740 | 17430 | 7.7 | 10.7 |
| BE | 34370 | 35110 | 42630 | 2.2 | 21.4 |
| BG | 17490 | 14290 | 16610 | -18.3 | 16.2 |
| CY | 3220 | 1850 | 2600 | -42.5 | 40.5 |
| CZ | 25320 | 25340 | 25100 | 0.1 | -0.9 |
| DE | 128900 | 177330 | 169720 | 37.6 | -4.3 |
| DK | 18740 | 19430 | 18510 | 3.7 | -4.7 |
| EE | 1940 | 2170 | 1900 | 11.9 | -12.4 |
| EL | 36760 | 27880 | 30390 | -24.2 | 9.0 |
| ES | 200910 | 205820 | 203110 | 2.4 | -1.3 |
| FI | 9310 | 13410 | 15390 | 44.0 | 14.8 |
| FR | 296130 | 297080 | 308140 | 0.3 | 3.7 |
| HR | 13470 | 13630 | 10390 | 1.2 | -23.8 |
| HU | 48700 | 41100 | 46690 | -15.6 | 13.6 |
| IE | 10930 | 12820 | 11050 | 17.3 | -13.8 |
| IT | 167520 | 164900 | 158030 | -1.6 | -4.2 |
| LT | 8600 | 9340 | 11250 | 8.6 | 20.4 |
| LU | 90 | 110 | 120 | 22.2 | 9.1 |
| LV | 5160 | 5040 | 4650 | -2.3 | -7.7 |
| MT | 980 | 910 | 780 | -7.1 | -14.3 |
| NL | 103620 | 99430 | 107340 | -4.0 | 8.0 |
| PL | 174300 | 149190 | 198360 | -14.4 | 33.0 |
| PT | 35350 | 28610 | 36050 | -19.1 | 26.0 |
| RO | 79190 | 76300 | 77200 | -3.6 | 1.2 |
| SE | 14290 | 16590 | 18780 | 16.1 | 13.2 |
| SI | 4900 | 4860 | 6220 | -0.8 | 28.0 |
| SK | 12660 | 11360 | 12060 | -10.3 | 6.2 |
| UK | 162560 | 137190 | 164380 | -15.6 | 19.8 |
| EU27+UK | 1630030 | 1606830 | 1714880 | -1.4 | 6.7 |

Table 8: Number of Livestock Units (1 000) in 2010, 2013 and 2016, and the change between the years (Source: Eurostat, December 2020).

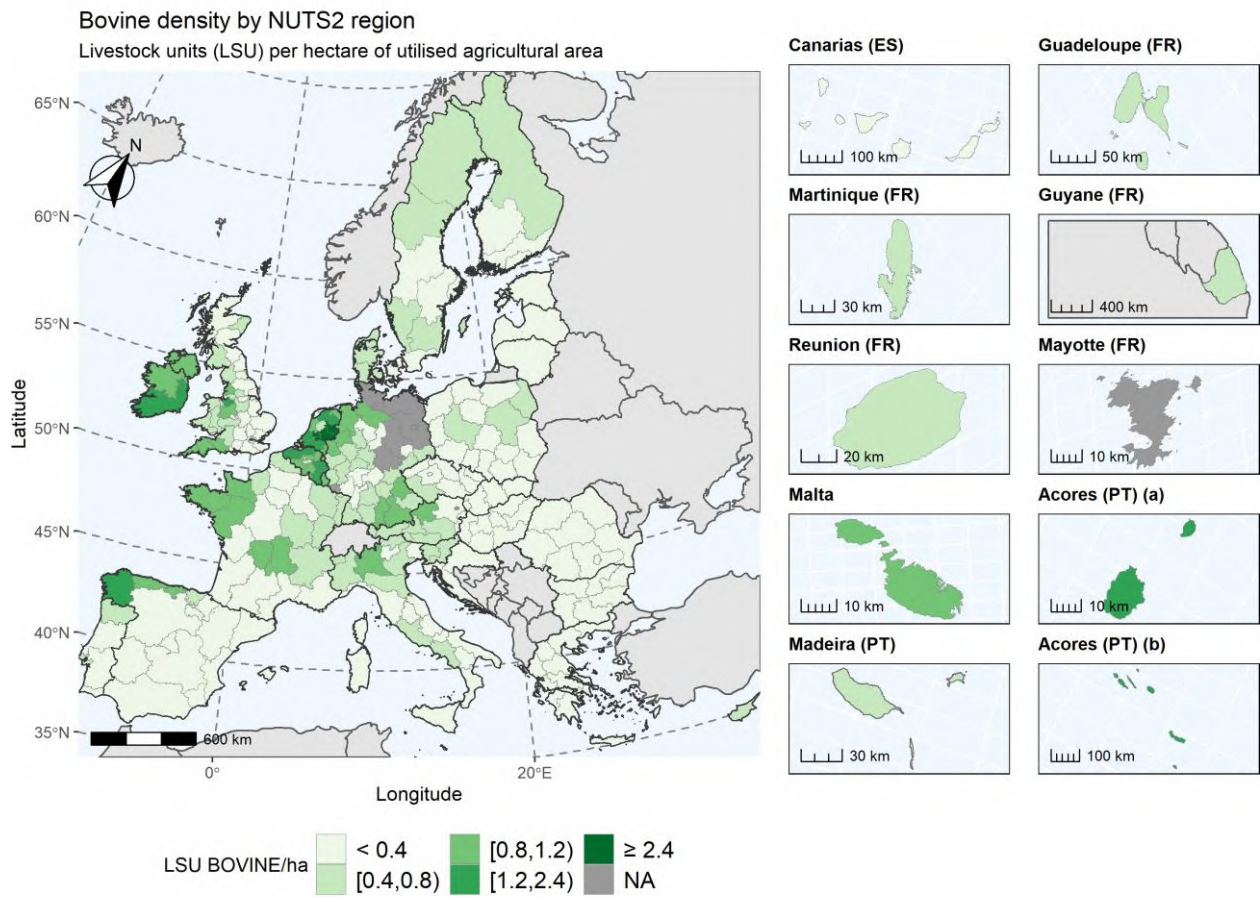
| MS | Reporting period | | | Change (%) | |
|----------------|------------------|---------------|---------------|-------------|-------------|
| | 2010 | 2013 | 2016 | 2013 / 2010 | 2016 / 2013 |
| AT | 2517 | 2439 | 2432 | -3.1 | -0.3 |
| BE | 3799 | 3584 | 3773 | -5.6 | 5.3 |
| BG | 1149 | 1025 | 1094 | -10.8 | 6.8 |
| CY | 201 | 175 | 172 | -13.2 | -1.4 |
| CZ | 1722 | 1728 | 1757 | 0.4 | 1.6 |
| DE | 17793 | 18407 | 18182 | 3.5 | -1.2 |
| DK | 4919 | 4133 | 4128 | -16.0 | -0.1 |
| EE | 306 | 310 | 279 | 1.3 | -9.9 |
| EL | 2407 | 2143 | 2103 | -11.0 | -1.9 |
| ES | 14831 | 14502 | 14443 | -2.2 | -0.4 |
| FI | 1121 | 1173 | 1071 | 4.6 | -8.7 |
| FR | 22674 | 21871 | 22082 | -3.5 | 1.0 |
| HR | 1020 | 864 | 755 | -15.3 | -12.7 |
| HU | 2484 | 2259 | 2445 | -9.1 | 8.2 |
| IE | 5787 | 5865 | 6196 | 1.3 | 5.6 |
| IT | 9912 | 9374 | 9468 | -5.4 | 1.0 |
| LT | 900 | 839 | 850 | -6.8 | 1.3 |
| LU | 168 | 165 | 174 | -1.5 | 5.0 |
| LV | 475 | 486 | 499 | 2.3 | 2.6 |
| MT | 42 | 35 | 32 | -16.8 | -7.0 |
| NL | 6712 | 6602 | 6820 | -1.6 | 3.3 |
| PL | 10377 | 9165 | 9443 | -11.7 | 3.0 |
| PT | 2206 | 2036 | 2224 | -7.7 | 9.2 |
| RO | 5444 | 4975 | 4829 | -8.6 | -2.9 |
| SE | 1752 | 1715 | 1706 | -2.1 | -0.5 |
| SI | 518 | 488 | 512 | -5.8 | 5.0 |
| SK | 668 | 645 | 622 | -3.5 | -3.6 |
| UK | 13308 | 13106 | 13252 | -1.5 | 1.1 |
| EU27+UK | 135212 | 130109 | 131340 | -3.8 | 0.9 |

Table 9: Livestock density index (LU per ha UAA) in 2010, 2013 and 2016, and the change between the years (Source: Eurostat, December 2020).

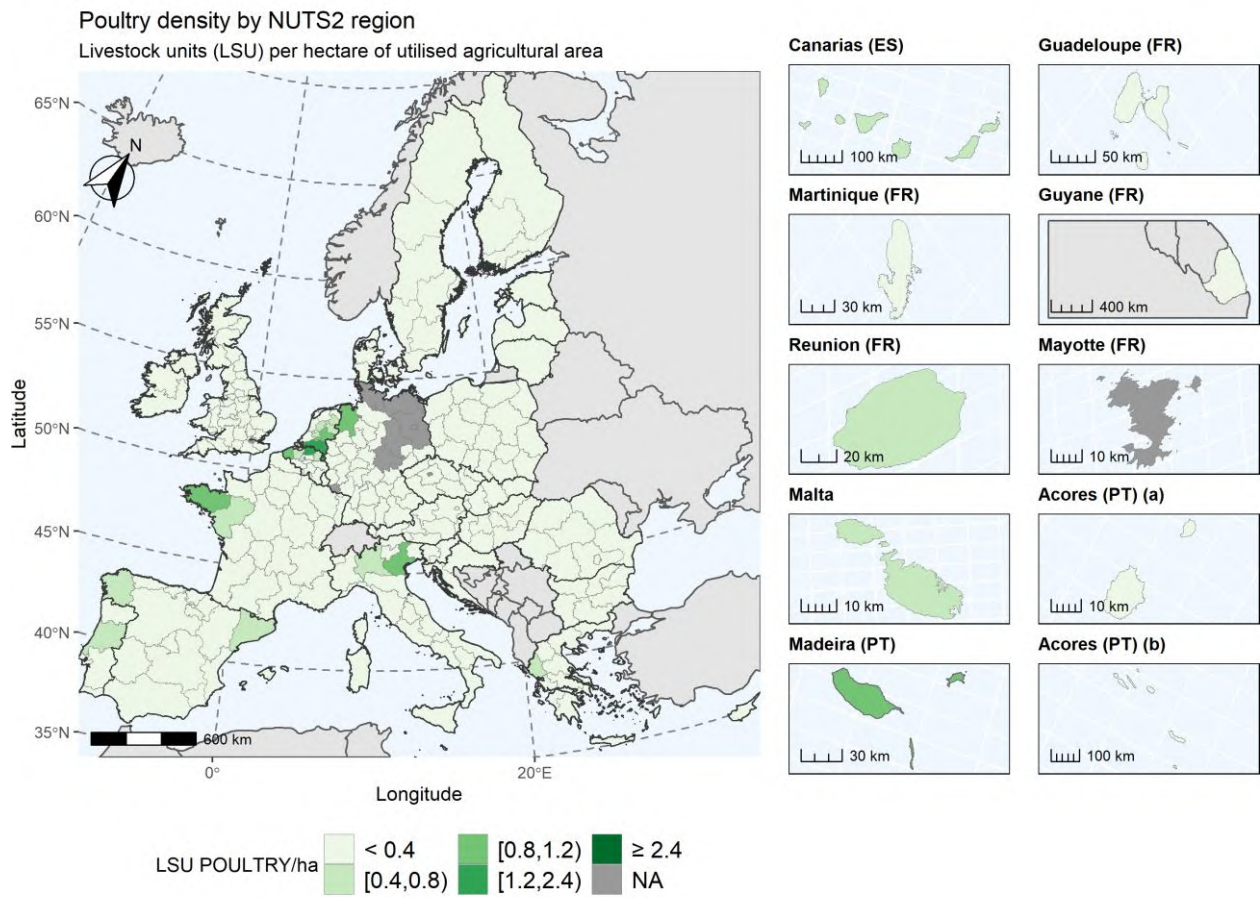
| MS | Reporting period | | | Change (%) | |
|----------------|------------------|-------------|-------------|-------------|-------------|
| | 2010 | 2013 | 2016 | 2013 / 2010 | 2016 / 2013 |
| AT | 0.87 | 0.89 | 0.91 | 2.3 | 2.2 |
| BE | 2.80 | 2.74 | 2.79 | -2.1 | 1.8 |
| BG | 0.26 | 0.22 | 0.24 | -15.4 | 9.1 |
| CY | 1.70 | 1.60 | 1.54 | -5.9 | -3.8 |
| CZ | 0.49 | 0.50 | 0.51 | 2.0 | 2.0 |
| DE | 1.07 | 1.10 | 1.09 | 2.8 | -0.9 |
| DK | 1.86 | 1.58 | 1.58 | -15.1 | 0.0 |
| EE | 0.33 | 0.32 | 0.28 | -3.0 | -12.5 |
| EL | 0.46 | 0.44 | 0.46 | -4.3 | 4.5 |
| ES | 0.62 | 0.62 | 0.62 | 0.0 | 0.0 |
| FI | 0.49 | 0.51 | 0.48 | 4.1 | -5.9 |
| FR | 0.81 | 0.79 | 0.79 | -2.5 | 0.0 |
| HR | 0.78 | 0.55 | 0.48 | -29.5 | -12.7 |
| HU | 0.53 | 0.49 | 0.52 | -7.5 | 6.1 |
| IE | 1.16 | 1.20 | 1.27 | 3.4 | 5.8 |
| IT | 0.77 | 0.77 | 0.75 | 0.0 | -2.6 |
| LT | 0.33 | 0.29 | 0.29 | -12.1 | 0.0 |
| LU | 1.28 | 1.26 | 1.33 | -1.6 | 5.6 |
| LV | 0.26 | 0.26 | 0.26 | 0.0 | 0.0 |
| MT | 3.64 | 3.21 | 2.92 | -11.8 | -9.0 |
| NL | 3.58 | 3.57 | 3.80 | -0.3 | 6.4 |
| PL | 0.72 | 0.64 | 0.66 | -11.1 | 3.1 |
| PT | 0.60 | 0.56 | 0.61 | -6.7 | 8.9 |
| RO | 0.41 | 0.38 | 0.39 | -7.3 | 2.6 |
| SE | 0.57 | 0.56 | 0.57 | -1.8 | 1.8 |
| SI | 1.07 | 1.00 | 1.05 | -6.5 | 5.0 |
| SK | 0.35 | 0.34 | 0.33 | -2.9 | -2.9 |
| UK | 0.79 | 0.76 | 0.79 | -3.8 | 3.9 |
| EU27+UK | 1.02 | 0.97 | 0.98 | -5.1 | 0.6 |



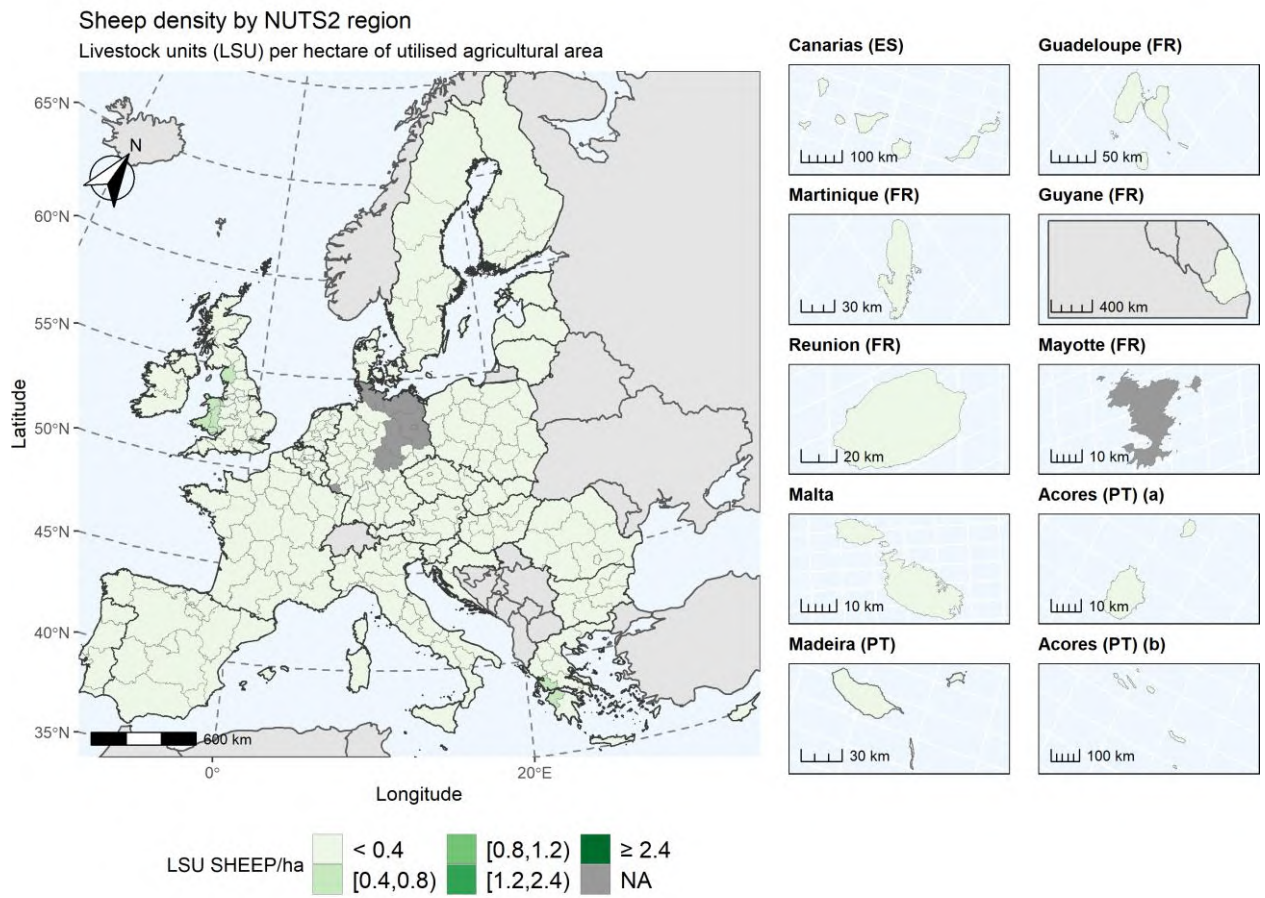
Map 1: Livestock density by NUTS2 expressed as livestock units per hectare of UAA, year 2016 (Source: Eurostat, February 2021)



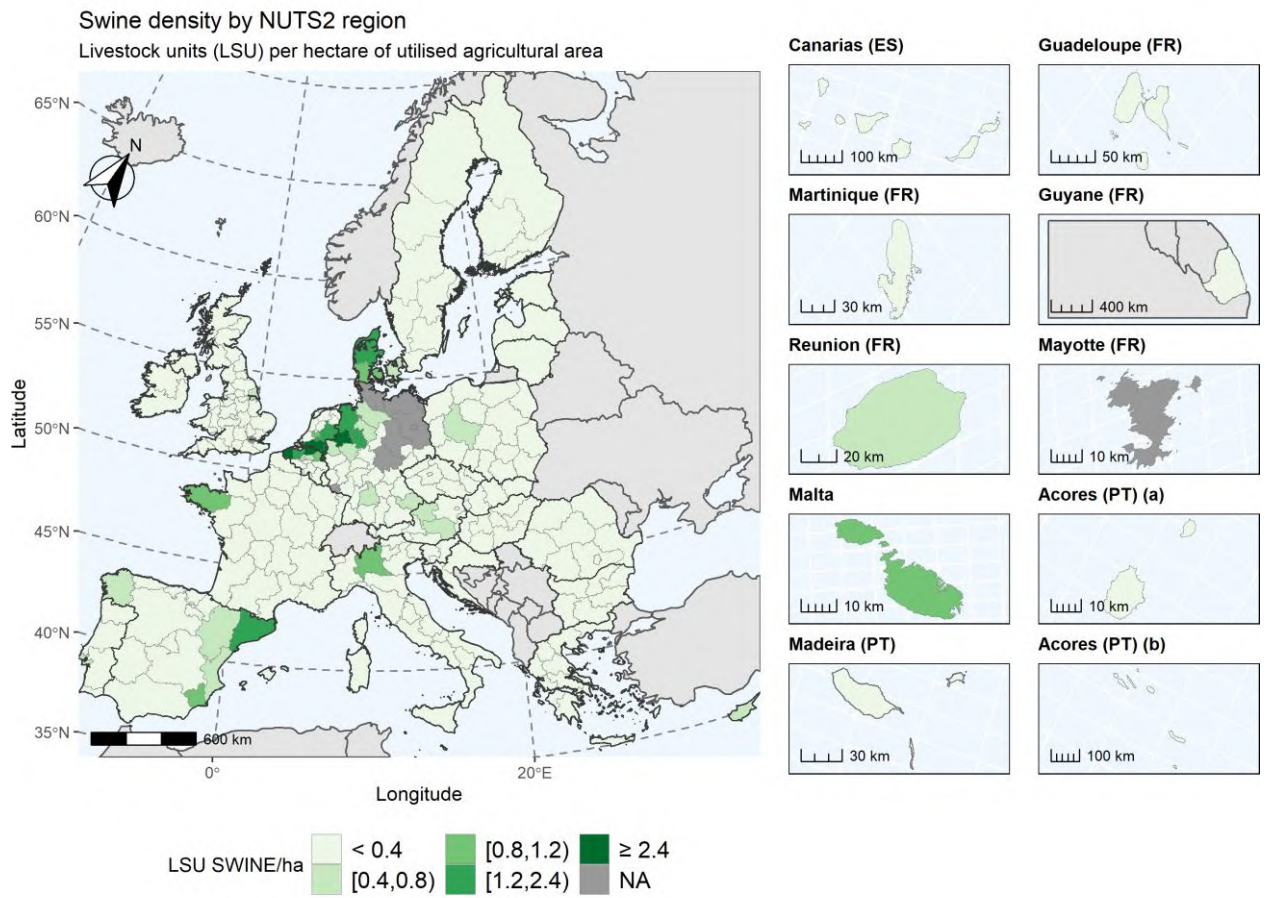
Map 2: Bovine density by NUTS2 expressed as livestock units per hectare of UAA, year 2016 (Source: Eurostat, February 2021). The label 'NA' stands for not available data.



Map 3: Poultry density by NUTS2 expressed as livestock units per hectare of UAA, year 2016 (Source: Eurostat, February 2021). The label 'NA' stands for not available data.



Map 4: Sheep density by NUTS2 expressed as livestock units per hectare of UAA, year 2016 (Source: Eurostat, February 2021). The label 'NA' stands for not available data.



Map 5: Swine density by NUTS2 expressed as livestock units per hectare of UAA, year 2016 (Source: Eurostat, February 2021). The label 'NA' stands for not available data.

Use of fertilisers

Table 10: Average annual animal manure nitrogen and mineral fertiliser nitrogen use (1 000 tons N) presented in the article 10 reports of the Member States for reporting periods 2012-2015 and 2016-2019, and the change between the two reporting periods.

| MS | Animal manure | | | Mineral fertiliser | | |
|-------|---------------|-----------|----------|--------------------|-----------|----------|
| | 2012-2015 | 2016-2019 | Change % | 2012-2015 | 2016-2019 | Change % |
| AT | 169.4 | 171.1 | 1.0 | 107 | 118 | 10 |
| BE-FL | 95 | NA | - | 39 | NA | - |
| BE-WA | 70.6 | 68.6 | -2.9 | 76 | 71 | -7.8 |
| BG | 73.2 | 87.9 | 20.1 | 289 | 352 | 21.8 |
| CY | 9 | NA | - | 7 | NA | - |
| CZ | 63 | NA | - | 397 | NA | - |
| DE | 1515.5 | 1547 | 2.1 | 1697 | 1552 | -8.5 |
| DK | 217 | 220 | 1.4 | 202 | 232 | 14.9 |
| EE | 23.1 | 21.6 | -6.5 | 34.7 | 37.5 | 8.1 |
| EL | 57.2 | NA | - | NA | NA | - |
| ES | NA | NA | - | NA | NA | - |
| FI | 75.19 | 73.36 | -2.4 | 147 | 138 | -6.1 |
| FR | 1720 | NA | - | 2200 | NA | - |
| HR | 49 | 55.48 | 13 | 74 | 91.92 | 24 |
| HU | 123 | 99.4 | -19.2 | 493 | 635 | 28.8 |
| IE | 489 | 523 | 6.9 | 328 | 371 | 13 |
| IT | 364 | 401 | 10.2 | 610 | 640 | 4.9 |
| LT | 47 | NA | - | NA | NA | - |
| LU | 12 | NA | - | 13 | NA | - |
| LV | NA | NA | - | 76 | NA | - |
| MT | NA | NA | - | 0.6 | NA | - |
| NL | 345 | 367 | 6.4 | 218 | 222 | 1.8 |
| PL | 517 | 553 | 7.9 | 1004 | 1903 | 90 |
| PT | NA | NA | - | NA | NA | - |
| RO | 410 | NA | - | 323.5 | 398 | 23 |
| SE | 102.7 | 76.54 | -26 | 155 | NA | - |
| SI | 29 | NA | - | 27 | NA | - |
| SK | 19.3 | 15.79 | -18 | 1.33 | 3.55 | 167 |
| UK-EN | | | | | | |
| UK-WA | | | | | | |
| UN-SC | | | | | | |
| UK-NI | 97.86 | 102.9 | 5.1 | 71.04 | 77.73 | 9.4 |

(*) NA: not available (no data from MS report); - : not applicable

Table 11: Mineral fertiliser nitrogen use (1 000 kg N) in the periods 2008-2011, 2012-2015 and 2016-2019, and the change between the reporting periods (Source: Eurostat, December 2020).

| MS | Reporting period | | | Change (%) | |
|----------------|------------------|-----------------|-----------|-----------------------|-----------------------|
| | 2008-2011 | 2012-2015 | 2016-2019 | 2012-2015 / 2008-2011 | 2016-2019 / 2012-2015 |
| AT | 107020 | 112898 | 120164 | 5.5 | 6.4 |
| BE | 145490 | 144361 | NA | -0.8 | NA |
| BG | 185728 | 272082 | 351120 | 46.5 | 29.0 |
| CY | 4568 | 3725 | NA | -18.5 | NA |
| CZ | 304597 | 350853 | 402385 | 15.2 | 14.7 |
| DE | 1678333 | 1696830 | 1684726 | 1.1 | -0.7 |
| DK | 202080 | 189274 | NA | -6.3 | NA |
| EE | 30304 | 34148 | NA | 12.7 | NA |
| EL | 192598 | 179637 | NA | -6.7 | NA |
| ES | 830780 | 991646 | 1025129 | 19.4 | 3.4 |
| FI | 150406 | 141972 | 138538 | -5.6 | -2.4 |
| FR | 2234186 | 2141910 | 2203465 | -4.1 | 2.9 |
| HR | 123826 | 86478 | 85391 | -30.2 | -1.3 |
| HU | 288126 | 323962 | 366043 | 12.4 | 13.0 |
| IE | 318490 | 327827 | 354099 | 2.9 | 8.0 |
| IT | 547826 | 578411 | 547249 | 5.6 | -5.4 |
| LT | 135725 | 152667 | NA | 12.5 | NA |
| LU | 13733 | 13855 | NA | 0.9 | NA |
| LV | 54675 | 69267 | 76755 | 26.7 | 10.8 |
| MT | 627 | 636 | NA | 1.3 | NA |
| NL | 209423 | 218410 | 233824 | 4.3 | 7.1 |
| PL | 1089053 | 1099673 | 1124123 | 1.0 | 2.2 |
| PT | 100098 | 116865 | 107062 | 16.8 | -8.4 |
| RO | 298758 | 323836 | 398097 | 8.4 | 22.9 |
| SE | 166675 | 170125 | 189567 | 2.1 | 11.4 |
| SI | 26965 | 27624 | 27090 | 2.4 | -1.9 |
| SK | 111209 | 128571 | 126172 | 15.6 | -1.9 |
| UK | 996880 | 1026872 | 1032898 | 3.0 | 0.6 |
| EU27+UK | 10548181 | 10802383 | NA | 2.4 | NA |

(*) NA: not available

Table 12: Mineral fertiliser phosphate use (1 000 kg P) in the periods 2008-2011, 2012-2015 and 2016-2019, and the change between the reporting periods (Source: Eurostat, December 2020).

| MS | Reporting period | | | Change (%) | |
|----------------|------------------|----------------|-----------|-----------------------|-----------------------|
| | 2008-2011 | 2012-2015 | 2016-2019 | 2012-2015 / 2008-2011 | 2016-2019 / 2012-2015 |
| AT | 12394 | 12787 | 13659 | 3.2 | 6.8 |
| BE | 5550 | 5600 | NA | 0.9 | NA |
| BG | 14168 | 20199 | 29562 | 42.6 | 46.4 |
| CY | 1000 | 867 | NA | -13.3 | NA |
| CZ | 15660 | 19551 | 22437 | 24.9 | 14.8 |
| DE | 110524 | 121864 | 113268 | 10.3 | -7.1 |
| DK | 9500 | 12425 | NA | 30.8 | NA |
| EE | 3002 | 3286 | NA | 9.5 | NA |
| EL | 28250 | 24680 | NA | -12.6 | NA |
| ES | 136777 | 176733 | 185718 | 29.2 | 5.1 |
| FI | 12667 | 11153 | 11040 | -12.0 | -1.0 |
| FR | 201743 | 200313 | 181598 | -0.7 | -9.3 |
| HR | 14968 | 14156 | 10361 | -5.4 | -26.8 |
| HU | 22360 | 32768 | 43252 | 46.5 | 32.0 |
| IE | 25731 | 34136 | 39484 | 32.7 | 15.7 |
| IT | 91000 | 73651 | NA | -19.1 | NA |
| LT | 27236 | 32776 | NA | 20.3 | NA |
| LU | 572 | 516 | NA | -9.7 | NA |
| LV | 6736 | 9841 | 11297 | 46.1 | 14.8 |
| MT | 30 | 31 | NA | 2.2 | NA |
| NL | 8357 | 4550 | 4942 | -45.6 | 8.6 |
| PL | 174625 | 153161 | 146896 | -12.3 | -4.1 |
| PT | 15124 | 17595 | 22897 | 16.3 | 30.1 |
| RO | 49398 | 52186 | 66871 | 5.6 | 28.1 |
| SE | 10700 | 11700 | 13933 | 9.3 | 19.1 |
| SI | 4203 | 3970 | 3994 | -5.5 | 0.6 |
| SK | 8687 | 10676 | 11424 | 22.9 | 7.0 |
| UK | 78497 | 85131 | 87080 | 8.5 | 2.3 |
| EU27+UK | 1089457 | 1148391 | NA | 5.4 | NA |

(*) NA: not available

Table 13: Animal manure nitrogen use (1 000 kg N) in the periods 2008-2011, 2012-2015 and 2016-2019, and the change between the reporting periods (Source: Eurostat, December 2020)

| MS | Reporting period | | | Change (%) | |
|----------------|------------------|----------------|-----------|-----------------------|-----------------------|
| | 2008-2011 | 2012-2015 | 2016-2019 | 2012-2015 / 2008-2011 | 2016-2019 / 2012-2015 |
| AT | 161066 | 170204 | 172237 | 5.7 | 1.2 |
| BE | 234751 | 231894 | NA | -1.2 | NA |
| BG | 100130 | 91278 | 76072 | -8.8 | -16.7 |
| CY | 22188 | 20046 | NA | -9.7 | NA |
| CZ | 112133 | 96996 | 90486 | -13.5 | -6.7 |
| DE | 1250936 | 1273535 | 1203788 | 1.8 | -5.5 |
| DK | 267041 | 261971 | NA | -1.9 | NA |
| EE | 24094 | 25660 | NA | 6.5 | NA |
| EL | 293721 | 293797 | NA | 0.0 | NA |
| ES | 854513 | 827451 | 949015 | -3.2 | 14.7 |
| FI | 103326 | 102925 | 101813 | -0.4 | -1.1 |
| FR | 1798323 | 1763660 | 1761385 | -1.9 | -0.1 |
| HR | 59545 | 57284 | 58838 | -3.8 | 2.7 |
| HU | 115035 | 125387 | 129728 | 9.0 | 3.5 |
| IE | 474359 | 489166 | 520786 | 3.1 | 6.5 |
| IT | 848472 | 829948 | 862737 | -2.2 | 4.0 |
| LT | 69779 | 66776 | NA | -4.3 | NA |
| LU | 15054 | 14908 | NA | -1.0 | NA |
| LV | 34009 | 36238 | 25932 | 6.6 | -28.4 |
| MT | 2636 | 2371 | NA | -10.0 | NA |
| NL | 414726 | 400763 | 423421 | -3.4 | 5.7 |
| PL | 560112 | 515639 | 557558 | -7.9 | 8.1 |
| PT | 155866 | 151238 | 159316 | -3.0 | 5.3 |
| RO | 385984 | 354933 | 326955 | -8.0 | -7.9 |
| SE | 120974 | 119578 | 120475 | -1.2 | 0.8 |
| SI | 37702 | 36112 | 37461 | -4.2 | 3.7 |
| SK | 60239 | 57919 | 45649 | -3.9 | -21.2 |
| UK | 995281 | 995396 | 1019849 | 0.0 | 2.5 |
| EU27+UK | 9571992 | 9384716 | NA | -2.0 | NA |

(*) NA: not available

Table 14: Animal manure phosphate use (1 000 kg P) in the periods 2008-2011, 2012-2015 and 2016-2019, and the change between the reporting periods (Source: Eurostat, December 2020)

| MS | Reporting period | | | Change (%) | |
|----------------|------------------|----------------|-----------|-----------------------|-----------------------|
| | 2008-2011 | 2012-2015 | 2016-2019 | 2012-2015 / 2008-2011 | 2016-2019 / 2012-2015 |
| AT | 29550 | 28898 | 29164 | -2.2 | 0.9 |
| BE | 36441 | 37419 | NA | 2.7 | NA |
| BG | 14437 | 12890 | 2409 | -10.7 | -81.3 |
| CY | 3882 | 3486 | NA | -10.2 | NA |
| CZ | 22638 | 19202 | 18839 | -15.2 | -1.9 |
| DE | 227103 | 230703 | 198664 | 1.6 | -13.9 |
| DK | 63374 | 62717 | NA | -1.0 | NA |
| EE | 4833 | 5068 | NA | 4.9 | NA |
| EL | 39943 | 40202 | NA | 0.6 | NA |
| ES | 138454 | 130160 | 147260 | -6.0 | 13.1 |
| FI | 17866 | 18081 | 18051 | 1.2 | -0.2 |
| FR | 301432 | 293387 | 323994 | -2.7 | 10.4 |
| HR | 10761 | 9767 | 9200 | -9.2 | -5.8 |
| HU | 22706 | 24954 | 25414 | 9.9 | 1.8 |
| IE | 59841 | 61869 | 65209 | 3.4 | 5.4 |
| IT | 163876 | 157755 | NA | -3.7 | NA |
| LT | 12297 | 11826 | NA | -3.8 | NA |
| LU | 2176 | 2163 | NA | -0.6 | NA |
| LV | 5178 | 5514 | 4724 | 6.5 | -14.3 |
| MT | 612 | 567 | NA | -7.3 | NA |
| NL | 60345 | 55591 | 54172 | -7.9 | -2.6 |
| PL | 113283 | 98147 | 105497 | -13.4 | 7.5 |
| PT | 28350 | 27182 | 28319 | -4.1 | 4.2 |
| RO | 68697 | 63953 | 64469 | -6.9 | 0.8 |
| SE | 19994 | 19390 | 19485 | -3.0 | 0.5 |
| SI | 5511 | 5242 | 5445 | -4.9 | 3.9 |
| SK | 9350 | 8906 | 7401 | -4.7 | -16.9 |
| UK | 170652 | 170422 | 174797 | -0.1 | 2.6 |
| EU27+UK | 1653580 | 1602325 | NA | -3.1 | NA |

(*) NA: not available

Nutrient balance

Table 15: Gross nitrogen balance per hectare UAA (kg/ha N - UAA) in the periods 2008-2011, 2012-2015 and 2015-2019, and the change between the periods in kg N per ha. (Source: Eurostat, December 2020)

| MS | Reporting period | | | Change (kg/ha N - UAA) | |
|----------------|------------------|-------------|-----------|------------------------|-----------------------|
| | 2008-2011 | 2012-2015 | 2016-2019 | 2012-2015 / 2008-2011 | 2016-2019 / 2012-2015 |
| AT | 33.6 | 40.1 | 39.0 | 6.5 | -1.1 |
| BE | 134.6 | 136.2 | NA | 1.6 | NA |
| BG | 15.6 | 23.9 | 65.8 | 8.3 | 41.9 |
| CY | 192.2 | 187.8 | NA | -4.3 | NA |
| CZ | 70.8 | 81.3 | 97.3 | 10.5 | 16.0 |
| DE | 78.8 | 75.4 | 65.1 | -3.4 | -10.3 |
| DK | 92.7 | 82.6 | NA | -10.1 | NA |
| EE | 28.3 | 23.2 | NA | -5.1 | NA |
| EL | 64.2 | 55.9 | NA | -8.4 | NA |
| ES | 30.7 | 35.0 | 44.1 | 4.4 | 9.1 |
| FI | 49.0 | 47.8 | 49.2 | -1.3 | 1.5 |
| FR | 46.0 | 43.0 | 43.2 | -3.0 | 0.1 |
| HR | 87.6 | 59.5 | 56.2 | -28.0 | -3.3 |
| HU | 28.9 | 35.1 | 30.9 | 6.2 | -4.2 |
| IE | 35.4 | 44.8 | 58.2 | 9.3 | 13.5 |
| IT | 61.6 | 70.3 | 66.3 | 8.8 | -4.0 |
| LT | 38.4 | 27.6 | NA | -10.8 | NA |
| LU | 126.8 | 127.5 | NA | 0.7 | NA |
| LV | 23.9 | 26.9 | 26.3 | 2.9 | -0.6 |
| MT | 178.8 | 145.5 | NA | -33.3 | NA |
| NL | 172.2 | 173.3 | 190.6 | 1.1 | 17.2 |
| PL | 52.5 | 47.6 | 51.5 | -4.9 | 3.9 |
| PT | 36.6 | 42.7 | 46.0 | 6.0 | 3.3 |
| RO | 5.0 | 7.1 | -2.1 | 2.1 | -9.2 |
| SE | 40.6 | 32.0 | 43.6 | -8.5 | 11.6 |
| SI | 48.9 | 53.5 | 53.7 | 4.7 | 0.2 |
| SK | 34.0 | 34.6 | 24.0 | 0.7 | -10.6 |
| UK | 85.4 | 86.0 | 86.3 | 0.7 | 0.2 |
| EU27+UK | 48.9 | 49.0 | NA | 0.1 | NA |

(*) NA = not available

Table 16: Net nitrogen balance per hectare UAA (kg/ha N - UAA) in the periods 2008-2011, 2012-2015 and 2015-2019, and the change between the periods in kg N per ha. (Source: Eurostat, December 2020).

| MS | Reporting period | | | Change (kg/ha N - UAA) | |
|----------------|------------------|-------------|-----------|------------------------|-----------------------|
| | 2008-2011 | 2012-2015 | 2016-2019 | 2012-2015 / 2008-2011 | 2016-2019 / 2012-2015 |
| AT | 13.8 | 18.0 | 15.3 | 4.3 | -2.7 |
| BE | 89.4 | 92.3 | NA | 2.9 | NA |
| BG | 7.8 | 16.4 | 55.7 | 8.5 | 39.3 |
| CY | 152.4 | 147.3 | NA | -5.1 | NA |
| CZ | 52.6 | 64.3 | 79.4 | 11.7 | 15.1 |
| DE | 41.4 | 35.9 | 25.9 | -5.5 | -9.9 |
| DK | 64.4 | 56.7 | NA | -7.7 | NA |
| EE | 17.2 | 12.1 | NA | -5.1 | NA |
| EL | 52.8 | 44.7 | NA | -8.0 | NA |
| ES | 16.9 | 21.0 | 27.6 | 4.0 | 6.6 |
| FI | 33.9 | 32.6 | 33.9 | -1.3 | 1.3 |
| FR | 25.3 | 22.2 | 24.3 | -3.1 | 2.1 |
| HR | 66.3 | 42.4 | 37.1 | -23.9 | -5.3 |
| HU | 16.6 | 21.7 | 16.4 | 5.1 | -5.3 |
| IE | 13.7 | 22.2 | 33.8 | 8.6 | 11.5 |
| IT | 35.4 | 44.3 | 39.2 | 8.9 | -5.1 |
| LT | 25.2 | 16.3 | NA | -8.9 | NA |
| LU | 86.4 | 86.8 | NA | 0.4 | NA |
| LV | 16.0 | 18.2 | 17.7 | 2.2 | -0.5 |
| MT | 61.5 | 33.9 | NA | -27.6 | NA |
| NL | 114.1 | 117.6 | 131.2 | 3.5 | 13.6 |
| PL | 33.7 | 28.8 | 31.9 | -4.9 | 3.1 |
| PT | 25.6 | 31.9 | 34.5 | 6.3 | 2.6 |
| RO | -4.6 | -1.8 | -12.8 | 2.9 | -11.0 |
| SE | 24.4 | 15.7 | 27.3 | -8.8 | 11.7 |
| SI | 14.9 | 21.2 | 20.9 | 6.4 | -0.4 |
| SK | 34.0 | 34.6 | 14.5 | 0.7 | -20.1 |
| UK | 67.9 | 67.8 | 78.8 | -0.1 | 11.0 |
| EU27+UK | 29.7 | 29.6 | NA | -0.1 | NA |

(*) NA = not available

Table 17: Gross phosphate balance per hectare UAA (kg/ha P - UAA) in the periods 2008-2011, 2012-2015 and 2016-2019, and the change between the periods in kg N per ha (Source: Eurostat, December 2020).

| MS | Reporting period | | | Change (kg/ha P - UAA) | |
|----------------|------------------|------------|-----------|------------------------|-----------------------|
| | 2008-2011 | 2012-2015 | 2016-2019 | 2012-2015 / 2008-2011 | 2016-2019 / 2012-2015 |
| AT | 0.2 | 0.6 | 0.5 | 0.4 | -0.1 |
| BE | 4.0 | 5.5 | NA | 1.5 | NA |
| BG | -4.8 | -6.2 | 1.0 | -1.5 | 7.2 |
| CY | 31.2 | 30.8 | NA | -0.5 | NA |
| CZ | -2.5 | -2.3 | -1.7 | 0.2 | 0.6 |
| DE | -1.8 | -2.3 | -4.0 | -0.5 | -1.7 |
| DK | 7.2 | 7.2 | NA | 0.0 | NA |
| EE | -5.5 | -7.0 | NA | -1.5 | NA |
| EL | 1.5 | 0.2 | NA | -1.2 | NA |
| ES | 2.4 | 3.8 | 7.6 | 1.4 | 3.8 |
| FI | 4.0 | 3.8 | 4.7 | -0.1 | 0.8 |
| FR | 1.2 | 1.1 | 1.7 | -0.1 | 0.6 |
| HR | 5.7 | 4.9 | 0.1 | -0.8 | -4.8 |
| HU | -3.1 | -1.0 | -1.4 | 2.1 | -0.4 |
| IE | 17.3 | 20.0 | 22.4 | 2.7 | 2.4 |
| IT | -1.8 | -1.5 | NA | 0.2 | NA |
| LT | 4.0 | 2.8 | NA | -1.2 | NA |
| LU | 4.2 | 4.0 | NA | -0.2 | NA |
| LV | 1.5 | 2.0 | 1.8 | 0.5 | -0.2 |
| MT | 34.5 | 29.2 | NA | -5.2 | NA |
| NL | 8.0 | 3.2 | 3.4 | -4.8 | 0.1 |
| PL | 5.6 | 2.1 | 2.0 | -3.4 | -0.1 |
| PT | 2.5 | 4.0 | 6.4 | 1.6 | 2.4 |
| RO | -0.5 | -0.9 | -3.9 | -0.4 | -2.9 |
| SE | -0.4 | -0.8 | 1.0 | -0.4 | 1.8 |
| SI | 3.2 | 3.1 | 3.2 | -0.1 | 0.0 |
| SK | -4.8 | -5.1 | -6.1 | -0.3 | -1.0 |
| UK | 5.5 | 5.8 | 5.9 | 0.2 | 0.2 |
| EU27+UK | 1.7 | 1.6 | NA | -0.1 | NA |

(*) NA = not available

N-discharge into the environment from agriculture

Table 18: Annual average nitrogen discharge (kton N) to the aquatic environment and relative contribution of agriculture (%), presented in the article 10 reports of the Member States for reporting periods 2008-2011, 2012-2015 and 2016-2019.

| MS | Nitrogen discharge (kton N) | | | | Contribution agriculture (%) | | | | Contribution agriculture | |
|-------|-----------------------------|-----------|-----------|----------|------------------------------|-----------|-----------|----------|--------------------------|---------------|
| | 2008-2011 | 2012-2015 | 2016-2019 | Change % | 2008-2011 | 2012-2015 | 2016-2019 | Change % | UAA (1000 ha) | kg/ha N - UAA |
| AT | 80 | 80 | NA | - | 50 | NA | NA | - | 2663 | - |
| BE-FL | 19.5 | 22.3 | 20 | -10.3 | 65.8 | 70.5 | 71 | 0.71 | 1349 | 14.8 |
| BE-WA | 24 | 19 | 18 | -5.3 | 81 | NA | NA | - | 1349 | 13.3 |
| BG | NA | NA | NA | - | NA | NA | NA | - | 5030 | - |
| CY | 27 | 15.5 | 17.4 | 12.3 | NA | NA | NA | - | 123 | 142 |
| CZ | 217 | 223.2 | 179.8 | -19.4 | 95 | 95.7 | 94.9 | -0.84 | 3514 | 51.2 |
| DE | 450 | NA | 350 | - | 77.6 | NA | 75 | - | 16664 | 21.0 |
| DK | NA | NA | NA | - | NA | NA | NA | - | 2629 | - |
| EE | 23 | 26.8 | NA | - | 85 | 96 | 84 | -12.5 | 990 | - |
| EL | NA | NA | NA | - | NA | NA | NA | - | 5213 | - |
| ES | NA | 3119 | 1940 | -37.8 | | 92.9 | 89.4 | -3.79 | 24058 | 80.7 |
| FI | 50.37 | 42.9 | 41.9 | -2.3 | 79.6 | 74.8 | 76.3 | 2.0 | 2273 | 18.4 |
| FR | 1073 | 1271 | NA | - | NA | 94.4 | NA | - | 29062 | - |
| HR | NA | 122 | NA | - | NA | 96 | NA | - | 1508 | - |
| HU | 410 | 459 | 541 | 17.9 | 93 | 96 | 98 | 2.1 | 5339 | 101 |
| IE | 767 | 817 | 895 | 9.5 | NA | 99.5 | 99.3 | -0.20 | 4498 | 199 |
| IT | NA | NA | NA | - | NA | NA | NA | - | 12977 | - |
| LT | NA | NA | NA | - | NA | NA | NA | - | 2953 | - |
| LU | 2.88 | 3 | 2.97 | -1.2 | 65.3 | 73 | 76.2 | 4.4 | 131 | 22.6 |
| LV | NA | 26.6 | 65.8 | 147 | NA | 83.6 | 90.9 | 8.7 | 1940 | 33.9 |
| MT | 0.2 | NA | NA | - | NA | NA | NA | - | 11.6 | - |
| NL | 57 | 51 | NA | - | 63 | 62 | NA | - | 1806 | - |
| PL | 1696 | 1521 | 1625 | 6.8 | 99 | 98.6 | 98.7 | 0.10 | 14498 | 112 |
| PT | NA | 154.6 | 164.2 | 6.2 | NA | 86.9 | 87.6 | 0.81 | 3610 | 45.5 |
| RO | NA | NA | 16 | - | NA | NA | 22 | - | 13535 | 1.18 |
| SE | 60.2 | 57.4 | 52.9 | -7.8 | 51.9 | 49.9 | 49 | -1.8 | 3009 | 17.6 |
| SI | 7.1 | 10.3 | 8.5 | -17.5 | NA | 60.1 | 66.7 | 11.0 | 479 | 17.7 |
| SK | NA | 18.5 | 18 | -2.7 | NA | 45.7 | 49.2 | 7.7 | 1916 | 9.4 |
| UK-EN | | | | | | | | | 17529 | |
| UK-NI | 16.2 | 17.1 | 18.1 | 5.8 | 78.7 | 79.2 | 79.8 | 0.76 | 17529 | 1.03 |
| UK-SC | | | | | | | | | 17529 | |
| UK-WA | | | | | | | | | 17529 | |

Note:

The last column represents the kg/ha N from agriculture.

In blue, values taken from the staff working document of reporting period 2012-2015 because not available in the current reports.

UAA data retrieved from Eurostat (March 2021)

For BE and UK, UAA data are available for the whole country

NA: not available, -: not applicable