

Archive:Agriculture - manure storage statistics

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Data from September 2013. Most recent data: Further Eurostat information, Main tables and Database.

This article presents statistics on manure storage facilities in the European Union (EU). These facilities are found on holdings (almost exclusively) with livestock and are used to store manure before its application on the farm to improve the nutrient content of the land. While manure is a valuable fertiliser if applied correctly and in the right quantities — it can be an environmental risk if applied in surplus or under the wrong conditions (for example, when the land is frozen or there is heavy rainfall).

Holdings with manure storage facilities	Solid dung		Liquid manure		Slurry tanks		Slurry lagoons		Solid dung		Liquid manure		Slurry tanks		Slurry lagoons	
	(in thousands)		(in thousands)		(in thousands)		(in thousands)		(in thousands)		(in thousands)		(in thousands)		(in thousands)	
	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011
EU-28	2 389 470	1 888 770	812 818	540 550	1 533 886	62	35	28	6							
BE	21 750	4 530	12 858	11 730	1 380	22	80	34	1							
BG	2 230	1 050	80	70	80	57	2	1	2							
CZ	30 520	7 880	8 078	880	1 10	19	80	8	1							
DE	10 400	9 900	4 708	12 480	120	24	20	58	1							
DK	184 730	144 570	80 900	118 800	8 780	78	31	64	8							
EE	2 880	2 880	458	240	30	57	15	8	1							
FI	81 600	83 680	22 308	88 380	2 980	88	34	72	3							
EL	20 550	23 680	3 168	4 270	4 078	84	11	15	14							
ES	113 810	83 880	32 228	21 640	38 170	68	21	18	21							
FR	170 620	157 080	78 348	11 730	1 380	88	44	28	1							
GB	81 760	88 680	18 388	2 880	13 880	88	20	2	14							
IT	140 880	138 140	29 878	30 580	1 450	81	40	25	1							
LU	130	120	38	20	18	82	23	19	8							
LV	34 550	22 880	8 858	840	238	33	40	4	1							
LT	14 428	8 820	8 180	1 880	88	84	8	7								
NL	1 378	1 080	8	1 100	8	77	0	82	0							
PT	83 880	78 880	3 880	8 880	8 880	92	8	18	7							
RO	780	580	328	570	8	82	40	54	8							
SE	38 880	21 330	8 818	2 180	18 880	84	18	8	80							
AT	185 880	37 480	88 818	38 240	1 378	84	84	28	1							
PL	882 880	338 180	378 880	1 88 870	18 178	72	78	28	2							
SI	80 830	11 880	8	7 730	8 18	88	0	42	3							
HR	422 828	428 888	18 788	5 840	878	88	3	1	8							
SK	49 178	48 820	38 818	88 880	1 078	85	73	38	3							
GR	10 338	17 880	2 878	1 880	1 880	88	20	8	1							
RU	21 888	18 320	7 808	8 888	8	72	38	42	0							
UA	20 840	38 240	12 818	9 880	8	81	20	25	0							
MD	78 888	82 838	8	28 880	12 028	81	0	38	18							
TR	1 880	1 140	818	130	38	84	33	7	1							
MO	20 240	11 880	2 788	21 880	8	48	8	73	8							
CA	10 288	18 280	18 818	45 830	4 118	828	130	77	7							
WW	2 548	2 280	118	2 280	87	8										

Source: Eurostat (table code: ef_pmmmanstoa)

Table 1: Holdings with manure storage facilities, 2010 - Source: Eurostat (ef_pmmmanstoa)

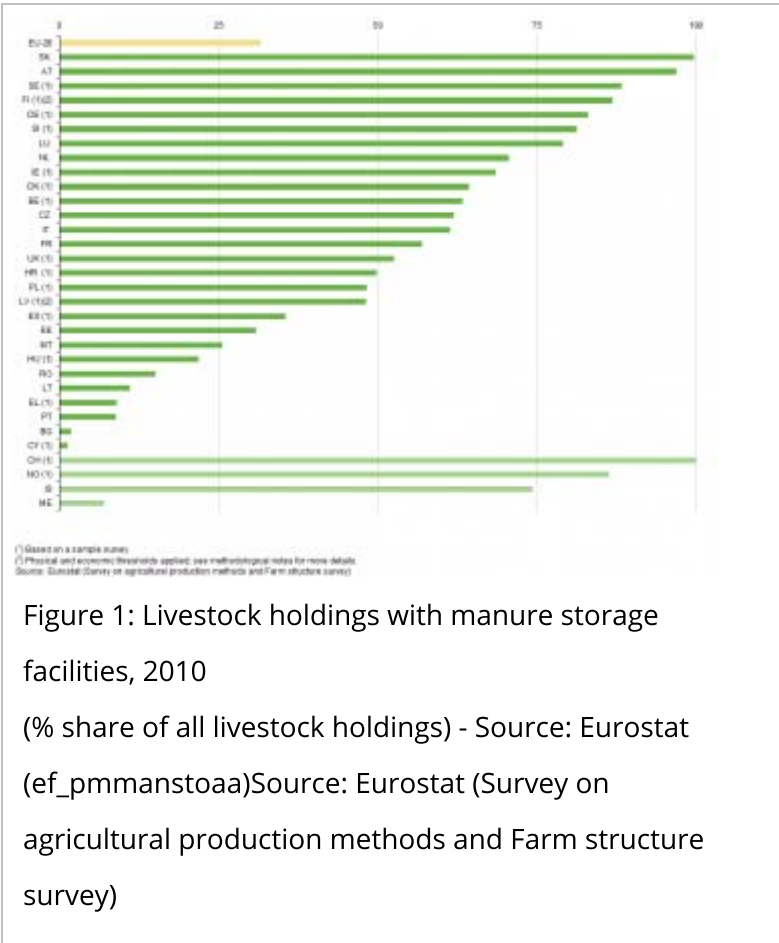


Figure 1: Livestock holdings with manure storage facilities, 2010
(% share of all livestock holdings) - Source: Eurostat (ef_pmmmanstoaa)Source: Eurostat (Survey on agricultural production methods and Farm structure survey)

Livestock holdings (number)										
Size of holding in livestock units										
	Total	0	0-0.5	0.5-10	10-15	15-20	20-50	50-100	100-500	≥ 500
EU-28	6 812 325	95 385	2 889 095	436 085	241 085	162 475	471 175	246 165	246 955	31 485
BE (1)	22 275	0	365	1 555	1 555	215	1 155	1 255	10 755	1 355
DE	278 715	8 385	284 885	12 335	4 825	3 825	4 825	1 885	885	165
CZ	15 925	125	5 545	2 135	1 485	885	2 175	335	1 245	855
DK (2)	28 885	1 485	9 225	1 875	1 875	1 425	1 185	1 325	1 325	2 825
FR (1)	217 815	30 685	30 685	20 085	18 545	12 025	48 965	38 935	42 785	4 175
GR	9 885	885	1 875	835	475	285	845	275	275	135
IE (2)	171 675	15	18 285	18 135	11 735	11 945	38 565	28 535	11 345	265
IT (1)	283 985	8 325	218 485	17 075	11 085	9 185	22 775	8 385	2 235	135
ES (1)	258 575	2 255	96 075	24 055	17 085	13 285	44 135	28 115	25 885	4 995
PL	358 215	8 475	38 685	24 185	16 085	11 625	32 385	17 935	68 885	4 175
RO	194 685	385	167 485	18 675	4 875	1 165	4 875	1 825	915	85
SI	217 235	18 135	83 475	27 185	18 885	13 185	34 755	15 445	11 775	2 885
CY (1)	8 885	85	7 935	525	175	185	425	385	385	85
LT (1)	47 585	485	34 135	1 485	1 285	1 375	1 375	915	265	85
LU	128 435	1 785	103 075	11 575	4 545	1 885	1 825	1 815	885	135
LV	7 125	75	155	775	75	85	285	385	185	25
HR (1)	388 235	8 245	348 835	14 135	4 125	2 985	4 285	1 835	1 185	885
MT	2 745	35	2 185	135	35	35	185	185	125	35
SK	88 445	35	9 235	9 235	2 885	1 885	8 845	8 845	18 775	2 885
AT	926 985	1 175	28 545	18 885	12 525	9 915	22 985	7 745	2 385	65
PT (1)	813 135	8 745	875 255	128 875	81 085	37 485	78 325	16 385	7 975	1 885
SE	207 735	1 285	157 085	11 535	1 185	3 085	8 375	4 915	3 225	465
NO	218 685	18 075	218 675	88 135	18 435	8 885	18 485	1 335	1 385	215
FI	58 185	485	38 585	18 425	4 785	2 535	4 115	325	355	25
UK	18 285	85	14 855	1 085	245	275	515	285	845	325
RU (1)	27 475	35	4 075	1 545	1 775	1 775	8 285	1 815	2 715	145
UA (1)	47 745	13 645	8 275	3 735	3 275	3 275	8 875	4 465	1 185	415
US (1)	148 885	315	28 185	18 375	11 275	8 475	27 885	28 325	13 885	3 885
IS	2 495	35	775	775	125	125	325	845	285	15
MO (1)	22 885	85	3 325	4 125	1 675	1 245	11 185	4 385	2 815	85
CR (1)	58 685	715	4 585	1 875	1 055	4 875	28 355	8 815	2 715	35
MS	38 835	885	27 285	1 685	1 025	425	835	85	75	35

Livestock holdings with manure storage facilities (number)										
Size of holding in livestock units										
	Total	0	0-0.5	0.5-10	10-15	15-20	20-50	50-100	100-500	≥ 500
EU-28	2 198 185	2 885	877 125	224 185	131 785	745	218 725	181 985	281 115	28 285
BE (1)	21 145	75	175	175	175	555	1 155	4 745	5 145	255
DE	5 275	4 885	245	175	85	185	95	85	85	45
CZ	1 715	715	1 185	1 185	85	1 475	885	1 875	785	785
DK (2)	17 135	1 035	1 045	1 255	1 185	1 365	1 365	1 325	4 795	2 575
FR (1)	388 825	18 175	18 135	12 885	18 735	44 285	38 115	41 885	5 715	5 715
GR	2 885	1 285	1 285	175	125	425	275	275	285	135
IE (2)	88 225	185	8 185	8 185	5 885	38 745	18 385	18 785	18 785	225
IT (1)	25 495	38	8 735	3 045	2 555	2 475	5 745	2 915	885	85
ES (1)	87 075	185	18 085	8 975	8 925	8 985	28 845	11 245	18 385	1 825
PL	171 275	35	11 485	18 085	1 445	1 185	32 985	48 875	13 875	3 885
RO	88 735	45	72 085	13 375	4 225	2 075	3 885	885	475	75
SI	170 285	175	48 475	18 175	11 285	8 085	23 585	12 125	12 145	2 465
CY (1)	125	75	50	75	75	25	75	75	75	25
LT (1)	22 945	25	14 255	3 945	1 585	835	1 485	485	525	75
LU	14 275	7 885	2 225	1 085	525	1 815	855	855	435	115
LV	1 185	85	45	75	75	185	385	445	445	75
HR (1)	50 225	35	71 775	5 275	1 775	645	1 745	525	735	465
MT	735	735	325	75	25	25	75	85	115	35
SK	56 885	28	2 385	2 385	1 685	1 135	7 775	12 885	12 885	1 545
AT	303 845	385	27 335	18 685	12 475	8 885	28 435	7 785	8 875	65
PT (1)	448 735	385	217 885	85 355	48 285	28 135	18 945	14 775	5 425	585
SE	17 885	1 885	1 275	785	2 275	1 885	2 275	1 185	1 185	285
NO	428 285	85	378 275	28 085	8 725	3 385	2 225	1 225	535	165
FI	48 875	85	28 875	18 175	4 125	2 835	4 715	825	265	25
UK	18 135	18	14 955	1 085	245	275	515	285	845	325
RU (1)	28 385	35	11 485	18 085	1 445	1 185	32 985	48 875	13 875	3 885
UA (1)	58 875	18 175	5 225	3 425	2 375	8 815	4 445	3 935	475	475
US (1)	19 055	75	8 175	4 955	4 885	4 335	11 895	11 335	28 885	2 785
IS	1 855	45	75	75	75	85	555	555	545	115
MO (1)	28 145	1 725	3 245	3 255	1 085	18 385	4 175	2 345	40	40
CR (1)	88 885	315	4 585	8 875	8 885	4 875	28 355	8 815	2 715	35
MS	3 145	885	1 775	1 025	425	835	85	75	35	35

Livestock holdings with manure storage facilities (% of all livestock holdings)										
Size of holding in livestock units										
	Total	0	0-0.5	0.5-10	10-15	15-20	20-50	50-100	100-500	≥ 500
EU-28	32	4	30	51	55	44	46	74	85	90
BE (1)	63	4	23	86	84	62	84	74	85	80
DE	32	4	8	3	4	5	4	5	12	27
CZ	62	49	83	84	86	86	71	82	89	89
DK (2)	64	72	33	47	58	55	55	83	84	95
FR (1)	81	73	74	74	76	85	85	85	87	88
GR	31	23	34	41	48	78	88	78	88	100
IE (2)	18	100	39	45	11	72	80	88	90	85
IT (1)	9	1	4	18	22	27	36	32	43	88
ES (1)	26	4	16	34	42	47	47	46	81	88
PL	67	1	21	42	48	84	88	76	82	88
RO	39	4	46	88	88	88	75	85	80	78
SI	87	2	84	87	87	88	88	78	88	88
CY (1)	1	8	6	6	6	6	3	3	14	25
LT (1)	88	4	42	62	88	88	72	80	81	88
LU	79	7	17	74	71	46	64	64	78	85
HR (1)	22	8	21	37	43	41	43	41	46	67
MT	88	88	88	88	88	88	88	88	88	88
SK	71	67	37	83	85	71	77	86	81	88
AT	97	28	81	89	100	100	100	100	100	100
PT (1)	48	7	38	87	78	87	87	80	72	88
SE	8	1	1	17	23	28	11	43	37	63
NO	18	1	34	39	39	39	35	36	38	62
UK	31	12	71	88	100	100	100	100	100	100
RU (1)	50	17	188	100	100	100	100	100	100	100
UA (1)	97	45	79	80	80	80	89	89	89	100
US (1)	88	79	82	82	82	82	86	100	88	100
IS	53	23	38	78	46	80	64	77	71	71
MO (1)	74	64	84	87	87	70	80	87	100	100
CR (1)	38	52	79	89	82	93	93	93	92	67
MS	100	100	100	100	100	100	100	100	100	100
MS	7	9	9	9	9	9	9	9	9	9

(1) Based on a sample survey.

(2) Physical and economic thresholds applied; see methodological notes for more details.

Source: The total Survey on agricultural production methods and Farm structure survey.

Table 2: Livestock holdings with manure storage facilities, by size of holding, 2010 - Source: Eurostat (ef_pmmanstoa)Source: Eurostat (Survey on agricultural production methods and Farm structure survey)

Source: Eurostat. Based on data on individual production methods and factor structure survey.

https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Archive:Agriculture_-_manure_storage_statistics	Exhibit 2095 Bazooka v. Nuhn - IPR2024-00004 Page 4 of 16	4/16
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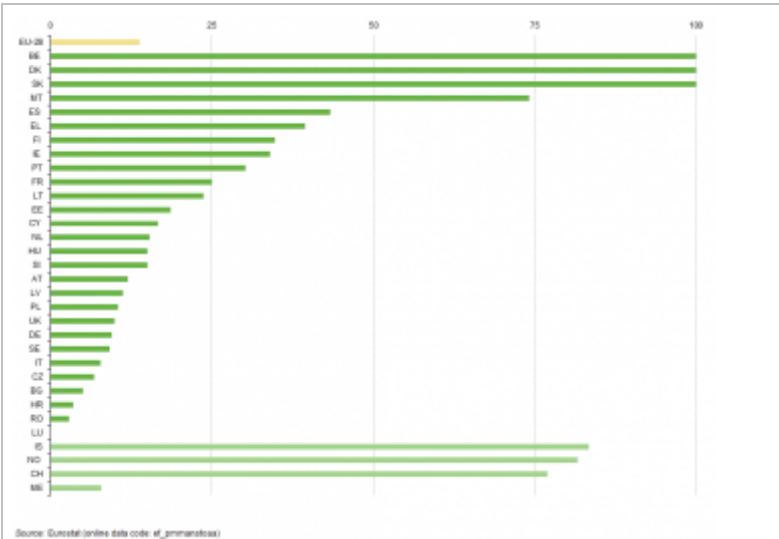


Figure 2: Holdings with covered manure storage facilities for solid dung, 2010
(% share of all holdings with manure storage facilities for solid dung) - Source: Eurostat (ef_pmmanstoa)

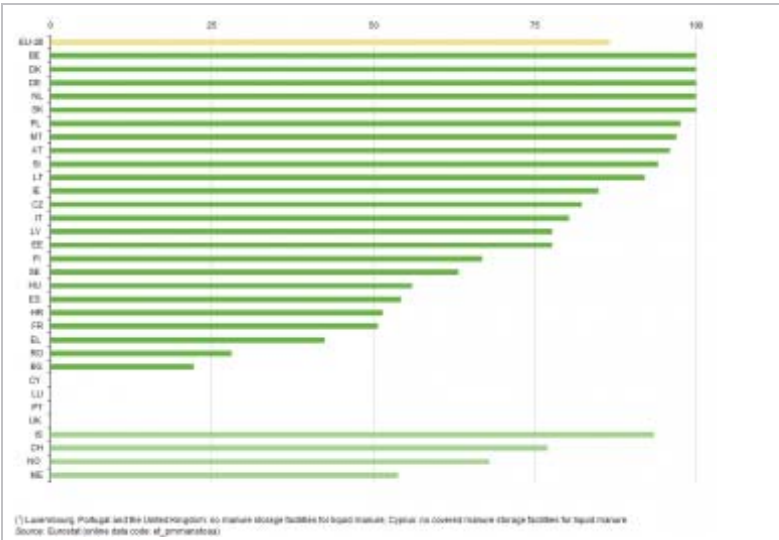
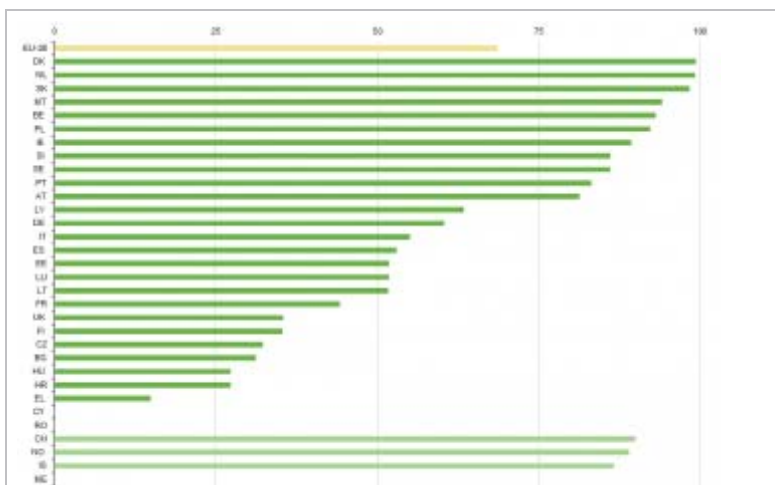


Figure 3: Holdings with covered manure storage facilities for liquid manure, 2010 (1)
(% share of all holdings with manure storage facilities for liquid manure) - Source: Eurostat (ef_pmmanstoa)



(*) Statistics on manure storage facilities for slurry: Cyprus and Romania: no covered manure storage facilities for slurry.
 Source: Eurostat (online data code: ef_pmmanstoa)

Figure 4: Holdings with covered manure storage facilities for slurry, 2010 (1)

(% share of all holdings with manure storage

facilities for slurry) - Source: Eurostat

(ef_pmmanstoa)

Main statistical findings

The volume of manure produced on a farm relates, among others, to the number, breed, age and gender of livestock, types of feedstuff, climatic conditions and the time of year. Many small livestock farms do not have the land, equipment or time to recycle all of the manure that is generated on-farm. Larger farms also face difficulties in manure management practices, for example, investing in adequate resources for storage. Farmers often choose to apply manure in the spring and early autumn, so their storage facilities might need to be of sufficient size to accommodate manure collected over at least a six-month period.

Manure storage facilities and manure application are closely linked to emissions of ammonia (NH₃), nitrous oxides (N₂O) and methane (CH₄), the latter two both being greenhouse gases — see separate articles on greenhouse gases and ammonia emissions for more details. The level of emissions from manure storage facilities depends on the type of manure storage (manure as a solid, liquid, or slurry) and whether or not the manure

storage facility is covered (protected from the elements). When manure is stored or treated as a liquid it decomposes anaerobically (in other words, without the need for oxygen) and can produce a significant quantity of methane; the temperature and the retention time in storage greatly affect the amount of methane produced.

While the storage of manure has environmental consequences, so too does the application of manure. When manure is applied on the land, it tends to decompose under more aerobic conditions and less methane is produced. However, ammonia emissions from manure spreading principally occur during the first 12 hours after the application of manure. Higher levels of emissions tend to be recorded when manure is not incorporated into the soil rapidly. The application of manure during heavy rainfall can result in different environmental risks, such as nitrate losses through leaching and phosphorous losses through sediment that is transported in surface run-off (leading to the pollution of ground and surface waters).

Agricultural holdings with manure storage facilities

There were 2.3 million agricultural holdings in the EU-28 that had manure storage facilities in 2010 (see Table 1). Some 82 % of these holdings had storage facilities for solid dung, 35 % had storage facilities for liquid manure, 26 % had slurry tanks and 5 % had slurry lagoons; note that some agricultural holdings were able to store manure in more than one of these different types of facility. Each type of storage facility has its own characteristics that a farmer must take into consideration: among others these concern differences in storage volume, odour level, potential run-off, retention of nutrient content, potential gas dangers and emissions levels, site requirements and suitability.

There are wide variations in the different types of manure storage facility used across the EU Member States:

- storage facilities for solid dung were found on a majority of holdings that had manure storage facilities in all of the EU Member States in 2010, with the exception of Belgium (just 22 %). Indeed, more than half of the Member States reported that in excess of four fifths of their farm holdings with manure storage facilities had facilities for solid dung: this share rose above 95 % in Bulgaria, Estonia, Slovakia and Romania. In Switzerland, every agricultural holding with manure storage facilities had a storage facility for solid dung and a storage facility for liquid manure;
- liquid manure storage facilities were found on a majority of agricultural holdings with storage facilities in Belgium, Lithuania and Austria (all between 60–64 %), as well as Slovenia (73 %), Poland (78 %) and the Czech Republic (80 %). By contrast, there were no liquid manure storage facilities on agricultural holdings in Luxembourg, Portugal or the United Kingdom;
- slurry tanks were found on a majority of agricultural holdings with storage facilities in Germany, Belgium, Denmark, Ireland and Luxembourg (where the highest proportion was recorded, 82 %) but were uncommon in many of the other EU Member States;
- slurry lagoons were a relatively uncommon option for manure storage in most EU Member States, the highest proportion of holdings with this storage facility being in Spain (31 %) and the Netherlands (40 %).

Livestock holdings with or without manure storage facilities

Some 32 % of agricultural holdings in the EU-28 with livestock had storage facilities for manure in 2010, equivalent to 2.2 million holdings. A relatively low proportion of livestock holdings had manure storage facilities in Cyprus, Bulgaria, Portugal, Greece,

Lithuania and Romania (no more than 15 %), while 15 of the EU Member States reported that more than half of their livestock farms had manure storage facilities — this share rising to above 90 % in Austria and Slovakia (see Figure 1).

It is important to consider the overall structure of agriculture in each of the EU Member States when analysing the proportions of livestock farms with and without storage facilities. For example, almost one in five of the EU-28's livestock farms with manure storage facilities was located in Romania (426 000 holdings in 2010). However, in relation to the total number of livestock holdings in Romania (2.8 million), the proportion of livestock farms with manure storage facilities was relatively low (15 %).

The average size of farms influences these shares too, as the proportion of livestock holdings with manure storage facilities generally rises as a function of increasing farm size: while one in five (20 %) livestock holdings in the EU-28 with very few livestock (>0 – <5 livestock units (LSU)) had manure storage facilities, more than four out of every five (81 %) holdings with more than 100 livestock units had manure storage facilities (see Table 2).

In Slovakia, Austria and Sweden, a high proportion of holdings of all sizes had manure storage facilities in 2010. On the other hand, in Cyprus and Bulgaria the proportion of livestock holdings with manure storage facilities was relatively low for all farm sizes, a pattern that was reproduced (albeit to a lesser degree) in Greece, Hungary, Portugal and Romania, where less than half of all livestock holdings had manure storage facilities, other than for the very largest farms (>500 livestock units).

Whether holdings with livestock but without manure storage facilities present an environmental risk depends, among others, on the number of livestock, the utilised agricultural area (UAA) for manure application, and the possibility for either selling or spreading any manure that is collected. The lack of manure storage facilities on relatively small farms is not thought to pose a considerable environmental threat: for example, less than one in

ten of the livestock holdings in Bulgaria, Greece, Cyprus, Lithuania and Portugal with very few animals ($>0 - 5$ livestock units LSU) had manure storage facilities. On the other hand, around three quarters of the livestock holdings in Bulgaria and Cyprus with more than 500 livestock units did not have any form of manure storage facilities. This lack of facilities for farms with a relatively high number of animals could potentially lead to increased environmental risks.

As noted above, other criteria for determining the potential environmental risk associated with the manure from livestock farming include the number of animals and the agricultural area. The relationship between the number of animals and the (potential) agricultural area available for manure spreading/application are combined in an indicator for livestock density (the stock of animals per hectare of utilised agricultural area). More intensive forms of livestock farming, with relatively high livestock density, are more likely to be faced with environmental risks, insofar as they will probably need to either store or export (remove) manure from the farm. As such, agricultural holdings with higher livestock densities might be expected to have a higher propensity for manure storage facilities than those holdings with lower livestock densities. The average livestock density of holdings across the EU-28 with manure storage facilities was, at 1.5 livestock units per hectare of utilised agricultural area in 2010, higher than that for holdings without manure storage facilities (0.9).

Table 3 shows the number of livestock holdings with no manure storage facilities, the average number of livestock units and the livestock density on these holdings. In most of the EU Member States, the average livestock density for all sizes of livestock holding without manure storage facilities was relatively low (≤ 1 livestock unit per hectare). By contrast, Germany, Italy,

Belgium, Malta, Cyprus and the Netherlands each reported livestock densities for holdings with no manure storage facilities above this threshold.

While at first sight these relatively high figures for livestock density in agricultural holdings with no manure storage facilities could be seen as a potential risk to the environment, the Netherlands (as well as, to a somewhat lesser degree, Belgium and Germany) has made considerable efforts (through law) to oblige farmers to adapt their manure management and application techniques — with the aim of minimising emissions and water pollution — for example, through injection or ‘band spreading’ which result in the rapid incorporation of manure into the soil. Furthermore, transport infrastructure systems and pipelines have been developed to remove manure from the farm or redistribute it elsewhere.

Covered manure storage facilities

Covered manure storage facilities prevent, to some degree, ammonia emissions and nutrient leaching or run-off into surface and ground waters. In the EU-28 in 2010, only 14 % of the agricultural holdings with manure storage facilities for solid dung used a covered storage facility, in contrast to 69 % of holdings with manure storage facilities for slurry and 87 % of holdings with manure storage facilities for liquid manure (see Figures 2–4).

In Belgium, Denmark and Slovakia all of the agricultural holdings with manure storage facilities for solid dung used a cover in 2010. By contrast, there were no agricultural holdings in Luxembourg with manure storage facilities for solid dung using a cover.

Belgium, Denmark and Slovakia also reported that all of their agricultural holdings with manure storage facilities for liquid manure used a cover, as did Germany and the Netherlands. By contrast, only about a quarter of the storage facilities for liquid

manure in Bulgaria (22 %) and Romania (28 %) used a cover. Note that there were no or very few storage facilities for liquid manure in Cyprus, Luxembourg, Portugal and the United Kingdom.

Almost all (>90 %) of the agricultural holdings with manure storage facilities for slurry used a cover in 2010 in Belgium, Denmark, the Netherlands and Slovakia, as well as Malta and Poland. There were very few storage facilities for slurry in Cyprus, while none of the agricultural holdings with manure storage facilities for slurry used a cover in Romania.

Data sources and availability

Manure management indicators are derived from data collected in the farm structure survey (FSS) and a survey on agricultural production methods (SAPM). The SAPM was carried out together with the FSS census in some of the EU Member States in 2010, while in others it was carried out as a sample survey and data were linked to those from the census at the level of the individual holding to enable cross-comparisons of characteristics collected under the two surveys.

Manure storage is one of 28 agri-environmental indicators established by the European Commission within a Communication titled, 'Development of agri-environmental indicators for monitoring the integration of environmental concerns into the Common Agricultural Policy' (COM final 508/2006).

Belgium, Denmark, Germany, Ireland, Greece, Spain, Croatia, Cyprus, Latvia, Hungary, Poland, Slovenia, Finland, Sweden, the United Kingdom, Norway and Switzerland carried out the SAPM as a sample survey; results are extrapolated from the holdings included in the SAPM sample.

Higher thresholds (than the FSS) were used for physical and economic thresholds (five hectares for the UAA, one hectare for permanent crops, 10 head of cattle, 50 head of pigs, 20 head of sheep, 20 head of goats, 1 000 head of poultry; an economic

threshold for the standard output (>EUR 4 000) was applied if none of the physical thresholds were met. In Finland a threshold for standard output (>=EUR 1 200) was applied.

When analysing data on livestock units and livestock densities by size of holding (in UAA) there are sometimes considerable differences in the treatment of common land. Livestock density for holdings with livestock by size of UAA will be lower when common land is included in the holding making use of the area than when the area is included in a special holding or in a common land holding.

For more information on the SAPM methodology, refer to: Survey on agricultural production methods.

Context

Through its resource use, agriculture changes rural landscapes and contributes to resource depletion and degradation. Via substance emissions into the wider environment, agriculture may contribute to a complex series of ecological impacts, including human health effects, biodiversity loss and climate change. Policy responses to environmental concerns have included the introduction of: resource use constraints and limits; emission and concentration limits; best available techniques, methods and practices. Nature conservation policies have also been implemented that set various agricultural constraints.

Agri-environmental indicators can be used to analyse, over time, the effects of agriculture on the environment and the interaction between the two, as well as the effectiveness and efficiency of agricultural and environmental policy measures. A

Communication from the European Commission to the Council and European Parliament titled, 'The development of agri-environmental indicators for monitoring the integration of environmental concerns into the Common Agricultural Policy'

(COM(2006) 508) identified 28 agri-environmental indicators (AEIs) to help with this assessment; Eurostat coordinates the work within the EEA on the development of these indicators.

To reduce ammonia and greenhouse gas emissions and nutrient leaching and run-off to ground and surface waters, EU policies address manure storage facilities and the application of manure.

The most important policies include the Nitrates Directive (Directive 0676/1991) and the Water Framework Directive 0060/2000, which aim to protect water quality across Europe by preventing nitrates from agricultural sources polluting ground and surface waters. Farmers are also encouraged to adapt their working and management practices: for example, to limit the period of time when fertilisers can be applied to the land (restricting nitrogen availability to periods when crops actually need nutrients, such as at the start of the growing season); or adopting more environmentally friendly procedures for the application of manure (in other words, avoiding the application of manure on steeply sloping ground, frozen or snow covered ground, or near water courses).

See also

- Agri-environmental indicators (online publication)
- Survey on agricultural production methods (background article)

Further Eurostat information

Publications

- Agriculture, forestry and fishery statistics — 2013 edition (Pocketbook)
- Energy, transport and environment indicators — 2012 edition (Pocketbook)
- Environmental statistics and accounts in Europe — 2010 edition

Main tables

- Agriculture (t_agri), see:
Farm structure: historical data (1990-2007) (t_ef)

Database

- Farm structure (ef), see:
Farm structure 2010 (ef_2010)
Survey on agricultural production methods (SAPM, 2010)

Solid manure application as % of the UAA:
number of holdings and UAA by economic size (SO in euros) and agriculture size (UAA) of farm (ef_pmmanapaa)

Solid manure application as % of the UAA:
number of holdings and areas by economic size (SO in euros) and livestock units (LSU) of farm (ef_pmmanaplsu)

Slurry application as % of the UAA: number of holdings and areas by economic size (SO in euros) and agriculture size (UAA) of farm (ef_pmslurapaa)

Slurry application as % of the UAA: number of holdings and areas by economic size (SO in euros) and livestock units (LSU) of farm (ef_pmsluraplsu)

Manure exported from the holding in % of total produced: number of farms and areas by economic size (SO in euros), agriculture size (UAA) of farm and NUTS 2 regions (ef_pmmanexpaa)

Manure exported from the holding in % of total produced: number of farms and areas by economic size (SO in euros), livestock units (LSU) of farm and NUTS 2 regions (ef_pmmanexplsu)

Manure storage and treatment facilities: number of farms and areas by economic size (SO in euros), agriculture size (UAA) of farm and NUTS 2 regions (ef_pmmanstoaa)

Manure storage and treatment facilities: number of farms and areas by economic size (SO in euros), livestock units (LSU) of farm and NUTS 2 regions (ef_pmmanstolsu)

Dedicated section

- Agri-environmental indicators
- Agriculture

Methodology / Metadata

- Farm data needed for agri-environmental reporting

- Farm structure (ESMS metadata file — ef_esms)

Source data for tables, figures and maps (MS Excel)

-  Agriculture and the environment – manure storage statistics: tables and figures

Other information

- Commission Communication COM(2006) 508 - Development of agri-environmental indicators for monitoring the integration of environmental concerns into the common agricultural policy
- Agri-Environmental Indicators, see:
 - Legislation: Commission Staff working document accompanying COM(2006)508 final
- Corresponding IRENA Fact sheet:
 - IRENA 14 - Farm management practices
- Regulation 1166/2008 of 19 November 2008 on farm structure surveys and the survey on agricultural production methods (legal text)
- Regulation 1200/2009 of 30 November 2009 implementing Regulation 1166/2008 on farm structure surveys and the survey on agricultural production methods, as regards livestock unit coefficients and definitions of the characteristics (legal text)

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