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ANNUAL REPORT IMPLEMENTATION OF BETTER TECHNIQUES AVAILABLE IN THE INTENSIVE SWINE SECTOR YEAR 2022

General Directorate of Agricultural Productions and Markets
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INDEX

1. INTRODUCTION.....	8
2. GENERAL INFORMATION	eleven
2.1. Objective of the report.....eleven
2.2. Source of data.....eleven
2.3. Universe of the reporteleven
3. IMPLEMENTATION OF THE BEST AVAILABLE TECHNIQUES.....	18
3.1. Degree of implementation of BATs that use feeding strategies and feed formulation affecting nitrogen and ammonia excretion (BAT 3) 19	
3.2. Degree of implementation of BATs for the reduction of ammonia emissions to the atmosphere in accommodation (BAT 30).....26
3.3. Degree of implementation of BATs for the reduction of emissions in the solid manure storage (BAT 14 and BAT 15).....43
3.4. Degree of implementation of BATs to reduce emissions to soil and water of solid manure storage (BAT 15).....51
3.5. Degree of implementation of the different BATs for the reduction of ammonia in storage of liquid manure or slurry (BAT 16 and 17)58
3.6. Degree of implementation of the different BATs to avoid emissions to soil and water generated by the storage of liquid manure or slurry (BAT 18)....74
3.7. Degree of implementation of the different MTDs for the in situ processing of the manure (BAT 19).....78
3.8. Degree of implementation of the different BATs to reduce emissions to soil, water and the atmosphere of nitrogen, phosphorus and pathogenic microorganisms generated by the application of manure to the field (BAT 20)81
3.9. Degree of implementation of the different MTDs for the reduction of emissions ammonia to the atmosphere in field application (BAT 21 and 22).....86
4. CONCLUSIONS.....	96
5. ANNEX.....	102
5.1. MTD 3 implementation by province.....102
5.2. MTD 3 implementation in CATALONIA by province104

5.3.	Implementation of BAT 30 in lactating sows by province	105
5.4.	Implementation of MTD 30 in breeding sows in CATALONIA by province.....	107
5.5.	Implementation of BAT 30 in mating, pregnant and replacement sows by provinces.....	108
5.6.	Implementation of MTD 30 in females, replacement sows in CATALONIA by province.....	110
5.7.	Implementation of MTD 30 in fattening pigs by province.....	111
5.8.	Implementation of BAT 30 in fattening and male pigs in CATALONIA by province.....	114
5.9.	Implementation of MTD 30 in piglets by province	115
5.10.	Implementation of BAT 30 in piglets in transition in CATALONIA by province.....	117
5.11.	MTD 14 implementation by province in farms and squares.....	118
5.12.	Implementation of MTD 15 by province in farms and squares	120
5.13.	MTD 16 implementation by province on farms with tanks	123
5.14.	MTD 17 implementation by province on farms with ponds.....	126
5.15.	MTD 18 implementation by province.....	129
5.16.	MTD 19 implementation by province.....	134
5.17.	MTD 20 implementation by province.....	136
5.18.	MTD 21 implementation by province.....	139
5.19.	Implementation of MTD 22 by province	143
5.20.	Application of manures to the field	146

TABLE INDEX

Table 1. Farms and places notified to the General Registry of MTDs	14
Table 2. Degree of notification on farms and census by Autonomous Community	fifteen
Table 3. Evolution of the level of notification on farms and census in the general universe	16
Table 4. Evolution of the level of notification in adhered Autonomous Communities.....	16
Table 5. Evolution of the level of notification in Catalonia	16
Table 6. Degree of implementation of BAT 3 by farm and area	twenty
Table 7. Excreted nitrogen associated with MTD 3 by place and year	23
Table 8. Evolution of excreted nitrogen associated with MTD 3 by place and year in CCAA attached	25
Table 9. Evolution of excreted nitrogen associated with MTD 3 by place and year in IPPC farms	25
Table 10. Degree of implementation of BAT 30 in farms by type of production.....	30
Table 11. Degree of implementation of BAT 30 on farm by Autonomous Community, in the category of weaned piglets.....	32
Table 12. Degree of implementation of BAT 30 on the farm by Autonomous Community, in the category of fattening pigs.....	33
Table 13. Degree of implementation of BAT 30 on farm by Autonomous Community, in the category of Sows in mating, pregnant and replacement.....	3. 4
Table 14. Degree of implementation of BAT 30 on farm by Autonomous Community, in the category of lactating sows.....	35
Table 15. Average ammonia emitted per accommodation and place associated with MTD 30 in the different categories of animals	37
Table 16. Evolution of Ammonia emitted associated with MTD 30 by place and year in Adhered CCAA.....	40
Table 17 Evolution of Ammonia emitted associated with MTD 30 by place and year in IPPC farms.....	40
Table 18. Degree of implementation of BAT 30 in Catalonia reported by farms and census.....	42
Table 19. Degree of implementation of BAT 30 in Catalonia by productive category	42
Table 20. Degree of implementation of BAT 14 in farms and places by Autonomous Community adhered to ECOGAN	46

Table 21. Degree of implementation of BAT 14 in farms and places that produce and store solid manure.....	.47
Table 22. Degree of implementation of BAT 14 in Iberian pig farms and pig areas	48
Table 23. Storage of solid manure.....	fifty
Table 24. Degree of implementation of BAT 14 in farms and census that produce and store solid manure.....	.fifty
Table 25. Degree of implementation of BAT 15 in farms and places by Autonomous Community.....	53
Table 26. Degree of implementation MTD 15 by Farm and places that produce and store solid manure.....	55
Table 27. Degree of implementation of BAT 15 in farms and places by Autonomous Community in Iberian pig	57
Table 28. Notified farms, with slurry production, that use deposits as outdoor manure storage system	60
Table 29. Degree of implementation of BAT 16 by farms and places by Autonomous Communities.....	60
Table 30. Degree of MTD 16 implementation in farms and places with warehouses.....	62
Table 31. Degree of implementation of different types of roofs in farms and squares with covered deposits	64
Table 32. Notified farms that use ponds as a storage system abroad	65
Table 33. Degree of implementation of BAT 17 on farms and by places by Autonomous Community.....	66
Table 34. Degree of BAT 17 implementation by Autonomous Communities in farms with ponds	67
Table 35. Degree of implementation of different types of roofs in farms and squares with ponds covers.....	69
Table 36. Storage of liquid manure or slurry.....	72
Table 37. Degree of implementation of MTD 16 and 17 in Catalonia	72
Table 38. Degree of implementation of different types of cover in Rafts/Depots.....	73
Table 39. Degree of implementation of BAT 18 in farms and places by Autonomous Community.....	76
Table 40. Degree of MTD 18 implementation in farms and places that produce and store liquid manure.....	77
Table 41. Degree of implementation of BAT 19 in farms and places by Autonomous Community.....	80
Table 42. Degree of field application on farms and total places	81
Table 43. Degree of implementation of BAT 20 by Autonomous Communities in farms and total places	83

Table 44. Degree of MTD 20 implementation by CCAA in farms and places that apply to field.....	84
Table 45. Degree of implementation of BAT 21 by farms and total notified places	88
Table 46. Degree of implementation of BAT 21 by farm and place that applies to the field manure.....	90
Table 47. Degree of implementation of BAT 22 by Autonomous Communities in farms and total places notified.....	92
Table 48. Degree of implementation of BAT 22 by Autonomous Communities in farms and places with field application	95

INDEX OF GRAPHICS

Graph 1. Types of farms notified in 2023	13
Graph 2. Evolution in the level of notification	17
Graph 3. MTD 3 implementation in farms years 2021-2022.....	twenty-one
Graph 4. Level of total excreted nitrogen associated with MTD 3 (Kg/place/year) by animal category.....	24
Graph 5. Degree of implementation of BAT 30 on farms	31
Graph 6. Comparative implementation of BAT 30.a on farms in the years 2021-2022.....	31
Graph 7. Ammonia emission level (kg NH ₃ /square/year) by category in the BAT 30 compared to reference NEA values.....	39
Graph 8. Manure storage (solid and/or liquid) over the total notified farms	43
Graph 9. Storage of manure (solid and/or liquid) on farms that store	44
Graph 10. Solid manure storage systems on farms.....	45
Graph 11. Implementation of MTD 14 by notified places.....	46
Graph 12. Implementation of MTD 15 by notified places.....	52
Graph 13. Slurry storage systems	59
Graph 14. Types of cover in warehouses on farms nationwide	63
Graph 15. Types of cover on rafts on farms nationwide	68
Graph 16. Places that declare field application of manure after storage.....	82
Graph 17. Implementation of BAT 20 in the universe of notified farms.....	84
Graph 18. Percentage of implementation of BAT 20 on farms that apply to manure field	85
Graph 19. Percentage of implementation of MTD 21 over the notified positions	87
Graph 20. Degree of implementation of MTD 21 on farm squares that apply to manure field	89
Graph 21. Degree of implementation of burial on farms with field application.	93
Graph 22. Burial time on farms with field application	94

1. INTRODUCTION

The livestock sector is configured as a strategic sector that, although it acts as a key pillar in food production, structuring of the rural environment and maintenance of biodiversity, has undergone an evolutionary process towards the development and growth of some sectors, such as the case of pork, in order to respond to the growing society's demand for food, which has resulted in a greater environmental impact.

Like other human activities, livestock farming is a potential gas emitter. greenhouse effect, such as methane or nitrous oxide, and other atmospheric pollutants such as ammonia, which can affect not only air quality, but also also to that of water and soil.

In particular, the pork sector corresponds to the main source of ammonia emissions within the Spanish livestock sector, with 36% of the total emissions from livestock farming, in addition to currently being the main source of greenhouse gas emissions in our country. greenhouse effect from manure management, especially with regard to methane since it reaches up to 75% of the total methane emissions derived from said manure management, largely due

to the great census that it occupies at the national level.

On the other hand, those same components that may pose an environmental risk also constitute a non-negligible valuable resource. In particular, manure contains essential nutrients for crop development, such as Nitrogen, Phosphorus, Potassium and organic matter that, properly managed, would allow for less dependence on imported fertilizers. Furthermore, the methane emitted during manure storage can constitute an additional source of energy such as biogas.

To avoid possible environmental risks and allow better valorization of resources, a series of techniques (some ancient in nature) have been developed for the management of manure during all stages from emission by animals to its application to the field. as an essential nutrient. These techniques are

known as the Best Available Techniques (BATs) and knowledge of the degree of implementation is essential to know the effectiveness of environmental management in the cattle raising.

Spain has assumed various commitments in environmental and climate matters to international and community level, to which all sectors must contribute, including the livestock sector.

This justifies the establishment, by the administration, of standards that include the adoption of measures to reduce emissions in Spanish pig farms. Thus, *Royal Decree 306/2020, of February 11, which establishes*

basic management standards for intensive pig farms incorporates a program emissions reduction, through the mandatory application of the aforementioned Best Available Techniques (BATs) based on those described in *Implementing Decision (EU) 2017/302*.

Furthermore, the aforementioned royal decree establishes in its article 11 the creation of the Registry General of MTDs, in order to compile all the information related to the Best Available Techniques used in each operation to reduce emissions, and thereby guaranteeing compliance with the requirements demanded in this matter. In section 5 of this article it is established that, *“based on the annual information sent by the autonomous communities and the data from the Spanish Emissions Inventory System, as provided for in Royal Decree 818/2018, of July 6 , a report will be issued reflecting the evolution of emissions from the pig sector on an annual basis, which will be submitted to the Management Board of the livestock sectors to which refers to article 18”*.

Likewise, based on the conclusions of this report, and what is established in section d) of article 18.5 of the aforementioned Royal Decree, the Management Board of livestock sectors may *“Propose, where appropriate, additional measures to reduce emissions as well as the review of the average size of the affected farms, if the reports referred to in article 11.5 suggest a deviation from the ammonia emissions reduction objectives for the Kingdom of Spain with respect to the temporary milestones established in the National Program for the Control of Atmospheric Pollution (PNCCA). In particular, such measures may include the obligation to completely cover the slurry ponds, also including devices for the extraction of methane, or the combination of two or more of the best available techniques described in article 10.2 of this Royal Decree.”*

Likewise, it is necessary to mention the recently published *Royal Decree 988/2022, of November 29, which regulates the General Registry of the Best Techniques Available in Holdings and support for the calculation, monitoring and notification of emissions in livestock, and various regulations on agricultural matters are modified*, which has come to provide its own legal basis to said General Registry of MTDs in farms, in addition to having established a homogeneous collection system, calculation and transmission of data through the creation of the ECOGAN computer system, and

a defined system of coordination and monitoring through the Management Board of the livestock sectors.

To comply with these obligations, last year the first report was published for intensive swine, corresponding to the year 2021 and it is now necessary to make a new report corresponding to the data for the year 2022. This report makes available to the competent authorities and the general public, the preliminary results of the advances derived from the implementation of the aforementioned regulations and the real benefits that are derived from the communication of the BATs in the pig sector, which will allow assessing the effort made by said sector to reduce its emissions.

In this context, ECOGAN has been established as the computer tool that has facilitated the communication of BATs by livestock farmers, and their subsequent notification by the CCAA to the General Registry, in addition to having been the main source of information for the data presented in this report.

Finally, it is necessary to point out the positive data collected in the first “[BAT implementation report in Spanish intensive swine 2021](#)” as well as its reflection in the Spanish Inventory System (SEI) dependent on the Ministry for the Ecological Transition and Demographic Challenge (MITERD), due to the transfer of data collected by ECOGAN regarding the application of BATs by the Spanish intensive pig sector at the farm level, with special mention to the implementation of BATs in manure management and an improvement in information on feeding techniques for white pigs. According to what is included in the SEI report itself, a reduction in ammonia emissions by 2.4% has been achieved compared to the previous year. Based on this reduction, and unlike 2020, it is worth noting that in 2021

“all pollutants comply with the reduction commitment set for Spain including ammonia” according to the latest Report issued by the SEI on March 15, 2023.

2. GENERAL INFORMATION

2.1. Objective of the report

The objective of this report is to reflect the data corresponding to the year 2022 that has been compiled at the level of the General Registry of Best Available Techniques in Farms, allowing to know the degree of implementation of the BATs in the farms of national intensive pig farms that have the obligation to communicate these based on what established in Royal Decree 306/2020. All this work is carried out with the objective final that said information can be incorporated at the level of the Spanish System of Inventories and thus be able to more accurately reflect the effort demonstrated by the pig sector in the application and declaration of BATs, and thereby achieve compliance with our emissions commitments.

2.2. Data source

The data has been obtained by part of the General Registry of Best Techniques Available, which integrates the data notified through ECOGAN, and on the other hand from of the data sent to the same Registry by the competent authorities of Catalonia collected through electronic means established by this community autonomous for this purpose.

ECOGAN is a computerized system developed by the Ministry of Agriculture, Fishing and Food in coordination with the Ministry for the Ecological Transition and Demographic Challenge, which allows registering said MTDs applied on farms, as well as how to estimate polluting and greenhouse gas emissions, and the resource consumption of each farm throughout the production process, based on the data reported by farmers (feeding, accommodation, storage and manure management).

23. Report Universe

The universe of this report is made up of pig farms intensive that are included in the scope of application of the Royal Decree 306/2020, and whose owners have the obligation to declare the MTDs that apply in their farms, based on what is established in article 16 and also in article 5 of the Real Decree 988/2022, during the reference year of this report (declaration in 2023 of data belonging to farms obliged to communicate in 2022).

They are exempt from this regulation and, therefore, are not required to declare:

- ÿ Extensive pig farms, included in the scope of application of the Royal [Decree 1221/2009, of July 17, which establishes basic rules of management of extensive pig farms.](#)
- ÿ Small and self-consumption farms.
- ÿ Special farms, in accordance with the classification of Annex III of the Royal [Decree 479/2004, With the exception of concentration centers, farms traffickers or commercial operators and stopping points.](#)
- ÿ Zoos and the possession of animals not intended for consumption human and are maintained for personal, non-commercial purposes.

Specifically, this report includes the declarations of those intensive pig farms located in the 16 Autonomous Communities that have joined ECOGAN¹, and which have been notified by them to the General Registry of MTDs, along with the data sent by Catalonia.² Since the information notified by Catalonia differs in certain parameters with respect to the information contained in ECOGAN, in this report its data have been presented separately.

To know the universe of **farms** with the obligation to declare, a survey has been carried out extraction of the Comprehensive Animal Traceability System (SITRAN), at the level of the General Registry of Livestock Farms (REGA) as of December 31, 2022, which has yielded the figure of **20,849 farms**.

On the other hand, the average **census** of animals corresponding to farms with an obligation to declare has been extracted from the [2022 Livestock Surveys of the pig sector](#), corresponding to the months of May and November, prepared by the General Subdirectorate of Analysis, Coordination and Statistics of MAPA, being the total census of **33,312,988 animals**³. In the study of these data referring to the year 2022, it has been observed a total decrease of 0.35% in the pig census in Spain (117,408 animals), largely due to a decrease in the number of pig heads Iberian.

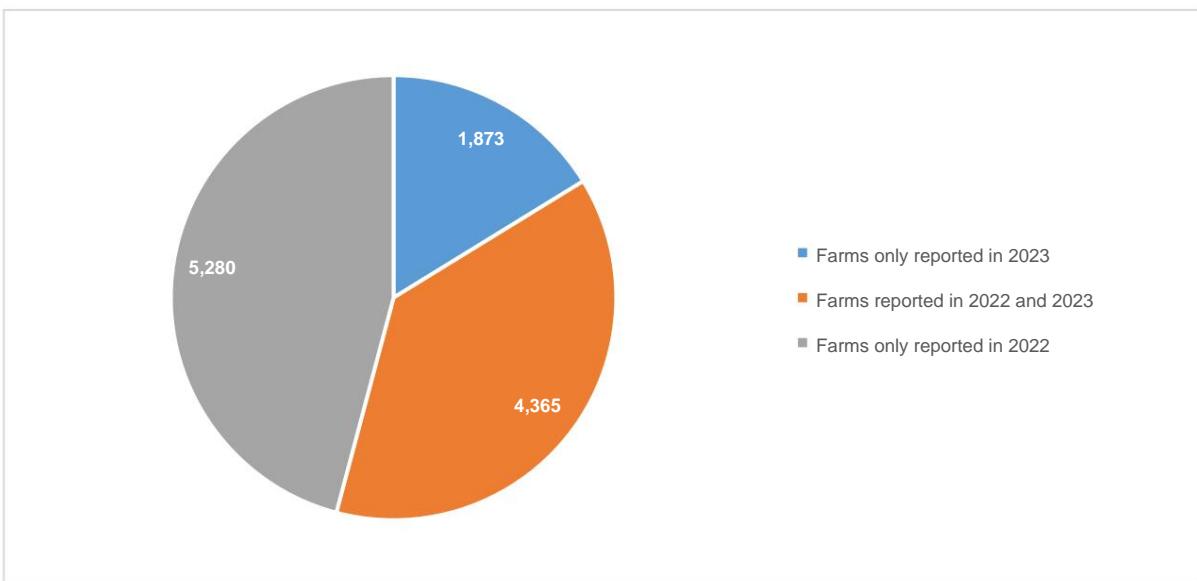
¹ Catalonia has been the only Autonomous Community not a member of ECOGAN, although it has notified the declarations of the farms in its territory through alternative electronic means to ECOGAN.

² There have been a total of 12 Autonomous Communities that have notified and therefore have constituted the basis of the data for this report.

³ Both white-coated pigs and Iberian pigs are included.

As of June 1, 2023, the MTDs corresponding to a total of **11,518 farms** (3,406 more farms than the previous year) had been notified to the General Registry through ECOGAN, representing a total of **23,116,656 occupied places**⁴. Of this total, 45.8% are farms that have not been reported again in 2023⁵ (5,280 farms), 37.9% have been communicated by the farmer and notified to ECOGAN by the CCAA for the second consecutive year (4,365 farms), and 16.3% have been farms that have been communicated and notified this year for the first time (1,873).

Graph 1. Types of farms notified in 2023



Likewise, it should be noted that of the total number of notified farms, **1,510 are Iberian pigs**, which correspond to a total of **1,921,783 occupied places**, and that **2,522 farms are IPPC** and therefore are covered by the Industrial Emissions Directive, representing a total of **10,408,697 occupied places**. Catalonia,

For its part, it has sent, through its own electronic means, data of **3,7546 farms**, which correspond to a total of **6,628,125 places**.

⁴ In ECOGAN, the occupied places are declared (average number of places occupied by each of the categories of animals during the calendar year of BAT declaration) with the objective that the estimation of emissions is made based on the real number of animals in the farm and not to its potential productive capacity.

⁵ Farms that have not been reported by farmers in 2023 due to presenting no modification to the data in Annex I of Royal Decree 988/2022: In this case, the declarations made the previous year have been recovered.

⁶ Of the total of 3,763 farms notified by Catalonia, the quarantine and experimentation centers have been eliminated as they are outside the scope of application of Royal Decree 306/2020.

Table 1. Farms and places notified to the General Registry of MTDs

CCAA	Farms Notified	Farms Notified Iberian	Farms IPPC	Plazas Notified	Plazas Notified Iberian	IPPC Squares
Andalusia	900	117	256	1,839,498	182,789	1,042,179
Aragon	3,609	2	971	8,858,830	5,357	4,029,694
Asturias	-	-	-	-	-	-
Balearics	-	-	-	-	-	-
Canary Islands	-	-	-	-	-	-
Cantabria	2	-	-	48	-	-
Castile and Leon	2,399	525	532	4,377,527	801,939	2,187,677
Castilla la Mancha	598	65	237	1,766,884	272,159	1,116,198
Catalonia ⁷	3,754	-	-	6,628,125	-	-
Madrid's community	7	-	-	9,535	-	-
Foral community of Navarre	248	-	98	755,095	-	409,918
Community Valencian	773	1	83	1,216,838	1,878	296,177
Extremadur to	817	730	29	600,051	516,750	122,542
Galicia	1,020	2	59	1,367,580	4,400	220,596
The Rioja	61	-	25	167,671	-	90,665
Basque Country	-	-	-	-	-	-
Region of Murcia	1,084	68	232	2,157,099	136,511	893,051
Total CCAA Adhered	11,518	1,510	2,522	23,116,656	1,921,783	10,408,697
Grand Total	15,272	1,510	2,522	33,278,357	1,921,783	10,408,697

⁷ In the BAT notification made by Catalonia, no distinction is made between Iberian pig and white pig farms, nor is IPPC farms reported.

Table 2 shows a breakdown of the number of farms with an obligation to communicate MTDs in the different Autonomous Communities, and the farms that have finally been notified by the CCAA to the Ministry of Agriculture, Fisheries and Food (MAPA).

Table 2. Level of notification on farms and census by Autonomous Community

CCAA	Farms with obligation to communicate	Notified farms	% Corresponding census	Notified places		%
				Corresponding census	Notified places	
Andalusia	1,260	900	71.43	2,613,170	1,839,498	70.39
Aragon	4,270	3,609	84.52	9,418,297	8,858,830	94.06
Asturias	9	-	-	6,238	-	-
Balearics	73	-	-	51,346	-	-
Canary Islands	142	-	-	38,181	-	-
Cantabria	3	2	66.67	1,019	48	4.71
Castile and Lion	2,730	2,399	87.88	4,466,741	4,377,527	98.00
Castile-La Mancha	927	598	64.51	1,847,742	1,766,884	95.62
Catalonia	5,385	3,754	69.71	7,798,388	6,628,125	84.99
Madrid's community	19	7	36.84	18,360	9,535	51.93
Foral community of Navarre	338	248	73.37	831,372	755,095	90.83
Community Valencian	892	773	86.66	1,182,669	1,216,838	102.89
Extremadura	2,130	817	38.36	1,203,063	600,051	49.88
Galicia	1,149	1,020	88.77	1,360,466	1,367,580	100.52
The Rioja	72	61	84.72	136,415	167,671	122,918
Basque Country	36	-	-	34,632	-	-
Region of Murcia	1,414	1,084	76.66	2,304,894	2,157,099	93.59
Total CCAA Adhered	15,464	11,518	74.48	25,514,601	23,116,656	90.60
Grand Total	20,849	15,272	73.25	33,312,988	29,744,781	89.29

As seen in Table 2, the General Registry has been notified of **73.3% of the total of farms** with an obligation to declare and **89.3% of the places**. These figures show an **increase in declarations made** by the pork sector intensive compared to the previous year.

As can be seen in table 3, the level of notification on farms has increased 21.7 percentage points (the level of notification has gone from 51.6% of farms to 73.3%). This is because, although the number of farms forced to communicate has remained practically constant (it has decreased by 1.8% with compared to the previous year), the number of notified farms has increased by 39.4% with Over the previous year.

⁸ The notification percentage exceeds 100% in certain Autonomous Communities because the census taken as a reference corresponds to an average of the national censuses of May and November according to MAPA statistics, which would explain this variation.

In vacancy data, the notification percentage has also increased, going from 72.9% of the places to 89.3%, due to the fact that the number of places notified has increased by 22% compared to the previous year, practically maintaining constant number of places required to communicate (it has been reduced by 0.35% compared to the last year).

Table 3. Evolution of the level of notification on farms and census in the general universe

TOTAL CCAA	Farms with an obligation to communicate	Notified farms		% Corresponding census	Notified places %	
		Notified farms	%			
Year 2021	21,236	10,956	51.6	33,430,396	24,375,712 72.9	
Year 2022	20,849	15,272	73.2	33,312,988	29,744,781	89.3

Tables 4 and 5 show below the evolution of the level of notification in the participating Autonomous Communities and in Catalonia separately:

Table 4. Evolution of the level of notification in adhered Autonomous Communities

CCAA adhered	Farms with an obligation to communicate	Notified farms		% Corresponding census	Notified places %	
		Notified farms	%			
Year 2021	15,776	8,112	51.4	25,468,057	16,986,482 66.7	
Year 2022	15,464	11,518	74.5	25,514,601	23,116,656 90.6	

In the CCAA members of ECOGAN, **74.5% of farms** have been notified that They represent **90.6% of the places**. In this case there is also an increase in the level of notification, it has gone from 51.4% to 74.5% notification in farms, this is because the number of notified farms has increased by 42% while the farms obliged to communicate have practically remained constant (decreased by only 1.9%)

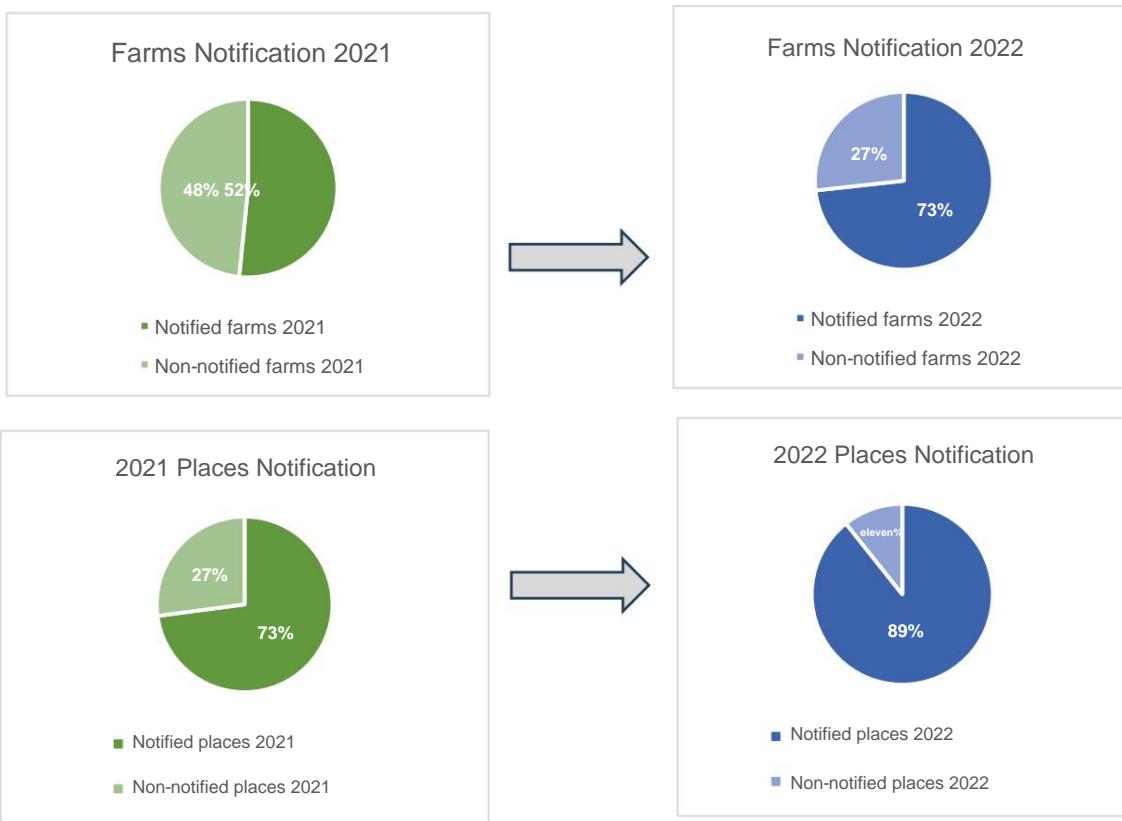
Table 5. Evolution of the level of notification in Catalonia

Catalonia	Farms with an obligation to communicate	Notified farms		% Corresponding census	Notified places %	
		Notified farms	%			
Year 2021	5,460	2,844	52.1	7,962,339	7,389,230	92.8
Year 2022	5,385	3,754	69.7	7,798,388	6,628,125	85

In the case of Catalonia, as seen in table 5, the level of notification in farms has increased 17.6 percentage points (it has gone from 51.1% to 69.7% on farms) because the number of notified farms has increased almost 32% while the farms obliged to communicate have remained practically constant (it has decreased by 1.4%).

For all of the above, we can confirm that the involvement of the Spanish intensive pig sector has improved in this reporting exercise, although there is still room for improvement as we can see in the following graph.

Graph 2. Evolution in the level of notification



According to the data contained in the 2021 Livestock Surveys, the **pig census Iberian pork** corresponding to farms with the obligation to declare BAT is **3,218,569 animals**, while a total of **1,921,783** have been notified in ECOGAN **places**, which implies a notification of **59.7% of places⁹**, and therefore **23% more** than the last year.

⁹ It does not include Catalonia, since it has not notified the differentiation between white cape or Iberian.

3. IMPLEMENTATION OF THE BEST AVAILABLE TECHNIQUES

As established in article 3 of Directive 2010/75/EU, Better available techniques (BATs) to “*the most effective and advanced phase of development of the activities and their exploitation modalities, which demonstrate the practical capacity of certain techniques to form the basis of emission limit values and other conditions of authorization intended to avoid or, where this is not practicable, reduce emissions and the impact on the environment as a whole and people's health.*” Therefore, BATs are techniques or procedures that have been demonstrated real scale its environmental effectiveness in reducing polluting emissions and in the consumption of resources under economically and technically viable conditions.

This section includes the data provided to the General Registry of MTDs on the implementation of MTDs at the national level and by Autonomous Community both at the of farms and occupied places. Data has been extracted from the system computerized ECOGAN for the 16 Autonomous Communities that voluntarily adhere to it. If of the AC of Catalonia, the only non-affiliated AC, the information has been provided by this AC using alternative means. Due to the sometimes non-coincidence between both data sources, the results for Catalonia are presented separately.

The MTDs are classified into the following groups:

1. BATs that use feeding and feed formulation strategies that affect the excretion of nitrogen and ammonia (BAT 3).
2. BATs for the reduction of ammonia emissions into the atmosphere in the accommodation (MTD 30).
3. BATs for the reduction of ammonia emissions into the atmosphere in the storage of solid manure (BAT 14).
4. BATs for the reduction of emissions to soil and water in the storage of solid manure (BAT 15).
5. BATs for the reduction of ammonia emissions into the atmosphere in the storage of liquid manure or slurry (BAT 16 and 17).
6. BATs to avoid emissions to soil and water generated by the collection and slurry conveyance and through a tank or pond of liquid manure or slurry (MTD 18).
7. BATs for on-site treatment of manure, to reduce emissions to the atmosphere and water from nitrogen, phosphorus, odors and pathogenic microorganisms and facilitate the storage and/or application of manure to the field (BAT 19).

8. BAT to avoid or, when this is not possible, reduce emissions to land by water and the atmosphere from nitrogen, phosphorus and pathogenic microorganisms generated by the application of manure to the field (BAT 20).
9. BATs for the reduction of ammonia emissions into the atmosphere in the application to the field (MTD 21 and 22).

3.1. Degree of implementation of MTDs that use strategies feeding and feed formulation that affect the nitrogen and ammonia excretion (BAT 3)

The BAT affecting nitrogen excretion in the diet is BAT 3: feeding and feed formulation strategies that include some techniques to reduce total Nitrogen (N) excreted and ammonia (NH3) emissions. For To do this, one or a combination of the following techniques must be used:

- **BAT 3. a)** Reduce crude protein content through a balanced nitrogen diet, taking into account energy needs and digestible amino acids.¹⁰
- **BAT 3. b)** Multiphase feeding with a feed formulation adapted to the specific needs of the productive period.
- **MTD 3. c)** Addition of controlled amounts of essential amino acids in a diet low in crude proteins.
- **BAT 3. d)** Use of authorized feed additives that reduce nitrogen total excreted.

To validate compliance with said BAT, it is not only necessary to apply the techniques described, but also to be within (except in certain very specific cases) a range of **total excreted Nitrogen associated with BAT 3** included in Decision 302/2017, and which is defined for three productive categories:

- Weaned piglets: 1.5-4 Kg N/Place/year
- Fattening pigs: 7-13 Kg N/Plaza/year
- Reproductive sows (including piglets): 17 - 30 Kg N/Place/year

¹⁰ In the document "Best Available Techniques (BAT) Reference Document for the Intensive Rearing of Poultry or Pigs" prepared by the JRC, table 4.13 establishes indicative values for diets with low % crude protein according to the pig production phase.

– Decision 302/2017 describes it as "*the composition of the food ration responds more accurately to the needs of the animals in terms of energy, minerals and amino acids, depending on the weight of the animal and/or the productive phase*".

The following techniques are not discussed in this report:

- **BAT 3. c)** “*Addition of controlled amounts of essential amino acids in a diet low in crude proteins*”, because it is a technique implemented by 100% of Spanish farms for reasons of productive efficiency and profitability.
Furthermore, the farmer cannot verify the inclusion of certain amino acids on the labeling. You can only check the final composition of the feed for the amino acids whose declaration is mandatory. This value can be verified, indirectly, by a decrease in crude protein.
- **BAT 3. d)** “*Use of authorized feed additives that reduce the total excreted nitrogen*”, due to the lack of additives, until now, authorized by the EU for animal feed as zootechnical additives belonging to the group of substances that have this function.

I. Degree of implementation of MTD 3 in the CCAA members of ECOGAN

As can be seen in Table 3:

- ÿ **BAT 3 a).** 99.8 % of the farms that represent 99.9% of the total places reported reduces the crude protein content in feed. When analyzing the data for Iberian pigs and for IPPC farms, it is observed that the reduction of CP is reported in more than 99% of the farms in both cases, as occurs at the level general.
- ÿ **BAT 3 b).** 82.4 % of the farms representing 92.3% of the total places notified implement a multiphase feeding. In the case of Iberian pigs, application of multiphase feeding is lower, being applied in 53.9% of the Iberian farms (74.2% of Iberian places). 92.6% of IPPC farms report the application of multiphase feeding (94.9% of IPPC places).

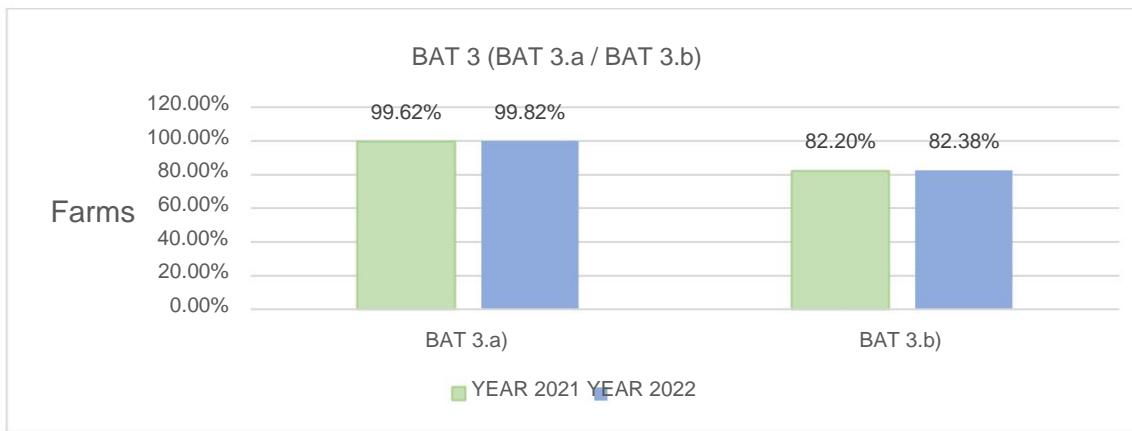
Table 6. Degree of implementation of BAT 3 by farm and area

CCAA	BAT 3.a)				BAT 3.b)			
	In farm	% In places %		In farm	% In places %			
Andalusia	898	99.78 1,837,220		99.88	723	80.33 1,652,287	89.82	
Aragon	3,608	99.97 8,857,376		99.98	3,464	95.98 8,592,639	97.00	
Cantabria	2	100.00	48	100.00	-	-	-	-
Castile and León	2,387	99.50	4,373,509	99.91	1,765	73.57 4,005,538	91.50	
Castilla la Mancha	597	99.83 1,766,198		99.96	547	91.47 1,683,586	95.29	
Madrid's community	7	100.00	9,535	100.00	6	85.71	9,503	99.66
Foral community of Navarre	248	100.00	755,095	100.00	235	94.76	730,246	96.71
Valencian Community	773	100.00 1,216,838	100.00		730	94.44 1,154,132	94.85	

Estremadura	813	99.51	593,434	98.90	347	42.47	331,655	55.27
Galicia	1,019	99.90	1,366,331	99.91	583	57.16	923,911	67.56
The Rioja	61	100.00	167,671	100.00	55	90.16	153,781	91.72
Murcia Region	1,084	100.00	2,157,099	100.00		1,034	95.39	2,109,377
Total CCAA adhered	11,497	99.82	23,100,354	99.93		9,489	82.38	21,346,655
								92.34

This high level of implementation is due to reasons of maximizing efficiency. productive of the farm, through an improvement in animal feeding, adjusting the components of the ration to the needs of the animal in each productive phase. The Implementation percentages of MTD 3 a) and b) are very similar to those of the previous year, as can be seen in the following graph.

Chart 3. BAT 3 implementation in farms for the years 2021-2022



It is necessary to point out that, to validate compliance with MTD 3, in addition to analyzing the data included in Table 3, the calculation of excreted nitrogen has been carried out per place associated with MTD 3 (N-MTD3) in average values in order to estimate the compliance with the ranges included in Decision 302/2017. This calculation is done in ECOGAN using the algorithms contained in the Document: "Zootechnical bases for the calculation of the nutritional balance of nitrogen and phosphorus in the pig sector white", published by the Ministry of Agriculture, Fisheries and Food.

To this end, the data on total nitrogen excreted by farm have been analyzed. livestock (REGA codes notified by the CCAA members of ECOGAN). In this analysis, data have been detected that are very far from the reference values, whose statement is probably erroneous possibly due to problems in the interpretation of some of the ECOGAN fields or errors in completion of the form by users. For this reason, as was done in the In last year's report, technical criteria have been applied for data filtering, with in order to eliminate those that could distort the calculations made.

The criterion applied has been to include in the analysis those values that are within a wider range than that established for each category in the Decision 302/2017, eliminating the values that are below and above these extremes, For this, the same criteria used in the report published the previous year have been followed:

- Bottom end: expands by 20%
- Upper end: expands by 50%

The criterion for the downward extension of the lower range has been the verification of the available scientific documentation, which proves that it is not possible to decrease the contribution of protein below certain levels without being seen the health and well-being of animals is compromised. Furthermore, as the excreta of nitrogen is expressed by place and year, it is possible that the increase in periods of emptying can reduce excreta per square without implying a reckless decrease of the protein fraction in the diet.

As regards the upper limit, the criterion is based on the same exceptions as allows community decision in the category of pregnant sows and production ecological, which has been extended to other categories to simplify and homogenize the calculations.

Likewise, only white pig farms have been included in the calculation, eliminating Iberian pig farms, since ECOGAN currently only has algorithms for calculating emissions and nitrogen balance specific to the white-coated pig.

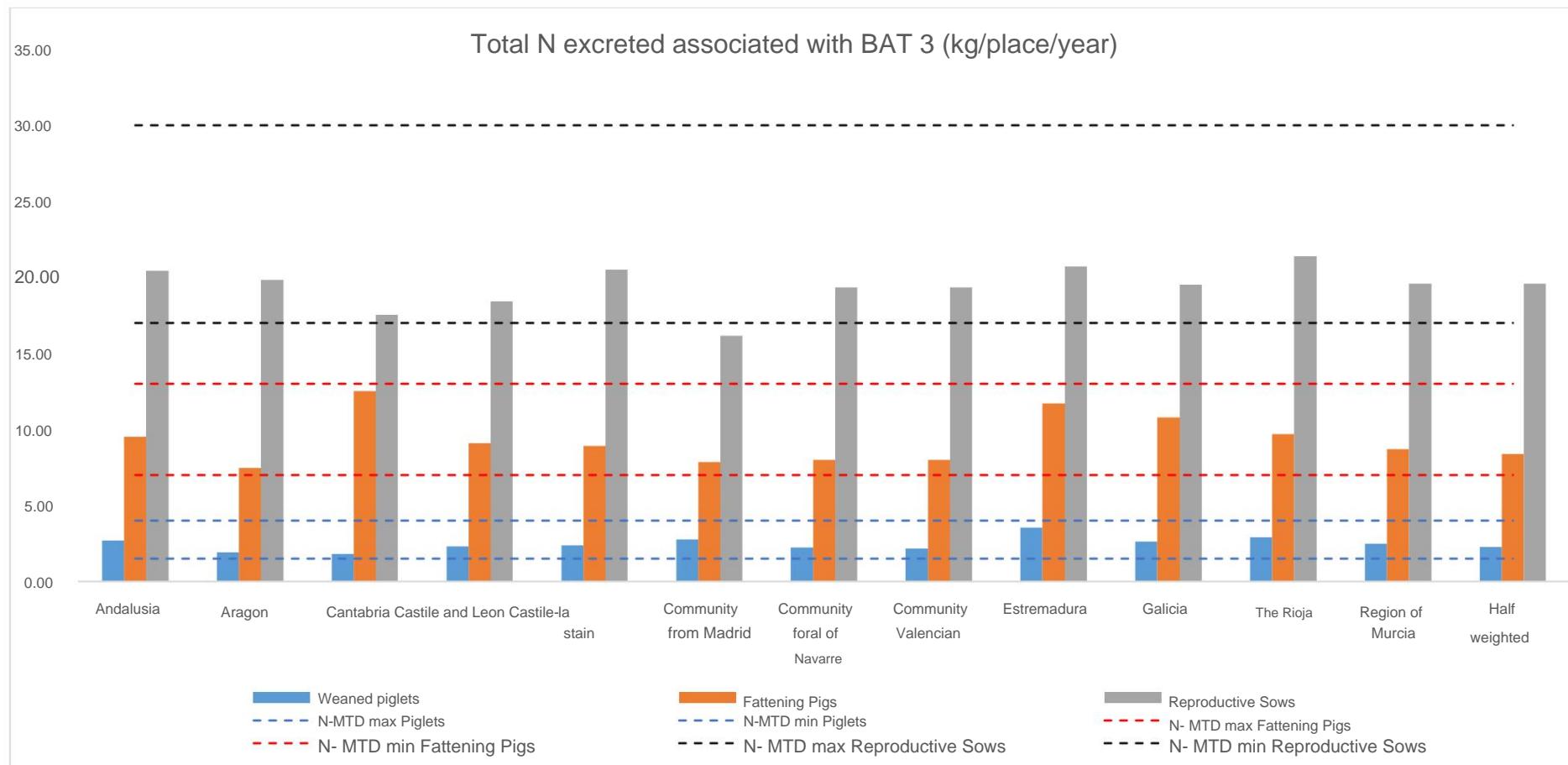
As can be seen in Table 7 and Graph 3, the average values of the level excreted associated with MTD 3 are within the range established by the Decision 302/2017 for the three categories, although we must clarify that for its calculation After the aforementioned filtering of the total reported data, 69% of the data have been used corresponding to piglets, 91% of the data for fattening pigs and 68% of breeder data.

All the CCAA present average values of excreted nitrogen within the BAT-N range values (level of total excreted N associated with BAT 3) from Decision 2017/302 for weaned piglets and fattening pigs. In the case of breeding sows, and like last year, the only AC that is not within the range values is the Community of Madrid, which presents average values below the lower end of the N-MTD range 3 for excreted nitrogen in the case of breeding sows.

Table 7. Excreted nitrogen associated with MTD 3 by place and year

Nitrogen excreted square (kg/square/year) associated with MTD 3			
	Weaned Piglets	Fattening Pigs	Reproductive Sows
Decision 302/2017 N-MTD 3	1.5-4.0	7.0-13.0	17.0-30.0
CCAA			
Andalusia	2.68	9.51	20.45
Aragon	1.91	7.46	19.82
Cantabria	1.80	12.52	17.52
Castile and Leon	2.30	9.10	18.42
Castilla la Mancha	2.39	8.91	20.52
Madrid's community	2.77	7.85	16.16
Foral community of Navarra	2.22	7.99	19.33
Valencian Community	2.15	7.99	19.35
Extremadura	3.54	11.71	20.73
Galicia	2.61	10.78	19.53
The Rioja	2.89	9.71	21.40
Murcia Region	2.49	8.71	19.59
Weighted average	2.26	8.37	19.57

Graph 4. Level of total excreted nitrogen associated with BAT 3 (Kg/square/year) by animal category



When comparing these data with those of the 2022 report, a slight decrease is observed in the average value of nitrogen excreted in all productive categories, being more relevant in the case of breeding sows. In the case of IPPC farms, This decrease is somewhat greater in piglets and fattening pigs. It's not possible determine this value for Iberian pig farms given that the calculation algorithms in ECOGAN available correspond only to the white-coated pig.

Table 8. Evolution of excreted nitrogen associated with MTD 3 by place and year in adhered Autonomous Communities

Nitrogen excreted square (kg/square/year) associated with MTD 3			
	Weaned piglets	Pigs of Fattening	Reproductive Sows
Decision 302/2017 N-MTD 3	1.5-4.0	7.0-13.0	17.0-30.0
Weighted average 2021	2.42	8.43	20.45
Weighted average 2022	2.26	8.37	19.57

Table 9. Evolution of excreted nitrogen associated with MTD 3 by area and year in IPPC farms

Nitrogen excreted square (kg/square/year) associated with MTD 3			
	Weaned Piglets	Fattening Pigs	Reproductive Sows
Decision 302/2017 N-MTD 3	1.5-4.0	7.0-13.0	17.0-30.0
Weighted average 2021	2.55	8.25	20.22
Weighted average 2022	2.29	8.15	19.49

Among the possible causes of this decrease could be the generalization of the use of new essential amino acids and the consequent decrease in crude protein in the diet, the increase in sanitary vacuum periods or the effects of certain animal diseases (such as porcine reproductive and respiratory syndrome -PRRS), about the livestock herd that means that, despite having the same places or slightly higher, the number of animals decreases, decreasing excreta by square.

II. Degree of implementation of BAT 3 in Catalonia

Catalonia provides NEA data by total census. However, the calculation methodology is not provided, so its equivalence with ECOGAN estimates cannot be evaluated. With respect to the information notified to the General Registry regarding BAT 3, the information provided only refers to the implementation of BAT 3.b related to multiphase feeding, presenting **100% application both by farm and by census** in the notified farms.

3.2. Degree of implementation of MTDs for the reduction of ammonia emissions into the atmosphere in accommodation (MTD 30)

BAT involves a reduction of ammonia emissions in accommodation is the BAT 30: To reduce ammonia emissions into the atmosphere from each ship to pigs, BAT is to use one or a combination of the techniques indicated next:

- **MTD 30. a)** One of the following techniques¹², in which one or one combination of the following principles: reduce the surface area ammonia station, increase the frequency with which slurry is removed (manure) to outside storage, separate urine from feces, maintain litter clean and dry:
 1. A deep pit (when the ground is totally or partially slatted), only if used in combination with other mitigation measures, e.g. ex.: a combination of nutritional management techniques, a purification system of the air, reduction of the pH of the slurry, cooling of the slurry.
 2. A vacuum system for frequent removal of slurry (when the floor is totally or partially slatted).
 3. Slurry pit with inclined walls (when the ground is totally or partially grate).
 4. Scraper for frequent removal of slurry (when the soil is completely or partially grilled).
 5. Frequent removal of slurry by jet washing (when the soil is totally or partially slatted).
 6. Reduced slurry pit (when the ground is partially slatted). Only in pregnant sows, and in fattening pigs.
 7. Straw bedding system (when the floor is solid concrete). Only in pregnant sows, transition piglets and fattening pigs.
 8. Accommodation in huts/barracks (when the floor is partially slatted). Only in pregnant sows, transition piglets and fattening pigs.

¹² Although, within this section, there are various techniques with different associated reduction percentages,

In this year's report it will only be possible to know whether one of the techniques of this group applies or not, but it will not be possible to discern what specific technique is used, due to the current computer development of ECOGAN.

9. Straw replacement system (when the floor is solid concrete). Only in transition piglets and fattening pigs.
10. Convex floor and separate water and manure channels (in the case of pens partially gridded). Only in transition piglets and in pigs of fattening
11. Pens with litter with combined manure generation (slurry and manure solid). Only in lactating sows.
12. Rest and feeding huts on solid ground (in the case of corrals with bed). Only in pregnant sows.
13. Manure collector (when the floor is totally or partially slatted). Only in lactating sows.
14. Collection of manure in water. Only in piglets in transition and pigs of fattening
15. V-shaped manure belts (when the soil is partially grate). Only in fattening pigs.
16. Combination of water and slurry channels (when the soil is completely grate). Only in lactating sows.
17. Exterior hallway with bed (when the floor is solid concrete). Only in fattening pigs.

- **MTD 30. b)** Refrigeration of slurry.
- **BAT 30. c)** Use of an air purification system
- **MTD 30. d)** Acidification of slurry.
- **BAT 30. e)** Use of floating balls in the slurry pit.

To validate compliance with said MTD, it is not only necessary to apply the techniques described, but also be within a range of **ammonia emission levels associated with BAT 30 (NEA – BAT)¹³** included in Decision 302/2017, and which is defined for four productive categories:

- Weaned piglets: 0.03-0.53 Kg NH₃/Place/year
- Fattening pigs: 0.1-2.6 Kg NH₃/Place/year
- Sows in mating and pregnant: 0.2-2.7 Kg NH₃/Square/year

¹³ Emission level associated with BAT (NEA- BAT): is the emission level associated with the use of a technique or group of specific techniques, according to Decision 302/2017. In this way, an NEA above the established range could mean that the techniques are not being used properly

- Lactating sows (piglets included): 0.4-5.6 Kg NH₃/Place/year

ECOGAN divides the application of BAT 30 for each of the following categories of animals:

1. Piglets in transition
2. Bait Pigs
3. Replacement Bristles
4. Sows in 1st pregnancy 5.
- Multiparous pregnant sows 6. Gilts
breeding
7. Non-gilt breeding sows
8. Gilts at rest
9. Non-gilt sows at rest

In order to analyze MTD 30 based on the categories established in Decision 302/2017, the calculations have been prepared by grouping the ECOGAN categories as follows:

1. Weaned piglets: “piglets in transition” are included. This category includes young pigs raised from weaning at 6 or 7 kg until fattening at 18 kg, approximately.
2. Fattening pigs: This category includes growing pigs and pigs at the end of fattening (it does not include replacement sows as they are considered uncovered breeders at the end of the growth-fattening phase).
3. Sows in mating, pregnant and replacement: “pregnant sows” are included (primiparous and multiparous), “uncovered or replacement” breeding sows and “resting sows” (gilts and non-gilts). Within this category, “the sows in mating” include sows ready for mating or insemination and before being pregnant, which is why this group includes resting females and bristles in replacement.
4. Lactating sows: “breeding sows” (gilts and non-gilts) are included, that is, sows between the perinatal period and piglet weaning.

I. Degree of MTD 30 implementation by productive category in the Autonomous Communities attached to ECOGAN

The data reported by the Autonomous Communities has been analyzed with respect to the techniques applied on the farm to reduce ammonia emissions from the

accommodations for each productive category, obtaining the following results (see tables 10 to 14):

↳ Weaned piglets:

↳ 86.6 % of farms that report production of weaned piglets (**89.9%**

of places), apply some of the techniques included in group **MTD 30.a.** This represents a slight reduction with respect to the data reported the previous year: 89.4% of the farms and 91.7% of the places

↳ The rest of the techniques that are included within MTD 30, present a minor application. Specifically, air purification (BAT 30.c) is applied in around 3% of farms with weaned piglets, which represents 2.5% of places. The least used techniques are slurry cooling (BAT 30.b), slurry acidification (BAT 30.d) and the use of floating balls in slurry pits (BAT 30.e), the latter without any application. The data for BATs other than BAT 30.a are similar to those of the previous year, except in the case of

application of air purification techniques, which experiences a slight increase this year.

↳ Fattening Pigs:

↳ 92.1 % of farms that report fattening pig production (**94.4%** of

places), apply some of the techniques included in group **MTD 30.a.** being Data similar to that of the previous year.

↳ The rest of the techniques that are included within MTD 30 have a minor application. Specifically, air purification (BAT 30.c) and slurry acidification (BAT 30.d) are applied respectively in less than 0.7% and 0.4% of farms with fattening pigs. The slurry cooling technique (BAT 30.b) and the use of floating balls in slurry pits (BAT 30.e) are applied to less than 0.1% of farms that have reported pig production. fattening, these data being similar to those of the previous year.

↳ Sows in mating, pregnant and replacement: ↳ 87.1 % of the

farms with sows in mating and pregnant (**95.9%** of places),

apply some of the techniques included in group **MTD 30.a.** This supposes a slight reduction compared to the previous year's data: 89.9% of farms and 97.2% of places.

↳ The rest of the techniques that are included within MTD 30, present a minor application. Specifically, air purification (BAT 30.c) and acidification of manure (MTD 30.d) are applied respectively on 2.3% and 0.8% of the farms with mating and pregnant sows. Slurry refrigeration techniques

(MTD 30.b) is barely existing, only 0.2% of farms apply it, while The use of floating balls in slurry pits (BAT 30.e) does not exist. These data are similar to those reported the previous year, except in the case of the application of air purification techniques, which experiences a slight increase this year.

↳ Lactating sows:

↳ 87.4 % of the **farms** that report production of lactating sows (**90.5%** of the notified **places**) apply some of the techniques included in the **MTD 30.a** group. This represents a slight reduction with respect to the data reported last year. previous: 88.8% of the farms and 91.6% of the places.

↳ The rest of the techniques that are included within **MTD 30** have a minor application. Specifically, air purification (BAT 30.c) and slurry acidification (BAT 30.d) are applied respectively in less than 4% and 1.1% of farms with lactating sows. The slurry cooling technique (BAT 30.b) is barely existing, only 0.2% of farms apply it, while the use of floating balls in slurry pits (BAT 30.e) is non-existent at the moment. the same as in the rest of the breeders. These data are similar to those reported the previous year, except in the case of the application of air purification techniques, which experiences

a slight increase this year.

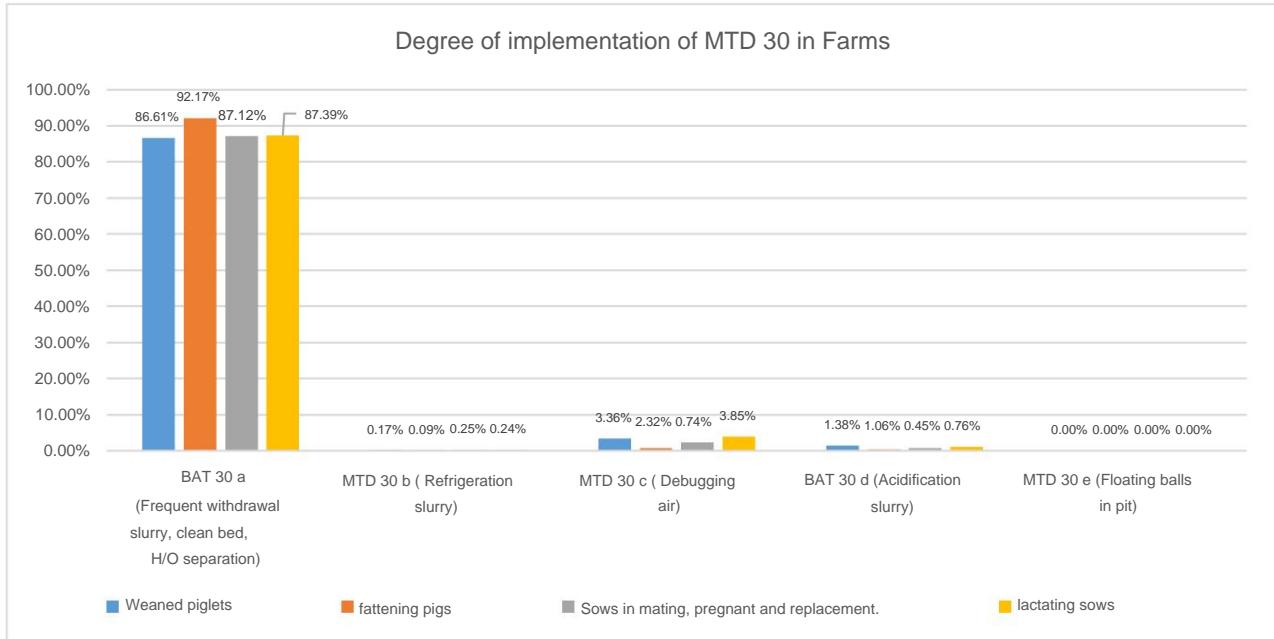
Table 10. Degree of implementation of BAT 30 on farms by type of production

TYPE OF PRODUCTION	BAT 30 a (Frequent slurry removal, clean bed, H/O separation)	MTD 30 b (Slurry cooling)	BAT 30 c (Depuration air)	MTD 30 d (slurry acidification)	MTD 30 e (Floating balls in pit)
	% Farms	% Farms	% Farms	% Farms	% Farms
Weaned piglets	86.61	0.17	3.26	1.38	0.00
fattening pigs	92.17	0.09	0.74	0.45	0.06
Sows in mating, pregnant and replacement.	87.12	0.25	2.32	0.76	0.00
lactating sows	87.39	0.24	3.85	1.06	0.00

In short, as seen in table 10, the BAT 30 techniques most used to reduce ammonia emissions into the atmosphere of each house, regardless of the category of animals, are those related to the reduction of the ammonia-emitting surface, increasing the frequency with which slurry is removed from housing to outside storage, separating urine from faeces or keeping litter clean and dry (all covered by BAT 30.a) that apply in almost 90% of the farms that have notified for all the categories analyzed. The limited application of techniques such as slurry acidification or

the use of air purifiers that are applied in less than 1% of farms, although in the case of air purification a slight increase in its implementation in piglet farms in transition and in breeder farms. The slurry cooling has a residual application, only in 0.1% of the farms. Likewise, in the case of the application of floating balls in the slurry pits They are only reported in 0.1% of farms with fattening pigs, being non-existent for weaned piglets and breeders.

Graph 5. Degree of implementation of BAT 30 on farms



Graph 6. Comparative implementation of BAT 30.a on farms in the years 2021-2022

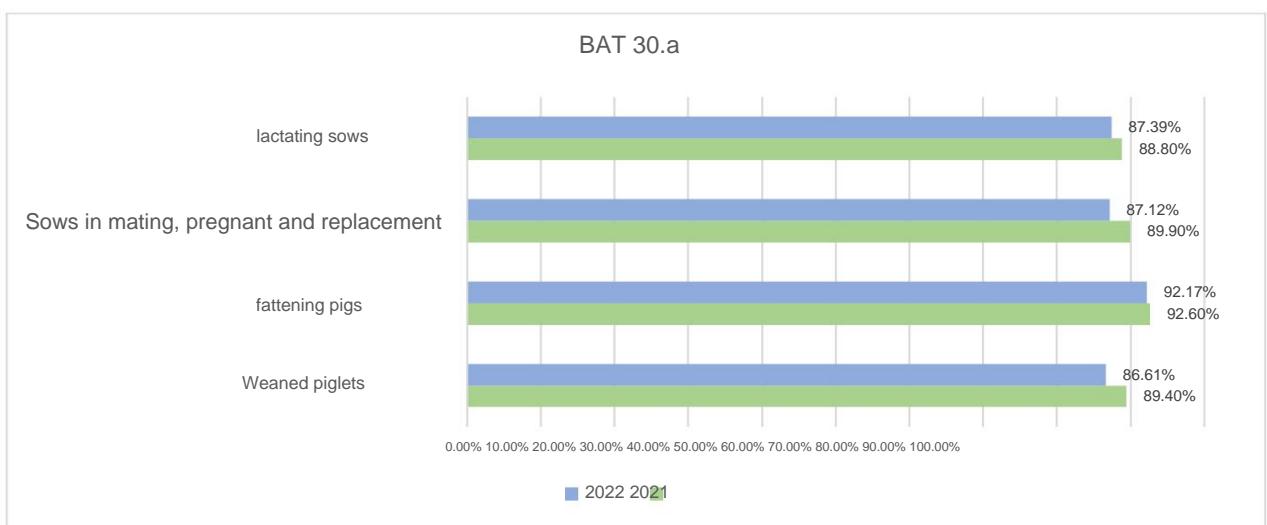


Table 11. Degree of implementation of BAT 30 on farm by CCAA, in the category of weaned piglets

CCCAA	Piglet Farms in transition	Piglets Squares in transition	BAT 30 a			MTD 30 b			BAT 30 c			MTD 30 d			MTD 30 e			
			Farms	%	Squares	Farms	%	Squares	Farms	%	Squares	Farms	%	Squares	Farms	%	Squares	
Andalusia	265	515,282	226	85.28	496,317	96.32			2	0.75	1,970	0.38	6	2.26	6,055	1.18		
Aragon	440	1,538,269	403	91.59	1,433,461	93.19			-	-	-	-	5	1.14	11,289	0.73	1	
Cantabria	1	4	1	100.00	4	100.00			-	-	-	-	-	-	-	-	-	
Castile and León	649	989,127	592	91.22	913,890	92.39			1	0.15	646	0.07		16	2.47	35,681	3.61	6
Castilla la Mancha	135	513,950	105	77.78	370,938	72.17			-	-	-	-	3	2.22	56,496	10.99	-	
Community of Madrid	3	2,910	2	66.67	1,310	45.02			-	-	-	-	-	-	-	-	-	
Foral community of Navarra	46	179,096	44	95.65	169,696	94.75			1	2.17	3,520	1.97		-	-	-	1	
Community Valencian	115	234,424	100	86.96	191,471	81.68			-	-	-	-	2	1.74	1,046	0.45	1	
Extremadura	373	207,296	252	67.56	139,858	67.47			-	-	-	-	43	11.53	9,364	4.52	15	
Galicia	175	295,073	163	93.14	275,196	93.26			-	-	-	-	-	-	-	2	1.14	
The Rioja	12	19,619	8	66.67	16,770	85.48			-	-	-	-	-	-	-	-	-	
Murcia Region	175	452,971	173	98.86	441,313	97.43			-	-	-	-	3	1.71	7,459	1.65	6	
Grand Total	2,389	4,948,021	2,069	86.61	4,450,224	89.94			4	0.17	6,136	0.12	78	3.26	127,390	2.57	33	

Table 12. Degree of implementation of BAT 30 on the farm by Autonomous Community, in the Fattening Pigs category

CCAA	Farms Pigs of Fattening	Plazas Pigs of Fattening	BAT 30 a				MTD 30 b				BAT 30 c				MTD 30 d				MTD 30 e						
			Farms	%	Squares	%	Farms	%	Squares	%	Farms	%	Squares	%	Farms	%	Squares	%	Farms	%	Squares	%			
Andalusia	714	1,126,186	636	89.08	1,063,589	94.44		4	0.56	2,318	0.21		2	0.28	2,815	0.25		5	0.70	9,123	0.81	-	-	-	-
Aragon	3,132	6,773,045	3,033	96.84	6,487,696	95.79		1	0.03	1,600	0.02		2	0.06	3,599	0.05		8	0.26	11,070	0.16	-	-	-	-
Cantabria	2	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Castilla y León	1,788	2,971,665	1,642	91.83	2,741,565	92.26		3	0.17	6,340	0.21		8	0.45	5,845	0.20		9	0.50	17,958	0.60	3	0.17	3,581	0.12
Castile-la Stain	497	1,104,534	457	91.95	1,023,359	92.65		-	-	-	-	1	0.20	1,199	0.11		-	-	-	-	1	0.20	700	0.06	
Community of Madrid	5	3,910	4	80.00	3,210	82.10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Foral community of Navarre	204	500,358	198	97.06	487	97.42		-	-	-	-	-	-	-	-	-	-	-	-	-	1	0.49	1,999	0.40	
Community Valencian	685	902,148	668	97.52	881,422	97.70		-	-	-	-	2	0.29	1,563	0.17		4	0.58	3,064	0.34	-	-	-	-	
Estremadura	592	312,280	287	48.48	176,631	56.56		-	-	-	-	49	8.28	20,524	6.57		3	0.51	691	0.22	-	-	-	-	
Galicia	896	964,895	876	97.77	942,375	97.67		1	0.11	1,284	0.13		1	0.11	1,788	0.19		9	1.00	10,994	1.14	-	-	-	-
The Rioja	56	143,424	51	91.07	130,775	91.18		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Region of Murcia	909	1,557,358	886	97.47	1,507,049	96.77		-	-	-	-	5	0.55	8,412	0.54		5	0.55	19,996	1.28	1	0.11	1,000	0.06	
Grand total	9,480	16,359,832	8,738	92.17	15,445,108	94.41		9	0.09	11,542	0.07		70	0.74	45,745	0.28	43	0.45	72,896	0.45		6	0.06	7,280	0.04

Table 13. Degree of implementation of BAT 30 on the farm by Autonomous Community, in the category of Sows in mating, pregnant and replacement.

CCAA	Farms Bristles in cover	Plazas Bristles in cover	BAT 30 a				MTD 30 b				BAT 30 c				MTD 30 d				MTD 30 e			
	and pregnant women and pregnant women		Farms %	Squares %	Farms %	Squares %	Farms %	Squares %	Farms %	Squares %	Farms %	Squares %	Farms %	Squares %	Farms %	Squares %	Farms %	Squares %	Farms %	Squares %		
Andalusia	280	155,995	237 84.64	150,933 96.76			4	1.43 705 0.45		5	1.79 984 0.63		-	-	-	-	-	-	-	-	-	
Aragon	424	451,973	412 97.17	440,865 97.54			1	0.24 2,712 0.60		5	1.18 2,795 0.62		-	-	-	-	-	-	-	-	-	
Cantabria	2	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Castile and Lion	922	336,555	841	91.21	322,829 95.92			2	0.22 4,013 1.19		12	1.30 4,948 1.47		8	0.87 1,403 0.42					-	-	
Castile-la Stain	132	120,262	126 95.45	116,707 97.04			-	-	-	-	3	2.27 2,758 2.29		1	0.76 1,200 1.00				-	-	-	
Madrid's community	4	2,076	4	100.00	2,076 100.00			-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Foral community of Navarre	44	61,926	43	97.73	61,132 98.72			-	-	-	1	2.27 1,547 2.50		1	2.27 794 1.28				-	-	-	
Community Valencian	112	63,573	110 98.21	63,452 99.81			-	-	-	-	1	0.89 1,100 1.73		1	0.89 505 0.79			-	-	-	-	
Extremadura	470	58,633	278 59.15	40,065 68.33			-	-	-	-	35	7.45 1,444 2.46		4	0.85 302 0.52			-	-	-	-	
Galicia	186	88,543	179 96.24	82,677 93.37			-	-	-	-	-	-	-	-	2	1.08 1,504 1.70			-	-	-	
The Rioja	eleven	3,781	9	81.82	3,400	89.92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Region of Murcia	169	115,943	162 95.86	115,621 99.72			-	-	-	-	2	1.18 331 0.29		4	2.37 11,252 9.70			-	-	-	-	
Grand Total	2,756	1,459,270	2401 87.12	1,399,757 95.92			7	0.25 7,430 0.51	64 2.32	15,907 1.09					—	0.76 16,960 1.16			-	-	-	-

Table 14. Degree of implementation of BAT 30 on farm by Autonomous Community, in the category of lactating sows.

CCAA	Farms Bristles in Lactation	Plazas Bristles in Lactation	BAT 30 a			MTD 30 b			BAT 30 c			MTD 30 d			MTD 30 e			
			Farms	%	Places	%			Farms	%	Squares	%	Farms	%	Squares	%	Farms	%
Andalusia	263	40,626	224	85.17	37,383	92.02			3	1.14	294	0.72	13	4.94	1,823	4.49	-	-
Aragon	420	92,578	383	91.19	86,900	93.87			1	0.24	780	0.84	3	0.71	435	0.47	-	-
Cantabria	1	3	1	100.00	3	100.00	-	-	-	-	-	-	-	-	-	-	-	
Castile and León	851	76,359	767	90.13	69,066	90.45			2	0.24	818	1.07	fifteen	1.76	1,524	2.00	6	0.71
Castile-la-Stain	116	27,307	92	79.31	20,688	75.76	-	-	-	-	1	0.86	720	2.64	-	-	-	
Community of Madrid	4	598	4	100.00	598	100.00	-	-	-	-	-	-	-	-	-	-	-	
Foral community of Navarra	40	13,599	40	100.00	13,599	100.00	-	-	-	-	-	-	-	-	-	-	-	
Community Valencian	106	15,933	87	82.08	13,680	85.86	-	-	-	-	2	1.89	592	3.72	1	0.94	125	
Extremadura	415	20,449	316	76.14	14,871	72.72	-	-	-	-	55	13.25	1917	9.37	14	3.37	606	
Galicia	164	18,515	155	94.51	17,906	96.71	-	-	-	-	-	-	-	-	1	0.61	126	
The Rioja	9	827	5	55.56	557	67.35	-	-	-	-	-	-	-	-	-	-	-	
Region of Murcia	157	30,403	151	96.18	30,032	98.78	-	-	-	-	9	5.73	984	3.24	5	3.18	2,682	
Grand Total	2,546	337,197	2,225	87.39	305,283	90.54			6	0.24	1,892	0.56	98	3.85	7,995	2.37	27	1.06

It is necessary to point out that, as in BAT 3, to validate compliance with the MTD 30 the calculation of the ammonia emission level per parking space has been carried out animal in average values, in order to estimate compliance with the ranges included in Decision 302/2017.

For the analysis of the NEA-MTD 30 data, the farms in section 3.1.I resulting from applying the filtering criteria based on N-MTD 3. This is due to that BAT 30 ammonia emissions values are calculated from the Excreted nitrogen. Subsequently, the analysis of data related to the ammonia emission level associated with BAT 30 (NEA-MTD 30) corresponding to the farms notified by the CCAA members of ECOGAN. In this analysis, abnormal data have been detected, possibly due to completion errors. of BAT 30 by users. In order to eliminate this data, it has been applied the same filtering criterion as that set out in section 3.1.I

Likewise, it has only been calculated taking into account white pig farms and without consider Iberian pig farms, since currently ECOGAN only has specific algorithms for calculating emissions and nitrogen balance for white coated pigs.

Table 15. Average ammonia emitted per accommodation and place associated with MTD 30 in the different categories of animals

NH3 emissions associated with BAT 30 (kg NH3/place/year)				
	Weaned piglets	Pigs of Fattening	Bristles in Covering, Pregnant women and replacement	lactating sows in
Decision 302/2017 NEA-MTD 30	0.03 - 0.53	0.1 - 2.6	0.2 - 2.7	0.4 - 5.6
CCAA				
Andalusia	0.45	1.60	3.12	5.64
Aragon	0.39	1.39	3.38	5.85
Cantabria	0.37	2.83	-	-
Castile and Leon	0.46	1.69	3.13	6.24
Castilla la Mancha	0.41	1.61	3.11	5.45
Madrid's community	0.47	1.25	2.16	5.91
Foral community of Navarre	0.49	1.57	3.12	6.29
Valencian Community	0.39	1.48	2.91	5.04
Extremadura	0.65	1.48	2.13	5.47
Galicia	0.46	1.85	3.55	6.14
The Rioja	0.52	1.76	3.43	6.92
Murcia Region	0.41	1.49	2.96	5.76
Weighted average	0.42	1.52	3.18	5.85

As can be seen in the table, the average values of ammonia emissions associated with BAT 30 are within the range established by Decision 302/2017 for both weaned piglets and fattening pigs.

In the case of breeding sows, the average NH3 emitted is found by

above the range of the Decision, both for mating and pregnant sows and for lactating sows.

The CCAA that present average values of ammonia emissions in the accommodation above the upper end of the range of Decision 302/2017 are:

- Weaned piglets: Extremadura
- Fattening Pigs: Cantabria
- Sows in mating and pregnant: Andalusia, Aragon, Castilla y León, Castilla La Mancha, C. Navarra, C. Valenciana, Galicia, La Rioja and R. Murcia

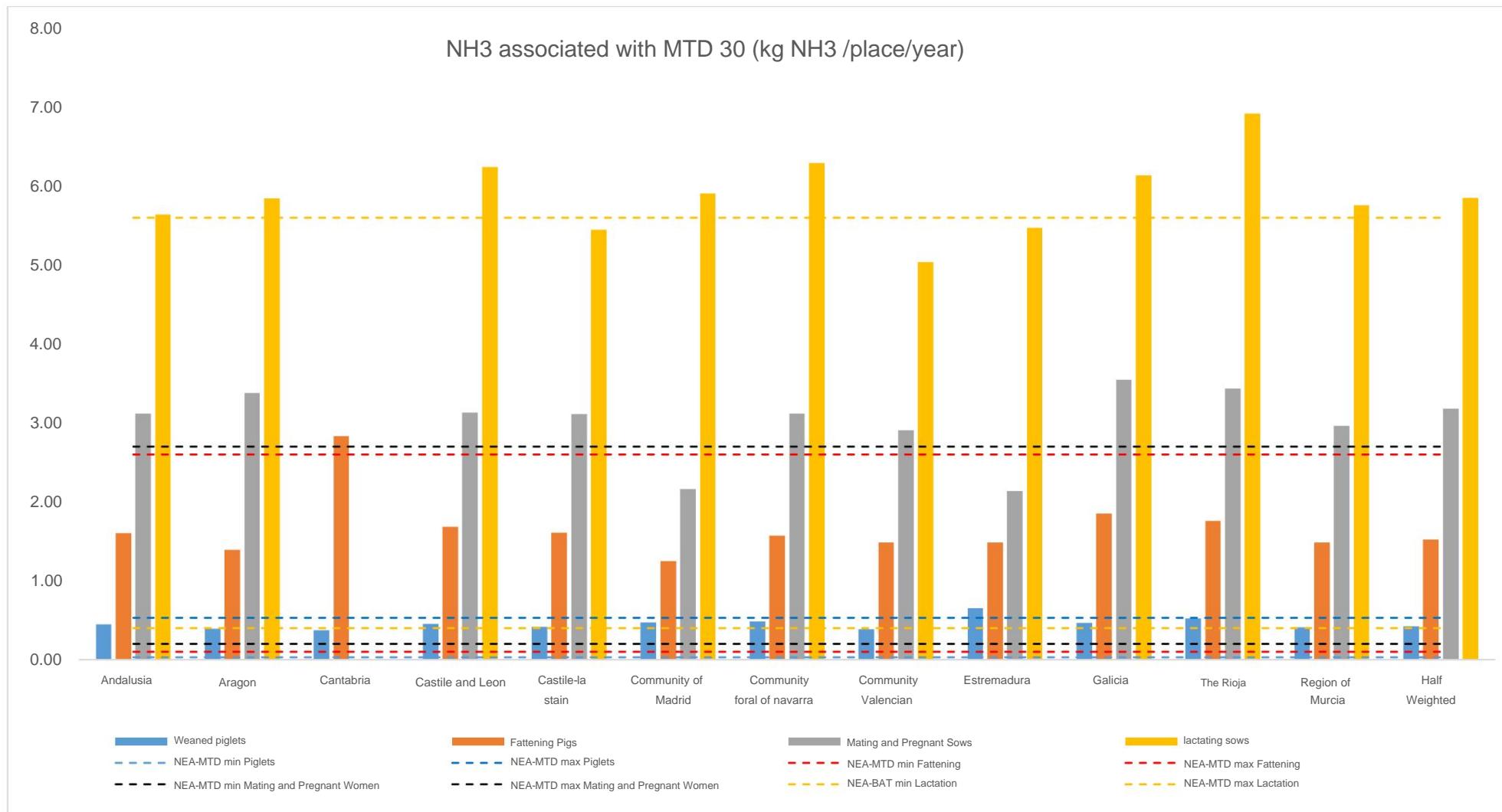
- Sows in lactation: Andalusia, Aragon, Castilla y León, C. Madrid, C. Navarra, Galicia, La Rioja and R. Murcia

However, although the mentioned values are above the NEA that Decision 302/2017 establishes in MTD 30, it cannot be said that said MTD is being breached, because the Decision itself includes a series of exceptions. that could appear in certain situations. The inclusion of these

farms in the calculation of the national average causes the average value to be slightly above that established in the Decision.

Thus, for example, in cases where a deep pit in the housing coexists with nutritional management techniques on the farm, the upper limits of the NEA are expanded:

- Weaned piglets: 0.7 Kg NH₃/Place/year
- Fattening pigs: 3.6 Kg NH₃/Place/year
- Sows in mating and pregnant: 4 Kg NH₃/Plaza/year
- Lactating sows (piglets included): 7.5 Kg NH₃/Place/year

Graph 7. Ammonia emission level (kg NH₃/square/year) by category in BAT 30 compared to NEA reference values

When comparing these data with those of last year's report (tables 16 and 17), it is observed that the average value of ammonia emitted by category has remained stable, with small downward variations. In the case of IPPC farms, this decrease is something older

Table 16. Evolution of Ammonia emitted associated with MTD 30 by place and year in adhered Autonomous Communities

NH3 associated with BAT 30 (kg NH3/place/year)				
	Weaned piglets	Pigs of Fattening	Mating sows and Pregnant women	lactating sows
Decision 302/2017 NEA-BAT 30	0.03-0.53	0.1-2.6	0.2-2.7	0.4-5.6
Weighted average 2021	0.44	1.54	3.17	5.88
Weighted average 2022	0.42	1.52	3.18	5.85

Table 17 Evolution of Ammonia emitted associated with MTD 30 per area and year in IPPC farms

NH3 associated with BAT 30 (kg NH3/place/year) IPPC FARMS				
	Weaned piglets	Pigs of Fattening	Mating sows and Pregnant women	lactating sows
Decision 302/2017 NEA-BAT 30	0.03-0.53	0.1-2.6	0.2-2.7	0.4-5.6
Weighted average 2021	0.45	1.53	3.21	5.95
Weighted average 2022	0.42	1.50	3.19	5.84

II. Degree of implementation of MTD 30 by productive category in Catalonia

It is important to highlight that the information has been provided by animal census instead of being provided based on occupied places, as calculated in ECOGAN.

Accommodation-related techniques have been reported without classification corresponding to the BAT 30 group to which they belong, from BAT 30.a) to BAT 30.e). Therefore, it has been necessary to classify the notified techniques in their BAT group. correspondent.

Likewise, it has been reported that in 608 farms the slurry pit present in the accommodation is managed as an external storage system, specifically as a pond, so in these cases the data from BAT 30.b to BAT 30.e.

Taking these considerations into account, based on the data notified to the Registry, it is concluded that:

- The techniques related to BAT group **30.a** correspond to the techniques reported regarding the **type of soil and the frequency of manure removal**.

The data indicate that in **99.2% of the notified farms** some technique is applied related to the reduction of the ammonia-emitting surface, the increase in the frequency with which the slurry (manure) is removed to the external storage, the separation of urine from feces or keeping the bed clean

and dry.

- In the case of the rest of the techniques in the MTD 30 group, **2.4% of the farms notified** (representing 2.2% of the notified census) report the use of the **slurry acidification** technique . **1.6 % of notified farms** report of the use of **floating balls** in the slurry pit (represents 2.2% of the census notified). The notification of slurry cooling and air cleaner is merely testimonial

Based on the data analyzed, it is concluded that:

- The notification of techniques related to the type of soil and the frequency of emptying is greater than 96% for all the notified productive categories.
- Slurry cooling (BAT 30.b) and the use of air purifiers (BAT 30.c) is reported mainly for fattening pigs.
- The acidification of slurry and the use of floating balls is carried out mainly on farms with females, fattening pigs or piglets in transition.

It is necessary to point out that the fact that Catalonia has not notified the levels of associated ammonia emission (NEA) do not allow verifying whether they comply with the parameters established in Decision 302/2017 and therefore validate the techniques applied

Table 18. Degree of implementation of BAT 30 in Catalonia reported by farms and census

Province		MTD 30 ACCOMMODATIONS																		
		MTD 30.a Soil type/Emptying frequency				BAT 30.b Slurry cooling				MTD 30.c Air purifier				MTD 30.d Acidification of slurry				MTD 30.e Floating balls in pit		
Farm %	Census		%	Farm %	Census %	Farm %	Census %	Farm %	Census %	Farm %	Census %									
Barcelona	923	99.03	1,405,016	99.48	-	-	-	-	-	-	-	-	4	0.43	4,948	0.35	-	-	-	-
Girona	453	99.34	754,245	99.61	-	-	-	-	1	0.22	1,107 0.15	71	15.57 119,742 15.81		59	12.94 138,052 18.23				
Lleida	2,069	99.23	3,960,658	99.61	6	0.29	15,789	0.40	4	0.19	4,165 0.10	12	0.58	20,528	0.52	3	0.14	10,825	0.27	
Tarragona	279	99.29	480,846	99.72	-	-	-	-	6	2.14	9,515	1.97	4	1.42	4,800	1.00	-	-	-	-
Total CATALONIA	3,724	99.20	6,600,765	99.59	6	0.16	15,789	0.24	eleven	0.29 14,787 0.22		91	2.42	150,018	2.26	62	1.65	148,877	2.25	

Table 19. Degree of implementation of BAT 30 in Catalonia by productive category

Productive category		Farm	Census	MTD 30 ACCOMMODATIONS BY PRODUCTION CATEGORY																			
				MTD 30.a Soil type/Emptying frequency				MTD 30.b Slurry cooling				MTD 30.c Air purifier				BAT 30.d Acidification of slurry				MTD 30.e Floating balls in pit			
				Farm %		Census	%	Farm %	Census %	Farms %	Census %	Farm %	Census %	Farm %	Census %								
Females	191	3,196	185	96.86	3,196	100.00	-	-	-	-	1	0.52	-	-	3	1.57	-	-	4	2.09	-	-	
Males	202	2,001	196	97.03	2,001	100.00	-	-	-	-	1	0.50	-	-	3	1.49	-	-	4	1.98	-	-	
Breeding	188	7,934	182	96.81	7,934	100.00	-	-	-	-	1	0.53	-	-	3	1.60	-	-	5	2.66	3.4	0.43	
Replacement	236	29,835	230	97.46	29,835	100.00	-	-	-	-	2	0.85	382	1.28	4	1.69	308	1.03	6	2.54	1,100	3.69	
fattening pigs	2,721	3,963,732	2,700	99.23	3,951,982	99.70	5	0.18 13,095 0.33		7	0.26 6,367 0.16		71	2.61	102,958 2.60		43	1.58 93,604		2.36			
Transition	319	362,804	311	97.49	359,979	99.22	-	-	-	-	2	0.63 5,007	1.38	6	1.88	8,456	2.33	4	1.25	-	-		

3.3. Degree of implementation of MTDs for the reduction of emissions from solid manure storage (BAT 14 and BAT 15)¹⁴

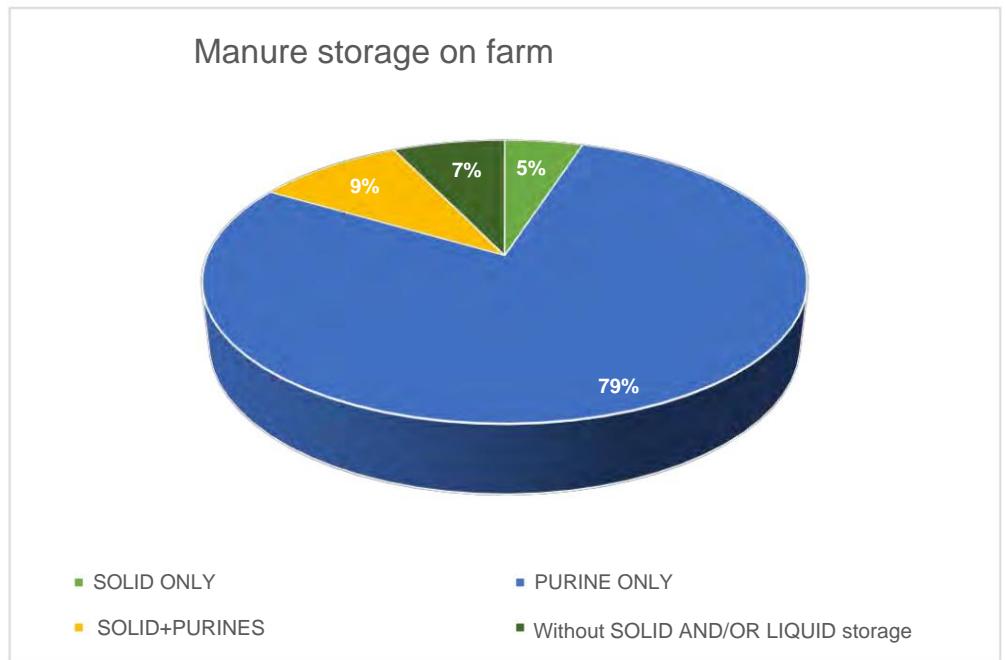
The BATs that imply a reduction of emissions from wastewater systems storage of solid manure are BAT 14 and 15.

To carry out a study of the level of implementation of these MTDs, previously has carried out an analysis on the production and storage of manure (solid or liquid) on farms with the aim of determining in a more precise way specifies the level of real implementation that these MTDs present.

Of the total universe of farms that have notified through ECOGAN, 822 farms have not reported any type of external manure storage system (solid or liquid) on the farm, that is, 7.1% of the farms do not indicate any outdoor storage on farm, 574 farms report that they only have solid manure storage (5% of farms), 1,085 farms (9.4%) report both types of storage (solid and liquid) and the remaining 9,037 (78.5%) report slurry storage on farm

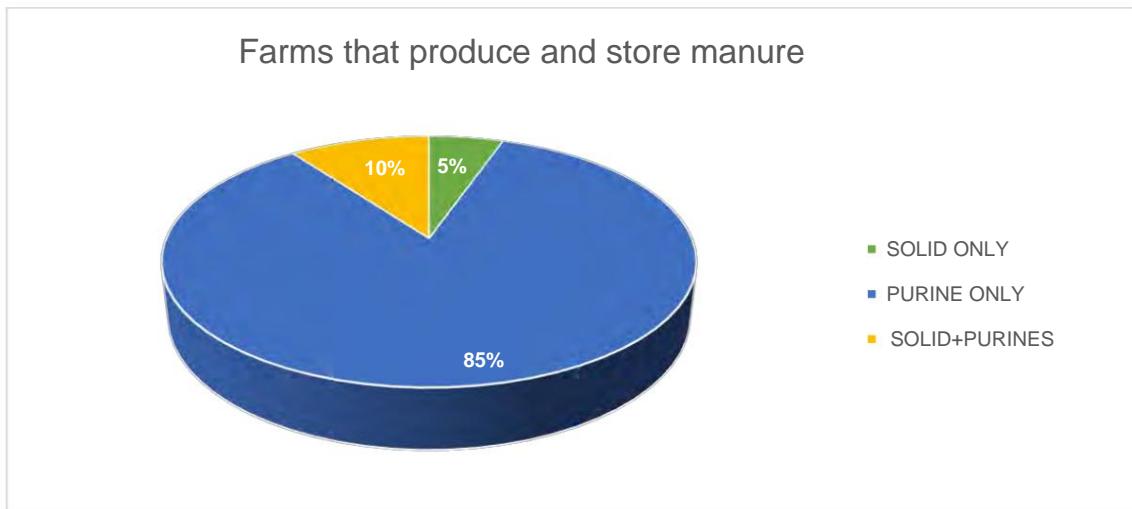
Graph 8. Manure storage (solid and/or liquid) over the total number of notified farms

¹⁴ The implementation of these BATs in Iberian pigs is analyzed separately given the differences between the production systems with white-coated pigs, which cause a greater amount of solid manure generated in Iberian pig production systems.



If we take into account only farms that produce and store manure (solid and/or liquid) on the farm, and eliminate those that do not declare any system storage on farm, the percentages are somewhat higher as seen in the following graph:

Graph 9. Manure storage (solid and/or liquid) on farms that store

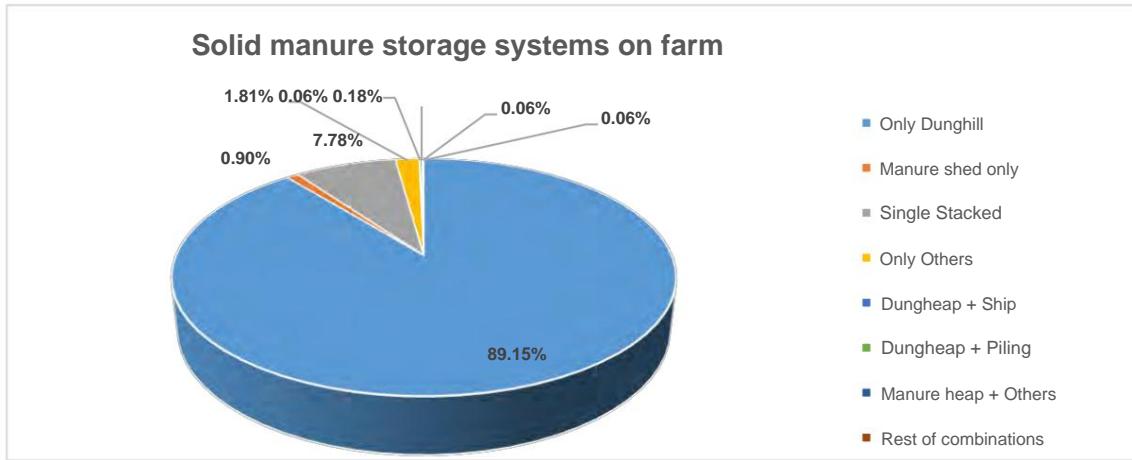


Regarding the type of storage system applied on farms, it is observed that in some cases it is decided to use different types of storage in the same farm.

In the specific case of solid manure storage systems, as described can be seen in the following graph, the manure dump is the system commonly used (89.1% of farms that store solid manure use manure, and a 0.3% combine the manure dump with another type of storage such as the warehouse or the

piled up). The second most used type of storage is stacking (7.8% of farms that store do so using only stacking).

Graph 10. Solid manure storage systems on farms



BAT involving a reduction of ammonia emissions into the atmosphere in solid manure storage systems is BAT 14. To reduce ammonia emissions into the atmosphere from manure storage solid, BAT consists of using **one or a combination** of the techniques indicated below.

- **BAT 14. a)** Reduce the coefficient between the emission surface and the volume of the solid manure pile.
- **BAT 14. b)** Cover the piles with solid manure.
- **BAT 14. c)** Store solid manure in a shed.

I. Degree of implementation of MTD 14 in the CCAA members of ECOGAN

Based on the data presented in Table 20, it is concluded that:

- **MTD 14. a)** 7.4 % of the farms that represent 7.8% of the total notified places reduce the coefficient between the emission surface and the volume of the solid manure pile.
- **MTD 14. b)** 0.4 % of the farms that represent 0.3% of the total places notified cover piles of solid manure.
- **MTD 14. c)** 1.8 % of the farms that represent 3.2% of the total places Notified companies store solid manure in a shed.

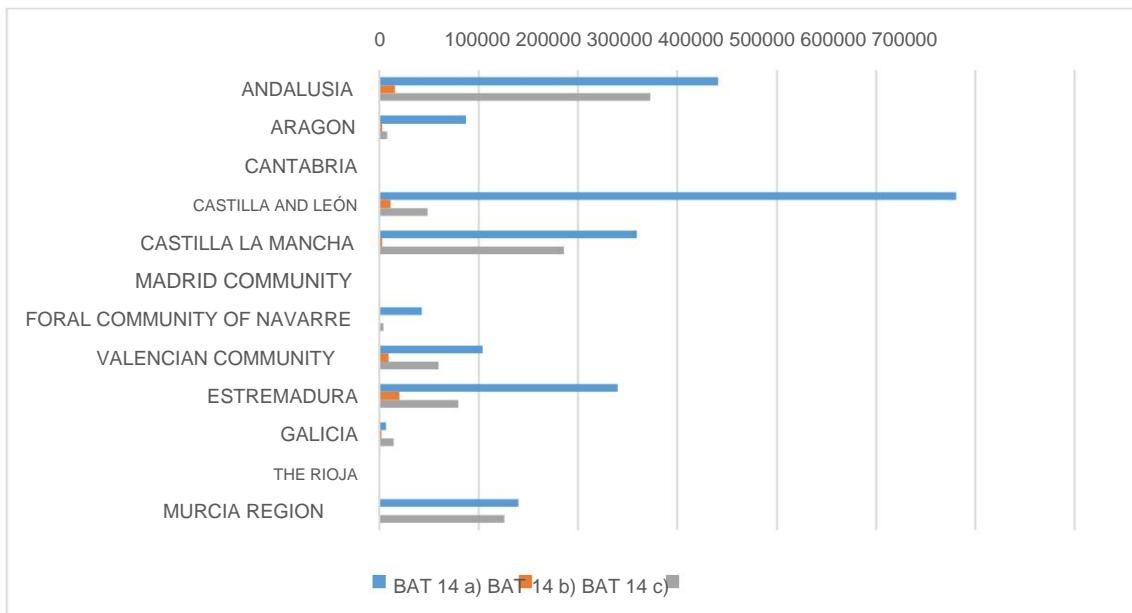
In general, and comparing these data with those of last year's Report, We can point out that the situation of compliance with said BAT 14 has remained

stable, with small upward variations, especially in compliance with the techniques a) and b).

Table 20. Degree of implementation of MTD 14 in farms and places by CCAA members of ECOGAN

CCAA	MTD 14 a)				BAT 14 b)				BAT 14 c)				
	Farms %		Plazas	% Farms %	Plazas %	Farms %				Plazas	%		
Andalusia	86	9.56	341,204	18.55	6	0.67	15,727	0.85		46	5.11	272,941	14.84
Aragon	29	0.80	87,398	0.99	2	0.06	2,462	0.03	3	0.08	7,850	0.09	
Cantabria	-	-	-	-	-	-	-	-	-	-	-	-	
Castile and Leon	356	14.84	580,432	13.26	1	0.04	10,976	0.25		25	1.04	48,391	1.11
Castilla la Mancha	41	6.86	259,041	14.66	1	0.17	2,984	0.17	twenty	3.34	185,760	10.51	
Madrid's community	-	-	-	-	-	-	-	-	-	-	-	-	
Foral community of Navarre	6	2.42	42,930	5.69	-	-	-	-	1	0.40	3,724	0.49	
Community Valencian	31	4.01	104,040	8.55	2	0.26	9,166	0.75	17	2.20	59,264	4.87	
Estremadura	249	30.48	239,978	39.99	25	3.06	20,447	3.41		55	6.73	79,185	13.20
Galicia	5	0.49	6,678	0.49	3	0.29	2,419	0.18	9	0.88	14,369	1.05	
The Rioja	1	1.64	627	0.37	-	-	-	-	-	-	-	-	
Region of Murcia	46	4.24	139,898	6.49	-	-	-	-	36	3.32	125,807	5.83	
Grand Total	850	7.38	1,802,226	7.80	40	0.35	64,181	0.28		212	1.84	797,291	3.45

Graph 11. Implementation of MTD 14 by notified places



The low percentages shown in Table 20 are largely due to the fact that, Of the total ECOGAN universe, 93% of farms store manure, but only **15.5% of farms that store manure declare that they produce and store solid manure**¹⁵ compared to the majority, which produce slurry (liquid manure). One has to Keep in mind that these techniques will only be applicable to those farms that in addition to producing solid manure, they subsequently store it in a manure heap, manure shed, stacking or other type of storage on the farm, leaving example, those farms that use it are excluded from its scope of application directly to an authorized external manager.

In this way, if we calculate the data in Table 20 specifically only on the farms that produce and store solid manure, that is, only those that MTD 14 can be applied to them, we obtain the following results that remain broken down in Table 21:

- **MTD 14. a) 51.2 % of the farms** that represent **67.5% of the**

Those that produce and store solid manure reduce the coefficient between the emission surface and the volume of the solid manure pile.

- **MTD 14. b) 2.4 % of the farms** that represent **2.4% of the places** in the

that produce and store solid manure cover the solid manure piles.

- **MTD 14. c) 12.8 % of the farms** that represent **29.9% of the**

those that produce and store solid manure store it in a shed.

Table 21. Degree of implementation of BAT 14 in farms and places that produce and store solid manure

CCAA	BAT 14 a				BAT 14b				BAT 14 c					
	Farms %	Places %	Farms %	Places %	Farms %	Places %	Farms %	Places %	Farms %	Places %	Farms %	Places %		
Andalusia	86	68.80	341,204	84.55	65.91	6	4.80	15,727	3.90	4.55	46	36.80	272,941	67.63
Aragon	29	87,398	80.70	-	-	2	2,462	2.27	-	-	3	6.82	7,850	7.25
Cantabria	-	-	-	-	-	-	-	-	-	-	-	-	-	
Castile and León	356	48.70	580,432	61.15	59.42	-	0.14	10,976	1.16	1.45	25	3.42	48,391	5.10
Castilla-La Stain	41	259,041	69.46	-	-	-	2,984	0.80	-	-	20	28.99	185,760	49.81
Community of Madrid	-	-	-	-	-	-	-	-	-	-	-	-	-	
Foral community of Navarra	6	75.00	42,930	84.74	-	-	-	-	-	-	1	12.50	3,724	7.35
Community Valencian	31	77.50	104,040	84.80	-	2	5.00	9,166	7.47	17	42.50	59,264	48.31	
Extremadura	249	44.15	239,978	54.38	38.46	25	4.43	20,447	4.63	23.08	55	9.75	79,185	17.94
Galicia	5	6,678	36.47	-	-	3	2,419	13.21	-	-	9	69.23	14,369	78.48
The Rioja	-	50.00	627	7.00	75.41	139,898	-	-	-	-	-	-	-	
Murcia Region	146	72.20	-	-	-	-	-	-	-	-	36	59.02	125,807	64.93
Grand Total	850	51.24	1,802,226	67.51	-	40	2.41	64,181	2.40	-	212	12.78	797,291	29.86

15 They correspond to farms that, either due to the design and management of the accommodation, generate solid manure (for example, accommodation without a slurry pit and with beds), or have solid-liquid separation systems for manure before storage.

As can be seen, the **percentages of application of BAT 14 on farms that produce and store solid manure** (Table 21) are much higher than in the total universe of the report (Table 20) because we have adjusted their analysis to the universe to which they really apply. Thus, this comparison allows us determine more accurately the degree of implementation that these techniques present at the national level.

Finally, and given the possible differences that there may be in the production between the Iberian pig and the white-coated pig, is of interest analyze from a specific point of view the results of this BAT if we take into account only the farms classified as Iberian:

- **MTD 14. a)** 32.1 % of the farms that represent **41.5% of the places**

reported totals of Iberian pigs apply this technique and therefore reduce the coefficient between the emission surface and the volume of the solid manure pile.

- **MTD 14. b)** 2 % of the farms that represent **1.7% of the total places**

reports of Iberian pigs cover the piles of solid manure.

- **MTD 14. c)** 6 % of the farms that represent **14.1% of the total places**

Notified Iberian pig producers store solid manure in a shed.

In this case, and like the previous one, we can observe that the percentages of implementation are greater compared to the data offered on the general census. This is because Iberian pig farms, due to their productive characteristics and of management, they generate solid manure in a greater proportion than in white pigs. In fact, according to data notified to the General Registry, **63.8% of notified Iberian pig farms produce and store solid manure**.

Table 22. Degree of implementation of BAT 14 in Iberian pig farms and pig areas

CCAA	MTD 14 a)				BAT 14 b)				BAT 14 c)			
	Farms %	Places %	Farms %	Places %	Farms %	Places %	Farms %	Places %	Farms %	Places %	Farms %	Places %
Andalusia	30	25.64	50,769	27.77	-	-	4	3	8,937	4.89	-	9.40
Aragon	-	-	-	-	-	-	-	-	-	-	-	-
Cantabria	-	-	-	-	-	-	-	-	-	-	-	-
Castile and Leon	201	38.29	363,255	45.30	-	-	-	-	-	-	12	2.29
Castilla la Mancha	twenty	30.77	158,417	58.21	-	-	1	2	2,984	1.10	14	21.54
Madrid's community	-	-	-	-	-	-	-	-	-	-	-	-
Foral community of Navarre	-	-	-	-	-	-	-	-	-	-	-	-
Community Valencian	-	-	-	-	-	-	-	-	-	-	-	-
Extremadura	232	31.78	220,391	42.65	-	-	25	3	20,447	3.96	52	7.12
Galicia	-	-	-	-	-	-	-	-	-	-	-	-
The Rioja	-	-	-	-	-	-	-	-	-	-	-	-
Murcia Region	2	2.94	4,222	3.09	-	-	-	-	-	-	2	2.94
Grand Total	485	32.12	797,054	41.47	-	-	30	1.99	32,368	1.68	91	6.03

If we compare these results with those of last year we can point out that there is no have produced large variations, producing a slight decrease in the level of implementation of **BAT 14 a)** Reduce the coefficient between the emission surface and the volume of the solid manure pile and **b) Cover** the solid manure piles in all the assumptions analyzed except in Iberian pigs where a slight decrease in the application of this BAT.

By calculating data only on farms that generate and store solid manure in Iberian pig, that is, only on those that would be applicable to them, the data that obtained are the following:

- **BAT 14. a)** 50.3 % of Iberian pig farms with storage of solid manure, which represent **64%** of the places, apply this technique and therefore therefore they reduce the coefficient between the emission surface and the volume of the solid manure pile.
- **MTD 14. b)** 3.1 % of Iberian pig farms with storage of Solid manure, which represents **2.6%** of the places, covers the piles of solid manure.
- **MTD 14. c)** 9.4 % of Iberian pig farms with solid manure storage, which represent **21.8%** of the places

They store solid manure in a shed.

II. Degree of implementation of MTD 14 in Catalonia

Techniques related to outdoor storage of manure (solid or liquid) have been reported without classification corresponding to the BAT group to which they belong. Therefore, it has been necessary to establish the distinction of each technique by outdoor storage system and BAT group to which they belong.

In the case of outdoor solid manure storage systems, the techniques reported only refer to BAT 14 but not to the related BAT 15 as well with solid manure.

Furthermore, it must be taken into account that the data provided does not differentiate between Iberian pigs and white pigs.

Based on the data notified to the Registry (Tables 22 and 23), it is concluded that:

- The number of farms that report having a storage system external manure (solid or liquid) amounts to 3,569 of the total of 3,754 reported, That is, 95% of farms store the manure (solid or liquid) they produce on the farm.

- The number of farms that report having a manure pile amounts to 33. This indicates that **0.8% of the notified farms** produce and store solid manure (either due to the design and management in accommodations without a slurry pit and with bedding, or through solid-liquid separation systems for manure before storage).
- MTD 14. a)**. 74.2 % of farms with manure (representing **67% of the census**) apply this technique and therefore reduce the coefficient between the surface of emission and the volume of the solid manure pile.
- MTD 14. b)**. 6.4 % of farms with manure (representing **29.9% of the census**) cover the piles of solid manure.
- MTD 14. c)**. 16.1 % of farms with manure (representing **2.9% of the census**) store solid manure in a shed.

Table 23. Storage of solid manure

Province	Notified farms	Farms with manure storage (solid or liquid)	% Farms with manure (solid manure storage)	%
Barcelona	932	900 96.57		8 0.89
Girona	456	434 95.18		6 1.38
Lleida	2,085	1974 94.68		13 0.66
Tarragona	281	261 92.88		4 1.53
TOTAL CATALONIA	3,754	3,569 95.07		31 0.87

Table 24. Degree of implementation of BAT 14 in farms and census that produce and store solid manure

PROVINCE	Farm	% Census	BAT 14.a			BAT 14.b			BAT 14.c / BAT 15.a		
			% Farm	% Census	% Farm	% Census	% Farm	% Census	%	Census	% Farm
Barcelona	5	62.50	768	19.06	1	12.50	3,069	76.17	2	25.00	192
Girona	5	83.33	1,827	100.00	-	-	-	-	1	16.67	-
Lleida	9	69.23	2,985	94.31	1	7.69	58	1.83	2	15.38	117
Tarragona	4	100.00	1,424	100.00	-	-	-	-	-	-	-
Total Catalonia	23	74.19	7,004	67.06	2	6.45	3,127	29.94	5	16.13	309
											2.96

3.4. Degree of implementation of MTDs for the reduction of emissions to soil and water from storage of solid manure (BAT 15)

The BAT that implies a reduction of emissions to soil and water in solid manure storage systems is BAT 15:

To avoid or, where not possible,

reduce emissions to soil and water from manure storage

solid, BAT is to use **one or a combination** of the techniques indicated below.
continuation.

- **BAT 15. a)** Store solid manure in a shed.
- **BAT 15. b)** Use a concrete silo to store solid manure.
- **BAT 15. c)** Store solid manure on impermeable solid floors equipped with a drainage system and a cistern to collect runoff.
- **MTD 15. d)** Select a storage warehouse with sufficient capacity to preserve solid manure during periods when it is not possible to carry out its application to the field.
- **BAT 15. e)** Store solid manure in heaps in the field, away from surface and/or groundwater courses where runoff could occur.
liquid.

I. Degree of implementation of MTD 15 in the CCAA members of ECOGAN

Based on the data presented in Table 25, it is concluded that:

- **MTD 15. a) 1.8 % of the farms** that represent **3.5% of the total places**
notified companies store solid manure in a shed.
- **MTD 15. b) 5.9 % of the farms** that represent **6.9% of the total places**
Notified companies use a concrete silo for the storage of solid manure.
- **MTD 15. c) 7.1 % of the farms** that represent **7.9% of the total places**
Notified companies store solid manure on impermeable floors equipped with a drainage system and a cistern to collect runoff.
- **MTD 15. d) 0.1 % of the farms** that represent **0.2% of the total places**
notified companies select a storage warehouse with sufficient capacity to preserve solid manure during periods when it is not possible field application.
- **MTD 15. e) 13.4 % of the farms** that represent **11% of the total places**
notified companies store solid manure in heaps in the field, away from courses

of surface and/or groundwater in which runoff could occur liquid.

Graph 12. Implementation of MTD 15 by notified places

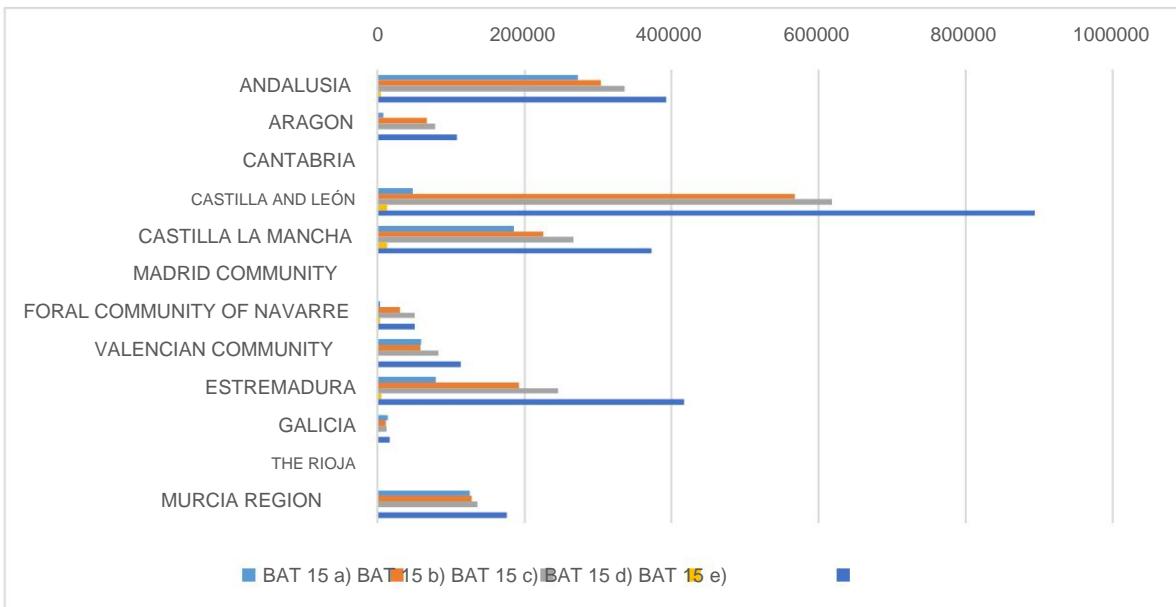


Table 25. Degree of implementation of BAT 15 in farms and places by Autonomous Community

CCAA	BAT 15 a)				BAT 15 b)				BAT 15 c)				MTD 15 d)				BAT 15 e)				
	Farms	%	Places		%	Farms	%	Places	%	Farms	%	Places	%	Farms	%	Places	%	Farms	%		%
Andalusia	46	5.11	272,941	14.84	70	7.78	303,610	16.51	86	9.56	336,581	18.30	1	0.11	4,889	0.27	119	13.22	392,792	21.35	
Aragon	3	0.08	7,850	0.09	23	0.64	67,171	0.76	27	0.75	78,457	0.89	1	0.03	70	0.00	44	1.22	108,298	1.22	
Cantabria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	50.00	19	39.58
Castile and Lion	25	1.04	48,391	1.11	280	11.67	567,647	12.97	320	13.34	617,773	14.11	2	0.08	12,976	0.30	675	28.14	893,739	20.42	
Castile-La Mancha	34	3.34	185,760	10.51	30	5.02	225,785	12.78	42	7.02	266,758	15.10	2	0.33	12,955	0.73	68	11.37	372,831	21.10	
Madrid's community	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	14.29	32	0.34
Foral community of Navarre	1	0.40	3,724	0.49	6	2.42	30,290	4.01	8	3.23	50,660	6.71	1	0.40	3,724	0.49	8	3.23	50,660	6.71	
Community Valencian	17	2.20	59,264	4.87	19	2.46	58,756	4.83	26	3.36	82,714	6.80	-	-	-	-	38	4.92	113,128	9.30	
Extremadura	55	6.73	79,185	13.20	201	24.60	192,748	32.12	258	31.58	246,029	41.00	5	0.61	5,656	0.94	523	64.01	417,359	69.55	
Galicia	9	0.88	14,369	1.05	6	0.59	11,345	0.83	7	0.69	12,365	0.90	1	0.10	1,120	0.08	10	0.98	16,824	1.23	
The Rioja	-	-	-	-	1	1.64	627	0.37	1	1.64	627	0.37	-	-	-	-	-	1	1.64	627	0.37
Region of Murcia	36	3.32	125,807	5.83	42	3.87	127,949	5.93	415	4.15	136,094	6.31	-	-	-	-	57	5.26	176,407	8.18	
Grand Total	212	1.84	797,291	3.45	678	5.89	1,585,928	6.86	820	7.12	1,828,058	7.91	13	0.11	41,390	0.18	-	1,545	13.41	2,542,716	11.00

These low implementation percentages are due to the fact that MTD 15 is only really applicable on those pig farms that produce and store solid manure, that is, on those farms that, due to the design and management in the housings generate solid manure (for example, housings without a slurry pit and with bed), or have solid-liquid separation systems for manure before of storage.

Thus, if we analyze the degree of implementation only on the universe of farms that produce and store solid manure and which represent only 14.4% of the total number of notified farms, the data obtained is the following:

- **12.8 % of farms and 29.9% of places apply MTD 15 a.**
- **40.9 % of the farms and 59.4% of the places apply MTD 15 b.**
- **49.4 % of farms and 68.5% of places apply MTD 15 c.**
- **0.8 % of farms and 1.6% of places apply MTD 15 d.**
- **93.1 % of the farms and 95.2% of the places apply BAT 15 e.**

If we compare these results with those obtained in last year's report, We can point out that the level of implementation of these techniques has remained stable with small downward variations in most techniques.

On the other hand, and given the possible differences that may exist in the production between the Iberian pig and the white-coated pig, is of interest analyze from a specific point of view the results of this BAT in pigs Iberian, as shown in Table 27.

Table 26. Degree of implementation BAT 15 by farm and places that produce and store solid manure

CCAA	BAT 15 a)						BAT 15 b)						BAT 15 c)						MTD 15 d)						BAT 15 e)		
	Farms	%	Places	%	Farms	%	Places	%	Farms	%	Places	%	Farms	%	Plazas	%	Farms	%	Plazas	%	Farms	%	Plazas	%			
Andalusia	46	36.80	272,941	67.63		70	56.00	303,610	75.23		86	68.80	336,581	83.40	1	0.80	4,889	1.21		119	95.20	392,792	97.33				
Aragon	3	6.82	7,850	7.25	23	52.27	67,171	62.02	27	61.36	78,457	72.45	1	2.27	70	0.06	44	100.00	108,298	100.00							
Cantabria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	100.00	19	100.00					
Castile and Lion	25	3.42	48,391	5.10	280	38.30	567,647	59.80		320	43.78	617,773	65.08	2	0.27	12,976	1.37		675	92.34	893,739	94.16					
Castile-la Stain	twenty	28.99	185,760	49.81		30	43.48	225,785	60.54		42	60.87	266,758	71.53	2	2.90	12,955	3.47		68	98.55	372,831	99.97				
Madrid's community	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	100.00	32	100.00					
Foral community of Navarre	1	12.50	3,724	7.35	6	75.00	30,290	59.79	8	100.00	50,660	100.00	1	12.50	3,724	7.35		8	100.00	50,660	100.00						
Community Valencian	17	42.50	59,264	48.31		19	47.50	58,756	47.89	26	65.00	82,714	67.42	-	-	-	-	-	38	95.00	113,128	92.21					
Estremadura	55	9.75	79,185	17.94		201	35.64	192,748	43.68	258	45.74	246,029	55.76	5	0.89	5,656	1.28		523	92.73	417,359	94.58					
Galicia	9	69.23	14,369	78.48		6	46.15	11,345	61.96	7	53.85	12,365	67.54	1	7.69	1,120	6.12		10	76.92	16,824	91.89					
The Rioja		0.00		0.00	1	50.00	627	7.00	1	50.00	627	7.00	-	-	-	-	-	1	50.00	627	7.00						
Region of Murcia	36	59.02	125,807	64.93		42	68.85	127,949	66.03	Four. Five	73.77	136,094	70.23	-	-	-	-	-	57	93.44	176,407	91.04					
Grand Total	212	12.78	797,291	29.86		678	40.87	1,585,928	59.41		820	49.43	1,828,058	68.47		13	0.78	41,390	1.55		1,545	93.13	2,542,716	95.24			

Based on the data presented in Table 27:

- **MTD 15. a)** 6 % of the farms that represent 14.1% of the total places reported Iberian pig farms store solid manure in a shed.
- **MTD 15. b)** 26.9 % of the farms that represent 38.1% of the places reported totals of Iberian pigs use a concrete silo for solid manure storage.
- **MTD 15. c)** 31.6 % of the farms that represent 43.1% of the places reported **totals** of Iberian pigs store solid manure in soils raincoats equipped with a drainage system and a cistern to collect the runoff.
- **MTD 15. d)** 0.5 % of the farms that represent 0.8% of the total places notified Iberian pigs select a storage facility with sufficient capacity to preserve solid manure during periods in which its application to the field is not possible.
- **MTD 15. e)** 59.7 % of the farms that represent 61.8% of the places reported **totals** of Iberian pigs store solid manure in piles in the field, away from surface and/or underground water courses where liquid runoff could occur.

As can be seen, the percentages of application of MTD 15 in Table 27 are greater than those shown in Table 25. This is because pig farms Iberian, due to their productive and management particularities, generate solid manure in a much greater proportion than in white pigs. In fact, according to the data notified to the General Registry, **63.8% of the notified Iberian pig farms produce and store solid manure.**

By calculating the data only on the Iberian pig farms that generate and store solid manure, that is, only on those that would be applicable, the data that obtained are the following:

- 9.4 % of farms and 21.8% of places apply **BAT 15 a).**
- 42.2 % of farms and 51.8% of places apply **MTD 15 b).**
- 49.5 % of farms and 66.5% of places apply **BAT 15 c).**
- 0.8 % of farms and 1.2% of places apply **BAT 15 d).**
- 93.5 % of farms and 95.5% of places apply **BAT 15 e).**

Table 27. Degree of implementation of BAT 15 in farms and places by Autonomous Community in Iberian pigs

CCAA	BAT 15 a)				BAT 15 b)				BAT 15 c)				MTD 15 d)				BAT 15 e)						
	Farms	%	Places	%	Farms	%	Squares	%	Farms	%	Plazas	%	Farms	%	Places	%	Farms	%	Places	%			
Andalusia	9.40	37,954	20.76		31	26.50	65,279	35.71		3.4	29.06	66,691	36.49	1	0.85	4,889	2.67	51	43.59	81,296	44.48		
Aragon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Cantabria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Castile and Lion	12	2.29	20,402	2.54	172	32.76	350,683	43.73		186	35.43	375,139	46.78	1	0.19	2,000	0.25	348	66.29	553,991	69.08		
Castile-la Stain	14	21.54	130,653	48.01		14	23.08	137,609	50.56		32.31	159,723	58.69	1	1.54	2,984	1.10	27	41.54	181,218	66.59		
Community from Madrid	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Foral community of Navarre	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Community Valencian	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Estremadura	52	7.12	77,682	15.03	187	25.62	174,172	33.71		2.3.4	32.05	221,876	42.94	5	0.68	5,656	1.09	472	64.66	365,664	70.76		
Galicia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
The Rioja	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Region of Murcia	2	2.94	4,222	3.09	2	2.94	4,222	3.09	2	2.94	4,222	3.09	-	-	-	-	3	4.41	5,867	4.30			
Grand Total	91	6.03	270,913	14.10		407	26.95	731,965	38.09		477	31.59	827,651	43.07	8	0.53	15,529	0.81		901	59.67	1,188,036	61.82

II. Degree of implementation of MTD 15 in Catalonia

No data has been reported in this regard.

3.5. Degree of implementation of the different MTDs for the reduction of ammonia in liquid manure storage or slurry (MTD 16 and 17)

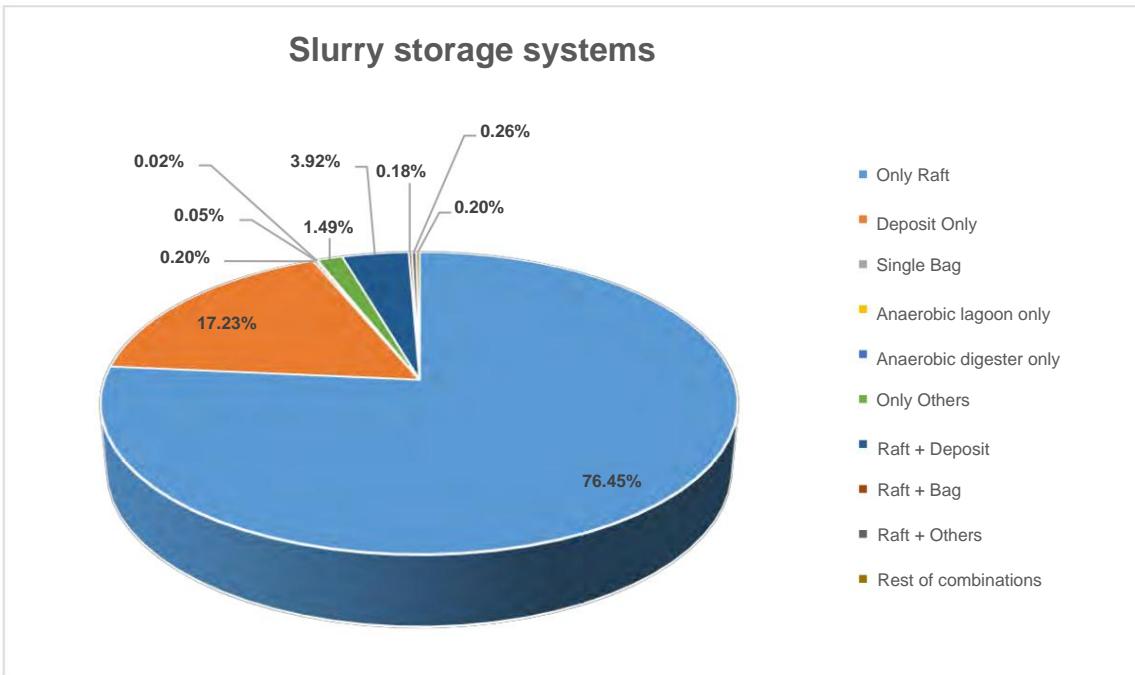
BAT involving a reduction of ammonia emissions in wastewater systems storage of liquid manure (slurry) are BAT 16 (Deposits) and 17 (Rails).

To carry out a study of the level of implementation of these MTDs, a study on the types of storage systems used by farms belonging to the universe with the objective of determining in a more specific way the level of real implementation that these MTDs present.

Regarding the type of storage system applied on farms, it is observed that in some cases it is decided to use different types of storage in the same farm.

In the specific case of slurry storage systems, how can

Observe in the following graph, the system commonly used on farms that store slurry is the **raft**, being used by **80.9% of the farms** that store slurry (76.5% of farms that store slurry use only raft, and 4.4% combine the raft with another type of storage such as a tank or bag). The second most used type of storage is **the tank**, which is used by **21.3%** of farms that store slurry (17.2% of farms that store slurry use only tanks, and 4.1% use tanks together with another type of slurry storage).

Graph 13. Slurry storage systems

BAT 16. To reduce ammonia emissions into the atmosphere from the slurry storage, BAT is to **use a combination** of the techniques listed below.

- **BAT 16. a)** Carry out adequate design and management of **storage tanks**. **manure**, using a combination of the following techniques:
 - ÿ Reduce the coefficient between the emission surface and the volume of the deposit of purines.
 - ÿ Reduce wind speed and air exchange on the surface of the slurry, reducing the tank filling level.
 - ÿ Reduce slurry agitation to a minimum.
- **MTD 16. b)** Cover the slurry tank. For this, one of the techniques can be applied following: Rigid cover; flexible covers; and Floating covers, for example: plastic pellets, light bulk materials, flexible floating covers, plates geometric plastic, pneumatic covers, natural crust, straw.
- **MTD 16. c)** Acidification of slurry.

I. Degree of implementation of MTD 16 in the CCAA members of ECOGAN

Table 28. Notified farms, with slurry production, that use tanks as a system _____ outdoor manure storage

CCAA	Farms with slurry storage	Places with slurry storage	Farms with DEPOSIT	% Plazas with DEPOSIT	%
Andalusia	827	1,769,714	147	17.78	274,409 15.51
Aragon	3,551	8,806,652	396	11.15	628,204 7.13
Cantabria	2	48	-	-	-
Castile and León	1,824	3,896,454	206	11.29	385,396 9.89
Castilla la Mancha	521	1,618,277	87	16.70	365,450 22.58
Madrid's community	7	9,535	2	28.57	2,103 22.06
Foral community of Navarra	227	726,137	33	14.54	100,299 13.81
Valencian Community	512	905,326	97	18.95	143,007 15.80
Extremadura	621	532,744	228	36.71	106,597 20.01
Galicia	942	1,297,008	832	88.32 1,120,794	86.41
The Rioja	51	147,609	2	3.92	3,939 2.67
Murcia Region	1,037	2,102,331	131	12.63	250,864 11.93
Total CCAA adhered	10,122	21,811,835	2,161	21.35 3,381,062	15.50

Table 29. Degree of implementation of BAT 16 by farms and places by Autonomous Community

CCAA	BAT 16.a)			BAT 16.b)			BAT 16.c)					
	Farms %	Places %	Farms %				Plazas %		Farms %	Places %		
Andalusia	2.33	28,356	1.54	71	7.89	146,747	7.98	-	-	-	-	-
Aragon	173	4.79	244,706	2.76	238	6.59	293,462	3.31	1	0.03 1,575	0.02	
Cantabria	-	-	-	-	-	-	-	-	-	-	-	-
Castile and Lion	118	4.92	184,230	4.21	116	4.84	177,527	4.06	4	0.17	914	0.02
Castile-la Stain	32	5.35	39,924	2.26	27	4.52	35,486	2.01	1	0.17	100	0.01
Madrid's community	-	-	-	-	1	14.29	32	0.34	-	-	-	-
Foral community of Navarre	17	6.85	34,249	4.54	twenty	8.06	47,317	6.27	1	0.40 1,999	0.26	
Community Valencian	24	3.10	28,026	2.30	65	8.41	76,504	6.29	-	-	-	-
Extremadura	156	19.09 9.62	35,245 52,859		107	13.10 6.05	76,290 99,726		14	1.71 6,143	1.02	
Galicia	360	40.43			716	65.79 3.28	3,939 2.35	6.37 3.87	7	0.69 13,345	0.98	
The Rioja	-	-	-	-	2				-	-	-	-
Region of Murcia	66	6.09	90,829	4.21	69		83,421		-	-	-	-
Grand Total	967	8.40 1,260,920	5.45		1432	12.43 1,800,457	7.79		28	0.24 24,076	0.10	

Based on the data presented in the previous tables, it is concluded that:

- 19 % of notified farms use outdoor storage as a system deposits , which represents **14.6% of the notified places**. If we take into account only the farms that produce and store slurry, 21.3% of the farms use tanks as an outdoor storage system (15.5% of the places)
- Tank coverage is around **91%** of farms with tanks notified, that is, of the 2,161 farms with a deposit, 1,963 declare some type of **cover**, having declared this coverage of the deposit 807 farms this year more compared to last year.
- **MTD 16 a).** 8.4 % of the farms that represent 5.5% of the total places reported reduce slurry agitation to a minimum.
- **MTD 16 b).** 12.4 % of farms representing 7.8% of places notified covers slurry deposits¹⁶.
- **BAT 16 c).** 0.2 % of the farms that represent 0.1% of the places lead to acidification of slurry¹⁷.

The implementation percentages shown in Table 29 remain similar to those of last year, highlighting that these are relatively low mainly because these techniques would actually only be applicable to 19% of farms that are those that have warehouses as storage systems.

That is why, to determine the level of real implementation, we must analyze these data taking into account only those farms with tanks for which it would be of application. In this case, the data obtained is the following:

- **MTD 16 a).** 44.8 % of the farms that represent 37.3% of the total places Notified with tank reduce slurry agitation to a minimum.
- **MTD 16 b).** 66.3 % of the farms that represent 53.3% of the places Notified with deposit cover slurry deposits.
- **BAT 16 c).** 1.3 % of the farms that represent 0.7% of the places notified with deposit carry out the acidification of slurry.

¹⁶ The high number of deposits declared in Galicia with respect to the rest of the Autonomous Communities stands out, mainly because these deposits are configured as an ideal system for protecting the slurry warehouse against the very common rain in said region.

¹⁷ It stands out that this reduced level of implementation is possibly due to its technical complexity and the high cost of implementation and maintenance.

Table 30. Degree of MTD 16 implementation in farms and places with tanks

CCAA	BAT 16.a)			BAT 16.b)			BAT 16.c)					
	Farms %		Plazas %		Farms %		Plazas %		Farms %	Places %		
Andalusia	-	14.29	10.33	243,366	244,706	71	48.30	146,747	53.48	-	-	-
Aragon	173	38.95	-	-	238	60.10	293,462	46.71	1	0.25	1,575	0.25
Cantabria	-	-	-	-	-	-	-	-	-	-	-	-
Castile and Lion	118	57.28	184,230	47.80	116	56.31	177,527	46.06	4	1.94	914	0.24
Castile-la Stain	32	36.78	39,924	10.92	27	31.03	35,486	9.71	1	1.15	100	0.03
Madrid's community	-	-	-	-	1	50.00	32	1.52	-	-	-	-
Foral community of Navarre	17	51.52	34,249	34.15	twenty	60.61	47,317	47.18	1	3.03	1,999	1.99
Community Valencian	24	24.74	28,026	19.60	65	67.01	76,504	53.50	-	-	-	-
Estremadura	156	68.42	54,175	53,724	1552,859	107	46.93	36,296	34.05	14	6.14	6,143
Galicia	360	49.33	-	-	716	86.06	899,726	80.28	7	0.84	13,345	1.19
The Rioja	-	-	-	-	2	100.00	3,939	100.00	-	-	-	-
Region of Murcia	66	50.38	90,829	36.21	69	52.67	83,421	33.25	-	-	-	-
Grand Total	967	44.75	1,260,920	37.29	1,432	66.27	1,800,457	53.25	28	1.30	24,076	0.71

It is necessary to clarify the difference between the level of implementation of BAT 16.b relative to the coverage of the tanks (66.3% of the farms) and the data obtained on the degree of coverage of existing tanks on the farm (91% of farms with warehouses report having some farm warehouse covered). This is because, ECOGAN uses a more restrictive criterion to consider compliance with the BAT 16.b so that, for example, only those farms that present all of their covered deposits. However, for the purposes of reducing of emissions is considered the fact that 91% of the declared deposits are covered.

On the other hand, and as a novelty in this year's report, a study on the different types of covers used in farms with tanks as a storage system (rigid cover, flexible cover, crust, materials floating pieces, plastic sheets and the category "others"), showing in the Table 31 the results relating to the most used roof systems.

In this way, and taking into account the results of this study, we can point out as most notable data that:

- **64.7 % of the farms and 55% of the places** with deposits carry out their coverage by a **rigid cover**.
- **1 % of the farms and 1% of the places** with deposit carry out their coverage by a **flexible cover**.

- 33.5 % of farms and 46% of places with deposits carry out their covering by a **crust**.
- 0.6 % of farms and 1.8% of places with deposits carry out their coverage using **floating materials**.
- 4.2 % of the farms and 2% of the places with deposits carry out their coverage by “**Other coverage systems**”.

Although these have been the most used roof systems at the national level, where

The use of **rigid covers stands out without a doubt**, and **crust** followed by flexible cover,

At the other extreme and as the least used covering systems, we can highlight the use of **plastic sheets** by only **0.46%** of the farms, followed by **synthetic pieces** that are only used by **0.05%** of the farms. . The sum of

the percentages relative to the types of cover is greater than 100% because within

On the same farm, different types of covers may be used.

Due to the reduced level of implementation that these covers have, they have not been integrated into Table 31, which shows the percentage of implementation of the types of covers most used nationally.

Graph 14. Types of cover in warehouses on farms nationwide

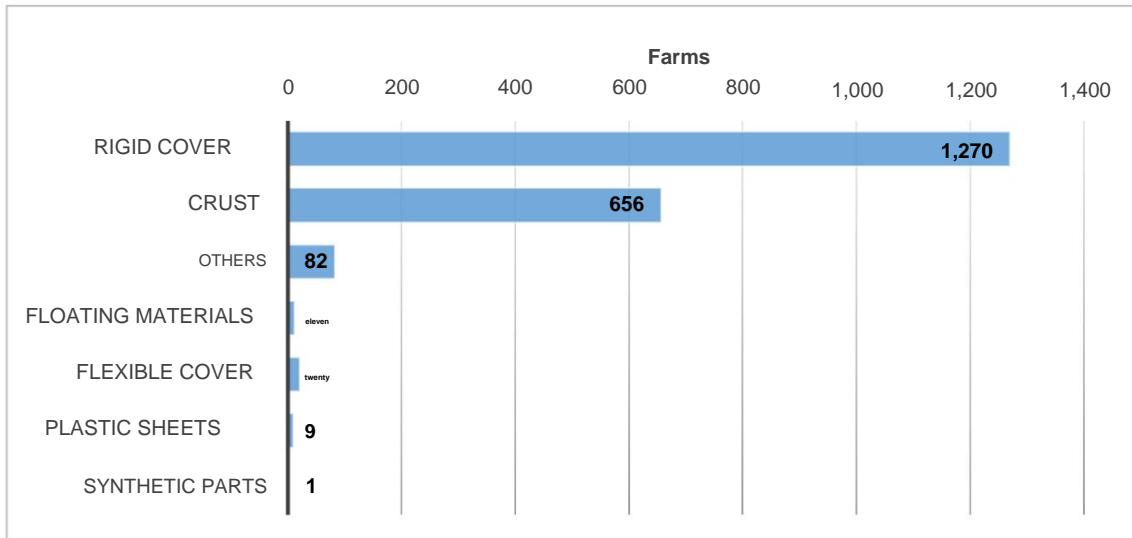


Table 31. Degree of implementation of different types of roofs in farms and squares with covered warehouses

CCAA	Rigid Cover			Flexible cover					Crust			Floating Materials					Others				
	Farm %		Places %	Farm %	Places %	Farm %			Places %	Farm %	Places %	Farm %	Places %								
Andalusia	twenty	14.81	42,346	16	2	1.48	3,804	1	112	82.96	205,464	78	2	1.48	29,663	eleven	7	5.19	7,766	3	
Aragon	222	60.33	348,189	60	1	0.27	700	-	163	44.29	273,365	47	1	0.27	7,200	1	6	1.63	10,774	2	
Cantabria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Castile and Lion	90	51.14	128,763	36	-	-	-	-	82	46.59	246,387	69	-	-	-	-	12	6.82	11,699	3	
Castile-la Stain	fifteen	26.79	22,307	8	-	-	-	-	43	76.79	240,389	91	-	-	-	-	1	1.79	9,971	4	
Madrid's community	1	100.00	32	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Foral community of Navarre	13	44.83	26,123	31	-	-	-	-	fifteen	51.72	58,430	68	-	-	-	-	1	3.45	800	1	
Community Valencian	68	70.10	103,598	72	1	1.03	770	1	30	30.93	45,461	32	1	1.03	600	-	4	4.12	9,054	6	
Estremadura	114	62.98	46,265	56	1	0.55	175	-	19	10.50	22,586	27	-	-	-	-	49	27.07	15,457	19	
Galicia	679	85.95	928,079	86	eleven	1.39	20,833	2	116	14.68	183,173	17	1	0.13	990	-	2	0.25	2,720	-	
The Rioja	2	100.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Region of Murcia	46	35.94	58,890	24	4	3.13	9,697	4	76	59.38	154,781	64	6	4.69	22,222	9	-	-	-	-	
Grand Total	1,270	64.70	1,704,592	55	twenty	1.02	35,979	1	656	33.42	1,430,036	46	-	eleven	0.56	60,675	2	82	4.18	68,241	2

II. Degree of implementation of MTD 16 in Catalonia

Catalonia, for its part, has notified only some of the techniques related to BATs 16 and 17. Likewise, based on the notified data, it has not been possible to distinguish between pond and tank, since only ponds have been reported, but it has been including application of techniques related to BAT 16 (deposits). All this has done It is necessary to carry out an interpretation of the techniques related to BAT 16 and 17 of jointly in the following section relating to BAT 17.

BAT 17: To reduce ammonia emissions into the atmosphere from a **pond**

slurry, BAT is to use a **combination** of the following techniques.

- **BAT 17. a)** Reduce slurry agitation to a minimum.
- **BAT 17. b)** Cover the slurry pond with a flexible and/or floating cover, such as: flexible plastic sheets, lightweight bulk materials, natural crust, or straw.

Y.O. **Degree of implementation of MTD 17 in the CCAA members of ECOGAN**

Table 32. Notified farms that use rafts as an outdoor storage system

CCAA	Farms with slurry storage	Places with slurry storage	Farms with RAFT	%	Plazas with RAFT	%
Andalusia	827	1,769,714	742	89.72	1,686,424	95.29
Aragon	3,551	8,806,652	3,258	91.75	8,422,548	95.64
Cantabria	2	48	2	100.00	48	100.00
Castile and León	1,824	3,896,454	1,599	87.66	3,591,522	92.17
Castilla la Mancha	521	1,618,277	465	89.25	1,537,276	94.99
Madrid's community	7	9,535	6	85.71	9,503	99.66
Foral community of Navarra	227	726,137	201	88.55	668,599	92.08
Valencian Community	512	905,326	416	81.25	787,174	86.95
Extremadura	621	532,744	359	57.81	421,557	79.13
Galicia	942	1,297,008	132	14.01	245,773	18.95
The Rioja	51	147,609	47	92.16	140,450	95.15
Murcia Region	1,037	2,102,331	959	92.48	2,001,874	95.22
Total CCAA adhered	10,122	21,811,835	8,186	80.87	19,512,748	89.46

Table 33. Degree of implementation of BAT 17 on farms and by places by Autonomous Community

CCAA	BAT 17.a)			BAT 17.b)			
	Farms %		Plazas	%	Farms %	Places	%
Andalusia	625	69.44	1,401,858	76.21	631	70.11	1,522,827
Aragon	2953	81.82	7,748,014	87.46	2754	76.31	7,316,192
Cantabria	2	0.00	48	0.00	1	0.00	19
Castile and León	1415	58.98	3,194,656	72.98	1139	47.48	2,842,951
Castilla la Mancha	383	64.05	1,103,503	62.45	301	50.33	1,024,256
C. of Madrid	5	71.43	7,432	77.94	4	57.14	6,732
Navarre	180	72.58	587,102	77.75	162	65.32	518,727
Valencian C.	360	46.57	685,936	56.37	219	28.33	463,282
Estremadura	244	29.87	300,336	50.05	157	19.22	234,443
Galicia	88	8.63	148,591	10.87	26	2.55	54,363 54.10
The Rioja	42	68.85	126,610	75.51	33	103,634	
R. Murcia	877	80.90	1,781,867	82.60	830	76.57	1,757,282
Grand Total	7,174	62.29	17,085,953	73.91	6257	54.32	15,844,708
							68.54

Based on the data presented in the previous tables we can affirm that:

- 71 % of the total notified farms use **ponds** as a storage system. outside storage. Likewise, 80.9% of farms that store slurry use ponds as a storage system.
- Around **86%** of the farms with ponds have the **ponds covered**, that is, the 8,186 farms with ponds (3,166 more than last year), 7,031 declare present some type of cover (2,978 more than last year).
- **MTD 17 a).** 62.3 % of the farms that represent 74% of total places reported reduce slurry agitation to a minimum.
- **BAT 17 b).** 54.3 % of the farms that represent 68.5% of the places notified cover the slurry ponds.

The implementation percentages shown in Table 33 remain similar to those last year, highlighting that to determine the level of real implementation we must analyze said data taking into account only those farms with ponds to which that would be applicable to them as carried out in Table 32. In this case, the data obtained are the following:

- **MTD 17 a).** 87.6 % of the farms that represent 87.6% of total places reported with raft reduce slurry agitation to a minimum.
- **BAT 17 b).** 76.4 % of the farms that represent 81.2% of the places notified with raft cover the slurry ponds.

Table 34. Degree of BAT 17 implementation by Autonomous Communities in farms with ponds

CCAA	BAT 17.a)			BAT 17.b)				
	Farms %		Plazas	%	Farms %		Plazas	%
Andalusia	625	84.23	1,401,858	83.13	631	85.04	1,522,827	90.30
Aragon	2,953	90.64	7,748,014	91.99	2,754	84.53	7,316,192	86.86
Cantabria	2	-	48	-	1	-	19	-
Castile and León	1,415	88.49	3,194,656	88.95	1,139	71.23	2,842,951	79.16
Castilla la Mancha	383	82.37	1,103,503	71.78	301	64.73	1,024,256	66.63
C. of Madrid	5	83.33	7,432	78.21	4	66.67	6,732	70.84
Navarre	180	89.55	587,102	87.81	162	80.60	518,727	77.58
Valencian C.	360	86.54	685,936	87.14	219	52.64	463,282	58.85
Estremadura	244	67.97	300,336	71.24	157	43.73	234,443	55.61
Galicia	88	66.67	148,591	60.46	26	19.70	54,363	22.12
The Rioja	42	89.36	126,610	90.15	33	70.21	103,634	73.79
R. Murcia	877	91.45	1,781,867	89.01	830	86.55	1,757,282	87.78
Grand Total	7,174	87.64	17,085,953	87.56	6,257	76.44	15,844,708	81.20

On the other hand, and as with BAT 16, as a novelty in this year's report, a study has been carried out on the different types of covers used

in farms with rafts as a storage system, showing in Table 35 the results related to the most used cover systems, among the most

notable we can point out that:

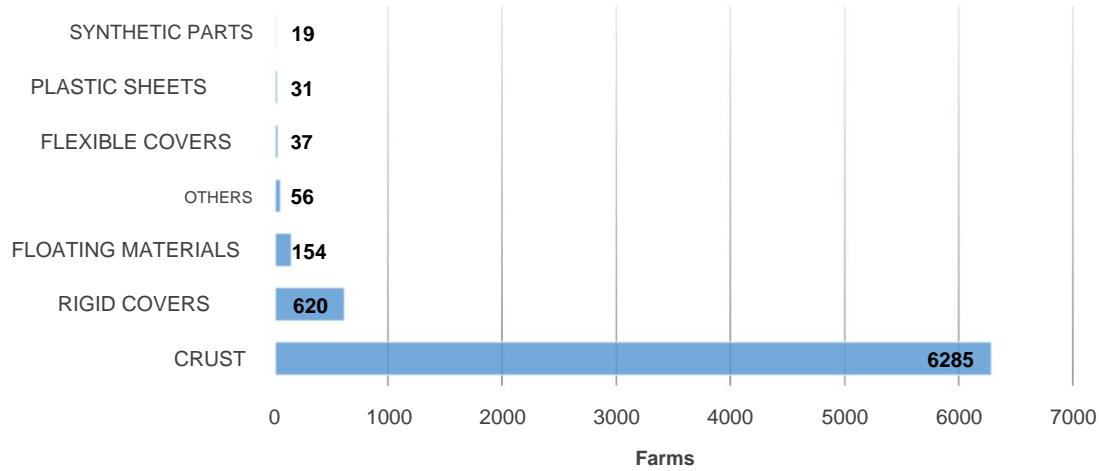
- **8.8 % of the farms** and **5.3% of the places** with a pond carry out their coverage by a **rigid cover**¹⁸.
- **0.5 % of farms** and **0.5% of places** with rafts carry out their coverage by a **flexible cover**.
- **89.4 % of the farms** and **91.35% of the places** with ponds carry out their covering by a **crust**.
- **2.2 % of the farms** and **3.8% of the places** with ponds carry out their coverage using **floating materials**.
- **0.3 % of farms** and **0.5% of places** with ponds carry out their coverage using **synthetic pieces**.
- **0.4 % of farms** and **0.5% of places** with ponds carry out their covering with **plastic sheets**
- **0.8% of farms** and **0.6% of places** with ponds carry out their coverage by **other types of coverage**

¹⁸ Although the use of a rigid cover corresponds to a type of cover for tanks, statements have been received regarding this type of raft cover, probably due to an inadequate conceptual interpretation between raft and tank, since a tank is precisely defined as that infrastructure whose construction characteristics

They allow it to be completely covered by a rigid cover.

Although these have been the most used roof systems at the national level, where the use of scab stands out with practically the majority with 89.4% of the farms, followed by rigid cover, the use of floating materials, flexible cover, and parts synthetics. At the other extreme and as less used covering systems, we can highlight the use of **plastic sheets** by only **0.4%** of the farms, followed by **synthetic pieces** that are used by **0.3%** of the farms.

Graph 15. Types of cover on rafts on farms nationwide¹⁹



¹⁹ The sum of the percentages is greater than 100% since these data are extracted from the types of cover that are used on each farm, and it is possible for a farm to use more than one type of cover on its ponds

Table 35. Degree of implementation of different types of roofs in farms and squares with covered ponds

CCAA	Rigid Cover				Flexible cover				Crust				Floating Materials				Others					
	Farm	%	Places		% Farm	%	Places	% Farm	%		Plazas	% Farm	%	Places	% Farm	%	Places	%				
Andalusia	fifteen	2.30	19,357	1.24	4	0.61	7,756	0.50	612	93.87	1,355,416	86.88	24	3.68	186,676	11.97	1	0.15	180	0.01		
Aragon	210	7.02	328,984	4.26	5	0.17	18,542	0.24	2816	94.12		7,443,080	96.39	25	0.84	71,165	0.92	9	0.30	16,669	0.22	
Cantabria	-	-	-	-	-	-	-	-	1	50.00	19	39.58	-	-	-	-	-	1	50.00	29	60.42	
Castile and Lion	100	7.88	107,548	3.54	1	0.08	455	0.01	1169	92.12	2,919,377	96.10	1	0.08	787	0.03	13	1.02	23,261	0.77		
Castile-la Stain	22	6.59	52,458	4.63	1	0.30	2,880	0.25	292	87.43	908,193	80.24	twenty	5.99	176,614	15.60	3	0.90	4,513	0.40		
Madrid's community	1	20.00	700	9.42	-	-	-	-	4	80.00	6,732	90.58	-	-	-	-	-	-	-	-		
Foral community of Navarre	6	3.39	12,701	2.14	-	-	-	-	170	96.05	581,000	97.73	2	1.13	9,749	1.64	1	0.56	3,820	0.64		
Community Valencian	134	35.73	199,611	27.50	6	1.60	9,661	1.33	236	62.93	518,063	71.39	5	1.33	9,299	1.28	6	1.60	9,184	1.27		
Estremadura	26	13.20	20,192	7.03	-	-	-	-	163	82.74	257,054	89.53	1	0.51	1,215	0.42	10	5.08	14,292	4.98		
Galicia	65	60.75	121,213	60.94	12	11.21	20,507	10.31		29	27.10	60,386	30.36	-	-	-	-	6	5.61	7,357	3.70	
The Rioja	8	19.51	15,816	13.24	-	-	-	-	35	85.37	109,810	91.93	-	-	-	-	-	-	-	-		
Region of Murcia	33	3.75	37,240	2.01	8	0.91	22,478	1.21		758	86.14	1,586,668	85.73	76	8.64	196,360	10.61	6	0.68	15,138	0.82	
Grand Total	620	8.82	915,820	5.31	37	0.53	82,279	0.48		6285	89.39	15,745,798	91.35	154	2.19	651,865	3.78	56	0.80	94,443	0.55	

III. Degree of implementation of BATs 16-17 in Catalonia

Techniques related to outdoor storage of manure (solid or liquid) have been reported without classification corresponding to the BAT group to which they belong. Therefore, it has been necessary to establish the distinction of each technique by outdoor storage system and MTD group.

In the case of external liquid manure storage systems, reported only some of the techniques related to BAT 16 and 17 (see table 26). It has not been possible to distinguish between a pond and a tank since the information provided it only distinguishes between BASSA (raft) or FEMER (manure heap). Any external slurry storage system is included within the "raft" but is nevertheless indicate BAT 16 techniques related to deposits. For this reason they have had to carry out the joint analysis of BATs 16 and 17.

Likewise, it must be taken into account that to comply with BAT 16.a it is necessary to apply a combination of techniques BAT 16.a.1, 2 and 3. In the case of Catalonia, the declaration includes separately BAT techniques 16.a. 1 to 3, so it has been necessary to analyze whether in the declared data there is indeed a combination of these techniques to conclude that BAT 16.a is applied on the farm.

There have been cases of farms that only apply one technique from this group, so it has been considered that these farms do not apply BAT 16.a.

Furthermore, it must be taken into account that the data provided does not differentiate between Iberian pigs and white pigs.

Based on the data notified to the Registry (Tables 36 and 37), it is concluded that:

- The number of farms that report having an outdoor manure storage system (solid or liquid) amounts to 3,569 of the total of 3,754 notified, that is, 95% of the farms store the manure (solid or liquid) they produce in the farm

- The number of farms reporting an outdoor storage system for liquid manure, called "Bassa", without distinguishing whether it is a raft, a deposit or a bag, amounts to 3,508 of the total of 3,754 notified farms. This indicates that **93.4% of the** notified farms produce and store slurry (represents 95.6% of the notified census). Table 25 also indicates the percentages with respect to the total number of farms with manure storage (solid or liquid).

- Of the 3,508 farms that declare “Bassa” as a storage system for purines:
 - 608 farms indicate the storage pit as a pond as a storage technique (and therefore, it cannot be included within BAT 16-17 for external slurry storage systems)

or 33 farms indicate that these are bags. ◦ It is impossible to distinguish farms that have tanks from those that have ponds.
- **MTD 16.a.** related to ***carrying out adequate design and management of slurry deposits***, using a combination of techniques such as reducing the coefficient between the emission surface and the volume of the slurry tank (BAT 16.a.1), reduce wind speed and air exchange over the slurry surface and/or reducing the tank filling level (BAT 16.a.2)
 - reduce slurry agitation to a minimum (BAT 16.a.3). In this case the information notified has been made based on the previous techniques separately, being It is necessary to carry out an analysis of the combination of techniques. The result of the analysis indicates that **no farm applies BAT 16.a.** that is, although the techniques separately, a combination of them is not carried out.
- **MTD 16.a.3 / MTD 17.a.** The notification has not differentiated between deposit or raft so the data are included in both MTD groups (16 and 17). The technique related to ***minimizing slurry agitation*** is reported on **15.9% of farms** with outdoor slurry storage (representing **17% of the census**).
- **MTD 16.b.1 and 2 / MTD 17.b.** In the notification, no distinction has been made between deposit or raft so the data are included in both MTD groups (16 and 17). The application of ***rigid/flexible/floating covers*** is reported in **67.2% of the farms** with outdoor slurry storage (representing **66.6% of the census**). Regarding the types of covers, **natural crust/floating materials** It is reported in **73.6%** of farms with a pond/covered tank, while in 26.3 % are declared **rigid/flexible cover**. It must be taken into account that a The same farm can have both a pond and a tank with different types of cover
- **MTD 16.c.** The notification has not differentiated between a tank or a pond, so Data are included in both MTD groups (16 and 17). The application of ***Acidification of the slurry*** is barely valuable.

Table 36. Storage of liquid manure or slurry

PROVINCE	Notified farms SYSTEM FARMS	OF STORAGE MANURE (SOLID OR LIQUID)	% FARMS		% FARMS WITH PIT MANAGED LIKE RAFT		% FARMS		%
			WITH RAFT OR DEPOSIT					WITH BAG	
Barcelona	932	900 96.57	883	98.11	192	21.33	12	1.33	
Girona	456	434 95.18	426	98.16	50	11.52	3	0.69	
Lleida	2,085	1974 94.68	1,943	98.43	297	15.05	15	0.76	
Tarragona	281	261 92.88	256	98.08	69	26.44	3	1.15	
TOTAL CATALONIA	3,754	3,569 95.07	3,508	98.29	608	17.04	33	0.92	

Table 37. Degree of implementation of BAT 16 and 17 in Catalonia

PROVINCE	BAT 16.a.3 / BAT 17.a Reduce slurry agitation to a minimum BAT 16.b / BAT 17.b Basin/Tank Cover										BAT 16.c		
	Farms with pond or tank	Census with pond or tank	Farms	%	Census	%	Farms	%	Census	%	Farms % Census	%	
Barcelona	883	1,366,413	121	13.70	250,742	18.35	600	67.95	937,216	68.59	-	-	-
Girona	426	731,708	136	31.92	231,783	31.68	266	62.44	466,887	63.81	2	0.47	3,589
Lleida	1943	3,778,369	224	11.53	442,809	11.72	1,382	71.13	2,634,175	69.72	-	-	-
Tarragona	256	461,059	79	30.86	152,043	32.98	111	43.36	185,297	40.19	1	0.39	1,200
Total CATALONIA	3,508	6,337,549	560	15.96	1,077,377	17.00	2,359	67.25	4,223,575	66.64	3	0.09	4,789
													0.08

Table 38. Degree of implementation of different types of cover in Rafts/Depots

PROVINCE	Farms with pond/ depot covered	Rigid/flexible cover				Natural crust / Floating materials (straw)				Floating pieces (coverage with plates with geometric shapes)				Floating balls (spherical parts)				
		Census	Farms	%	Census	Farms	%	Census	%	Census	%	Farms	%	Census	%	Farms	%	
Barcelona	600	937,216	228	38.00	324,448	34.62		372	62.00	612,768	65.38	6	1.00	5,578	0.60	-	-	-
Girona	266	466,887	144	54.14	246,769	52.85		122	45.86	220,118	47.15	4	1.50	4,947	1.06	1	0.38	-
Lleida	1,382	2,634,175	211	15.27	389,279	14.78		1,171	84.73	2,244,896	85.22	4	0.29	24,871	0.94	-	-	-
Tarragona	111	185,297	39	35.14	64,854	35.00		72	64.86	120,443	65.00	-	-	-	-	-	-	-
Total CATALONIA	2,359	4,223,575	622	26.37	1,025,350	24.28		1,737	73.63	3,198,225	75.72	14	0.59	35,396	0.84	1	0.04	-

3.6. Degree of implementation of the different MTDs to avoid emissions to soil and water generated by storage of liquid manure or slurry (BAT 18)

BAT involving a reduction of ammonia emissions in manure storage systems is **BAT 18**:

To avoid emissions to soil and water

generated by the collection and conveyance of slurry and by a slurry tank or pond, BAT

is to use **a combination** of the techniques indicated below.

continuation.

- **BAT 18. a)** Use tanks that can withstand mechanical, chemical stresses and thermal
- **MTD 18. b)** Select a storage warehouse with sufficient capacity to preserve slurry during periods when it is not possible to process it application to the field.
- **BAT 18. c)** Build leak-proof facilities and equipment for the collection and slurry transfer (e.g. pits, canals, drains, pumping stations).
- **BAT 18. d)** Store slurry in ponds with a waterproof base and walls, p. e.g. with clay or a plastic coating (or double coating).
- **BAT 18. e)** Install a leak detection system, e.g. e.g. a geomembrane, a drainage layer and a drainage duct system.
- **BAT 18. f)** Check the structural integrity of the tanks at least once year.

I. Degree of implementation of MTD 18 in the CCAA members of ECOGAN

- **BAT 18 a), c), e) and f).** 23.1 % of notified farms (previous year **26.8%**) which represent **45.2% of** total notified places (the previous year **47.6%**), they use tanks that can withstand mechanical, chemical and thermal stresses; build leak-proof facilities and equipment for the collection and transfer of slurry; install a leak detection system, and/or They check the structural integrity of the tanks at least once a year.
- **BAT 18 b).** 81.9 % of the notified farms, which represent **89.3% of** total **places** notified (same percentages as the previous year), select a storage warehouse with sufficient capacity to preserve slurry during periods when it is not possible to apply it to the field.

- **BAT 18 d).** 67.8 % of the farms that represent **81.5% of the places**

Notified, they store slurry in ponds with a waterproof base and walls (implementation percentages similar to those of the previous year).

By calculating the data in Table 39 only on farms that produce and store liquid manure or slurry, that is, only those that would be applicable to them, the data obtained are those present in Table 40, from which we can stand out:

- **BAT 18 a), c), e) and f).** 26.3 % of the farms (the previous year 30.2%) that represent **47.9% of the places** (the previous year 49.8%) use deposits that can withstand mechanical, chemical and thermal stresses; they build leak-proof facilities and equipment for the collection and transfer of slurry; install a leak detection system, and/or check the integrity structural deposits at least once a year.
- **BAT 18 b).** 93.2 % of the farms (92.4% the previous year), representing **94.7% of the places** (93.4% the previous year), select a storage with sufficient capacity to preserve the slurry during the periods in which it is not possible to apply it to the field.
- **BAT 18 d).** 77.1 % of the farms (the previous year 66.2%), which represent **86.3% of places** (the previous year 79.8%), store slurry in ponds with a waterproof base and walls and It is applied in **95.4%** of farms that use rafts

Table 39. Degree of implementation of BAT 18 in farms and places by Autonomous Community

CCAA	BAT 18 a)						BAT 18 b)						BAT 18 c)						BAT 18 d)						MTD 18 e)						BAT 18 f)		
	Farm	%	Plazas	% Farm %			Plazas	% Farm %			Plazas	% Farm %			Plazas	% Farm %			Plazas	% Farm %			Plazas	% Farm %			Plazas	%					
Andalusia	206	22.89	919,322	49.98	794	88.22	1,671,612	90.87	206	22.89	919,322	49.98	718	79.78	1,655,608	90.00	206	22.89	919,322	49.98	206	22.89	919,322	49.98									
Aragon	1,016	28.15	4,197,693	47.38		3,454	95.71	8,625,751	97.37	1,016	28.15	4,197,693	47.38	3,172	87.89	8,236,000	92.97	1,016	28.15	4,197,693	47.38	1,016	28.15	4,197,693	47.38								
Cantabria	-	-	-	-	-	2	100.00	48	100.00	-	-	-	-	-	2	100.00	48	100.00	-	-	-	-	-	-	-	-	-	-	-				
Castile and Leon	735	30.64	2,351,522	53.72	1,718	71.61	3,722,865	85.04	735	30.64	2,351,522	53.72	1,522	63.44	3,472,169	79.32	735	30.64	2,351,522	53.72	735	30.64	2,351,522	53.72									
Castile-La Mancha	207	34.62	1,103,489	62.45	471	78.76	1,482,915	83.93	207	34.62	1,103,489	62.45	433	72.41	1,471,230	83.27	207	34.62	1,103,489	62.45	207	34.62	1,103,489	62.45									
Madrid's community	-	-	-	-	-	7	100.00	9,535	100.00	-	-	-	-	-	6	85.71	9,503	99.66	-	-	-	-	-	-	-	-	-	-	-				
Foral community of Navarre	100	40.32	436,080	57.75	220	88.71	691,549	91.58	100	40.32	436,080	57.75	192	77.42	642,312	85.06	100	40.32	436,080	57.75	100	40.32	436,080	57.75									
Community Valencian	80	10.35	296,636	24.38	455	58.86	801,610	65.88	80	10.35	296,636	24.38	396	51.23	757,447	62.25	80	10.35	296,636	24.38	80	10.35	296,636	24.38									
Extremadura	57	6.98	140,792	23.46	541	66.22	474,663	79.10	57	6.98	140,792	23.46	311	38.07	381,109	63.51	57	6.98	140,792	23.46	57	6.98	140,792	23.46									
Galicia	56	5.49	252,336	18.45	740	72.55	1,019,231	74.53	56	5.49	252,336	18.45	121	11.86	219,807	16.07	56	5.49	252,336	18.45	56	5.49	252,336	18.45									
The Rioja	30	49.18	111,229	66.34	49	80.33	145,359	86.69	30	49.18	111,229	66.34	44	72.13	135,780	80.98	30	49.18	111,229	66.34	30	49.18	111,229	66.34									
Region of Murcia	170	15.68	637,585	29.56	987	91.05	2,000,498	92.74	170	15.68	637,585	29.56	889	82.01	1,851,149	85.82	170	15.68	637,585	29.56	170	15.68	637,585	29.56									
Total general	2,657	23.07	10,446,684	45.19		9,438	81.94	20,645,636	89.31	2,657	23.07	10,446,684	45.19		7,806	67.77	18,832,162	81.47	2,657	23.07	10,446,684	45.19		2,657	23.07	10,446,684	45.19						

Table 40. Degree of BAT 18 implementation in farms and squares that produce and store liquid manure

CCAA	BAT 18 a)						BAT 18 b)						BAT 18 c)						BAT 18 d)						MTD 18 e)						BAT 18 f)			
	Farm	%	Plazas	% Farm %		Plazas	% Farm	%		Plazas	% Farm %		Plazas	% Farm	%		Plazas	%	Farm %		Plazas	%	Farm %		Plazas	%	Farm %		Plazas	%				
Andalusia	206	24.91	919,322	51.95	794	96.01	1,671,612	94.46	206	24.91	919,322	51.95	718	86.82	1,655,608	93.55	206	24.91	919,322	51.95	206	24.91	919,322	51.95										
Aragon	1,016	28.61	4,197,693	47.67		3,454	97.27	8,625,751	97.95	1,016	28.61	4,197,693	47.67	3,172	89.33	8,236,000	93.52	1,016	28.61	4,197,693	47.67	1,016	28.61	4,197,693	47.67									
Cantabria	-	-	-	-	2	100.00	48	100.00	-	-	-	-	-	2	100.00	48	100.00	-	-	-	-	-	-	-	-	-	-	-	-					
Castile and Lion	735	40.30	2,351,522	60.35	1,718	94.19	3,722,865	95.54	735	40.30	2,351,522	60.35	1,522	83.44	3,472,169	89.11	735	40.30	2,351,522	60.35	735	40.30	2,351,522	60.35										
Castile-la Stain	207	39.73	1,103,489	68.19	471	90.40	1,482,915	91.64	207	39.73	1,103,489	68.19	433	83.11	1,471,230	90.91	207	39.73	1,103,489	68.19	207	39.73	1,103,489	68.19										
Madrid's community	-	-	-	-	7	100.00	9,535	100.00	-	-	-	-	-	6	85.71	9,503	99.66	-	-	-	-	-	-	-	-	-	-	-	-					
Foral community of Navarre	100	44.05	436,080	60.05	220	96.92	691,549	95.24	100	44.05	436,080	60.05	192	84.58	642,312	88.46	100	44.05	436,080	60.05	100	44.05	436,080	60.05										
Community Valencian	80	15.63	296,636	32.77	455	88.87	801,610	88.54	80	15.63	296,636	32.77	396	77.34	757,447	83.67	80	15.63	296,636	32.77	80	15.63	296,636	32.77										
Estremadura	57	9.18	140,792	26.43	541	87.12	474,663	89.10	57	9.18	140,792	26.43	311	50.08	381,109	71.54	57	9.18	140,792	26.43	57	9.18	140,792	26.43										
Galicia	56	5.94	252,336	19.46	740	78.56	1,019,231	78.58	56	5.94	252,336	19.46	121	12.85	219,807	16.95	56	5.94	252,336	19.46	56	5.94	252,336	19.46										
The Rioja	30	58.82	111,229	75.35	49	96.08	145,359	98.48	30	58.82	111,229	75.35	44	86.27	135,780	91.99	30	58.82	111,229	75.35	30	58.82	111,229	75.35										
Region of Murcia	170	16.39	637,585	30.33	987	95.18	2,000,498	95.16	170	16.39	637,585	30.33	889	85.73	1,851,149	88.05	170	16.39	637,585	30.33	170	16.39	637,585	30.33										
Grand Total	2,657	26.25	10,446,684	47.89		9438	93.24	20,645,636	94.65	2657	26.25	10,446,684	47.89		7,806	77.12	18,832,162	86.34	2,657	26.25	10,446,684	47.89		2657	26.25	10,446,684	47.89							

II. Degree of implementation of MTD 18 in Catalonia

No data has been reported in this regard.

3.7. Degree of implementation of the different BATs for processing in situ manure (BAT 19)

BAT 19 is the BAT that involves the establishment of techniques for the treatment in situ of manure in order to reduce emissions of nitrogen to the atmosphere and water, phosphorus, odors and pathogenic microorganisms and facilitate storage and/or application to the manure field, BAT is to treat the manure using **one or more** of the techniques indicated below. This BAT consists of applying at least one of the following techniques:

- **BAT 19.a)** Mechanical separation of slurry. This can be done e.g. e.g. by means of: a screw press separator, a coagulation-flocculation centrifugal decanter, sieving or filter presses.
- **BAT 19.b)** Anaerobic digestion of manure in a biogas installation.
- **BAT 19.c)** Use of an external manure drying tunnel, not analyzed in this report because it is applicable only to manure from sheds for laying hens.
- **MTD 19.d)** Aerobic digestion (aeration) of slurry.
- **MTD 19.e)** Nitrification - denitrification of slurry.
- **BAT 19.f)** Composting of solid manure.

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Degree of implementation of MTD 19 in the CCAA members of ECOGAN

Based on the data presented in Table 41, the percentages of implementation of the Different techniques of BAT 19 are the following:

- **BAT 19.a)** **4.2% of farms** report this technique , which represents **6.2% of notified places** . By calculating this value on the farms that produce and store slurry, it is observed that the percentage is practically the same (**4.8% of farms**).
- **MTD 19.b)** **0.02% of farms** report this technique , which represents **0.04% of plazas**.
- **MTD 19.d)** **0.09% of farms** report this technique , which represents **0.09% of plazas**. When calculating this value on the farms that produce and store slurry, It is observed that the percentage is practically the same (**0.1% of farms**).

- **MTD 19.e) 0.15% of farms** report this technique , which represents **0.24% of places**. When calculating this value on the farms that produce and store slurry, it is observed that the percentage is practically the same (**0.2% of farms**).
- **MTD 19.f) 0.16% of farms** report this technique , which represents **0.24% of plazas**. When calculating this value on farms that produce and store manure solid, it is observed that the percentage is somewhat higher (**1.1% of farms**).

The implementation, in general, of these techniques is scarce. Among all of them, the mechanical separation of slurry, which facilitates the subsequent management of the different manure phases. The implementation of the others is scarce, possibly due to the high cost of these techniques.

II. Degree of implementation of MTD 19 in Catalonia

No data has been reported in this regard.

Table 41. Degree of implementation of BAT 19 in farms and places by Autonomous Community

CCAA	BAT 19.a)				BAT 19.b)				BAT 19.d)				BAT 19.e)				BAT 19.f)				
	Farms	%	Squares	%	Farms	%	Squares	%	Farms	%	Squares	%	Farms	%	Squares	%	Farms	%	Squares	%	
Andalusia	100	11.11	361,787	19.67	-	-	-	-	-	-	-	-	6	0.67	27,214	1.48	-	2	0.22	8,716	0.47
Aragon	17	0.47	58,643	0.66	-	-	-	-	1	0.03	1,600	0.02	3	0.08	4,693	0.05	-	-	-	-	-
Cantabria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Castile and Leon	69	2.88	183,427	4.19	-	-	-	-	2	0.08	4,008	0.09	2	0.08	5,291	0.12	-	3	0.13	9,892	0.23
Castile-la Stain	43	7.19	305,219	17.27	-	-	-	-	1	0.17	4,000	0.23	-	-	-	-	-	-	-	-	-
Madrid's community	1	14.29	32	0.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Foral community of Navarre	8	3.23	50,660	6.71	-	-	-	-	1	0.40	3,520	0.47	-	-	-	-	-	-	-	-	-
Community Valencian	27	3.49	102,390	8.41	2	0.26	9,956	0.82	1	0.13	1,604	0.13	1	0.13	6,120	0.50	-	6	0.78	19,910	1.64
Estremadura	154	18.85	183,505	30.58	-	-	-	-	2	0.24	2,902	0.48	-	-	-	-	-	4	0.49	3,815	0.64
Galicia	13	1.27	18,214	1.33	-	-	-	-	-	-	-	-	2	0.20	3,120	0.23	-	2	0.20	6,820	0.50
The Rioja	1	1.64	2,100	1.25	-	-	-	-	-	-	-	-	1	1.64	5,597	3.34	-	-	-	-	-
Region of Murcia	48	4.43	176,024	8.16	-	-	-	-	2	0.18	3,990	0.18	2	0.18	3,157	0.15	-	1	0.09	6,000	0.28
Total	481	4.18	1,442,001	6.24	2	0.02	9,956	0.04	10	0.09	21,624	0.09	17	0.15	55,192	0.24	18	0.16	55,153	0.24	

3.8. Degree of implementation of the different BATs to reduce the emissions to soil, water and the atmosphere of nitrogen, phosphorus and pathogenic microorganisms generated by field application of manure (BAT 20)

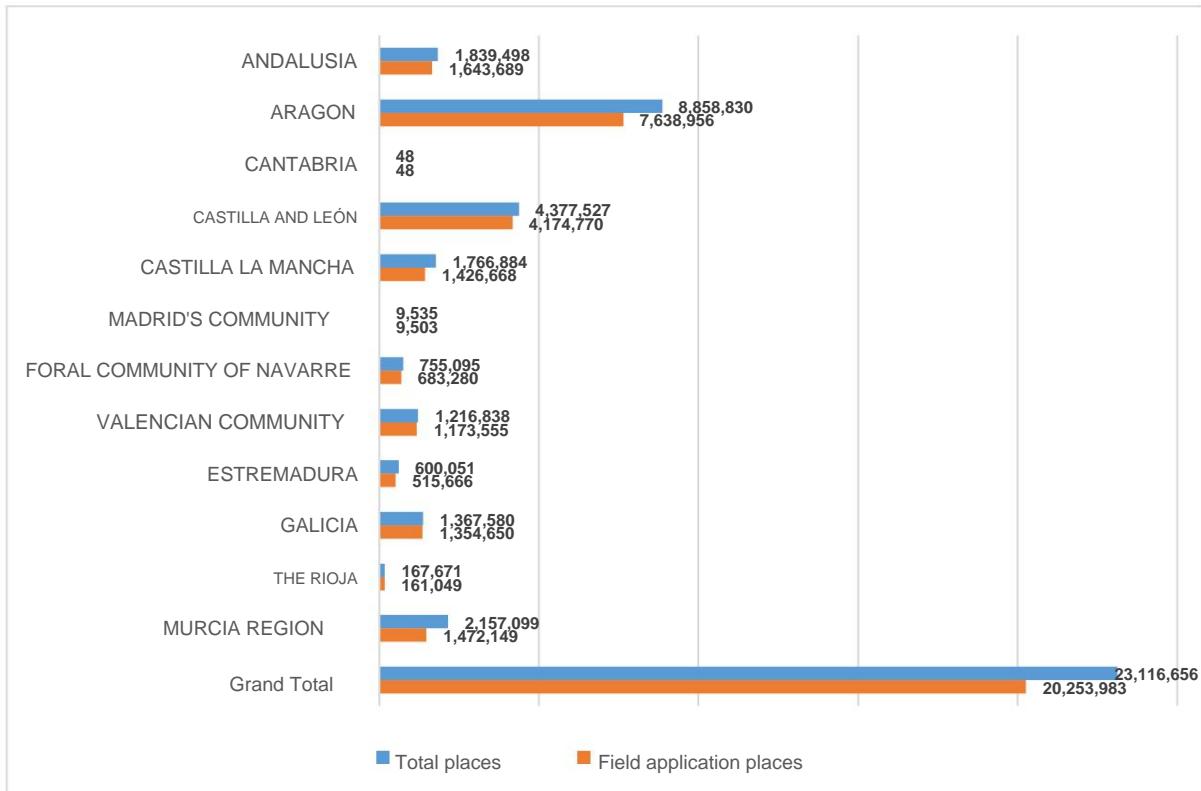
Field application is the main destination of manure after farm storage, with field application being its main means of valuation. In ECOGAN, the data corresponding to 2022 show that **90% of the farms representing 87.6% of the total notified places have declared that manure is**

intended for field application. Although the vast majority of farms have declared that they apply their manure to the field, MTDs 20, 21 and 22, which are those that develop techniques to reduce emissions in this context, do not have figures.

of such high implementation. This is possibly due to the fact that many of the ranchers who notify the field application are really unaware of the conditions of their application.

Table 42. Degree of field application on farms and total places

CCAA	Total farms Total places		FIELD APPLICATION			
			Farms	% Places		%
Andalusia	900	1,839,498	800	88.89	1,643,689	89.36
Aragon	3,609	8,858,830	3,200	88.67	7,638,956	86.23
Cantabria	2	48	2	100.00		48 100.00
Castile and Leon	2,399	4,377,527	2,282	95.12	4,174,770	95.37
Castilla la Mancha	598	1,766,884	513	85.79	1,426,668	80.74
Madrid's community	7	9,535	6	85.71	9,503	99.66
Foral community of Navarre	248	755,095	224	90.32	683,280	90.49
Valencian Community	773	1,216,838	754	97.54	1,173,555	96.44
Estremadura	817	600,051	723	88.49	515,666	85.94
Galicia	1,020	1,367,580	1,012	99.22	1,354,650	99.05
The Rioja	61	167,671	59	96.72	161,049	96.05
Murcia Region	1,084	2,157,099	787	72.60	1,472,149	68.25
Grand Total	11,518	23,116,656	10,362	89.96	20,253,983	87.62

Graph 16. Places that declare field application of manure after storage

BAT 20 is the BAT that implies a reduction of emissions to land, water and the atmosphere of nitrogen, phosphorus and pathogenic microorganisms generated by the application of manure (solid or liquid) to the field. This BAT is to use **all the techniques** indicated below.

- **MTD 20. a)** Analyze the land where the manure is going to be spread to determine the runoff risks, taking into account: the type and conditions of the soil and the slope of the land, climatic conditions, irrigation and drainage of the land, crop rotation, and water resources and protected water areas.
- **MTD 20. b)** Maintain a sufficient distance between the lands where it is spread manure (leaving a strip of untreated land) and: 1. areas where there is a risk of runoff into watercourses, springs, wells, etc., 2. adjacent farms (hedges included).
- **BAT 20. c)** Do not spread manure when there may be a significant risk of runoff. In particular, manure is not applied when: 1. the land is flooded, icy or snowy; 2. soil conditions (e.g. water saturation or compaction), in combination with the slope of the land and/or its drainage, whether such that the risk of runoff or drainage is high; 3. Be predictable that produce runoff due to the possibility of rain.

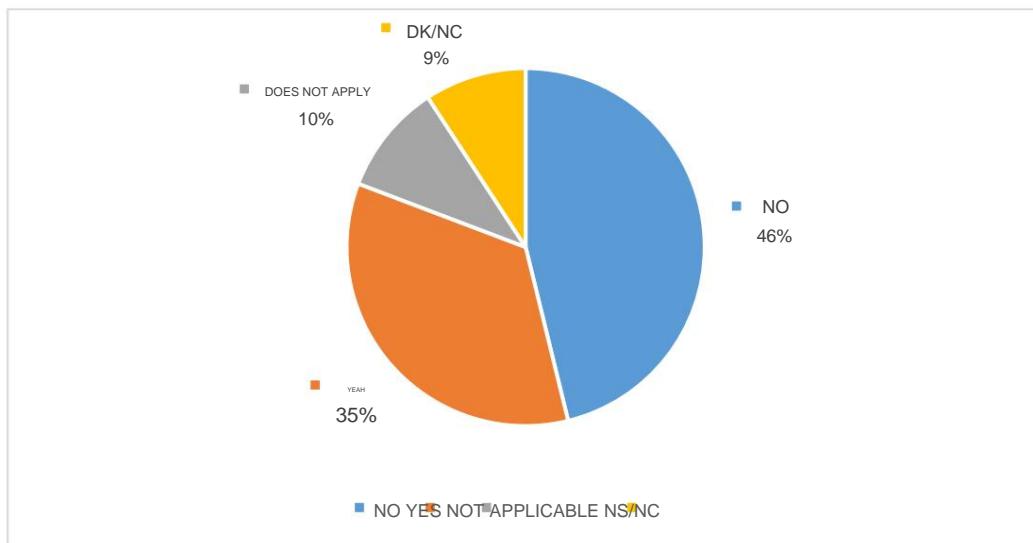
- **BAT 20. d)** Adapt the fertilization rate taking into account the nitrogen and phosphorus content of the manure and the characteristics of the soil (e.g. nutrient content), the requirements of seasonal crops and the conditions meteorological or terrain conditions that could cause runoff.
- **MTD 20. e)** Synchronize the application of manure to the field based on demand of crop nutrients.
- **BAT 20. f)** Check scattered areas at regular intervals to check There are no signs of runoff and respond appropriately when necessary.
- **BAT 20. g)** Ensure that there is adequate access to the manure dump and that Manure loading can be done efficiently, without spills.
- **MTD 20. h)** Check that the machinery used to apply manure to the field is in good working order and adjusted for the application of the manure. adequate dose.

III. Degree of implementation of MTD 20 in the CCAA members of ECOGAN

Based on the data presented in Table 43, **34.6% of the farms** (previous year 32.3%), representing **41.2% of the total notified places** (previous year 40.8%) , apply the techniques included in BAT 20 in the field application of solid manure and slurry.

Table 43. Degree of implementation of BAT 20 by Autonomous Communities in farms and total places

CCAA	BAT 20. Field application of slurry and solid manure			
	Farms	%	Plazas	%
Andalusia	319	35.44	738,242	40.13
Aragon	1,506	41.73	3,931,940	44.38
Cantabria	-	-	-	-
Castile and Leon	802	33.43	2,087,703	47.69
Castilla la Mancha	254	42.47	654,733	37.06
Madrid's community	-	-	-	-
Foral community of Navarra	138	55.65	453,470	60.05
Valencian Community	369	47.74	642,672	52.81
Extremadura	158	19.34	151,703	25.28
Galicia	235	23.04	425,657	31.12
The Rioja	14	22.95	42,150	25.14
Murcia Region	189	17.44	384,819	17.84
Total	3,984	34.59	9,513,089	41.15

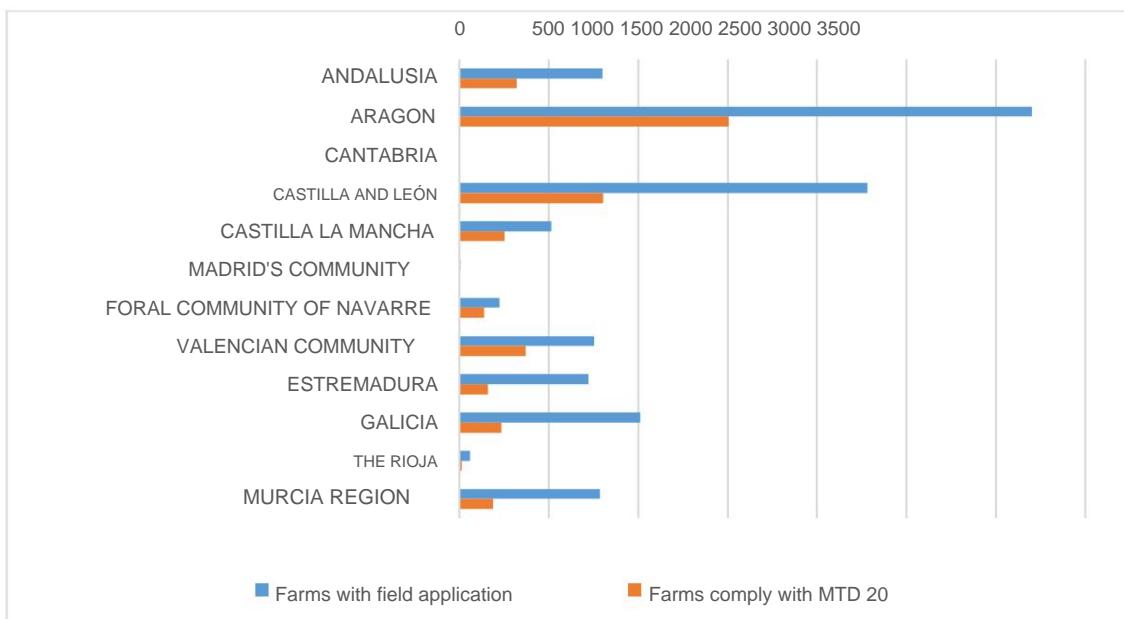
Graph 17. Implementation of BAT 20 in the universe of notified farms

On the other hand, it is interesting to determine the degree of implementation of these techniques covered within MTD 20 on the universe of farms and squares that carry out a field application of their manure since it corresponds to the universe to which these techniques would be applied. As we can see in Table 44, the degree of implementation of MTD 20 amounts to **38.45% of the farms** that represent **46.97% of the places** that carry out field application.

manures.

Table 44. Degree of MTD 20 implementation by CCAA in farms and places that apply to the field

CCAA	BAT 20. Field application of slurry and solid manure			
	Farms	%	Plazas	%
Andalusia	319	39.88	738,242	44.91
Aragon	1506	47.06	3,931,940	51.47
Cantabria	-	-	-	-
Castile and Leon	802	35.14	2,087,703	50.01
Castilla la Mancha	254	49.51	654,733	45.89
Madrid's community	-	-	-	-
Foral community of Navarra	138	61.61	453,470	66.37
Valencian Community	369	48.94	642,672	54.76
Extremadura	158	21.85	151,703	29.42
Galicia	235	23.22	425,657	31.42
The Rioja	14	23.73	42,150	26.17
Murcia Region	189	24.02	384,819	26.14
Total	3984	38.45	9,513,089	46.97

Graph 18. Percentage of implementation of BAT 20 on farms that apply manure to the field**IV. Degree of implementation of MTD 20 in Catalonia**

No data has been reported in this regard.

3.9. Degree of implementation of the different MTDs for the reduction of ammonia emissions into the atmosphere in the application to field (MTD 21 and 22)

BAT involving a reduction of ammonia emissions in wastewater systems manure storage are BAT 21 and 22:

BAT 21: To reduce ammonia emissions into the atmosphere generated by the application to the slurry field, the BAT consists of using **one or a combination** of the techniques indicated below.

- **BAT 21. a)** Dilution of slurry, followed by techniques such as a low pressure irrigation.
- **MTD 21. b)** Band spreader, applying one of the following techniques: tubes pendants, or hanging shoes.
- **MTD 21. c)** Superficial injection (open groove).
- **MTD 21. d)** Deep injection (closed groove).
- **MTD 21. e)** Acidification of slurry.

The declaration of this MTD by farms is not mandatory as established in Royal Decree 306/2022. However, it is mandatory for farms to which Directive 2010/75/EU of the European Parliament applies and of the Council of 24 November 2010 on industrial emissions. Although in this regard, it should be highlighted the fact that many farms to which the mentioned Directive and which, therefore, did not have to declare this BAT, have done so made. These data are of great value for estimating emissions reductions. in the agricultural sector as a whole.

I. Degree of implementation of MTD 21 in the CCAA members of ECOGAN

Based on the data presented in Table 45:

- **MTD 21 a).** 1 % of notified farms (previous year 0.7%) representing 0.7 % of the total notified places (the previous year 0.8%) carry out a dilution of slurry, followed by techniques such as a low-pressure irrigation system. This technique has a low level of implementation largely due to possibly due to the difficulty of managing the volumes of slurry derived from its application, and at the higher associated cost.
- **MTD 21 b).** 57.9 % of the notified farms, which represent **63.8% of the** total occupied **spaces** reported use band spreader, applying one of the following techniques: hanging tubes, or hanging shoes.

These implementation percentages are similar to those of the previous year.

- **BAT 21 c).** 5.5 % of notified farms (previous year 5.3%)

They represent 4.7% of the total notified occupied places (the previous year 4.1%) apply superficial injection (open groove).

- **BAT 21 d).** 7.4 % of the notified farms (the previous year 8.1%)

represent 7.61% of the total notified occupied places (the previous year 8.4%) apply deep injection (closed sulcus).

- **BAT 21 e).** 0.2 % of the notified farms that represent 0.05% of the

reported total occupied places carry out an acidification of the slurry.

The low level of implementation of this technique is largely due to its technical complexity and the higher cost associated with its implementation and maintenance.

The implementation percentages analyzed above are similar to those achieved the previous year.

Graph 19. Percentage of implementation of MTD 21 over the notified positions

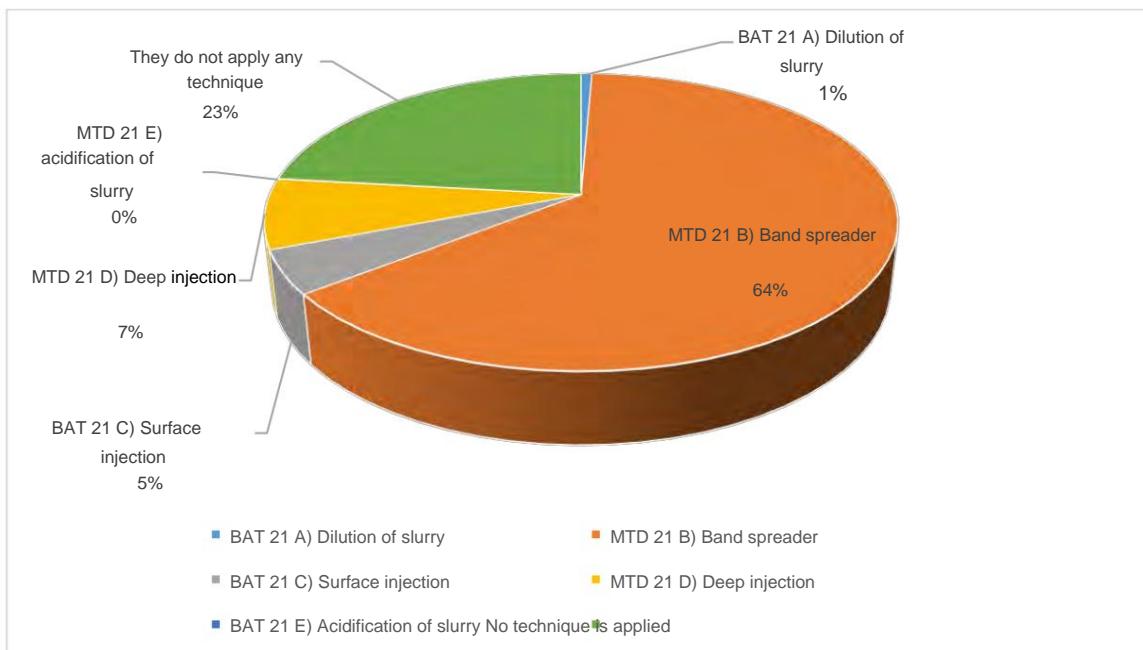


Table 45. Degree of implementation of BAT 21 by farms and total notified places

CCAA	MTD 21 a)						MTD 21 b)						MTD 21 c)						BAT 21 d)						MTD 21 e)					
	Farms	%	Places	%	Farms	%	Plazas	%	Farms	%	Places	%	Farms	%	Places	%	Farms	%	Places	%	Farms	%	Places	%	Farms	%	Places	%		
Andalusia	19	2.11	33,174	1.80	279	31.00	733,541	39.88	91	10.11	121,757	6.62	92	10.22	265,277	14.42	2	0.22	419	0.02										
Aragon	4	0.11	17,924	0.20	2,864	79.36	6,858,946	77.42	48	1.33	113,042	1.28	42	1.16	84,191	0.95	-	-	-	-										
Cantabria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
castile leon	12	0.50	22,150	0.51	1,468	61.19	3,260,978	74.49	72	3.00	127,779	2.92	106	4.42	237,508	5.43	1	0.04	3.4	0.00										
Castilla la Mancha	4	0.67	23,146	1.31	302	50.50	848,550	48.03	93	15.55	247,086	13.98	41	6.86	158,901	8.99	3	0.50	2,753	0.16										
Madrid's community	-	-	-	-	4	57.14	5,832	61.16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Foral community of Navarre	-	-	-	-	177	71.37	592,862	78.51	2	0.81	3,790	0.50	2	0.81	11,561	1.53	-	-	-	-										
Community Valencian	2	0.26	6,902	0.57	615	79.56	964,286	79.25	22	2.85	33,372	2.74	67	8.67	109,609	9.01	1	0.13	2,512	0.21										
Estremadura	64	7.83	39,389	6.56	201	24.60	205,092	34.18	17	2.08	13,814	2.30	Fair Fair	5.51	37,912	6.32	steven	1.35	4,485	0.75										
Galicia	6	0.59	7,168	0.52	494	48.43	701,595	51.30	278	27.25	390,048	28.52	23	2.25	30,435	2.23	-	-	-	-										
The Rioja	-	-	-	-	55	90.16	148,792	88.74	4	6.56	16,256	9.70	1	1.64	800	0.48	-	-	-	-										
Region of Murcia	1	0.09	2,000	0.09	204	18.82	424,539	19.68	9	0.83	19,029	0.88	433	39.94	823,061	38.16	1	0.09	1,170	0.05										
Total	112	0.97	151,853	0.66		6,663	57.85	14,745,013	63.79	636	5.52	1,085,973	4.70	852	7.40	1,759,255	7.61	19	0.16	11,373	0.05									

On the other hand, it is interesting to determine the degree of implementation of MTD 21 about the universe of farms and squares that carry out a field application of their manures since it corresponds to the universe to which they would be applicable these techniques. Based on the data present in Table 46 we can highlight that:

- **MTD 21 a).** 1.1 % of the notified farms, representing **0.8% of the total** notified places, carry out slurry dilution, followed by techniques such as a low-pressure irrigation system.
- **MTD 21 b).** 64.3 % of the notified farms, which represent **72.8% of the total occupied spaces** reported use band spreader, applying one of the following techniques: hanging tubes, or hanging shoes.
- **BAT 21 c).** 6.2 % of the notified farms, which represent **5.4% of the total notified occupied places**, apply surface injection (open furrow).
- **BAT 21 d).** 8.2 % of the notified farms, which represent **8.7% of the total notified occupied places**, apply deep injection (closed furrow).
- **BAT 21 e).** 0.2 % of the notified farms that represent **0.06% of the total occupied places** carry out an acidification of the slurry.

Graph 20. Degree of implementation of MTD 21 on farm squares that apply to the field manures

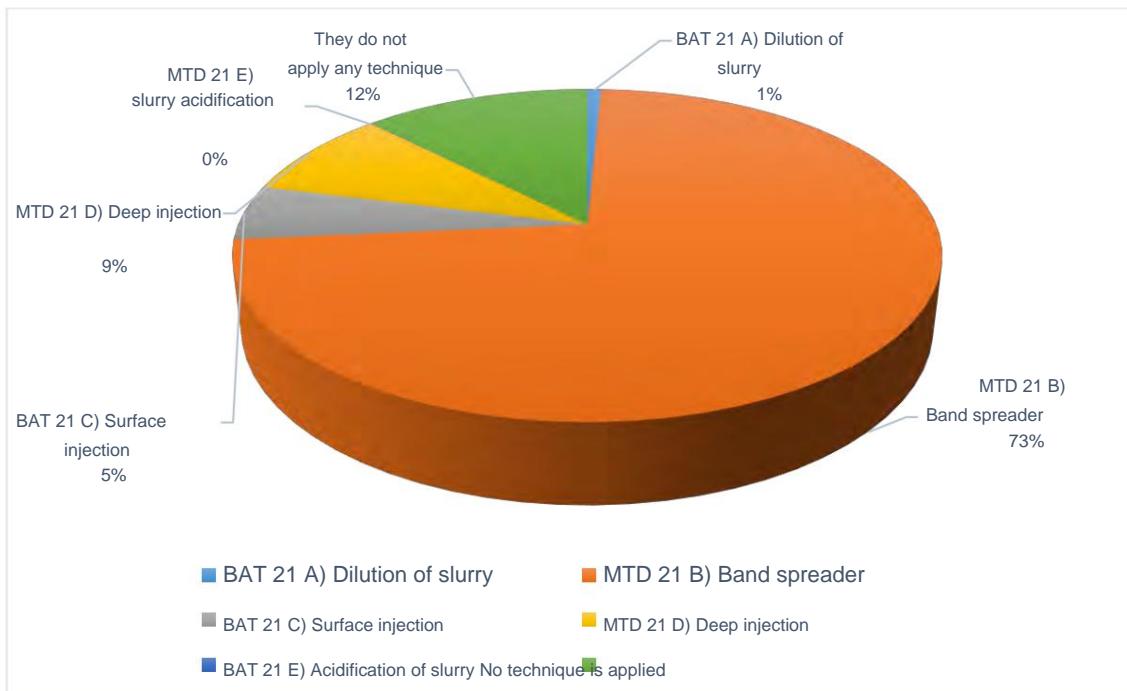


Table 46. Degree of implementation of BAT 21 by farm and area that applies manure to the field

CCAA	MTD 21 a)				MTD 21 b)				BAT 21 c)				BAT 21 d)				MTD 21 e)					
	Farms	%	Places	%	Farms	%	Plazas	%	Farms	%	Places	%	Farms	%	Places	%	Farms	%	Places	%		
Andalusia	19	2.38	33,174	2.02		279	34.88	733,541	44.63	91	11.38	121,757	7.41	92	11.50	265,277	16.14	2	0.25	419 0.03		
Aragon	4	0.13	17,924	0.23		2,864	89.50	6,858,946	89.79		48	1.50	113,042	1.48	42	1.31	84,191	1.10	-	-	-	
Cantabria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
castile and leon	12	0.53	22,150	0.53		1,468	64.33	3,260,978	78.11		72	3.16	127,779	3.06	106	4.65	237,508	5.69	1	0.04	3.4 0.00	
Castilla la Mancha	4	0.78	23,146	1.62		302	58.87	848,550	59.48		93	18.13	247,086	17.32		41	7.99	158,901	11.14	3	0.58	2,753 0.19
Madrid's community	-	-	-	-	4	66.67	5,832	61.37	-	-	-	-	-	-	-	-	-	-	-	-		
Foral community of Navarre	-	-	-	-	177	79.02	592,862	86.77	2	0.89	3,790	0.55	2	0.89	11,561	1.69	-	-	-	-		
Valencian Community	2	0.27	6,902	0.59	615	81.56	964,286	82.17	22	2.92	33,372	2.84	67	8.89	109,609	9.34	1	0.13	2,512 0.21			
Extremadura	64	8.85	39,389	7.64		201	27.80	205,092	39.77		17	2.35	13,814	2.68		6.22	37,912	7.35		1.52	4,485 0.87	
Galicia	6	0.59	7,168	0.53	494	48.81	701,595	51.79		278	27.47	390,048	28.79		23	2.27	30,435	2.25	-	-	-	
The Rioja	-	-	-	-	55	93.22	148,792	92.39		4	6.78	16,256	10.09	1	1.69	800	0.50	-	-	-		
Region of Murcia	1	0.13	2,000	0.14	204	25.92	424,539	28.84		9	1.14	19,029	1.29	433	55.02	823,061	55.91	1	0.13	1,170 0.08		
Total	112	1.08	151,853	0.75		6663	64.30	14,745,013	72.80		636	6.14	1,085,973	5.36		852	8.22	1,759,255	8.69	19	0.18	11,373 0.06

II. Degree of implementation of MTD 21 in Catalonia

No data has been reported in this regard.

BAT 22: To reduce ammonia emissions into the atmosphere generated by the application to the manure field, the BAT consists of **incorporating the manure (solid and/or liquid) to the ground as soon as possible.**

I. Degree of implementation of MTD 22 in the CCAA members of ECOGAN MTD

22

Last year's report did not include BAT 22 data. This year a processing of these data, making it possible to know the implementation percentages regarding the different manure burial times. According to the data provided In Table 47 regarding the total notified farms and places we can point out that:

- **Burial time over 24 hours:** 13 % of the notified farms, which represent **11.8%** of the total notified beds, carry out a burial of the manure after 24 hours.
- **Burial time 12 to 24 hours:** 29.5 % of the farms notified that represent **32%** of the total notified places carry out a burial of the manure in less than 24 hours.
- **Burial time 4 to 12 hours:** 4.5 % of the notified farms, which represent **4.4%** of the total notified places, carry out a burial of manure in less than 12 hours.
- **Burial time less than 4 hours:** 5.2 % of the notified farms which represent **5.4%** of the total notified places, bury the manure in less than 4 hours.
- **Immediate burial:** 3.9 % of the notified farms that represent the **3.9%** of the total notified places carry out manure burial immediate.

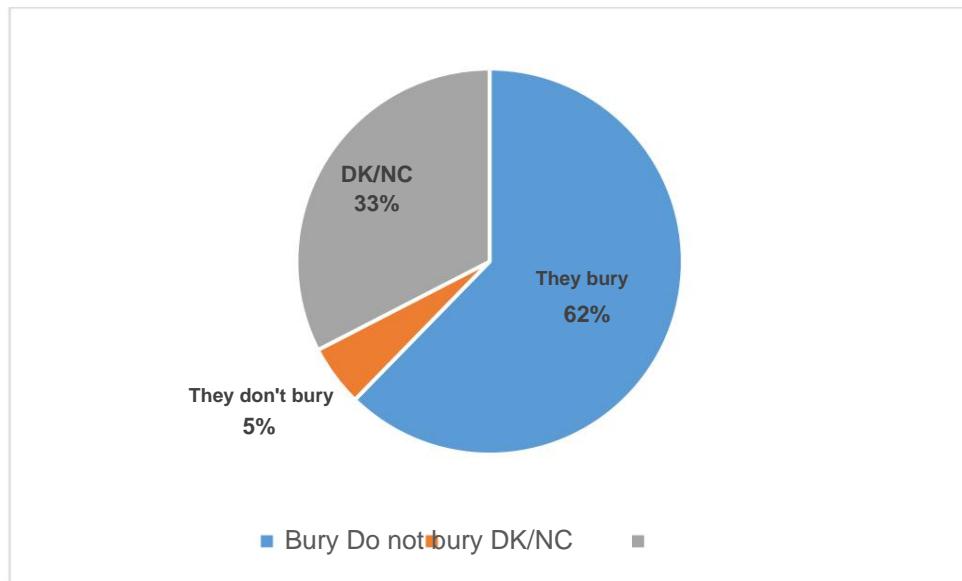
These percentages referring to the different burial times are low due to that **only 56%** of the **total farms notified** to the General Registry of MTDs **have notified the burial of the manure, and, therefore, the burial time.**

Table 47. Degree of implementation of BAT 22 by Autonomous Communities in farms and total places notified

CCAA	BAT 22: >24 hours				MTD 22: <24 hours				BAT 22: <12 hours				MTD 22: <4 hours				MTD 22: immediately									
	Farms	%	Places		% Farms	%	Plazas	% Farms	%	Places	% Farms	%	Places		%	Farms	%	Places	%		%	Farms	%	Places	%	
Andalusia	74	8.22	110,455	6.00	36	4.00	73,893	4.02	74	8.22	186,932	10.16	82	9.11	202,701	11.02	27	3.00	132,404	7.20						
Aragon	545	15.10	1,270,147	14.34		1,775	49.18	4,124,733	46.56		113	3.13	241,232	2.72	41	1.14	137,631	1.55	58	1.61	134,601	1.52				
Cantabria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Castile and Leon	376	15.67	637,826	14.57	1,041	43.39	2,216,008	50.62		141	5.88	188,028	4.30	191	7.96	260,598	5.95	66	2.75	116,823	2.67					
Castile-La Mancha	83	13.88	126,116	7.14	107	17.89	258,161	14.61	12	2.01	25,518	1.44	62	10.37	196,747	11.14	36	6.02	199,256	11.28						
Madrid's community	-	-	-	-	3	42.86	3,118	32.70	-	-	-	-	-	-	-	-	-	1	14.29	2,714	28.46					
Foral community of Navarre	40	16.13	100,253	13.28	56	22.58	174,112	23.06	66	26.61	238,217	31.55		6	2.42	45,211	5.99	9	3.63	16,690	2.21					
Community Valencian	217	28.07	288,513	23.71	196	25.36	311,321	25.58	92	11.90	122,279	10.05	76	9.83	164,780	13.54	-	-	-	-	-					
Extremadura	113	13.83	64,386	10.73	109	13.34	78,066	13.01	9	1.10	7,971	1.33	19	2.33	7,745	1.29	112	13.71	97,739	16.29						
Galicia	6	0.59	6,998	0.51	19	1.86	29,417	2.15	3	0.29	5,423	0.40	16	1.57	24,493	1.79	107	10.49	113,957	8.33						
The Rioja	27	44.26	76,745	45.77	17	27.87	44,283	26.41	3	4.92	5,767	3.44	-	-	-	-	-	4	6.56	10,738	6.40					
Region of Murcia	-	1.85	36,127	1.67	33	3.04	75,789	3.51	-	-	-	-	110	10.15	207,482	9.62	26	2.40	71,714	3.32						
Total	1,501	13.03	2,717,566	11.76		3,392	29.45	7,388,901	31.96		513	4.45	1,021,367	4.42		603	5.24	1,247,388	5.40		446	3.87	896,636	3.88		

On the other hand, it is interesting to determine the degree of implementation of MTD 22 about the universe of farms and squares that carry out a field application of their manures since it corresponds to the universe to which they would be applicable These techniques, although we must point out that of the total number of farms that declare that they carry out field application, only **62.3%** of these farms **declare that they carry out manure burial**, 32.6 % **do not provide or are unaware of information** about burial (NS/NC), and only 5.1% declare that **they do not carry out burial** as is shown in the following graph.

Graph 21. Degree of implementation of burial on farms with field application



In this way, if we analyze these data taking into account only the universe of farms and squares that carry out field application, the following data is obtained represented in Table 48:

- **Burial time over 24 hours:** 14.5 % of the farms that represent 13.4% of the places bury the manure after 24 hours. If analyzed only based on the farms and squares that have declared that they bury the applied manure, the percentages rise to 23.4% in farms and 20.5% in squares.
- **Burial time 12 to 24 hours:** 32.7 % of the farms that represent 36.5 % of the places bury the manure in a time less than 24 hours. If it is analyzed only based on the farms and squares that have declared that bury the applied manure, the percentages rise to 52.5% in farms and 55.7% in plazas.
- **Burial time less than 12 hours:** 5 % of the farms that represent 5% of the places bury the manure in a time

less than 12 hours. If it is analyzed only based on the farms and squares that have declared that they bury the applied manure, the percentages rise to 7.9% in farms and 7.7% in plazas.

- **Burial time of less than 4 hours:** 5.8 % of the farms, which represent **6.2%** of the total places, bury the manure in a time of less than 4 hours. If analyzed only based on the farms and squares that have declared that they bury the applied manure, the percentages rise 9.3% in farms and 9.4% in plazas.
- **Immediate burial:** 4.3 % of the farms that represent **4.4%** of the plazas carry out an immediate burial of the manure. If analyzed only on the basis to the farms and squares that have declared that they bury the applied manure, the Percentages rise to 6.9% in farms and 6.8% in plazas.

It must be taken into account that, to reduce ammonia emissions into the atmosphere generated by the application of manure to the field, it is necessary to incorporate the manure to the ground as soon as possible, this implies that the time elapsed between the application manure field and its incorporation into the soil does not exceed 4 hours. As observed In the following graph, more than half of the farms that carry out burying of manures (solid or liquid), report that they incorporate the manure into the soil within 24 hours from its application to the field, only 9% do so based on MTD 22.

Graph 22. Burial time on farms with field application

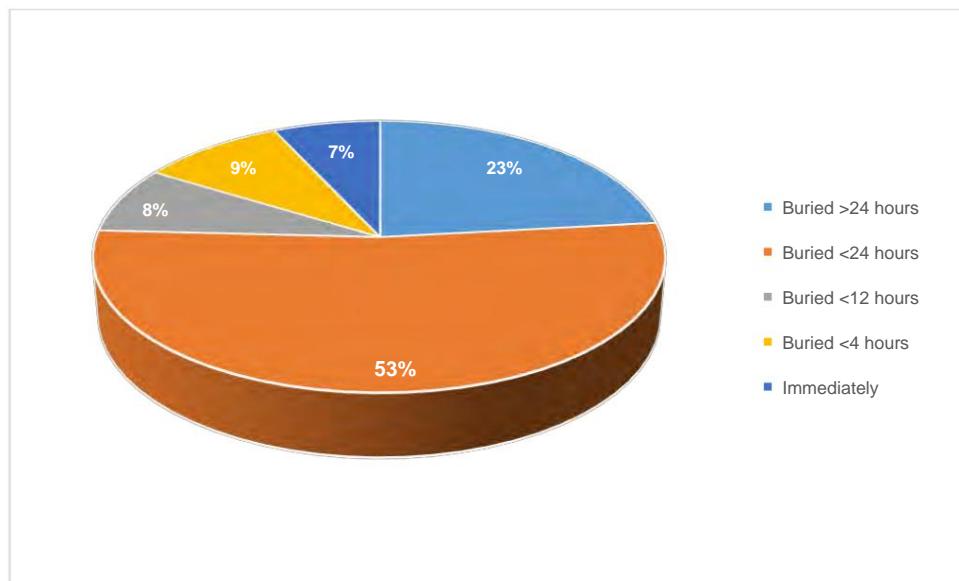


Table 48. Degree of implementation of BAT 22 by CCAA in farms and squares with field application

CCAA	BAT 22: >24 hours					MTD 22: <24 hours					BAT 22: <12 hours					MTD 22: <4 hours					MTD 22: immediately								
	Farms	%	Squares	%	Farms	%	Squares	%	Farms	%	Squares	%	Farms	%	Squares	%	Farms	%	Squares	%	Farms	%	Squares	%	Farms	%	Squares	%	
Andalusia	74	9.25	110,455	6.72	36	4.50	73,893	4.50	74	9.25	186,932	11.37	82	10.25	202,701	12.33	27	3.38	132,404	8.06									
Aragon	545	17.03	1,270,147	16.63		1,775	55.47	4,124,733	54.00		113	3.53	241,232	3.16	41	1.28	137,631	1.80	58	1.81	134,601	1.76							
Cantabria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
castile and leon	376	16.48	637,826	15.28	1,041	45.62	2,216,008	53.08		141	6.18	188,028	4.50	191	8.37	260,598	6.24	66	2.89	116,823	2.80								
Castile-la Stain	83	16.18	126,116	8.84	107	20.86	258,161	18.10	12	2.34	25,518	1.79	62	12.09	196,747	13.79	36	7.02	199,256	13.97									
Madrid's community	-	-	-	-	3	50.00	3,118	32.81	-	-	-	-	-	-	-	-	-	-	-	1	16.67	2,714	28.56						
Foral community of Navarre	40	17.86	100,253	14.67	56	25.00	174,112	25.48	66	29.46	238,217	34.86		6	2.68	45,211	6.62	9	4.02	16,690	2.44								
Community Valencian	217	28.78	288,513	24.58	196	25.99	311,321	26.53	92	12.20	122,279	10.42	76	10.08	164,780	14.04	-	-	-	-	-	-	-	-	-	-	-	-	
Estremadura	113	15.63	64,386	12.49	109	15.08	78,066	15.14	9	1.24	7,971	1.55	19	2.63	7,745	1.50	112	15.49	97,739	18.95									
Galicia	6	0.59	6,998	0.52	19	1.88	29,417	2.17	3	0.30	5,423	0.40	16	1.58	24,493	1.81	107	10.57	113,957	8.41									
The Rioja	27	45.76	76,745	47.65	17	28.81	44,283	27.50	3	5.08	5,767	3.58	-	-	-	-	-	-	-	4	6.78	10,738	6.67						
Region of Murcia	twenty	2.54	36,127	2.45	33	4.19	75,789	5.15	-	-	-	-	-	110	13.98	207,482	14.09	26	3.30	71,714	4.87								
Total	1,501	14.49	2,717,566	13.42		3,392	32.73	7,388,901	36.48		513	4.95	1,021,367	5.04		603	5.82	1,247,388	6.16		446	4.30	896,636	4.43					

II. Degree of implementation of MTD 22 in Catalonia

No data has been reported in this regard.

4. CONCLUSIONS

- 1) Like last year, 13 Autonomous Communities have carried out the notification of your data to the General Registry of MTDs, on the one hand, 12 CCAA of the 16 CCAA Adhered to ECOGAN, that is, all except Asturias, the Canary Islands, Balearic Islands and the Basque Country, and, on the other hand, Catalonia, which has notified the Registry through its own computer means other than ECOGAN.
- 2) In this second year of communication of MTDs, an evolution is observed favorable in the degree of notification to the General Registry of MTDs, given that this has increased 21.7 percentage points in farms (it has gone from one degree of notification from 51.6% of the farms to 73.3% while the universe of obligated farms has remained practically constant) and by 16.4 percentage points in places (going from 72.9% of the places to a 89.3%). However, it is necessary to point out that there is still room for improvement since even 27% of the farms with an obligation to notify (which represents 10.7% of the places) do not notify data to the General Registry.
- 3) Regarding the degree of implementation of the BATs in the farms notified by the CCAA to the General Registry, we can conclude that in general the declaration of techniques has been maintained or even increased. This, together with a The increase in the universe declared this year will undoubtedly have a positive impact in terms of reducing emissions at the level of the Spanish Inventory System, so it is expected that the balance of the impact of this year's declarations will be positive. However, there is still a large room for improvement in the application of techniques on the notified farms, especially in some of them as we will see below. Among the most notable data on the degree of implementation we can point out:

ÿ As in the previous year, the notification of the BAT related to the **NUTRITIONAL MANAGEMENT** indicate that, **practically all of the Notified farms use a phased feeding system with low level of protein**, showing a slight increase in its implantation. So same, the **average value of excreted nitrogen calculated this year remains**

being lower than the values indicated in the Zootechnical Bases for the calculation of the nutritional balance of nitrogen and phosphorus in the pig sector white in all categories of animals, it being important to highlight a **slight downward evolution with respect to the previous year** which, although observed in all productive categories, it is more relevant in the case of **breeding sows**.

It is expected that the incorporation of this data in the SEI will improve the results of the pig sector.

ÿ For the second consecutive year, the BATs most used to reduce ammonia emissions into the atmosphere in **ACCOMMODATIONS** continue to be those related to BAT 30 a), especially the increase in the frequency of slurry removal, the reduction of the ammonia-emitting surface, the separation of urine from faeces or the maintenance of clean and dry bedding, these techniques being applied by practically **90%** of the farms adhering to ECOGAN, although a slight decrease is observed in the case of piglet farms and breeding farms. When analyzing the most used techniques, it is observed that there is room for improvement in terms of the application of more effective techniques such as air purifiers, although progress is observed in this regard.

Regarding the **average value of emissions of**

calculated **ammonia** in the housing (NEA-MTD 30) follows the same behavior as last year, that is, it is within the range established by Decision 302/2017 in both weaned piglets and

fattening pigs, being somewhat above the range in the case of sows reproductive. Likewise, this value remains **stable** with a **slight downward variation with respect to last year**, this decrease being somewhat **higher** in the case of **IPPC farms**.

ÿ In **SOLID MANURE STORAGE**, the level of application of

These MTDs are still very low since only **14.4%** of the Total reported farms produce and store solid manure (being a 8.4% Iberian pig). Furthermore, it should be noted that, although almost **90%** of They report the use of **manure**, the scarce application of any type stands out of roofing or the use of waterproofed floors or other techniques for the reduction of emissions to the atmosphere, soil or water. Regarding the year previous, the implementation of these techniques remains stable with slight upward variations.

ÿ In the **STORAGE OF SLURGE or liquid manures**, the BATs

They present higher levels of application since, unlike the previous one, up to **87.9%** of the notified farms produce and store slurry. Besides, it is necessary to highlight that, like last year, the system most used on farms is the **raft**, being used by **80.9%** of the farms that store slurry. Almost all of them have a base and walls waterproofed (which reduces the level of emissions to soil and water), and the **76%** have **some type of cover**, with the natural scab being the type of most used cover. The second most used type of storage is This **tank** is used by **21.3%** of farms that store slurry, of which **66%** have **some type of cover**, with the rigid cover being the most used (by more than half of the farms), followed by the crust. natural that is used in a third of these. It is necessary to highlight that the analysis has revealed the limited implementation of other more effective techniques, so there is a wide margin for improvement based on the substitution of less effective techniques such as covering with natural crust, with other more effective ones such as flexible in rafts or rigid covers in tanks, which would allow achieving better results in terms of emissions reduction and its impact on the Spanish Inventory System.

ÿ Regarding **FIELD APPLICATION**, **90 % of the farms**

Notified companies have declared that their manure is intended for **application to field**, although despite this high percentage, the **degree of implementation** of the techniques related to field application included in **BAT 20 and 21** **have been slightly reduced** compared to the previous year. As for the techniques used, it should be noted that the BAT 20 techniques have been applied by only 38.4% of the notified farms. In the case of MTD 21, and the application of slurry to the field, almost 65% of the farms that apply declare a low emissions system such as the band spreader (hanging tubes or shoes), and almost 14% declare perform injection (deep in the 6% of farms and superficial 10% of farms). This analysis can represent a significant improvement in the data collected by the Spanish System of Inventories, since the **majority practice of using the banded spreader versus** the traditional consideration of the use of “fan” application (technique with high ammonia emission), although only It will apply to the universe of farms that have declared it in ECOGAN.

On the other hand, it must be taken into account that, to reduce emissions of ammonia to the atmosphere generated by the application of manure to the field (**BAT 22**), it is essential to incorporate manure into the soil as soon as possible (bury within 4 hours of application). However, of the total number of farms that report field application, practically **90% declare that they bury the manure after 4 hours from its application**. This indicates the existence of a potential room for improvement,

since this type of technique can be replaced by more effective techniques such as reducing burial time below 12 hours, being the desirable within 4 hours or immediately.

4) Regarding **Catalonia**, as in the rest of the national level, the level of **notification** on farms has increased, going from 51.4% to 74.5% notification. It is necessary to point out that the declared data remains stable

compared to last year, although it has been necessary just like last year. carry out an independent analysis of your data.

ÿ Regarding the **degree of implementation** of MTDs, they have remained stable in **nutritional management, and in the techniques applicable in accommodation, being**

It is necessary to point out that it includes a greater notification of techniques such as slurry acidification and floating balls compared to the rest of the CCAA.

ÿ On the other hand, and in relation to **manure storage**, it should be noted that, of the total number of notified farms, only 0.8% have declared that they produce and store solid manure in manure heaps. Since only information has been provided regarding the techniques intended for the reduction of emissions into the atmosphere, but not with respect to emissions to soil and water, it has only been possible to analyze BAT 14, which highlights the implementation of techniques that reduce the coefficient between the surface of emission and the volume of the solid manure pile. Stored solid manure is only covered in 6% of farms, with just over 16% having a shed for its storage. As for the

storage of slurry, the information provided has not allowed adequately differentiate between ponds and tanks, in addition to 608 farms have reported the slurry pit in housing as a system storage, which makes the validation of techniques difficult. Regarding BATs 16 and 17 only a few techniques have been reported, which has difficult its interpretation. All in all, it is concluded that 93.4% of the notified farms produce and store slurry and that the application of

rigid/flexible/floating covers is reported in 67.2% of farms with outdoor slurry storage. Regarding the types of covers, the Natural scab/floating materials are reported in 73.6% of farms with pond/deposit covered, while 26.3% declared covered rigid/flexible.

ŷ Finally, Catalonia has not transmitted data related to the **application to field** which has prevented its analysis.

5) With respect to the **Iberian pig sector**, point out its special behavior with regarding certain MTDs given that the sector's own casuistry entails the poor implementation of some of them, as well as the fact that the average value of the excreted N published in this report does not include Iberian pigs. It has not been possible to determine this value for the case of Iberian pig farms given that the calculation algorithms currently included in ECOGAN correspond only to white-coated pigs.

6) Finally, it should be noted that **the final balance of the results of this Report has been positive** since progress continues towards a higher index notification, and towards maintaining and/or increasing the application of effective techniques in reducing emissions to the atmosphere, soil and water, as well as a reduction in the value of nitrogen excretion by animal category.

Likewise, it is important to point out the relevant role of the information collected in the Registration for compliance with Directive EU/2016/2284 "Roof Directive" since ECOGAN allows the collection of information that can be used by the Spanish Inventory System (SEI) to calculate emissions in the pig sector.

Proof of this is last year's contribution to the "*Informative inventory report*".
2023 edition" (1990-2021) published by MITERD in March 2023 relative to data from the year 2021. The information from the Registry contributed to achieving a 2.7% reduction in total NH₃ emissions estimated for 2021, in compared to 1990, and also a decrease of 2.4%, compared to the 2020 estimates.

This reduction has made it possible to meet the national commitments of reduction of ammonia emissions established in the aforementioned Directive and in the Gothenburg protocol. As published in the inventory report (tables 0.6.1 and 0.6.2), in 2021 a reduction of 5.9% of the

ammonia emissions, thus almost doubling the annual reduction target
3% of ammonia emissions compared to 2005.

Table 0.6.1 Directive (EU) 2016/2284 compliance assessment

	NOx (*)		NMVOC (*)		SO ₂		NH ₃		PM _{2.5}	
	Reduction commitment: 41%		Reduction commitment: 22%		Reduction commitment: 67%		Reduction commitment: 3%		Reduction commitment: 15%	
	Emissions (kt)	Reduction attained	Emissions (kt)	Reduction attained	Emissions (kt)	Reduction attained	Emissions (kt)	Reduction attained	Emissions (kt)	Reduction attained
2005	1,244	-	621	-	1,207	-	509	-	167	-
2020	516	58.5%	465	25.2%	128	89.4%	491	3.6%	133	20.0%
2021	539	56.7%	438	29.5%	123	89.8%	479	5.9%	135	19.0%

(*) Emissions of both nitrogen oxides and non-methane volatile organic compounds from activities falling under NFR categories 3B (manure management) and 3D (agricultural soils) are not accounted for the purpose of compliance, according to the article 4.3.d) of Directive EU/2016/2284.

Table 0.6.2 Gothenburg Protocol compliance assessment

	NOx (*)		NMVOC		SO ₂		NH ₃		PM _{2.5}	
	Reduction commitment: 41%		Reduction commitment: 22%		Reduction commitment: 67%		Reduction commitment: 3%		Reduction commitment: 15%	
	Emissions (kt)	Reduction attained	Emissions (kt)	Reduction attained	Emissions (kt)	Reduction attained	Emissions (kt)	Reduction attained	Emissions (kt)	Reduction attained
2005	1,251	-	729	-	1,207	-	509	-	167	-
2020	523	58.2%	575	21.1%	128	89.4%	491	3.6%	133	20.0%
2021	546	56.4%	549	24.6%	123	89.8%	479	5.9%	135	19.0%

(*) Nitrogen oxides emissions from soils (NFR 3D) are not included in the estimates for European Union member States, according to Table 3 (Emission reduction commitments for nitrogen oxides for 2020 and beyond) of Annex II or the Gothenburg Protocol.

Following this same line, it is expected that the contribution of the information reported by the BAT Registry to the SEI reflects a more precise evolution of emissions of NH₃ also for fiscal year 2022.

It must be taken into account that the BATs applied in the pig sector and notified to the Registry are incorporated into the SEI calculation methodology.

This information obtained through the ECOGAN application allows a TIER III level of precision. However, the incorporation of this more precise information to the SEI calculation methodology only applies to declarations made through ECOGAN, maintaining the calculation methodology used until now by the SEI.

for the rest of the census. Therefore, the objective is to expand this universe included in ECOGAN to the greatest extent possible in order to improve the calculation precision and adapt it to the practical reality of Spanish livestock farming.

5. ANNEX

5.1. MTD 3 implementation by province

	BAT 3 a)				BAT 3 b)				
	Farms	%	Plazas	%	Farms	%	Plazas	%	
Andalusia	898	99.78	1,837,220	99.88	723	80.33	1,652,287	89.82	
Almeria	319	100.00	653,684	100	305	95.61	642,796	98.33	
Cadiz	25	92.59	21,004	90.22	6	22.22	9,073	38.97	
Cordova	61	100.00	76,716	100.00	23	37.70	45,082	58.76	
Grenade	85	100.00	272,793	100.00	78	91.76	270,126	99.02	
Huelva	26	100.00	40,004	100.00	10	38.46	23,952	59.87	
Jaen	53	100.00	125,124	100.00	49	92.45	122,555	97.95	
Malaga	166	100.00	278,187	100.00	115	69.28	211,071	75.87	
Seville	163	100.00	369,708	100.00	137	84.05	327,632	88.62	
Aragon	3,608	99.97	8,857,376	99.98	3,464	95.98	8,592,639	97.00	
Huesca	1,784	100.00	4,652,092	100.00		1,706	95.63	4,498,977	96.71
Teruel	709	100.00	1,329,935	100.00		684	96.47	1,297,400	97.55
Saragossa	1,115	99.91	2,875,349	99.95	1,074	96.24	2,796,262	97.20	
Cantabria	2	100.00	48	100.00	-	-	-	-	
Cantabria	2	100.00	48	100.00	-	-	-	-	
Castile and Leon	2,387	99.50	4,373,509	99.91	1,765	73.57	4,005,538	91.50	
Avila	117	99.15	285,188	99.65	85	72.03	264,183	92.31	
Burgos	185	99.46	507,752	99.97	160	86.02	492,831	97.04	
Lion	84	100.00	151,033	100.00	77	91.67	149,593	99.05	
Palencia	25	100.00	136,441	100.00	23	92.00	133,979	98.20	

Salamanca	529	99.62	612,606	99.83	251	47.27	397,345	64.75
Segovia	646	100.00	1,190,713	100.00		564	87.31	1,148,306
Soria	166	100.00	512,969	100.00	155	93.37	498,169	97.11
Valladolid	211	99.53	444,912	100.00	170	80.19	415,812	93.46
Zamora	424	98.38	531,895	99.66	280	64.97	505,320	94.68
Castilla la Mancha	597	99.83	1,766,198	99.96	547	91.47	1,683,586	95.29
Albacete	88	100.00	358,932	100.00	82	93.18	353,859	98.59
Real city	17	100.00	37,097	100.00	17	100.00	37,097	100.00
Basin	116	99.15	312,058	99.78	111	94.87	292,417	93.50
Guadalajara	9	100.00	17,854	100.00	9	100.00	17,854	100.00
Toledo	367	100.00	1,040,257	100.00		328	89.37	982,359
Madrid's community	7	100.00	9,535	100.00	6	85.71	9,503	99.66
Madrid	7	100.00	9,535	100.00	6	85.71	9,503	99.66
Foral community of Navarra	248	100.00	755,095	100.00	235	94.76	730,246	96.71
Navarre	248	100.00	755,095	100.00	235	94.76	730,246	96.71
Valencian Community	773	100.00	1,216,838	100.00		730	94.44	1,154,132
Alicante	fifteen	100.00	48,513	100.00	13	86.67	46,377	95.60
Castellon	479	100.00	683,711	100.00	449	93.74	650,248	95.11
Valencia	279	100.00	484,614	100.00	268	96.06	457,507	94.41
Estremadura	813	99.51	593,434	98.90	347	42.47	331,655	55.27
Badajoz	789	99.62	552,307	98.94	332	41.92	299,392	53.63
Caceres	24	96.00	41,127	98.37	fifteen	60.00	32,263	77.17
Galicia	1,019	99.90	1,366,331	99.91	583	57.16	923,911	67.56
Coruna	182	99.45	314,728	99.60	111	60.66	241,605	76.46
Lugo	239	100.00	264,114	100.00	136	56.90	165,676	62.73
Orense	218	100.00	360,337	100.00	177	81.19	311,832	86.54
Pontevedra	380	100.00	427,152	100.00	159	41.84	204,798	47.94

The Rioja	61	100.00	167,671	100.00	55	90.16	153,781	91.72
The Rioja	61	100.00	167,671	100.00	55	90.16	153,781	91.72
Murcia Region	1,084	100.00	2,157,099	100.00		1,034	95.39	2,109,377
Murcia	1,084	100.00	2,157,099	100.00		1,034	95.39	2,109,377
Total CCAA Adhered	11,497	99.82	23,100,354	99.93		9,489	82.38	21,346,655
								92.34

5.2. MTD 3 implementation in CATALONIA by province

MTD 3.b MULTIPHASE SUPPLY						
PROVINCE	Total farms notified	Total reported census	Farms %	Census %		
Barcelona	932	1,412,422	932	100	1,412,422	100
Girona	456	757,165	456	100	757,165	100
Lleida	2,085	3,976,332	2,085	100	3,976,332	100
Tarragona	281	482,206	281	100	482,206	100
Total CATALONIA	3,754	6,628,125	3,754	100	6,628,125	100

5.3. Implementation of BAT 30 in lactating sows by province

	BAT 30 a				MTD 30 b				BAT 30 c				MTD 30 d				MTD 30 e			
	Farm to	%	Plazas	% Farm %			Square	% Farm		%	Places	% Farm %			Square	% Gr anj to	% Square %			
ANDALUSIA	224	85.17	37,383	92.02	3	1.14	294	0.72	13	4.94	1,823	4.49	-	-	-	-	-	-		
ALMERIA	28	96.55	6,325	96.46	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CADIZ	18	81.82	693	56.80	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CORDOVA	23	85.19	2,406	88.68	-	-	-	-	1	3.70	310	11.43	-	-	-	-	-	-		
GRENADE	31	100.00	9,163	100.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
HUELVA	13	68.42	1,232	49.96	2	10.53	264	10.71	2	10.53	980	39.74	-	-	-	-	-	-		
JAEN	twenty	95.24	3,388	97.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
MALAGA	38	65.52	5,987	89.04	1	1.72	30	0.45	8	13.79	427	6.35	-	-	-	-	-	-		
SEVILLE	53	94.64	8,189	98.46	-	-	-	-	2	3.57	106	1.27	-	-	-	-	-	-		
ARAGON	383	91.19	86,900	93.87	1	0.24	780	0.84	3	0.71	435	0.47	-	-	-	-	-	-		
HUESCA	126	89.36	33,886	91.93	-	-	-	-	2	1.42	312	0.85	-	-	-	-	-	-		
TERUEL	73	82.02	10,687	84.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
SARAGOSSA	184	96.84	42,327	98.36	1	0.53	780	1.81	1	0.53	123	0.29	-	-	-	-	-	-		
CANTABRIA	1	100.00	3	100.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CANTABRIA	1	100.00	3	100.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CASTILLA AND LEÓN	767	90.13	69,066	90.45	2	0.24	818	1.07	ffteen	1.76	1524	2.00	6	0.71	415	0.54	-	-		
AVILA	19	63.33	3,477	78.70	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
BURGOS	33	86.84	7,518	94.47	-	-	-	-	3	7.89	304	3.82	1	2.63	224	2.81	-	-		
LION	8	100.00	718	100.00	-	-	-	-	0	-	-	-	-	-	-	-	-	-		
PALENCIA	10	83.33	2,207	89.06	-	-	-	-	0	-	-	-	-	-	-	-	-	-		
SALAMANCA	232	89.23	11,763	91.08	-	-	-	-	9	3.46	795	6.16	3	1.15	158	1.22	-	-		

SEGOVIA	237	92.94	23,571	94.44	-	-	-	-	2	0.78	269	1.08	-	-	-	-	-	-	-	-	
SORIA	27	81.82	7,938	80.47	2	6.06	818	8.29	-	-	-	-	-	-	-	-	-	-	-	-	
VALLADOLID	53	92.98	5,093	87.52	-	-	-	-	1	1.75	156	2.68	1	1.75	16	0.27	-	-	-	-	
ZAMORA	148	93.67	6,781	93.80	-	-	-	-	-	-	-	-	1	0.63	17	0.24	-	-	-	-	
CASTILLA LA MANCHA	92	79.31	20,688	75.76	-	-	-	-	1	0.86	720	2.64	-	-	-	-	-	-	-	-	
ALBACETE	even	84.62	2,629	77.51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
REAL CITY	2	100.00	530	100.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BASIN	12	92.31	5,191	89.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
GUADALAJARA	1	50.00	138	54.98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TOLEDO	66	76.74	12,200	70.45	-	-	-	-	1	1.16	720	4.16	-	-	-	-	-	-	-	-	
MADRID'S COMMUNITY	4	100.00	598	100.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MADRID	4	100.00	598	100.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
FORAL COMMUNITY OF NAVARRE	40	100.00	13,599	100.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
NAVARRE	40	100.00	13,599	100.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
VALENCIAN COMMUNITY	87	82.08	13,680	85.86	-	-	-	-	2	1.89	592	3.72	1	0.94	125	0.78	-	-	-	-	-
ALICANTE	7	100.00	1,371	100.00	-	-	-	-	1	14.29	192	14.00	-	-	-	-	-	-	-	-	
CASTELLON	53	77.94	5,908	84.53	-	-	-	-	1	1.47	400	5.72	1	1.47	125	1.79	-	-	-	-	
VALENCIA	27	87.10	6,401	84.52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ESTREMADURA	316	76.14	14,871	72.72	-	-	-	-	55	13.25	1917	9.37	14	3.37	606	2.96	-	-	-	-	-
BADAJOZ	308	75.86	13,615	71.36	-	-	-	-	54	13.30	1914	10.03	14	3.45	606	3.18	-	-	-	-	
CACERES	8	88.89	1,256	91.61	-	-	-	-	1	11.11	3	0.22	-	-	-	-	-	-	-	-	
GALICIA	155	94.51	17,906	96.71	-	-	-	-	-	-	-	-	1	0.61	126	0.68	-	-	-	-	
CORUÑA	42	93.33	6,035	95.70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
LUGO	26	81.25	1,474	81.35	-	-	-	-	-	-	-	-	1	3.13	126	6.95	-	-	-	-	
ORENSE	51	100.00	6,539	100.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
PONTEVEDRA	36	100.00	3,858	100.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
THE RIOJA	5	55.56	557	67.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

THE RIOJA	5	55.56	557	67.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MURCIA REGION	151	96.18	30,032	98.78	-	-	-	-	9	5.73	984	3.24	5	3.18	2,682	8.82	-	-	-
MURCIA	151	96.18	30,032	98.78	-	-	-	-	9	5.73	984	3.24	5	3.18	2,682	8.82	-	-	-
Total CCAA Adhered	2,225	87.39	305,283	90.54	6	0.24	1,892	0.56	98	3.85	7995	2.37	27	1.06	3,954	1.17	-	-	-

5.4. Implementation of MTD 30 in breeding sows in CATALONIA by province

Province	MTD 30 Breeding ACCOMMODATIONS																				
	MTD 30.a Soil type/Emptying frequency		BAT 30.b Slurry cooling				MTD 30.c Air purifier				BAT 30.d Acidification of slurry				MTD 30.e Floating balls in pit						
	Farms %	Census %	Farms %	Census %	Farms %	Census %	Farms %	Census %	Farms %	Census %	Farms %	Census %	Farms %	Census %	Farms %	Census %	Farms %	Census %	Farms %	Census %	
Barcelona	53	98.15	-	-	-	-	-	-	-	-	-	-	-	1	1.85	-	-	-	-	-	
Girona	24	100.00	6934	100.00	-	-	-	-	-	-	-	-	-	2	8.33	-	-	5	20.83	3.4	0.49
Lleida	79	94.05	1000	100.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tarragona	26	100.00	0	-	-	-	-	-	1	3.85	-	-	-	-	-	-	-	-	-	-	-
Total CATALONIA	182	96.81	7934	100.00	-	-	-	-	1	0.53	-	-	-	3	1.60	-	-	5	2.66	3.4	0.43

5.5. Implementation of MTD 30 in mating, pregnant sows and replacement by provinces

	BAT 30 a			MTD 30 b			BAT 30 c			MTD 30 d			MTD 30 e			
	Farms	%	Squares	%	Farms	%	Squares	%	Farms	%	Squares	%	Farms	%	Squares	%
ANDALUSIA	237	84.64	150,933	96.76			4	1.43	705	0.45		5	1.79	984	0.63	
ALMERIA	36	100.00	26,451	100.00			-	-	-	-		-	-	-	-	-
CADIZ	14	70.00	1,653	69.28			-	-	-	-		-	-	-	-	-
CORDOVA	30	76.92	7,533	91.12			1	2.56	15	0.18		2	5.13	385	4.66	-
GRENADA	33	97.06	41,940	99.97			-	-	-	-		-	-	-	-	-
HUELVA	12	70.59	3,565	84.28			2	11.76	576	13.62		-	-	-	-	-
JAEN	20	95.24	15,649	99.87			-	-	-	-		-	-	-	-	-
MALAGA	40	70.18	22,366	90.94			1	1.75	114	0.46		2	3.51	329	1.34	-
SEVILLE	52	92.86	31,776	97.94			-	-	-	-		1	1.79	270	0.83	-
ARAGON	412	97.17	440,865	97.54			1	0.24	2,712	0.60		5	1.18	2,795	0.62	-
HUESCA	135	94.41	181,173	96.33			-	-	-	-		4	2.80	2,366	1.26	-
TERUEL	88	97.78	52,175	94.45			-	-	-	-		-	-	-	-	-
SARAGOSSA	189	98.95	207,517	99.45			1	0.52	2,712	1.30		1	0.52	429	0.21	-
CANTABRIA	-	-	-	-			-	-	-	-		-	-	-	-	-
CANTABRIA	-	-	-	-			-	-	-	-		-	-	-	-	-
CASTILLA AND LEÓN	841	91.21	322,829	95.92			2	0.22	4,013	1.19		12	1.30	4948	1.47	8
AVILA	34	82.93	16,642	98.58			-	-	-	-		1	2.44	19	0.11	1
BURGOS	43	95.56	39,818	93.28			-	-	-	-		2	4.44	121	0.28	1
LION	9	100.00	3,320	100.00			-	-	-	-		1	11.11	60	1.81	1
PALENCIA	elevan	100.00	11,880	100.00			-	-	-	-		-	-	-	-	-
SALAMANCA	216	82.13	40,461	96.07			-	-	-	-		6	2.28	4,149	9.85	2
SEGOVIA	257	97.35	100,871	97.34			-	-	-	-		1	0.38	130	0.13	-

SORIA	32 94.12 42,786 89.69		2	5.88 4,013 8.41	-	-	-	-	-	-	-	-	-	-	-	-	-
VALLADOLID	59 95.16 32,997 96.56		-	-	-	-	1	1.61 469 1.37	1	1.61 130 0.38	-	-	-	-	-	-	-
ZAMORA	180 93.26 34,054 99.66		-	-	-	-	-	-	-	2	1.04 614 1.80	-	-	-	-	-	-
CASTILLA LA MANCHA	126 95.45 116,707 97.04		-	-	-	-	3	2.27 2758 2.29	1	0.76 1,200 1.00	-	-	-	-	-	-	-
ALBACETE	15 100.00 22,108 100.00		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
REAL CITY	2 100.00 2,956 100.00		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BASIN	19 90.48 31,575 95.59		-	-	-	-	-	-	-	1	4.76 1,200 3.63	-	-	-	-	-	-
GUADALAJARA	2 66.67 1,324 42.38		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOLEDO	88 96.70 58,744 99.49		-	-	-	-	3	3.30 2,758 4.67	-	-	-	-	-	-	-	-	-
MADRID'S COMMUNITY	4 100.00 2,076 100.00		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MADRID	4 100.00 2,076 100.00		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FORAL COMMUNITY OF NAVARRA	43 97.73 61,132 98.72		-	-	-	-	1	2.27 1547 2.50	1	2.27 794 1.28	-	-	-	-	-	-	-
NAVARRE	43 97.73 61,132 98.72		-	-	-	-	1	2.27 1,547 2.50	1	2.27 794 1.28	-	-	-	-	-	-	-
VALENCIAN COMMUNITY	110 98.21 63,452 99.81		-	-	-	-	1	0.89 1,100 1.73	1	0.89 505 0.79	-	-	-	-	-	-	-
ALICANTE	7 100.00 4,436 100.00		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CASTELLON	69 98.57 25,256 99.92		-	-	-	-	1	1.43 1,100 4.35	1	1.43 505 2.00	-	-	-	-	-	-	-
VALENCIA	34 97.14 33,760 99.70		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESTREMADURA	278 59.15 40,065 68.33		-	-	-	-	35	7.45 1,444 2.46 4		0.85 302 0.52	-	-	-	-	-	-	-
BADAJOZ	270 58.82 32,739 64.78		-	-	-	-	35	7.63 1,444 2.86 4		0.87 302 0.60	-	-	-	-	-	-	-
CACERES	8 72.73 7,326 90.51		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GALICIA	179 96.24 82,677 93.37		-	-	-	-	-	-	-	2	1.08 1504 1.70	-	-	-	-	-	-
CORUÑA	49 90.74 31,890 87.97		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LUGO	36 94.74 8,151 84.42		-	-	-	-	-	-	-	2	5.26 1504 15.58	-	-	-	-	-	-
ORENSE	54 100.00 25,319 100.00		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PONTEVEDRA	40 100.00 17,317 100.00		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
THE RIOJA	9 81.82 3,400 89.92		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
THE RIOJA	9 81.82 3,400 89.92		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

MURCIA REGION	162	95.86	115,621	99.72	-	-	-	-	2	1.18	331	0.29	4	-	2.37	11,252	9.70	-	-	-	-
MURCIA	162	95.86	115,621	99.72	-	-	-	-	2	1.18	331	0.29	4	-	2.37	11,252	9.70	-	-	-	-
Total CCAA Adhered	2,401	87.12	1,399,757	95.92	7	0.25	7,430	0.51	64	2.32	15,907	1.09	21	-	0.76	16,960	1.16	-	-	-	-

5.6. Implementation of MTD 30 in females, replacement sows in CATALONIA by province

MTD 30 ACCOMMODATIONS Females																				
Province	MTD 30.a Soil type/Frequency emptied				BAT 30.b Slurry cooling			MTD 30.c Air purifier			BAT 30.d Acidification of slurry			MTD 30.e Floating balls in pit						
	Farm yes	%	census other	% Farm	yes	% Census	% Farm	yes	% Census	% Farm	yes	% Census	% Farm	yes	% Census	% Farm	yes	% Census	%	
Barcelona	54	98.18	400	100.00	-	-	-	-	-	-	1	1.82	-	-	-	-	-	-	-	
Girona	23	100.00	930	100.00	-	-	-	-	-	-	2	8.70	-	-	4	17.39	-	-	-	
Lleida	80	94.12	1501	100.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Tarragona	28	100.00	365	100.00	-	-	-	-	1	3.57	-	-	-	-	-	-	-	-	-	
Total Catalonia	185	96.86	3196	100.00	-	-	-	-	1	0.52	-	-	3	1.57	-	-	4	2.09	-	-

MTD 30 ACCOMMODATIONS Replacement																				
Province	MTD 30.a Soil type/Frequency emptied				BAT 30.b Slurry cooling			MTD 30.c Air purifier			BAT 30.d Acidification of slurry			MTD 30.e Floating balls in pit						
	Farms	% Census	% Farms	% Census	% Farms	% Census	% Farms	% Census	% Farms	% Census	%	Farms	% Census	% Farms	% Census	%	Farms	% Census	%	
Barcelona	74	98.67	11,481	100.00	-	-	-	-	-	-	-	1	1.33	-	-	-	-	-	-	
Girona	33	100.00	7,309	100.00	-	-	-	-	-	-	-	3	9.09	308	4.21	6	18.18	1,100	15.05	
Lleida	89	94.68	4,563	100.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Tarragona	3.4	100.00	6,482	100.00	-	-	-	-	2	5.88	382	5.89	-	-	-	-	-	-	-	
Total Catalonia	230	97.46	29,835	100.00	-	-	-	-	2	0.85	382	1.28	4	1.69	308	1.03	6	2.54	1,100	3.69

5.7. MTD 30 implementation in fattening pigs by province

	BAT 30 a				MTD 30 b				BAT 30 c				MTD 30 d				MTD 30 e			
	Farms %	Squares %	Farms %	Squares %	Farms %	Squares %	Farms %	Squares %	Farms %	Squares %	Farms %	Squares %	Farms %	Squares %	Farms %	Squares %	Farms %	Squares %		
ANDALUSIA	636	89.08	1,063,589	94.44	4	0.56	2,318	0.21	2	0.28	2,815	0.25	5	0.70	9,123	0.81	-	-	-	-
ALMERIA	274	100.00	464,391	100.00	-	-	-	-	-	-	-	-	4	1.46	8,240	1.77	-	-	-	-
CADIZ	8	57.14	6,529	53.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CORDOVA	39	90.70	39,346	91.85	2	4.65	550	1.28	1	2.33	415	0.97	-	-	-	-	-	-	-	-
GRENADE	54	94.74	109,449	94.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HUELVA	12	70.59	13,313	77.46	-	-	-	-	1	5.88	2,400	13.96	-	-	-	-	-	-	-	-
JAEN	43	95.56	73,939	99.87	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MALAGA	82	62.12	129,104	77.92	2	1.52	1768	1.07	-	-	-	-	1	0.76	883	0.53	-	-	-	-
SEVILLE	124	93.94	227,518	96.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ARAGON	3033	96.84	6,487,696	95.79	1	0.03	1,600	0.02	2	0.06	3,599	0.05	8	0.26	11,070	0.16	-	-	-	-
HUESCA	1543	96.08	3,521,662	94.79	-	-	-	-	1	0.06	1,999	0.05	5	0.31	6,755	0.18	-	-	-	-
TERUEL	628	97.97	1,053,247	97.93	-	-	-	-	-	-	-	-	1	0.16	434	0.04	-	-	-	-
SARAGOSSA	862	97.40	1,912,787	96.49	1	0.11	1600	0.08	1	0.11	1,600	0.08	2	0.23	3,881	0.20	-	-	-	-
CANTABRIA	0	0.00	0	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CANTABRIA	0	0.00	0	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CASTILLA AND LEÓN	1642	91.83	2,741,565	92.26	3	0.17	6,340	0.21	8	0.45	5,845	0.20	9	0.50	17,958	0.60	3	0.17	3,581	0.12
AVILA	76	84.44	166,664	84.14	-	-	-	-	2	2.22	1,460	0.74	3	3.33	8,879	4.48	-	-	-	-
BURGOS	127	88.81	285,614	87.21	-	-	-	-	2	1.40	735	0.22	2	1.40	4,219	1.29	-	-	-	-
LION	68	90.67	114,634	85.51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PALENCIA	19	90.48	81,815	95.87	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SALAMANCA	364	87.08	408,320 91.48	0	0.00	0	0.00	1	0.24 297 0.07		-	-	-	-	1	0.24 400 0.09	
SEGOVIA	477	98.35	710,029 98.33	1	0.21 1000 0.14			1	0.21 380 0.05		-	-	-	-	1	0.21 1,080 0.15	
SORIA	109	86.51	299,879 87.67	1	0.79 3,300 0.96			1	0.79 1,196 0.35		-	-	-	-	-	-	-
VALLADOLID	144	90.00	288,746 91.62	-	-	-	-	1	0.63 1,777 0.56		4	2.50 4,860 1.54			-	-	-
ZAMORA	258	95.56	385,864 96.21	1	0.37 2040 0.51			0	0.00 0 0.00		-	-	-	-	1	0.37 2,101 0.52	
CASTILLA-LA STAIN	457	91.95 1,023,359 92.65		-	-	-	-	1	0.20 1,199 0.11		-	-	-	-	1	0.20 700 0.06	
ALBACETE	66	97.06	165,514 96.93	-	-	-	-	-	-		-	-	-	-	-	-	-
REAL CITY	10	83.33	17,532 85.61	-	-	-	-	-	-		-	-	-	-	-	-	-
BASIN	100	100.00	225,810 100.00	-	-	-	-	-	-		-	-	-	-	-	-	-
GUADALAJARA	5	83.33	9,444 93.10	-	-	-	-	-	-		-	-	-	-	1	16.67 700 6.90	
TOLEDO	276	88.75	605,059 89.33	-	-	-	-	1	0.32 1,199 0.18		-	-	-	-	-	-	-
COMMUNITY OF MADRID	4	80.00	3,210 82.10	-	-	-	-	-	-		-	-	-	-	-	-	-
MADRID	4	80.00	3,210 82.10	-	-	-	-	-	-		-	-	-	-	-	-	-
FORAL COMMUNITY OF NAVARRE	198	97.06	487,437 97.42	-	-	-	-	-	-		-	-	-	-	1	0.49 1,999 0.40	
NAVARRE	198	97.06	487,437 97.42	-	-	-	-	-	-		-	-	-	-	1	0.49 1999 0.40	
COMMUNITY VALENCIAN	668	97.52	881,422 97.70	-	-	-	-	2	0.29 1,563 0.17		4	0.58 3,064 0.34		-	-	-	-
ALICANTE	7	100.00	15,825 100.00	-	-	-	-	-	-		-	-	-	-	-	-	-
CASTELLON	428	97.49	550,192 97.63	-	-	-	-	2	0.46 1,563 0.28		2	0.46 1,460 0.26		-	-	-	-
VALENCIA	233	97.49	315,405 97.72	-	-	-	-	-	-		-	2	0.84 1,604 0.50		-	-	-
ESTREMADURA	287	48.48	176,631 56.56	-	-	-	-	49	8.28 20,524 6.57		3	0.51 691 0.22		-	-	-	-
BADAJOZ	277	48.17	166,129 56.90	-	-	-	-	49	8.52 20,524 7.03		3	0.52 691 0.24		-	-	-	-
CACERES	10	58.82	10,502 51.74	-	-	-	-	-	-		-	-	-	-	-	-	-
GALICIA	876	97.77	942,375 97.67	1	0.11 1,284 0.13			1	0.11 1,788 0.19		9	1.00 10,994 1.14		-	-	-	-
CORUÑA	141	95.92	160,233 96.51	-	-	-	-	-	-		-	-	-	-	-	-	-
LUGO	213	96.38	217,673 95.24	-	-	-	-	-	-		7	3.17 10,324 4.52		-	-	-	-
ORENSE	170	98.84	224,759 98.70	1	0.58 1,284 0.56			1	0.58 1,788 0.79		-	-	-	-	-	-	-

PONTEVEDRA	352	98.88	339,710 99.15	-	-	-	-	-	-	-	-	-	2	0.56 670 0.20	-	-	-	-	-
THE RIOJA	51	91.07	130,775 91.18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
THE RIOJA	51	91.07	130,775 91.18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
REGION OF MURCIA 886		97.47 1,507,049 96.77		-	-	-	-	5	0.55 8,412 0.54		5	0.55 19,996 1.28		1	0.11 1,000 0.06				
MURCIA	886	97.47 1,507,049 96.77		-	-	-	-	5	0.55 8,412 0.54		5	0.55 19,996 1.28		1	0.11 1,000 0.06				
Total Adhered CCAA	8,738	92.17 15,445,108 94.41		9	0.09 11,542 0.07		70	0.74 45,745 0.28		43	0.45 72,896 0.45		6	0.06 7,280 0.04					

5.8. Implementation of BAT 30 in fattening pigs and males in CATALONIA by province

MTD 30 ACCOMMODATIONS Fattening pigs																							
Province	MTD 30.a Soil type/emptying frequency								MTD 30.b Slurry cooling			MTD 30.c Air purifier			MTD 30.d Acidification of slurry			MTD 30.e Floating balls in pit					
	Farms	%	Census	% Farms	% Census	% Farms	% Census	% Farms	% Census	% Farms	% Census	% Farms	% Census	%									
Barcelona	571	98.96	655,678	99.69	-	-	-	-	-	-	-	-	-	4	0.69	4,948	0.75	-	-	-	-		
Girona	322	99.69	467,364	99.90	-	-	-	-	1	0.31	1,107	0.24	-	54	16.72	82,187	17.57	-	41	12.69	90,402	19.32	
Lleida	1,604	99.26	2,546,963	99.69	5	0.31	13,095	0.51	-	4	0.25	4,165	0.16	-	10	0.62	12,603	0.49	2	0.12	3,202	0.13	
Tarragona	203	99.02	281,977	99.52	-	-	-	-	2	0.98	1,095	0.39	-	3	1.46	3,220	1.14	-	-	-	-	-	
Total Catalonia	2,700	99.23	3,951,982	99.70	5	0.18	13,095	0.33	-	7	0.26	6,367	0.16	-	71	2.61	102,958	2.60	-	43	1.58	93,604	2.36

MTD 30 ACCOMMODATIONS Males																					
Province	MTD 30.a Soil type/Frequency emptied				BAT 30.b Slurry cooling				MTD 30.c Air purifier				BAT 30.d Acidification of slurry				MTD 30.e Floating balls in pit				
	Farms	%	Census	% Farms	% Census	% Farms	% Census	% Farms	% Census	% Farms	% Census	%									
Barcelona	61	98.39	481	100.00	-	-	-	-	-	-	-	-	1	1.61	-	-	-	-	-	-	-
Girona	22	100.00	-	-	-	-	-	-	-	-	-	-	2	9.09	-	-	4	18.18	-	-	-
Lleida	86	94.51	1,492	100.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tarragona	27	100.00	28	100.00	-	-	-	-	1	3.70	-	-	-	-	-	-	-	-	-	-	-
Total Catalonia	196	97.03	2001	100.00	-	-	-	-	1	0.50	-	-	3	1.49	-	-	4	1.98	-	-	-

5.9. MTD 30 implementation in piglets by province

	BAT 30 a)		BAT 30 b)		BAT 30 c)		BAT 30 d)		BAT 30 e)	
	Farms %	Squares %	Farms %	Squares %	Farms %	Squares %	Farms %	Squares %	Farms %	Squares %
ANDALUSIA	226	496,317 96.32		2	0.75 1,970 0.38		6	2.26 6,055 1.18	1	0.38 1,750 0.34
ALMERIA	35	100.00 156,097 100.00		-	- - -	-	-	- - -	-	- - -
CADIZ	17	80.95 5,656	76.83	-	- - -	-	1	4.76 1,750 23.77	1	4.76 1,750 23.77
CORDOVA	twenty	71.43 19,020 83.60		-	- - -	-	-	- - -	-	- - -
GRENADA	---	91.30 105,856 99.72		-	- - -	-	-	- - -	-	- - -
HUELVA	fifteen	83.33 14,447 90.21		1	5.56 817 5.10		1	5.56 1,200 7.49	-	- - -
JAEN	22	95.65 31,844 99.97		-	- - -	-	-	- - -	-	- - -
MALAGA	43	70.49 70,394 86.88		1	1.64 1,153 1.42		4	6.56 3,105 3.83	-	- - -
SEVILLE	53	94.64 93,003 98.91		-	- - -	-	-	- - -	-	- - -
ARAGON	403	91.59 1,433,461 93.19		-	- - -	-	5	1.14 11,289 0.73	1	0.23 2,400 0.16
HUESCA	151	90.42 663,457 93.35		-	- - -	-	4	2.40 9,759 1.37	-	- - -
TERUEL	79	84.95 155,286 83.40		-	- - -	-	-	- - -	-	- - -
SARAGOSSA	173	96.11 614,718 95.84		-	- - -	-	1	0.56 1,530 0.24	1	0.56 2,400 0.37
CANTABRIA	1	100.00 4 100.00		-	- - -	-	-	- - -	-	- - -
CANTABRIA	1	100.00 4 100.00		-	- - -	-	-	- - -	-	- - -
CASTILLA AND LEÓN	592	91.22 913,890 92.39		1	0.15 646 0.07		16	2.47 35,681 3.61	6	0.92 2,338 0.24
AVILA	16	72.73 58,698 87.96		-	- - -	-	-	- - -	1	4.55 1,914 2.87
BURGOS	30	81.08 114,938 88.78		-	- - -	-	4	10.81 4,565 3.53	1	2.70 115 0.09
LION	6	100.00 12,761 100.00		-	- - -	-	-	- - -	-	- - -
PALENCIA	9	90.00 36,715 99.98		-	- - -	-	-	- - -	-	- - -
SALAMANCA	186	91.18 108,310 97.13		-	- - -	-	6	2.94 8,879 7.96	3	1.47 179 0.16
SEGOVIA	212	95.93 324,497 95.74		-	- - -	-	2	0.90 3,230 0.95	0	0.00 0 0.00

THE RIOJA		8	66.67	16,770	85.48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
THE RIOJA		8	66.67	16,770	85.48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
REGION OF MURCIA	OF	173	98.86	441,313	97.43	-	-	-	-	3	1.71	7,459	1.65	6	3.43	18,665	4.12	-	-	-
MURCIA		173	98.86	441,313	97.43	-	-	-	-	3	1.71	7,459	1.65	6	3.43	18,665	4.12	-	-	-
Total Adhered	CCAA	2,069	86.61	4,450,224	89.94	4	0.17	6,136	0.12	78	3.26	127,390	2.57	33	1.38	38,552	0.78	-	-	-

5.10. Implementation of BAT 30 in piglets in transition in CATALONIA by province

Province	MTD	MTD 30 HOUSING Piglets in transition																						
		30.a Soil type/Frequency emptied				BAT 30.b Slurry cooling				MTD 30.c Air purifier				BAT 30.d Acidification of slurry				MTD 30.e Floating balls in pit						
		Farms %	Census %	Farms %	Census %	Farms %	Census %	Farms %	Census %	Farms %	Census %	Farms %	Census %	Farms %	Census %	Farms %	Census %	Farms %	Census %	Farms %	Census %			
Barcelona	99	99.00	123,211	100.00		-	-	-	-	-	-	-	-	-	-	1	1.00	-	-	-	-			
Girona	40	97.56	47,857	95.53		-	-	-	-	-	-	-	-	-	-	4	9.76	6,876	13.73		4	9.76	-	-
Lleida	137	95.80	166,008	99.65		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Tarragona	35	100.00	22,903	100.00		-	-	-	-	2	5.71	5,007	21.86	1	2.86	1,580	6.90	-	-	-	-	-	-	
Total CATALONIA	311	97.49	359,979	99.22		-	-	-	-	2	0.63	5,007	1.38	6	1.88	8,456	2.33	4	1.25	-	-	-	-	

5.11. MTD 14 implementation by province in farms and squares

	MTD 14 a)				BAT 14 b)				BAT 14 c)				
	Farms %		Plazas %		Farms %	Places %	Farms %	Places %					
ANDALUSIA	86	9.56	341,204	18.55	6	0.67	15,727	0.85		46	5.11	272,941	14.84
ALMERIA	17	5.33	108,648	16.62	2	0.63	11,798	1.80		8	2.51	78,034	11.94
CADIZ	3	11.11	3,214	13.80	-	-	-	-	3	11.11	5,848	25.12	
CORDOVA	18	29.51	14,895	19.42	2	3.28	1,611	2.10	1	1.64	19	0.02	
GRENADE	25	29.41	134,237	49.21	-	-	-	0.85		24,711	131,740	48.29	
HUELVA	1	3.85	3,076	7.69	-	-	-	-	-	-	-	103.19	
JAEN	8	15.09	41,379	33.07	-	-	-	-	7	13.21	41,280	12.80	
MALAGA	9	5.42	20,597	7.40	2	1.20	2,318	0.83		6	3.61	16,020	5.76
SEVILLE	5	3.07	15,158	4.10	-	-	-	-	-	-	-	-	
ARAGON	29	0.80	87,398	0.99	2	0.06	2,462	0.03		3	0.08	7,850	0.09
HUESCA	9	0.50	33,708	0.72	1	0.06	70	-	1	0.06	70	0.00	
TERUEL	3	0.42	6,367	0.48	1	0.14	2,392	0.18		1	0.14	2,392	0.18
SARAGOSSA	17	1.52	47,323	1.64	-	-	-	-	1	0.09	5,388	0.19	
CANTABRIA	-	-	-	-	-	-	-	-	-	-	-	-	
CANTABRIA	-	-	-	-	-	-	-	-	-	-	-	-	
CASTILLA AND LEÓN	356	14.84	580,432	13.26	1	0.04	10,976	0.25		25	1.04	48,391	1.11
AVILA	18	15.25	72,037	25.17	1	0.85	10,976	3.84		2	1.69	14,001	4.89
BURGOS	9	4.84	14,806	2.92	-	-	-	-	-	-	-	-	
LION	6	7.14	8,444	5.59	-	-	-	-	1	1.19	1984	1.31	
PALENCIA	-	-	-	-	-	-	-	-	-	-	-	-	
SALAMANCA	192	36.16	140,378	22.87	-	-	-	-	13	2.45	18,244	2.97	
SEGOVIA	89	13.78	6,743	0.57	-	-	-	-	4	0.62	12,761	1.07	
SORIA	3	1.81	24,361	4.75	-	-	-	-	-	-	-	0.27	

VALLADOLID	12	5.66	31,429	7.06	-	-	-	-	-	-	-	-	-
ZAMORA	27	6.26	259,041	48.54	-	-	-	-	-	5	1.16	1,401	0.26
CASTILLA-LA STAIN	41	6.86	259,041	14.66	1	0.17	2,984	0.17	-	twenty	3.34	185,760	10.51
ALBACETE	16	18.18	163,462	45.54	-	-	-	-	0.83	14	15.91	161,405	44.97
REAL CITY	3	17.65	5,080	13.69	-	-	-	-	-	1	5.88	1990	5.36
BASIN	6	5.13	37,591	12.02	-	-	-	-	-	1	0.85	9,971	3.19
GUADALAJARA	-	-	-	296.34	-	-	-	-	-	0	0.00	0	69.42
TOLEDO	16	4.36	52,908	5.09	1	0.27	2,984	0.29	-	4	1.09	12,394	1.19
COMMUNITY OF MADRID	-	-	-	-	-	-	-	-	-	-	-	-	-
MADRID	-	-	-	-	-	-	-	-	-	-	-	-	-
COMMUNITY STATUTORY OF NAVARRE	6	2.42	42,930	5.69	-	-	-	-	-	1	0.40	3,724	0.49
NAVARRE	6	2.42	42,930	5.69	-	-	-	-	-	1	0.40	3,724	0.49
COMMUNITY VALENCIAN	31	4.01	104,040	8.55	2	0.26	9,166	0.75	-	17	2.20	59,264	4.87
ALICANTE	6	40.00	16,273	33.54	-	-	-	-	-	2	13.33	4,580	9.44
CASTELLON	8	1.67	24,374	3.56	-	-	-	-	-	4	0.84	9,906	1.45
VALENCIA	17	6.09	63,393	13.08	2	0.72	9,166	-	1.89	eleven	3.94	44,778	9.24
ESTREMADURA	249	30.48	239,978	39.99	25	3.06	20,447	3.41	-	55	6.73	79,185	13.20
BADAJOZ	242	30.56	221,210	39.63	25	3.16	20,447	3.66	-	53	6.69	73,718	13.21
CACERES	7	28.00	18,768	44.89	-	-	-	-	-	2	8.00	5,467	13.08
GALICIA	5	0.49	6,678	0.49	3	0.29	2,419	0.18	-	9	0.88	14,369	1.05
CORUÑA	-	-	-	2.11	-	-	-	-	-	1	0.55	4,365	1.38
LUGO	-	-	-	-	-	-	-	-	-	-	-	8,984	3.40
ORENSE	5	2.29	6,678	1.85	3	1.38	2,419	0.67	-	7	3.21	-	0.28
PONTEVEDRA	-	-	-	-	-	-	-	-	-	1	0.26	1,020	0.24
THE RIOJA	1	1.64	627	0.37	-	-	-	-	-	-	-	-	-

THE RIOJA		1	1.64	627	0.37	-	-	-	-	-	-	-	-
REGION OF MURCIA		46	4.24	139,898	6.49	-	-	-	-	36	3.32	125,807	5.83
MURCIA		46	4.24	139,898	6.49	-	-	-	-	36	3.32	125,807	5.83
Total Adhered	CCAA	850	7.38	1,802,226	7.80	40	0.35	64,181	0.28	212	1.84	797,291	3.45

5.12. Implementation of MTD 15 by province in farms and squares

BAT 15																					
CCAA	BAT 15. A)			MTD 15. B)			BAT 15. C)			MTD 15. D)			BAT 15. E)								
	REGA %	Plazas %		REGA %	Plazas %		REGA %	Places %	REGA %	Places %	REGA %		Plazas %								
ANDALUSIA	46	5.11	272,941	14.84		70	7.78	303,610	16.51	86	9.56	336,581	18.30	1	0.11	4,889	0.27	119	13.22	392,792	21.35
ALMERIA	8	2.51	78,034	11.94		7	2.19	77,128	11.80	fifteen	4.70	101,310	15.50	-	-		0.00	19	5.96	122,846	18.79
CADIZ	3	11.11	5,848	25.12		4	14.81	5,466	23.48	5	18.52	6,582	28.27	1	3.70	4,889	21.00	10	37.04	13,024	55.94
CORDOVA	1	1.64	19	0.02		17	27.87	24,073	31.38	twenty	32.79	28,264	36.84	-	-	-	-	29	47.54	33,400	43.54
GRENADA	--	24.71	131,740	48.29		--	24.71	129,217	47.37	--	24.71	129,217	47.37	-	-	-	-	25	29.41	134,237	49.21
HUELVA	0	0.00	0	103.19		5	19.23	4,726	11.81	5	19.23	4,726	11.81	-	-	-	-	8	30.77	7,081	17.70
JAEN	7	13.21	41,280	12.80		6	11.32	41,262	32.98	8	15.09	42,218	33.74	-	-	-	-	10	18.87	42,269	33.78
MALAGA	6	3.61	16,020	5.76		9	5.42	19,349	6.96	9	5.42	19,349	6.96	-	-	-	-	10	6.02	20,598	7.40
SEVILLE	-	-	-	-		1	0.61	2,389	0.65	3	1.84	4,915	1.33	-	-	-	-	8	4.91	19,337	5.23
ARAGON	3	0.08	7,850	0.09		23	0.64	67,171	0.76	27	0.75	78,457	0.89	1	0.03	70	-	44	1.22	108,298	1.22
HUESCA	1	0.06	70	0.00		9	0.50	31,059	0.67	10	0.56	33,409	0.72	1	0.06	70	-	16	0.90	35,548	0.76
TERUEL	1	0.14	2,392	0.18		2	0.28	2,248	0.17	2	0.28	2,248	0.17	-	-	-	-	6	0.85	10,257	0.77
SARAGOSSA	1	0.09	5,388	0.19		12	1.08	33,864	1.18	fifteen	1.34	42,800	1.49	-	-	-	-	22	1.97	62,493	2.17
CANTABRIA	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	1	50.00	19	39.58	
CANTABRIA	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	1	50.00	19	39.58	

CASTILLA AND LION	25	1.04	48,391	1.11	280	11.67	567,647	12.97		320	13.34	617,773	14.11		2	0.08	12,976	0.30		675	28.14	893,739	20.42	
AVILA	2	1.69	14,001	4.89	23	19.49	111,463	38.95		24	20.34	117,963	41.22		1	0.85	10,976	3.84		3.4	28.81	132,570	46.32	
BURGOS	0	0.00	0	0.39	2	1.08	9,010	1.77	2	1.08	9,010	1.77	-	-	-	-	-	-	10	5.38	21,466	4.23		
LION	1	1.19	1984	12.08	6	7.14	10,282	6.81	6	7.14	10,282	6.81	-	-	-	-	-	-	8	9.52	10,131	6.71		
PALENCIA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	8.00	2,462	1.80		
SALAMANCA	13	2.45	18,244	0.23	132	24.86	223,633	36.44		150	28.25	250,129	40.76		1	0.19	2,000		0.33	352	66.29	429,581		70.00
SEGOVIA	4	0.62	12,761	1.07	78	12.07	138,199	11.61	87	13.47	151,778	0.57	-	-	-	-	-	-	128	19.81	199,063	16.72		
SORIA	0	0.00	0	0.00	1	0.60	6,595	1.29	2	1.20	6,819	1.33	-	-	-	-	-	-	6	3.61	10,659	2.08		
VALLADOLID	0	0.00	0	0.00	16	7.55	35,418	7.96	17	8.02	35,511	7.98	-	-	-	-	-	-	30	14.15	49,194	11.06		
ZAMORA	5	1.16	1,401	0.26	22	5.10	33,047	6.19	32	7.42	36,281	6.80	-	-	-	-	-	-	105	24.36	38,613	7.23		
CASTILLA-LA STAIN	twenty	3.34	185,760	10.51		30	5.02	225,785	12.78	42	7.02	266,758	15.10		2	0.33	12,955	0.73		68	11.37	372,831		21.10
ALBACETE	14	16	161,405	44.97		16	18.18	163,462	45.54	16	18.18	163,462	45.54	-	-	-	-	-	-	19	21.59	175,363	48.86	
REAL CITY	1	5.88	1990	5.36	1	5.88	3,596	9.69	4	23.53	8,676	23.39	-	-	-	-	-	-	5	29.41	10,666	28.75		
BASIN	1	0.85	0	3.19	3	2.56	23,621	7.55	4	3.42	30,771	9.84	1	0.85	9,971		3.19	6	5.13	37,591	12.02			
GUADALAJARA -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
TOLEDO	4	1.09	12,394	1.19	10	2.72	35,106	3.37	18	4.90	63,849	6.14	1	0.27	2,984		0.29	38	10.35	149,211	14.34			
COMMUNITY MADRID	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	14.29	32	0.34		
MADRID	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	14.29	32	0.34		

COMMUNITY FORAL OF NAVARRE	1	0.40	3,724	0.49	6	2.42	30,290	4.01	8	3.23	50,660	6.71	1	0.40	3,724	0.49	8	3.23	50,660	6.71		
NAVARRA	1	0.40	3,724	0.49	6	2.42	30,290	4.01	8	3.23	50,660	6.71	1	0.40	3,724	0.49	8	3.23	50,660	6.71		
COMMUNITY VALENCIAN	17	2.20	59,264	4.87	19	2.46	58,756	4.83	26	3.36	82,714	6.80	-	-	-	-	38	4.92	113,128	9.30		
ALICANTE	2	13.33	4,580	9.44	-	-	-	-	4	26.67	12,212	25.17	-	-	-	-	6	40.00	16,273	33.54		
CASTELLON	4	0.84	9,906	1.45	5	1.04	11,406	1.67	5	1.04	11,406	1.67	-	-	-	-	13	2.71	29,453	4.31		
VALENCIA	eleven	3.94	44,778	9.24	14	5.02	47,350	9.77	17	6.09	59,096	12.19	-	-	-	-	19	6.81	67,402	13.91		
EXTREMADURA	55	6.73	79,185	13.20		201	24.60	192,748	32.12	258 31.58	246,029	41.00			5	0.61	5,656	0.94	523 64.01	417,359	69.55	
BADAJOZ	53	6.69	73,718	13.21		192	24.24	179,594	32.17		247	31.19	224,404	40.20		5	0.63	5,656	1.01	506 63.89	383,161	68.64
CACERES	2	8.00	5,467	13.08	9	36.00	13,154	31.46	eleven	44.00	21,625	51.73	-	-	-	-	17	68.00	34,198	81.80		
GALICIA	9	0.88	14,369	1.05	6	0.59	11,345	0.83	7	0.69	12,365	0.90	1	0.10	1,120	0.08	10	0.98	16,824	1.23		
CORUÑA	1	0.55	4,365	1.38	2	1.09	6,820	2.16	2	1.09	6,820	2.16	-	-	-	-	2	1.09	6,820	2.16		
LUGO	0	0.00	0	3.40		0.00		0.00		0.00	0	0.00		-	-	-	-	--	-	3.40		
ORENSE	7	3.21	8,984	0.28	4	1.83	4,525	1.26	4	1.83	4,525	1.26	1	0.46	1,120	0.31	7	3.21	8,984	0.28		
PONTEVEDRA	1	0.26	1,020	0.24	-	-	-	-	1	0.26	1,020	0.24	-	-	-	-	1	0.26	1,020	0.24		
THE RIOJA	0	0.00	0	0.00	1	1.64	627	0.37	1	1.64	627	0.37	-	-	-	-	1	1.64	627	0.37		
THE RIOJA	0	0.00	0	0.00	1	1.64	627	0.37	1	1.64	627	0.37	-	-	-	-	1	1.64	627	0.37		
REGION OF MURCIA	36	3.32	125,807	5.83		42	3.87	127,949	5.93	Fout. Fout.	4.15	136,094	6.31	-	-	-	-	57	5.26	176,407	8.18	
MURCIA	36	3.32	125,807	5.83		42	3.87	127,949	5.93	Fout. Fout.	4.15	136,094	6.31	-	-	-	-	57	5.26	176,407	8.18	
Total CCAA Adhered	212	1.84	797,291	3.45	678	5.89	1,585,928	6.86	820		7.12	1,828,058	7.91	13	0.11	41,390	0.18		1,545	13.41	2,542,716	11.00

5.13. MTD 16 implementation by province on farms with tanks

	MTD 16 a)			BAT 16 b)				BAT 16 c)			
	Farms %		Squares %	Farms %			Plazas	% Gr	an ha yes	% Plazas %	
ANDALUSIA	-	14.29	28,356	10.33	71	48.30	146,747	53.48	-	-	-
ALMERIA	6	25.00	12,253	10.72	14	58.33	90,710	79.39	-	-	-
CADIZ	-	-	-	-	1	50.00	883	92.08	-	-	-
CORDOVA	2	50.00	2,145	80.61	2	50.00	380	14.28	-	-	-
GRENADE	2	28.57	1,592	15.67	2	28.57	1,592	15.67	-	-	-
HUELVA	-	-	--	-	2	100.00	371	100.00	-	-	-
JAEN	1	33.33	84	1.76	-	-	-	-	-	-	-
MALAGA	6	7.32	6,404	6.53	36	43.90	34,854	35.56	-	-	-
SEVILLE	4	17.39	5,878	13.60	14	60.87	17,957	41.55	-	-	-
ARAGON	173	43.69	244,706	38.95	238	60.10	293,462	46.71	1	0.25	1,575
HUESCA	87	46.52	131,044	42.37	101	54.01	127,321	41.16	1	0.53	1,575
TERUEL	54	38.57	71,033	37.06	96	68.57	110,711	57.76	-	-	-
SARAGOSSA	32	46.38	42,629	33.51	41	59.42	55,430	43.57	-	-	-
CANTABRIA	-	-	-	-	-	-	-	-	-	-	-
CANTABRIA	-	-	-	-	-	-	-	-	-	-	-
CASTILLA AND LION	118	57.28	184,230	47.80	116	56.31	177,527	46.06	4 1.94	914	0.24
AVILA	10	62.50	26,704	41.31	-	68.75	27,828	43.05	-	-	-
BURGOS	5	38.46	1,541	8.44	7	53.85	5,108	27.96	-	-	-
LION	16	84.21	19,307	70.57	13	68.42	16,167	59.09	-	-	-
PALENCIA	4	100.00	5,317	100.00	4	100.00	5,317	100.00	-	-	-

SALAMANCA	27	62.79	19,588	43.21	-	48.84	21,936	48.39	3 6.98	732	1.61
SEGOVIA	30	63.83	61,653	70.65	33	70.21	61,818	70.84	-	-	-
SORIA	10	40.00	23,841	31.25	-	44.00	22,951	30.09	-	-	-
VALLADOLID	5	33.33	3,965	17.35	6	40.00	7,381	32.29	1 6.67	182	0.80
ZAMORA	-	45.83	22,314	58.61	10	41.67	9,021	23.70	-	-	-
CASTILE- THE STAIN	32	36.78	39,924	10.92	27	31.03	35,486	9.71	1 1.15	100	0.03
ALBACETE	3	15.00	3,398	1.99	6	30.00	9,047	5.31	-	-	-
CITY REAL	-	-	-	-	-	-	-	-	-	-	-
BASIN	2	40.00	1,800	7.92	1	20.00	200	0.88	-	-	-
GUADALAJA R.A.	1	100.00	2,626	100.00	1	100.00	2,626	100.00	-	-	-
TOLEDO	26	42.62	32,100	18.92	19	31.15	23,613	13.92	1 1.64	100	0.06
COMMUNITY FROM MADRID	-	-	-	-	1	50.00	32	1.52	-	-	0.00
MADRID	-	-	-	-	1	50.00	32	1.52	-	-	0.00
COMMUNITY FORAL OF NAVARRE	17	51.52	34,249	34.15	-	60.61	47,317	47.18	1 3.03	1999	1.99
NAVARRE	17	51.52	34,249	34.15	-	60.61	47,317	47.18	1 3.03	1999	1.99
COMMUNITY VALENCIAN	24	24.74	28,026	19.60	65	67.01	76,504	53.50	-	-	-
ALICANTE	-	-	-	-	-	-	-	-	-	-	-
CASTELLON	22	24.72	27,346	21.21	62	69.66	74,450	57.74	-	-	-
VALENCIA	2	28.57	680	4.98	3	42.86	2,054	15.05	-	-	-
EXTREMADU R.A.	156	68.42	57,741	54.17	107	46.93	36,296	34.05 14 6.14	-	6,143	5.76
BADAJOZ	154	68.44	57,135	54.21	104	46.22	35,089	33.29 14 6.22	-	6,143	5.83

CACERES	2	66.67	606	50.21	3	100.00	1,207	100.00 -	-	-	-	-
GALICIA	360	43.27	552,859	49.33	716	86.06	899,726	80.28	7 0.84	13,345	1.19	
CORUÑA	55	40.15	123,993	49.85	105	76.64	146,143	58.75	-	-	-	-
LUGO	53	31.36	60,074	32.51	143	84.62	152,593	82.57	7 4.14	13,345	7.22	
ORENSE	135	76.27	227,382	75.69	163	92.09	256,810	85.49	-	-	-	-
PONTEVEDR to	117	33.52	141,410	36.56	305	87.39	344,180	88.97	-	-	-	-
THE RIOJA	-	-	-	-	2	100.00	3,939	100.00 -	-	-	-	-
THE RIOJA	-	-	-	-	2	100.00	3,939	100.00 -	-	-	-	-
REGION OF MURCIA	66	50.38	90,829	36.21	69	52.67	83,421	33.25	-	-	-	-
MURCIA	66	50.38	90,829	36.21	69	52.67	83,421	33.25	-	-	-	-
Total CCAA Adhered	967	44.75	1,260,920	37.29	1,432	66.27	1,800,457	53.25	28 1.30	24,076	0.71	

5.14. MTD 17 implementation by province on farms with ponds

	MTD 17. a)				BAT 17. b)			
	Farms %		Plazas	% Farms %		Plazas	%	
ANDALUSIA	625	84.23	1,401,858	83.13	631	85.04	1,522,827	90.30
ALMERIA	247	90.81	483,957	80.70	260	95.59	571,830	95.36
CADIZ	18	85.71	17,250	88.94	9	42.86	7,521	38.78
CORDOVA	35	87.50	53,196	86.51	18	45.00	48,423	78.74
GRENADE	65	83.33	244,738	91.16	62	79.49	245,608	91.48
HUELVA	14	66.67	25,429	73.02	12	57.14	21,177	60.81
JAEN	43	87.76	102,751	82.29	25	51.02	72,355	57.94
MALAGA	71	60.17	160,587	67.96	108	91.53	220,950	93.51
SEVILLE	132	92.31	313,950	91.96	137	95.80	334,963	98.12
ARAGON	2,953	90.64	7,748,014	91.99	2,754	84.53	7,316,192	86.86
HUESCA	1,519	92.51	4,180,667	93.69	1,407	85.69	3,874,424	86.83
TERUEL	454	80.35	971,564	83.08	440	77.88	974,585	83.34
SARAGOSSA	980	93.24	2,595,783	93.00	907	86.30	2,467,183	88.40
CANTABRIA	2	-	48	-	1	-	19	-
CANTABRIA	2	-	48	-	1	-	19	-
CASTILLA AND LION	1,415	88.49	3,194,656	88.95	1,139	71.23	2,842,951	79.16
AVILA	52	88.14	141,355	78.16	30	50.85	117,768	65.12
BURGOS	130	87.84	440,008	92.07	102	68.92	375,844	78.64
LION	49	87.50	100,499	86.14	35	62.50	81,670	70.00
PALENCIA	19	100.0	128,662	100.00	fifteen	78.95	120,915	93.98
		0						
SALAMANCA	164	85.86	312,990	86.03	111	58.12	263,389	72.39
SEGOVIA	454	88.16	905,268	89.31	426	82.72	863,819	85.22

SORIA	118	86.13	385,602	84.51	96	70.07	358,343	78.54
VALLADOLID	147	87.50	344,652	89.08	92	54.76	261,769	67.66
ZAMORA	282	92.16	435,620	93.33	232	75.82	399,434	85.57
CASTILLA-LA STAIN	383	82.37	1,103,503	71.78	301	64.73	1,024,256	66.63
ALBACETE	35	62.50	125,561	40.96	29	51.79	207,337	67.63
REAL CITY	12	0.00	25,106	0.00	10	0.00	22,924	0.00
BASIN	85	89.47	243,437	87.12	57	60.00	134,074	47.98
GUADALAJAR	8	100.0	15,228	100.00	6	75.00	12,728	83.58
TO		0						
TOLEDO	243	83.51	694,171	76.80	199	68.38	647,193	71.60
COMMUNITY FROM MADRID	5	83.33	7,432	78.21	4	66.67	6,732	70.84
MADRID	5	83.33	7,432	78.21	4	66.67	6,732	70.84
COMMUNITY FORAL OF NAVARRA	180	89.55	587,102	87.81	162	80.60	518,727	77.58
NAVARRE	180	89.55	587,102	87.81	162	80.60	518,727	77.58
COMMUNITY VALENCIAN	360	86.54	685,936	87.14	219	52.64	463,282	58.85
ALICANTE	14	93.33	48,105	99.16	10	66.67	41,908	86.39
CASTELLON	196	82.35	306,839	79.91	119	50.00	218,361	56.87
VALENCIA	150	92.02	330,992	93.32	90	55.21	203,013	57.24
EXTREMADUR	244	67.97	300,336	71.24	157	43.73	234,443	55.61
TO								
BADAJOZ	231	67.15	274,519	71.07	146	42.44	209,292	54.18
CACERES	13	86.67	25,817	73.16	eleven	73.33	25,151	71.27
GALICIA	88	66.67	148,591	60.46	26	19.70	54,363	22.12
CORUÑA	twenty	60.61	44,310	50.78	eleven	33.33	34,833	39.92

LUGO	39	68.42	59,427	70.73	9	15.79	14,056	16.73
ORENSE	12	57.14	16,501	42.79	6	28.57	5,474	14.20
PONTEVEDRA	17	80.95	28,353	78.88	33	157.14	103,634	288.30
THE RIOJA	42	89.36	126,610	90.15	33	70.21	103,634	73.79
THE RIOJA	42	89.36	126,610	90.15	830	1765.9 6	1,757,282 1,251.1 8	
REGION OF MURCIA	877	91.45	1,781,867	89.01	830	86.55	1,757,282	87.78
MURCIA	877	91.45	1,781,867	89.01	830	86.55	15,844,708 791.49	
Total CCAA Adhered	7,174	87.64	17,085,953	87.56	6,257	76.44	15,844,708	81.20

5.15. MTD 18 implementation by province

BAT 18 a), b), c) and d)

	BAT 18 a)			BAT 18 b)			BAT 18 c)			BAT 18 d)						
	Farms %		Plazas	% Farms %		Plazas	% Farms %		Plazas	% Farms	%	Plazas	%			
ANDALUSIA	206	22.89	919,322	49.98	794	88.22	1,671,612	90.87	206	22.89	919,322	49.98	718	79.78	1,655,608	90.00
ALMERIA	59	18.50	292,386	44.73	270	84.64	551,144	84.31	59	18.50	292,386	44.73	266	83.39	590,693	90.36
CADIZ	2	7.41	6,758	29.03	22	81.48	19,949	85.68	2	7.41	6,758	29.03	17	62.96	16,580	71.21
CORDOVA	7	11.48	31,710	41.33	43	70.49	63,831	83.20	7	11.48	31,710	41.33	40	65.57	61,494	80.16
GRENADE	38	44.71	209,010	76.62	75	88.24	257,449	94.38	38	44.71	209,010	76.62	71	83.53	261,361	95.81
HUELVA	3	11.54	11,769	29.42	22	84.62	34,748	86.86	3	11.54	11,769	29.42	twenty	76.92	34,377	85.93
JAEN	14	26.42	62,086	49.62	48	90.57	118,218	94.48	14	26.42	62,086	49.62	48	90.57	121,791	97.34
MALAGA	35	21.08	118,646	42.65	155	93.37	267,378	96.11	35	21.08	118,646	42.65	116	69.88	233,638	83.99
SEVILLE	48	29.45	186,957	50.57	159	97.55	358,895	97.08	48	29.45	186,957	50.57	140	85.89	335,674	90.79
ARAGON	1,016	28.15 4,197,693 47.38 3,454				95.71	8,625,751	97.37	1,016 28.15 4,197,693 47.38				3,172	87.89	8,236,000	92.97
HUESCA	541	30.33 2,330,946 50.11			1,743	97.70	4,586,916	98.60	541	30.33 2,330,946 50.11			1,600	89.69	4,361,119	93.75
TERUEL	110	15.51	420,235	31.60	640	90.27	1,235,799	92.92	110	15.51	420,235	31.60	547	77.15	1,138,850	85.63
SARAGOSSA	365	32.71	1,446,512 50.28		1,071	95.97	2,803,036	97.44	365	32.71	1,446,512 50.28		1,025	91.85	2,736,031	95.11
CANTABRIA	-	-	-	-	2	100.00	48	100.00	-	-	-	-	2	100.00	48	100.00
CANTABRIA	-	-	-	-	2	100.00	48	100.00	-	-	-	-	2	100.00	48	100.00
CASTILLA AND LION	735	30.64 2,351,522 53.72			1,718	71.61	3,722,865	85.04	735	30.64 2,351,522 53.72			1,522	63.44	3,472,169	79.32
AVILA	49	41.53	198,012	69.19	65	55.08	184,039	64.31	49	41.53	198,012	69.19	56	47.46	178,618	62.41
BURGOS	70	37.63	312,330	61.50	152	81.72	476,496	93.82	70	37.63	312,330	61.50	138	74.19	460,231	90.62
LION	twenty	23.81	60,578	40.11	69	82.14	132,229	87.55	twenty	23.81	60,578	40.11	53	63.10	110,099	72.90
PALENCIA	16	64.00	124,567	91.30	23	92.00	133,979	98.20	16	64.00	124,567	91.30	18	72.00	125,562	92.03
SALAMANCA	118	22.22	307,987	50.19	249	46.89	417,587	68.05	118	22.22	307,987	50.19	177	33.33	351,202	57.23

SEGOVIA	161	24.92	470,082	39.48	531	82.20	1,055,642	88.66	161	24.92	470,082	39.48	497	76.93	977,788	82.12
SORIA	105	63.25	382,027	74.47	142	85.54	456,844	89.06	105	63.25	382,027	74.47	133	80.12	448,878	87.51
VALLADOLID	71	33.49	257,529	57.88	172	81.13	386,575	86.89	71	33.49	257,529	57.88	162	76.42	378,649	85.11
ZAMORA	125	29.00	238,410	44.67	315	73.09	479,474	89.84	125	29.00	238,410	44.67	288	66.82	441,142	82.66
CASTILLA-LA STAIN	207	34.62 1,103,489 62.45			471	78.76	1,482,915	83.93	207	34.62 1,103,489 62.45			433	72.41	1,471,230	83.27
ALBACETE	31	35.23	205,446	57.24	58	65.91	306,114	85.28	31	35.23	205,446	57.24	55	62.50	304,589	84.86
REAL CITY	4	23.53	12,038	32.45	fifteen	88.24	32,184	86.76	4	23.53	12,038	32.45	14	82.35	29,304	78.99
BASIN	35	29.91	194,139	62.08	90	76.92	257,878	82.46	35	29.91	194,139	62.08	89	76.07	265,118	84.77
GUADALAJARA	0	0.00	0	0.00	9	100.00	17,854	100.00		0.00		0.00	8	88.89	15,228	85.29
TOLEDO	137	37.33	691,866	66.51	299	81.47	868,885	83.53	137	37.33	691,866	66.51	267	72.75	856,991	82.38
COMMUNITY FROM MADRID	-	-	-	-	7	100.00	9,535	100.00	-	-	-	-	6	85.71	9,503	99.66
MADRID	-	-	-	-	7	100.00	9,535	100.00	-	-	-	-	6	85.71	9,503	99.66
COMMUNITY FORAL OF NAVARRE	100	40.32	436,080	57.75	220	88.71	691,549	91.58	100	40.32	436,080	57.75	192	77.42	642,312	85.06
NAVARRE	100	40.32	436,080	57.75	220	88.71	691,549	91.58	100	40.32	436,080	57.75	192	77.42	642,312	85.06
COMMUNITY VALENCIAN	80	10.35	296,636	24.38	455	58.86	801,610	65.88	80	10.35	296,636	24.38	396	51.23	757,447	62.25
ALICANTE	4	26.67	16,281	33.56	14	93.33	44,920	92.59	4	26.67	16,281	33.56	fifteen	100.00	48,513	100.00
CASTELLON	37	7.72	127,003	18.58	267	55.74	392,724	57.44	37	7.72	127,003	18.58	222	46.35	360,768	52.77
VALENCIA	39	13.98	153,352	31.64	174	62.37	363,966	75.10	39	13.98	153,352	31.64	159	56.99	348,166	71.84
ESTREMADURA	57	6.98	140,792	23.46	541	66.22	474,663	79.10	57	6.98	140,792	23.46	311	38.07	381,109	63.51
BADAJOZ	fifty	6.31	117,928	21.12	526	66.41	448,025	80.26	fifty	6.31	117,928	21.12	298	37.63	347,719	62.29
CACERES	7	28.00	22,864	54.69	fifteen	60.00	26,638	63.72	7	28.00	22,864	54.69	13	52.00	33,390	79.87
GALICIA	56	5.49	252,336	18.45	740	72.55	1,019,231	74.53	56	5.49	252,336	18.45	121	11.86	219,807	16.07
CORUÑA	14	7.65	96,760	30.62	129	70.49	238,530	75.49	14	7.65	96,760	30.62	28	15.30	70,028	22.16
LUGO	4	1.67	19,223	7.28	181	75.73	219,500	83.11	4	1.67	19,223	7.28	55	23.01	82,808	31.35

ORENSE	24	11.01	78,622	21.82	122	55.96	193,765	53.77	24	11.01	78,622	21.82	19	8.72	35,022	9.72	
PONTEVEDRA	14	3.68	57,731	13.52	308	81.05	367,436	86.02	14	3.68	57,731	13.52	19	5.00	31,949	7.48	
THE RIOJA	30	49.18	111,229	66.34	49	80.33	145,359	86.69	30	49.18	111,229	66.34	44	72.13	135,780	80.98	
THE RIOJA	30	49.18	111,229	66.34	49	80.33	145,359	86.69	30	49.18	111,229	66.34	44	72.13	135,780	80.98	
REGION OF MURCIA	170	15.68	637,585	29.56	987	91.05	2,000,498	92.74	170	15.68	637,585	29.56	889	82.01	1,851,149	85.82	
MURCIA	170	15.68	637,585	29.56	987	91.05	2,000,498	92.74	170	15.68	637,585	29.56	889	82.01	1,851,149	85.82	
Total CCAA Adhered	2,657	23.07	10,446,684	45.19	9,438		81.94	20,645,636	89.31		2,657	23.07	10,446,684	45.19	7,806		
															67.77	18,832,162	81.47

BAT 18 e) and f)

	MTD 18 e)			BAT 18 f)						
		Farms %		Squares %	Farms %			Plazas	%	
ANDALUSIA		206	22.89	919,322	49.98	206	22.89	919,322	49.98	
ALMERIA		59	18.50	292,386	44.73	59	18.50	292,386	44.73	
CADIZ		2	7.41	6,758	29.03	2	7.41	6,758	29.03	
CORDOVA		7	11.48	31,710	41.33	7	11.48	31,710	41.33	
GRENADE		38	44.71	209,010	76.62	38	44.71	209,010	76.62	
HUELVA		3	11.54	11,769	29.42	3	11.54	11,769	29.42	
JAEN		14	26.42	62,086	49.62	14	26.42	62,086	49.62	
MALAGA		35	21.08	118,646	42.65	35	21.08	118,646	42.65	
SEVILLE		48	29.45	186,957	50.57	48	29.45	186,957	50.57	
ARAGON		1,016	28.15	4,197,693	47.38		1,016	28.15	4,197,693	47.38
HUESCA		541	30.33	2,330,946	50.11		541	30.33	2,330,946	50.11
TERUEL		110	15.51	420,235	31.60	110	15.51	420,235	31.60	
SARAGOSSA		365	32.71	1,446,512	50.28		365	32.71	1,446,512	50.28
CANTABRIA		-	-	-	-	-	-	-	-	
CANTABRIA		-	-	-	-	-	-	-	-	

CASTILLA AND LEÓN	735	30.64	2,351,522	53.72		735	30.64	2,351,522	53.72	
AVILA	49	41.53	198,012	69.19	49	41.53	198,012	69.19		
BURGOS	70	37.63	312,330	61.50	70	37.63	312,330	61.50		
LION	twenty	23.81	60,578	40.11	twenty	23.81	60,578	40.11		
PALENCIA	16	64.00	124,567	91.30	16	64.00	124,567	91.30		
SALAMANCA	118	22.22	307,987	50.19	118	22.22	307,987	50.19		
SEGOVIA	161	24.92	470,082	39.48	161	24.92	470,082	39.48		
SORIA	105	63.25	382,027	74.47	105	63.25	382,027	74.47		
VALLADOLID	71	33.49	257,529	57.88	71	33.49	257,529	57.88		
ZAMORA	125	29.00	238,410	44.67	125	29.00	238,410	44.67		
CASTILLA LA MANCHA	207	34.62	1,103,489	62.45		207	34.62	1,103,489	62.45	
ALBACETE	31	35.23	205,446	57.24	31	35.23	205,446	57.24		
REAL CITY	4	23.53	12,038	32.45	4	23.53	12,038	32.45		
BASIN	35	29.91	194,139	62.08	35	29.91	194,139	62.08		
GUADALAJARA	-	-	-	-	-	-	-	-		
TOLEDO	137	37.33	691,866	66.51	137	37.33	691,866	66.51		
MADRID'S COMMUNITY	-	-	-	-	-	-	-	-		
MADRID	-	-	-	-	-	-	-	-		
FORAL COMMUNITY OF NAVARRA 100		40.32	436,080	57.75	100	40.32	436,080	57.75		
NAVARRE	100	40.32	436,080	57.75	100	40.32	436,080	57.75		
VALENCIAN COMMUNITY	80	10.35	296,636	24.38	80	10.35	296,636	24.38		
ALICANTE	4	26.67	16,281	33.56	4	26.67	16,281	33.56		
CASTELLON	37	7.72	127,003	18.58	37	7.72	127,003	18.58		
VALENCIA	39	13.98	153,352	31.64	39	13.98	153,352	31.64		
ESTREMADURA	57	6.98	140,792	23.46	57	6.98	140,792	23.46		
BADAJOZ	fifty	6.31	117,928	21.12	fifty	6.31	117,928	21.12		
CACERES	7	28.00	22,864	54.69	7	28.00	22,864	54.69		
GALICIA	56	5.49	252,336	18.45	56	5.49	252,336	18.45		
CORUÑA	14	7.65	96,760	30.62	14	7.65	96,760	30.62		

LUGO	4	1.67	19,223	7.28	4	1.67	19,223	7.28
ORENSE	24	11.01	78,622	21.82	24	11.01	78,622	21.82
PONTEVEDRA	14	3.68	57,731	13.52	14	3.68	57,731	13.52
THE RIOJA	30	49.18	111,229	66.34	30	49.18	111,229	66.34
THE RIOJA	30	49.18	111,229	66.34	30	49.18	111,229	66.34
MURCIA REGION	170	15.68	637,585	29.56	170	15.68	637,585	29.56
MURCIA	170	15.68	637,585	29.56	170	15.68	637,585	29.56
Total CCAA Adhered	2,657	23.07 10,446,684 45.19	2,657			23.07 10,446,684 45.19		

5.16. MTD 19 implementation by province

CCAA	BAT 19.a)				BAT 19.b)				BAT 19.d)				BAT 19.e)				BAT 19.f)				
	Farms	%	Squares	%	Farms	%	Squares	%	Farms	%	Squares	%	Farms	%	Squares	%	Farms	%	Squares	%	
ANDALUSIA	100	11.11	361,787	19.67	-	-	-	-	-	-	-	-	6	0.67	27,214	1.48	2	0.22	8,716	0.47	
ALMERIA	12	3.76	97,679	14.94	-	-	-	-	-	-	-	-	2	0.63	18,216	2.79	2	0.63	8,716	1.33	
CADIZ	6	22.22	12,081	51.89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CORDOVA	twenty	32.79	27,371	35.68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
GRENADE	25	29.41	134,415	49.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
HUELVA	10	38.46	13,819	34.54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
JAEN	7	13.21	42,100	33.65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MALAGA	12	7.23	23,661	8.51	-	-	-	-	-	-	-	-	2	1.20	5,481	1.97	-	-	-	-	
SEVILLE	8	4.91	10,661	2.88	-	-	-	-	-	-	-	-	2	1.23	3,517	0.95	-	-	-	-	
ARAGON	17	0.47	58,643	0.66	-	-	-	-	1	0.03	1,600	0.02	3	0.08	4,693	0.05	-	-	-	-	
HUESCA	9	0.50	33,736	0.73	-	-	-	-	-	-	-	-	2	0.11	1,050	0.02	-	-	-	-	
TERUEL	1	0.14	790	0.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SARAGOSSA	7	0.63	24,117	0.84	-	-	-	-	1	0.09	1,600	0.06	1	0.09	3,643	0.13	-	-	-	-	
CANTABRIA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CANTABRIA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CASTILLA AND LION	69	2.88	183,427	4.19	-	-	-	-	2	0.08	4,008	0.09	-	2	0.08	5,291	0.12	3	0.13	9,892	0.23
AVILA	4	3.39	24,701	8.63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BURGOS	2	1.08	11,708	2.31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
LION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
PALENCIA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SALAMANCA	39	7.34	82,440	13.43	-	-	-	-	-	-	-	-	-	1	0.19	4,500	0.73	-	-	-	
SEGOVIA	6	0.93	29,969	2.52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

SORIA	4	2.41	11,791	2.30	-	-	-	-	-	-	-	-	-	1	0.60	791	0.15	-	-	-	-	-	
VALLADOLID	3	1.42	16,228	3.65	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0.47	2,325	0.52	-	
ZAMORA	-	2.55	6,590	1.23	-	-	-	-	-	2	0.46	4,008	0.75	-	-	-	-	-	2	0.46	7,567	1.42	-
CASTILLA-LA STAIN	43	7.19	305,219	17.27	-	-	-	-	-	1	0.17	4,000	0.23	-	-	-	-	-	-	-	-	-	
ALBACETE	14	15.91	161,405	44.97	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
REAL CITY	2	11.76	6,738	18.16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BASIN	8	6.84	49,166	15.72	-	-	-	-	-	1	0.85	4,000	1.28	-	-	-	-	-	-	-	-	-	
GUADALAJARA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TOLEDO	19	5.18	87,910	8.45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
COMMUNITY FROM MADRID	1	14.29	32	0.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MADRID	1	14.29	32	0.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
COMMUNITY OF STATUTORY NAVARRE	8	3.23	50,660	6.71	-	-	-	-	-	1	0.40	3,520	0.47	-	-	-	-	-	-	-	-	-	
NAVARRE	8	3.23	50,660	6.71	-	-	-	-	-	1	0.40	3,520	0.47	-	-	-	-	-	-	-	-	-	
COMMUNITY VALENCIAN	27	3.49	102,390	8.41	2	0.26	9,956	0.82	-	1	0.13	1,604	0.13	1	0.13	6,120	0.50	-	6	0.78	19,910	1.64	-
ALICANTE	3	20.00	12,944	26.68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	6.67	3,554	7.33	-
CASTELLON	7	1.46	8,853	1.29	-	-	-	-	-	1	0.21	1,604	0.23	-	-	-	-	-	5	1.04	16,356	2.39	-
VALENCIA	17	6.09	80,593	16.63	2	0.72	9,956	2.05	-	-	-	-	-	1	0.36	6,120	1.26	-	-	-	-	-	
EXTREMADURA 154		18.85	183,505	30.58	-	-	-	-	-	2	0.24	2,902	0.48	-	-	-	-	-	4	0.49	3,815	0.64	-
BADAJOZ	147	18.56	166,803	29.88	-	-	-	-	-	2	0.25	2,902	0.52	-	-	-	-	-	4	0.51	3,815	0.68	-
CACERES	7	28.00	16,702	39.95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
GALICIA	13	1.27	18,214	1.33	-	-	-	-	-	m-	0.00	-	0.00	2	0.20	3,120	0.23	-	2	0.20	6,820	0.50	-
CORUÑA	5	2.73	7,570	2.40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1.09	6,820	2.16	-
LUGO	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0.42	2,000	0.76	-	-	-	-	-	
ORENSE	8	3.67	10,644	2.95	-	-	-	-	-	-	-	-	-	1	0.46	1,120	0.31	-	-	-	-	-	
PONTEVEDRA		0.00		0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

THE RIOJA	1	1.64	2,100	1.25	-	-	-	-	-	-	-	-	1	1.64 5,597 3.34	-	-	-	-
THE RIOJA	1	1.64	2,100	1.25	-	-	-	-	-	-	-	-	1	1.64 5,597 3.34	-	-	-	-
REGION OF MURCIA	48	4.43	176,024	8.16	-	-	-	-	2	0.18 3,990 0.18	-	-	2	0.18 3,157 0.15	1	0.09 6,000 0.28	-	-
MURCIA	48	4.43	176,024	8.16	-	-	-	-	2	0.18 3,990 0.18	-	-	2	0.18 3,157 0.15	1	0.09 6,000 0.28	-	-
Total CCAA Adhered	481	4.18 1,442,001 6.24		2	0.02 9,956 0.04		10	0.09 21,624 0.09		17	0.15 55,192 0.24		18	0.16 55,153 0.24				

5.17. MTD 20 implementation by province

BAT 20				
	Farms %		Plazas %	
ANDALUSIA	319	35.44	738,242	40.13
ALMERIA	55	17.24	116,336	17.80
CADIZ	6	22.22	9,888	42.47
CORDOVA	28	45.90	58,647	76.45
GRENADE	30	35.29	150,422	55.14
HUELVA	7	26.92	8,311	20.78
JAEN	12	22.64	28,765	22.99
MALAGA	113	68.07	202,823	72.91
SEVILLE	68	41.72	163,050	44.10
ARAGON	1,506	41.73	3,931,940	44.38
HUESCA	872	48.88	2,358,938	50.71
TERUEL	152	21.44	344,278	25.89
SARAGOSSA	482	43.19	1,228,724	42.71
CANTABRIA	-	-	-	-
CANTABRIA	-	-	-	-

CASTILLA AND LEÓN	802	33.43	2,087,703	47.69	
AVILA	53	44.92	162,346	56.73	
BURGOS	82	44.09	304,879	60.03	
LION	---	25.00	44,700	29.60	
PALENCIA	14	56.00	118,503	86.85	
SALAMANCA	122	22.98	206,645	33.67	
SEGOVIA	295	45.67	629,861	52.90	
SORIA	82	49.40	279,697	54.53	
VALLADOLID	76	35.85	214,340	48.18	
ZAMORA	57	13.23	126,732	23.75	
CASTILLA LA MANCHA	254	42.47	654,733	37.06	
ALBACETE	31	35.23	68,493	19.08	
REAL CITY	10	58.82	23,349	62.94	
BASIN	79	67.52	211,421	67.60	
GUADALAJARA	4	44.44	7,984	44.72	
TOLEDO	130	35.42	343,486	33.02	
MADRID'S COMMUNITY	-	-	-	-	
MADRID	-	-	-	-	
FORAL COMMUNITY OF NAVARRE	138	55.65	453,470	60.05	
NAVARRE	138	55.65	453,470	60.05	
VALENCIAN COMMUNITY	369	47.74	642,672	52.81	
ALICANTE	1	6.67	1959	4.04	
CASTELLON	161	33.61	268,857	39.32	
VALENCIA	207	74.19	371,856	76.73	
ESTREMADURA	158	19.34	151,703	25.28	
BADAJOZ	152	19.19	145,121	26.00	
CACERES	6	24.00	6,582	15.74	

GALICIA	235	23.04	425,657	31.12	
CORUÑA	44	24.04	106,570	33.73	
LUGO	57	23.85	86,786	32.86	
ORENSE	86	39.45	155,089	43.04	
PONTEVEDRA	48	12.63	77,212	18.08	
THE RIOJA	14	22.95	42,150	25.14	
THE RIOJA	14	22.95	42,150	25.14	
MURCIA REGION	189	17.44	384,819	17.84	
MURCIA	189	17.44	384,819	17.84	
Total CCAA Adhered	3,984	34.59	9,513,089	41.15	

5.18. MTD 21 implementation by province

	MTD 21 a)				MTD 21 b)				BAT 21 c)				BAT 21 d)				MTD 21 e)						
	Farms	%	Places	%	Farms	%			Plazas	%	Farms	%	Places	%	Farms	%	Plazas	%	Farms	%			
ANDALUSIA	19	2.11	33,174	1.80	279	31.00	733,541	39.88	91	10.11	121,757	6.62	92	10.22	265,277	14.42		2	0.22	419	0.02		
ALMERIA	2	0.63	3,541	0.54	17	5.33	46,241	7.07	13	4.08	23,035	3.52	69	21.63	216,496	33.12		-	-	-	-		
CADIZ	-	-	-	0.00	eleven	40.74	11,796	50.67	3	11.11	4,161	17.87	1	3.70	300	1.29	2	7.41	419	1.80			
CORDOVA	3	4.92	2,157	2.81	12	19.67	40,737	53.10	8	13.11	11,642	15,18	8	13.11	5,726	7.46	1	1.64	3.4	0.04			
GRENADE	2	2.35	5,742	2.10	48	56.47	165,434	60.64	2	2.35	2,530	0.93	9	10.59	27,408	10.05	-	-	-	-	-		
HUELVA	5	19.23	3,957	9.89	5	19.23	9,290	23.22	6	23.08	9,558	23.89	1	3.85	435	1.09	-	-	-	-	-		
JAEN	3	5.66	12,379	9.89	31	58.49	84,168	67.27	10	18.87	17,857	14.27	-	-	-	-	-	-	-	-	-		
MALAGA	2	1.20	3,088	1.11	76	45.78	182,674	65.67	42	25.30	45,745	16.44	2	1.20	4,213	1.51	-	-	-	-	-		
SEVILLE	2	1.23	2,310	0.62	79	48.47	193,201	52.26	7	4.29	7,229	1.96	2	1.23	10,699	2.89	-	-	-	-	-		
ARAGON	4	0.11	17,924	0.20	2,864	79.36	6,858,946	77.42		48	1.33	113,042	1.28	42	1.16	84,191	0.95	-	-	-	-	-	
HUESCA	1	0.06	7,200	0.15	1,375	77.07	3,452,062	74.20		28	1.57	70,551	1.52	4	0.22	23,846	0.51	-	-	-	-	-	

TERUEL	2	0.28	6,224	0.47	566	79.83	1,089,186	81.90		12	1.69	18,178	1.37	26	3.67	32,943	2.48	-	-	-	-	-
SARAGOSSA	1	0.09	4,500	0.16	923	82.71	2,317,698	80.57		8	0.72	24,313	0.85	12	1.08	27,402	0.95	-	-	-	-	-
CANTABRIA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CANTABRIA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CASTILLA AND LION	12	0.50	22,150	0.51	1,468	61.19	3,260,978	74.49		72	3.00	127,779	2.92	106	4.42	237,508	5.43	1	0.04	3.4	0.00	
AVILA	1	0.85	2,550	0.89	62	52.54	162,890	56.92	3	2.54	12,969	4.53	-	-	-	-	-	-	-	-	-	-
BURGOS	1	0.54	1,350	0.27	137	73.66	395,744	77.92	12	6.45	23,135	4.56	10	5.38	43,191	8.50	-	-	-	-	-	-
LION	1	1.19	1990	1.32	40	47.62	83,987	55.61	2	2.38	3,209	2.12	10	11.90	14,328	9.49	-	-	-	-	-	-
PALENCIA	-	-	-	-	-	84.00	131,311	96.24	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SALAMANCA	6	1.13	9,627	1.57	190	35.78	353,010	57.52	eleven	2.07	11,923	1.94	6	1.13	12,299	2.00	3	0.56	2,753	0.45		
SEGOVIA	-	-	-	-	496	76.78	979,454	82.26	9	1.39	17,947	1.51	39	6.04	83,175	6.99	-	-	-	-	-	-
SORIA	1	0.60	6,595	1.29	134	80.72	437,795	85.35	eleven	6.63	23,503	4.58	5	3.01	11,059	2.16	-	-	-	-	-	-
VALLADOLID	1	0.47	10	-	130	61.32	298,358	67.06	eleven	5.19	20,456	4.60	16	7.55	34,204	7.69	-	-	-	-	-	-
ZAMORA	1	0.23	28	0.01	258	59.86	418,429	78.40	13	3.02	14,637	2.74	twenty	4.64	39,252	7.35	-	-	-	-	-	-
CASTILLA-LA STAIN	4	0.67	23,146	1.31	302	50.50	848,550	48.03	93	15.55	247,086	13.98	-	41	6.86	158,901	8.99	3	0.50	2,753	0.16	
ALBACETE	-	-	-	-	57	64.77	241,254	67.21	3	3.41	8,300	2.31	16	18.18	43,926	12.24	-	-	-	-	-	-

REAL CITY	-	-	-	-	-	eleven	64.71	22,056	59.45	2	11.76	5,257	14.17	1	5.88	1,000	2.70	-	-	-	
BASIN	3	2.56	21,546	6.89	86	73.50	225,419	72.08	5	4.27	11,557	3.70	16	13.68	88,526	28.31	-	-	-	-	
GUADALAJARA	-	-	-	-	7	77.78	15,354	86.00	-	-	-	-	1	11.11	700	3.92	-	-	-	-	
TOLEDO	1	0.27	1,600	0.15	141	38.42	344,467	33.11	83	22.62	221,972	21.34	-	7	1.91	24,749	2.38	1	0.27	2,512	0.24
COMMUNITY FROM MADRID	-	-	-	-	4	57.14	5,832	61.16	-	-	-	-	-	-	-	-	-	-	-	-	
MADRID	-	-	-	-	4	57.14	5,832	61.16	-	-	-	-	-	-	-	-	-	-	-	-	
COMMUNITY STATUTORY OF NAVARRE	-	-	-	-	177	71.37	592,862	78.51	2	0.81	3,790	0.50	2	0.81	11,561	1.53	-	-	-	-	
NAVARRA	-	-	-	-	177	71.37	592,862	78.51	2	0.81	3,790	0.50	2	0.81	11,561	1.53	-	-	-	-	
COMMUNITY VALENCIAN	2	0.26	6,902	0.57	615	79.56	964,286	79.25	22	2.85	33,372	2.74	67	8.67	109,609	9.01	1	0.13	2,512	0.21	
ALICANTE	1	6.67	782	1.61	1	6.67	2,040	4.21	1	6.67	1999	4.12	8	53.33	21,487	44.29	-	-	-	-	
CASTELLON	-	-	-	-	376	78.50	570,754	83.48	eleven	2.30	13,102	1.92	49	10.23	48,314	7.07	-	-	-	-	
VALENCIA	1	0.36	6,120	1.26	238	85.30	391,492	80.78	10	3.58	18,271	3.77	10	3.58	39,808	8.21	eleven	3.94	4,485	0.93	
EXTREMADURA 64		7.83	39,389	6.56	201	24.60	205,092	34.18	17	2.08	13,814	2.30	Four-Pass	5.51	37,912	6.32	eleven	1.35	4,485	0.75	
BADAJOZ	61	7.70	35,968	6.44	196	24.75	185,778	33.28	16	2.02	13,739	2.46	44	5.56	37,526	6.72	-	-	-	-	

CACERES	3	12.00	3,421	8.18	5	20.00	19,314	46.20	1	4.00	75	0.18	1	4.00	386	0.92	-	-	-	-				
GALICIA	6	0.59	7,168	0.52	494	48.43	701,595	51.30	278	27.25	390,048	28.52		23	2.25	30,435	2.23	-	-	-				
CORUÑA	2	1.09	1,900	0.60	81	44.26	169,487	53.64	40	21.86	65,025	20.58	6	3.28	7,825	2.48	-	-	-	-				
LUGO	2	0.84	2,600	0.98	116	48.54	114,164	43.23	39	16.32	60,303	22.83	8	3.35	12,840	4.86	-	-	-	-				
ORENSE	-	-	-	-	130	59.63	215,089	59.69	51	23.39	96,831	26.87	1	0.46	5,293	1.47	-	-	-	-				
PONTEVEDRA	2	0.53	2,668	0.62	167	43.95	202,855	47.49	148	38.95	167,889	39.30		8	2.11	4,477	1.05	-	-	-	-			
THE RIOJA	-	-	-	-	55	90.16	148,792	88.74	4	6.56	16,256	9.70	1	1.64	800	0.48	-	-	-	-				
THE RIOJA	-	-	-	-	55	90.16	148,792	88.74	4	6.56	16,256	9.70	1	1.64	800	0.48	-	-	-	-				
REGION OF MURCIA	1	0.09	2,000	0.09	204	18.82	424,539	19.68	9	0.83	19,029	0.88	433	39.94	823,061	38.16		1	0.09	1,170	0.05			
MURCIA	1	0.09	2,000	0.09	204	18.82	424,539	19.68	9	0.83	19,029	0.88	433	39.94	823,061	38.16		1	0.09	1,170	0.05			
Total CCAA Adhered	112	0.97	151,853	0.66		6,663	57.85	14,745,013	63.79		636	5.52	1,085,973	4.70		852	7.40	1,759,255	7.61		19	0.16	11,373	0.05

5.19. Implementation of MTD 22 by province

CCAA	BAT 22: >24 hours					MTD 22: <24 hours					BAT 22: <12 hours					MTD 22: <4 hours					MTD 22: immediately								
	Farms	%	Squares	%	Farms	%	Squares	%	Farms	%	Squares	%	Farms	%	Squares	%	Farms	%	Squares	%	Farms	%	Squares	%	Farms	%	Squares	%	
ANDALUSIA	74	8.22	110,455	6.00	36	4.00	73,893	4.02	74	8.22	186,932	10.16	82	9.11	202,701	11.02	27	3.00	132,404	7.20									
ALMERIA	1	0.31	102	0.02	8	2.51	18,651	2.85	-	-	-	-	7	2.19	11,896	1.82	-	-	-	-									
CADIZ	7	25.93	7,358	31.60	1	3.70	1,869	8.03	-	-	-	-	2	7.41	1,106	4.75	3	11.11	1,036	4.45									
CORDOVA	2	3.28	259	0.34	6	9.84	2,437	3.18	4	6.56	15,910	20.74	1	1.64	800	1.04	2	3.28	1,505	1.96									
GRENADE	3	3.53	7,349	2.69	4	4.71	6,688	2.45	7	8.24	38,293	14.04	-	24.71	33,794	12.39	19	22.35	124,107	45.49									
HUELVA	1	3.85	4,279	10.70	-	-	-	-	3	11.54	1,224	3.06	1	3.85	3,787	9.47	-	-	-	-									
JAEN	4	7.55	8,129	6.50	-	-	-	-	1	1.89	1,364	1.09	12	22.64	47,316	37.82	1	1.89	118	0.09									
MALAGA	43	25.90	60,771	21.85	7	4.22	17,823	6.41	25	15.06	63,157	22.70	-	6.63	25,858	9.30	1	0.60	3,110	1.12									
SEVILLE	13	7.98	22,208	6.01	10	6.13	26,425	7.15	3.4	20.86	66,984	18.12	27	16.56	78,144	21.14	1	0.61	2,528	0.68									
ARAGON	545	15.10	1,270,147	14.34	-	1,775	49.18	4,124,733	46.56	-	113	3.13	241,232	2.72	41	1.14	137,631	1.55	58	1.61	134,601	1.52							
HUESCA	258	14.46	636,330	13.68	-	784	43.95	1,876,692	40.34	-	64	3.59	150,421	3.23	28	1.57	109,964	2.36	33	1.85	86,566	1.86							
TERUEL	83	11.71	145,653	10.95	406	57.26	803,592	60.42	-	28	3.95	41,033	3.09	9	1.27	17,787	1.34	8	1.13	10,313	0.78								
SARAGOSSA	204	18.28	488,164	16.97	-	585	52.42	1,444,449	50.21	-	1.88	49,778	1.73	4	0.36	9,880	0.34	17	1.52	37,722	1.31								
CANTABRIA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
CANTABRIA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
CASTILLA AND LION	376	15.67	637,826	14.57	-	1,041	43.39	2,216,008	50.62	-	141	5.88	188,028	4.30	191	7.96	260,598	5.95	66	2.75	116,823	2.67							
AVILA	26	22.03	52,258	18.26	53	44.92	160,086	55.94	-	-	-	-	2	1.69	7,419	2.59	10	8.47	13,907	4.86									
BURGOS	37	19.89	60,270	11.87	81	43.55	279,285	54.99	-	8	4.30	17,518	3.45	2	1.08	595	0.12	4	2.15	10,130	1.99								
LION	4	4.76	4,822	3.19	27	32.14	65,234	43.19	19	22.62	23,270	15.41	1	1.19	2,120	1.40	-	-	-	-									
PALENCIA	4	16.00	8,594	6.30	13	52.00	102,657	75.24	-	3	12.00	16,087	11.79	-	-	-	-	-	-	-									
SALAMANCA	79	14.88	86,508	14.10	194	36.53	285,374	46.50	-	41	7.72	14,002	2.28	28	5.27	29,826	4.86	23	4.33	49,180	8.01								
SEGOVIA	73	11.30	134,168	11.27	404	62.54	737,955	61.98	-	17	2.63	30,717	2.58	25	3.87	48,267	4.05	8	1.24	13,924	1.17								
SORIA	44	26.51	158,904	30.98	-	72	43.37	222,972	43.47	-	6.63	33,498	6.53	1	0.60	3,300	0.64	8	4.82	18,751	3.66								
VALLADOLID	37	17.45	77,627	17.45	74	34.91	167,869	37.73	-	19	8.96	31,727	7.13	-	5.19	22,559	5.07	13	6.13	10,931	2.46								

ZAMORA	72	16.71	54,675	10.24	123	28.54	194,576	36.46		23	5.34	21,209	3.97	121	28.07	146,512	27.45	-	-	-	-	-	
CASTILLA-LA STAIN	83	13.88	126,116	7.14	107	17.89	258,161		14.61	12	2.01	25,518	1.44	62	10.37	196,747	11,14	36	6.02	199,256	11.28		
ALBACETE	eleven	12.50	29,068	8.10	fifteen	17.05	26,198	7.30	6	6.82	10,082	2.81	4	4.55	8,309	2.31	22	25.00	169,421	47.20			
REAL CITY	-	-	-	-	8	47.06	19,267	51.94	-	-	-	-	-	-	-	-	-	-	-	-	-		
BASIN	29	24.79	31,562	10.09	one	17.95	40,859	13.06	3	2.56	9,850	3.15	30	25.64	85,192	27.24	3	2.56	5,587	1.79			
GUADALAJARA	4	44.44	8,126	45.51	3	33.33	7,228	40.48	-	-	-	-	-	-	-	-	-	-	-	-	-		
TOLEDO	39	10.63	57,360	5.51	60	16.35	164,609	15.82		3	0.82	5,586	0.54	28	7.63	103,246	9.93	eleven	3.00	24,248	2.33		
COMMUNITY FROM MADRID	-	-	-	-	3	42.86	3,118	32.70	-	-	-	-	-	-	-	-	-	1	14.29	2,714	28.46		
MADRID	-	-	-	-	3	42.86	3,118	32.70	-	-	-	-	-	-	-	-	-	1	14.29	2,714	28.46		
COMMUNITY STATUTORY OF NAVARRE	40	16.13	100,253	13.28	56	22.58	174,112	23.06		66	26.61	238,217	31.55		6	2.42	45,211	5.99	9	3.63	16,690	2.21	
NAVARRE	40	16.13	100,253	13.28	56	22.58	174,112	23.06		66	26.61	238,217	31.55		6	2.42	45,211	5.99	9	3.63	16,690	2.21	
COMMUNITY VALENCIAN	217	28.07	288,513	23.71	196	25.36	311,321		25.58	92	11.90	122,279	10.05	76	9.83	164,780	13.54	-	-	-	-	-	
ALICANTE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CASTELLON	182	38.00	251,492	36.78		113	23.59	158,892	23.24		23	4.80	35,581	5.20	36	7.52	75,805	11.09	-	-	-	-	-
VALENCIA	35	12.54	37,021	7.64	83	29.75	152,429	31.45		69	24.73	86,698	17.89	40	14.34	88,975	18.36	-	-	-	-	-	-
EXTREMADURA 113	13.83	64,386	10.73	109	13.34	78,066	13.01	9	1.10	7,971	1.33	19	2.33	7,745	1.29	112	13.71	97,739	16.29				
BADAJOZ	108	13.64	52,504	9.41	106	13.38	73,485	13.16	9	1.14	7,971	1.43	19	2.40	7,745	1.39	110	13.89	95,746	17.15			
CACERES	5	20.00	11,882	28.42	3	12.00	4,581	10.96	-	-	-	-	-	-	-	-	-	2	8.00	1993	4.77		
GALICIA	6	0.59	6,998	0.51	19	1.86	29,417	2.15	3	0.29	5,423	0.40	16	1.57	24,493	1.79	107	10.49	113,957	8.33			
CORUÑA	1	0.55	608	0.19	1	0.55	1,848	0.58	1	0.55	2,200	0.70	6	3.28	9,256	2.93	10	5.46	7,657	2.42			
LUGO	2	0.84	3,104	1.18	5	2.09	5,129	1.94	-	-	-	-	7	2.93	9,217	3.49	48	20.08	45,038	17.05			
ORENSE	3	1.38	3,286	0.91	12	5.50	21,420	5.94	2	0.92	3,223	0.89	3	1.38	6,020	1.67	14	6.42	18,446	5.12			
PONTEVEDRA	-	-	-	-	1	0.26	1,020	0.24	-	-	-	-	-	-	-	-	35	9.21	42,816	10.02			
THE RIOJA	27	44.26	76,745	45.77	17	27.87	44,283	26.41	3	4.92	5,767	3.44	-	-	-	-	-	4	6.56	10,738	6.40		

THE RIOJA	27	44.26	76,745	45.77	17	27.87	44,283	26.41	3	4.92	5,767	3.44	-	-	-	-	-	4	6.56	10,738	6.40		
REGION OF MURCIA	twenty	1.85	36,127	1.67	33	3.04	75,789	3.51	-	-	-	-	110	10.15	207,482	9.62	26	2.40	71,714	3.32			
MURCIA	twenty	1.85	36,127	1.67	33	3.04	75,789	3.51	-	-	-	-	110	10.15	207,482	9.62	26	2.40	71,714	3.32			
Total CCAA Adhered	1,501	13.03	2,717,566	11.76		3,392 29.45	7,388,901	31.96		513	4.45	1,021,367	4.42		603	5.24	1,247,388	5.40		446	3.87	896,636	3.88

5.20. Application of manures to the field

Farms that apply solid or liquid manure to the field				
	Farms	%	Plazas	%
ANDALUSIA	800	88.89	1,643,689	89.36
ALMERIA	232	72.73	473,062	72.37
CADIZ	27	100.00	23,282	100.00
CORDOVA	58	95.08	76,370	99.55
GRENADE	79	92.94	264,190	96.85
HUELVA	24	92.31	36,534	91.33
JAEN	53	100.00	125,124	100.00
MALAGA	165	99.40	277,419	99.72
SEVILLE	162	99.39	367,708	99.46
ARAGON	3,200	88.67	7,638,956	86.23
HUESCA	1,537	86.15	3,864,171	83.06
TERUEL	639	90.13	1,199,542	90.20
SARAGOSSA	1,024	91.76	2,575,243	89.52
CANTABRIA	2	100.00	48	100.00
CANTABRIA	2	100.00	48	100.00
CASTILLA AND LEÓN	2,282	95.12	4,174,770	95.37
AVILA	116	98.31	285,040	99.60
BURGOS	174	93.55	478,102	94.14
LION	77	91.67	132,635	87.82
PALENCIA	23	92.00	131,341	96.26
SALAMANCA	490	92.28	564,945	92.06
SEGOVIA	620	95.98	1,148,074	96.42
SORIA	160	96.39	500,771	97.62
VALLADOLID	203	95.75	411,061	92.39
ZAMORA	419	97.22	522,801	97.96
CASTILLA LA MANCHA	513	85.79	1,426,668	80.74

ALBACETE	80	90.91	299,464	83.43
REAL CITY	17	100.00	37,097	100.00
BASIN	117	100.00	312,744	100.00
GUADALAJARA	9	100.00	17,854	100.00
TOLEDO	290	79.02	759,509	73.01
MADRID'S COMMUNITY	6	85.71	9,503	99.66
MADRID	6	85.71	9,503	99.66
FORAL COMMUNITY OF NAVARRE	224	90.32	683,280	90.49
NAVARRE	224	90.32	683,280	90.49
VALENCIAN COMMUNITY	754	97.54	1,173,555	96.44
ALICANTE	9	60.00	23,486	48.41
CASTELLON	470	98.12	672,212	98.32
VALENCIA	275	98.57	477,857	98.61
ESTREMADURA	723	88.49	515,666	85.94
BADAJOZ	700	88.38	479,962	85.98
CACERES	23	92.00	35,704	85.40
GALICIA	1,012	99.22	1,354,650	99.05
CORUÑA	180	98.36	314,492	99.53
LUGO	236	98.74	254,592	96.39
ORENSE	216	99.08	358,414	99.47
PONTEVEDRA	380	100.00	427,152	100.00
THE RIOJA	59	96.72	161,049	96.05
THE RIOJA	59	96.72	161,049	96.05
MURCIA REGION	787	72.60	1,472,149	68.25
MURCIA	787	72.60	1,472,149	68.25
GRAND TOTAL	10,362	89.96	20,253,983	87.62