# Developing recommendations for preventive animal health farm visits in the EU

*Cattle, pigs, small ruminants and poultry*

E. Nijhof and N. De Briyne (supervisor)

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Universiteit Utrecht

## Abstract

Let's prevent more outbreaks, let's prevent more animals getting sick. The fight against transmissible diseases and to strive for better food safety are very important for EU countries. Therefore, in 2016 the European Union adopted the 'Animal Health Law' (EU, 2016). *To support the key priorities - higher food safety, greater prevention and fighting against transmissible diseases - this law contains Article 25 (Animal Health visits). In this article, the EU requires that all operators shall ensure that their establishments receive regular animal health visits from a veterinarian.* These suggested 'animal health visits' should be implemented by 2021 and cover all aspect of disease prevention - in particular biosecurity and detection of diseases. This study was set up (1) to identify the percentage of farms and livestock that already receive preventive visits, (2) to identify the impact of animal health visits on animal health and welfare, biosecurity, food safety and use of medicine on European farms and (3) to identify the minimum requirements for a uniform application of preventive animal health farm visits. To study this, a questionnaire was distributed amongst European national veterinary organisations. Results show that so far, in 10 out of 24 countries, already 100% of the farms will be visited regularly for disease prevention purposes. Across the 24 countries studied, an average of 77,8% of all livestock farms carry out preventive animal health farm visits. Pig farms are visited relatively the most: an average of 83,8% of the farms of the countries studied. For cattle, poultry and small ruminant farms, this percentage was respectively 79,4%, 79% and 67,7%. However it is recognized that there is a large spread of coverage between farms and between countries. It was noted that different sort of visits existed, namely 1) mandatory visits (legislation, demanded by government), 2) semi – mandatory visits (no legislation, but necessary for use of prescriptive medicine or to sell products) and 3) voluntary visits (no legislation, but personal motivation of farmer). This distinction influenced the coverage by visits in a country and also differences across species. In all visits, private veterinary practitioners play an important role. The added value given by a veterinarian performing these preventive visits enhances food safety, animal health and welfare, public health and the environment. Often visit results are collected in databases, which in most of the cases can be accessed by the government. However, not always. The farmer mostly had to pay for the visits, while sometimes the government or a retailer intervened. Overall, respondents were very appreciative of the preventive visits and their aims, but several respondents suggested that improvement of the visits is necessary. This study did not survey farmers' opinions, which would be recommendable in future research. This survey also only focused on livestock, while preventive visits are required for all professional animal establishments, according the Animal Health Law. Therefore, a future study for other establishments e.g. dog breeders would be useful.

**Keywords:** preventive visits, Animal Health Law, Article 25, animal health, animal welfare, biosecurity, use of medicine, prevention of diseases

# Inhoud

# I. Introduction

What if we could prevent more animals from getting sick? What if we could prevent future outbreaks? Enforcement of health and safety standards by collaboration is necessary. The European Union wants to fight diseases and their consequences. Not only to improve animal health and welfare, but also to improve public health and lower the economic risks. In addition, Member States need to work together towards safer products for consumers and a more sustainable, profitable and safer working environment for the farmers. Because – 'no farmers, no food'.

In 2016, the European Union adopted the '*Animal Health Law'* (Official Journal of the European Union, 2016). This law covers all animals in the EU, from production animals to wild animals. To support the key priorities - higher food safety, greater prevention and fighting against transmissible diseases - the law contains *Article 25 - Animal Health Visits ( see Figure 1).* In this article, the EU requires that all operators shall ensure that their establishments receive regular animal health visits from a veterinarian. These visits are appropriate due to the risks posed by the establishment in question.

*Article 25*

**Animal health visits**

**1. Operators shall ensure that establishments under their responsibility receive animal health visits from a veterinarian** when appropriate due to the risks posed by the establishment in question, taking into account:
(a) the type of establishment;
(b) the species and categories of kept animals on the establishment;
(c) the epidemiological situation in the zone or region as regards listed and emerging diseases to which the animals in the establishment are susceptible;
(d) any other relevant surveillance, or official controls to which the kept animals and type of establishment are subject.

Such animal health visits shall take place at **frequencies that are proportionate to the risks** posed by the establishment concerned.

They may be combined with visits for other purposes.

2. The animal health visits provided for in paragraph 1 shall be made **for the purpose of disease prevention**, in particular through:
(a) the provision of advice to the operator concerned on **biosecurity** and other animal health matters, as relevant for the type of establishment and the species and categories of kept animals on the establishment.
(b) the **detection** of, and information on, **signs indicative of the occurrence of listed diseases** or emerging diseases;

3. The Commission may, by means of implementing acts, **lay down minimum requirements necessary for the uniform application** of this Article.

Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 266(2).

*Figure 1 – Article 25* (Official Journal of the European Union, 2016)

This report focuses on cattle, pigs, small ruminants and poultry farms (establishments) and their farmers (operators). The suggested 'animal health visits' should cover at least all aspects of disease prevention, but particularly biosecurity and detection of diseases. This study has three main objectives:

(1) To **identify the percentage of farms and livestock that already receive preventive visits,** as well as which requirements already exist for checking animal health and welfare, biosecurity, food safety and use of medicine on European farms;

(2) To **identify the impact of animal health visits on animal health and welfare, biosecurity, food safety and use of medicine** on European farms;
(3) To identify the **minimum requirements for a uniform application of preventive animal health farm visits** (including animal health and welfare, biosecurity, traceability, food safety and use of medicine) for all European farms.

This report can support the European policy makers, veterinarians, farmers, animals and citizens with an effective implementation of Article 25, leading to a decrease in the amount of animals suffering sickness, a decreased use of medicines, including antibiotics, and safer food.

# II. Materials and methods

This study took place **from January '17 till October '17** and consisted of three steps:

1. ***Data collection;***
    - By direct contact (e.g. questionnaire, possibility to send in visit protocols) with the departments from national veterinary organisations in 24 countries;
    - By a literature review.
2. ***Data analysis*** and drawing overview report;
3. ***Formulating recommendations*** for uniform application and effective preventive animal health farm visits per species.

## II.I Data collection

To formulate the recommendations, it was firstly necessary to obtain accurate and practical information, as well as to have a good overview of the current situation regarding preventive animal health farm visits. Therefore, we created an online SurveyMonkey questionnaire (see '*Annex 2* Questionnaire') which was distributed amongst the members of the *Federations of Veterinarians of Europe* (FVE)- and *Union of European Veterinary Practitioners* (UEVP): national veterinary organisations. This entailed active help and support from the member organisations, for which we are immensely grateful. Subsequently further elaboration on the obtained information was gained through reviewing the current existing literature.

## II.II Analysis of the data

The analysis of the data investigated the main aspects of the 'preventive animal health farm visit' guides in different countries, supplemented with published literature. Data retrieved from the returned questionnaires was summarized and reported in land profiles (see '*Annex 1* Results of the survey: Land Profiles'). These profiles were checked with the respondents to ensure correctness. All final results were reported in a Microsoft Excel sheet (can be delivered by on request e.v.nijhof@students.uu.nl) to create an overview of all the countries. In addition, the validation of the visits and the total coverage of the visits were checked and further analysed (covering the means and the standard deviations) by use of SPSS Statistics 23.0® software.

## II.III Formulating recommendations for preventive animal health farm visits per species

The recommendations are based on the information obtained through the previous steps. They represent the opinions of veterinarians on the preventive animal health farm visits, based on practical experience and science-based knowledge.

# III. Results

## Overview

In total, 41 individuals out of 24 countries (22 *European Union* and 2 *European Free Trade Association*) completed the questionnaire (some countries having multiple respondents). Further distinction between EU and EFTA will not be made in this report, as legislation is considered to be similar.

| Colour | Data received |
|---|---|
| | EU |
| | EFTA |
| | No data received |

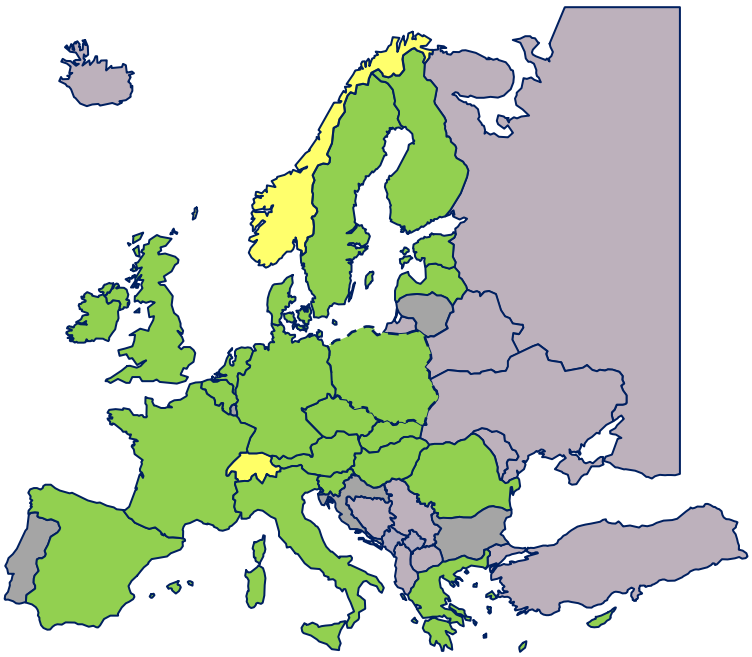


*Figure 2 – Overview of countries from which data is received*

1. **Austria**
2. **Belgium**
3. **Czech Republic**
4. **Denmark**
5. **Estonia**
6. **Finland**
7. **France**
8. **Germany**
9. **Greece**
10. **Hungary**
11. **Ireland**
12. **Italy**
13. **Latvia**
14. **Malta**
15. **Netherlands**
16. **Norway**
17. **Poland**
18. **Romania**
19. **Slovakia**
20. **Slovenia**
21. **Spain**
22. **Sweden**
23. **Switzerland**
24. **United Kingdom**

## Percentage of livestock farms visited in the European Union

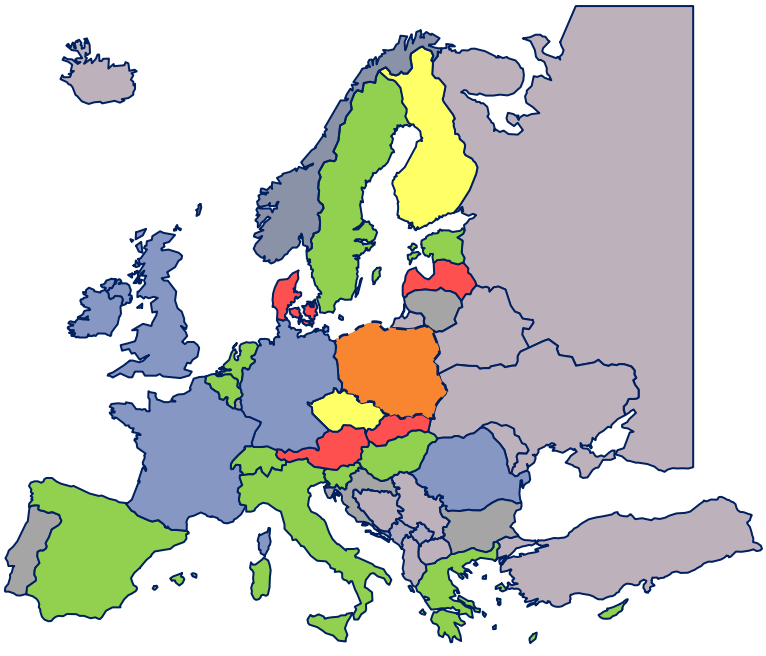


*Figure 3 – Percentage of farms visited regularly per country, in EU*

From the 24 countries, 22 countries livestock farms will carry out preventive animal health farm visits. In 10 out of 24 countries, all farms will be visited annually for prevention purposes.

| Colour | Percentage livestock farms visited |
|---|---|
| | 0 |
| | 1 – 69 % |
| | 70 – 89 % |
| | 90 – 99 % |
| | 100 % |

**Descriptive Statistics**

| | N | Minimum | Maximum | Mean | Std. Deviation | Q1 | Median | Q3 |
|---|---|---|---|---|---|---|---|---|
| **Cattle** | 24 | 0,0 | 100,0 | 79,17 | 30,81 | 63,75 | 97,5 | 100,0 |
| **Pigs** | 24 | 0,0 | 100,0 | 83,75 | 29,79 | 87,5 | 100,0 | 100,0 |
| **Poultry** | 24 | 0,0 | 100,0 | 78,96 | 37,36 | 77,5 | 100,0 | 100,0 |
| **Small ruminants** | 22 | 0,0 | 100,0 | 67,73 | 37,63 | 36,25 | 95,0 | 100,0 |
| **Overall** | 24 | 0,0 | 100,0 | 77,78 | 28,92 | 66,56 | 85,0 | 100,0 |

*Table 1 – Percentage of farms visited annually per country – per species - in the EU*

Pigs will be visited relatively more than the other species; the mean was that **83,8%** (sd. 29,8) of farms that receive preventive animal health farm visits. For small ruminant farmers, this percentage is 16% lower. Around **67,7%** of the small ruminant farms will be regularly checked. For cattle and poultry farmers, this average percentage is set at around **80%**. The spread between countries and species is high. Standard deviation varies between 29,8 – 37,6.

## Types of visits

Visits can be categorized in the following categories:

1. **Mandatory:** legislation, demanded by government (e.g. to have the right to keep livestock);
2. **Semi – mandatory:** no direct legislation, but the farmer has to undertake these visits in order to farm e.g. required if the farmer wants to sell products or wants to use prescriptive medicine (e.g. demanded by slaughterhouse, dairy industry);
3. **Voluntary**: no legislation, and only if the farmer wants additional advice or additional certificates (e.g. demanded by the farmer him/herself).

In two countries (Poland and Malta), preventive visits are not routinely implemented in livestock farms. The other 22 countries have implemented farm visitation schemes, therefore n = 22. Most countries have multiple categories of visits. In total; **19 out of the 22 countries** will carry out mandatory visits. Semi-mandatory visits will be held **in 16 out of 22 countries**, as voluntary visits will be held in **11 out of 22 countries**.

Specification of abbreviations

**Health Control Programme (HC)**: monitoring of the health of the livestock on the farm.
**Epidemiological / Biosecurity monitoring (E/B)**: specific epidemio-surveillance on farm level (mostly done besides the specific Health Control Programme), as a result of high numbers of livestock on the farm, or a certain species (e.g. pigs / poultry)
**Prescriptive medicine (POM):** clinical assessment on the farm, before the veterinarian can prescribe a medicine.
**Quality Assurance (QA):** participation in a system can demand certain preventive visits in order to cover quality of products and/or label the product (e.g. Red Tractor (UK), Label Rouge (FR), QS (DE), etc).
**Advisory programme:** participation in such a programme makes it possible for farmers to acquire new skills regarding biosecurity, animal health and more.

## Mandatory visits

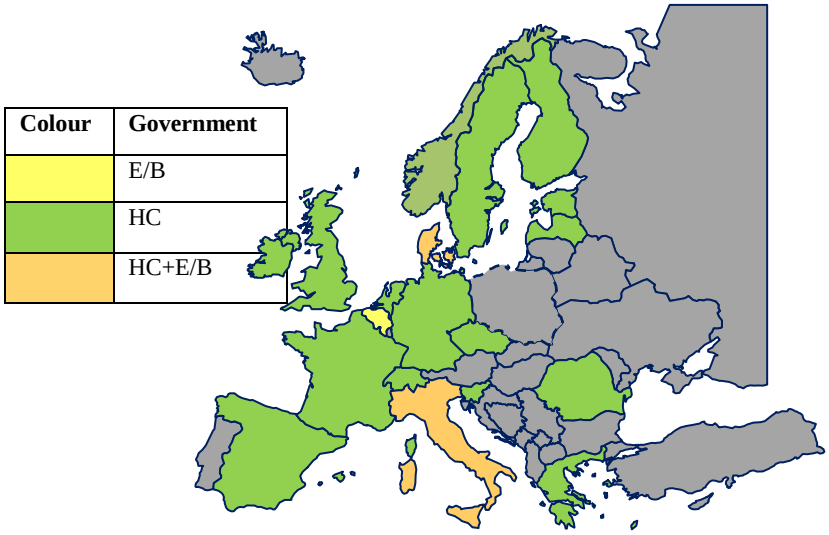
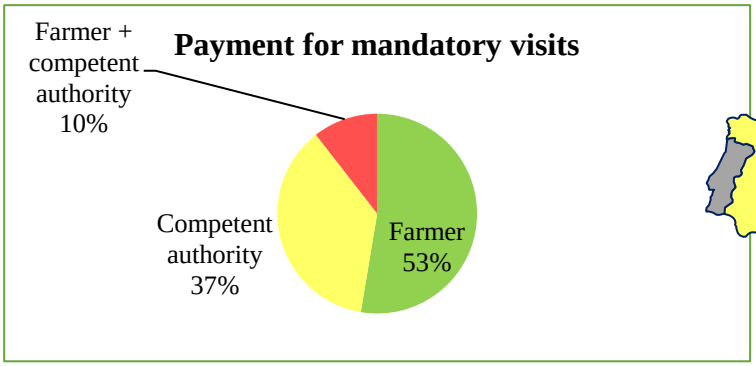



*Figure 4 – Overview of mandatory preventive animal health farm visits in EU*

**19 out of 22 countries** have mandatory preventive visits. These visits are required by legislation and usually implemented and enforced by government.

**What do they demand?**
In most (16) **countries** the focus of these mandatory visits areas on health control. In **2 countries,** the visits will focus on two aspects: health control and epidemiological / biosecurity monitoring. In Belgium (**1**), the preventive visit focuses only on the specific epidemio-surveillance on the farm (epidemiological / biosecurity monitoring). The competent authority demands that all farmers have epidemio-surveillance by a veterinarian on the farm. They need to check, to stamp and to sign the medication register on the farm every three months and must evaluate the quality of biosecurity of the herd or flock (internal biosecurity) and the external biosecurity on the farm (e.g. use of system 'BioCheck') (Universiteit Gent, n.d.).

**Who will pay for the mandatory visits?**
Figure 5 illustrates all countries where mandatory visits are carried out and who will cover the costs of the visits. In **10 countries,** the farmers need to pay for the visits (mostly central and Northern countries), while in **7 countries** the competent authority is covering the costs and in **2 countries** costs are split. Competent authority is mostly involved in the Southern and Eastern countries.



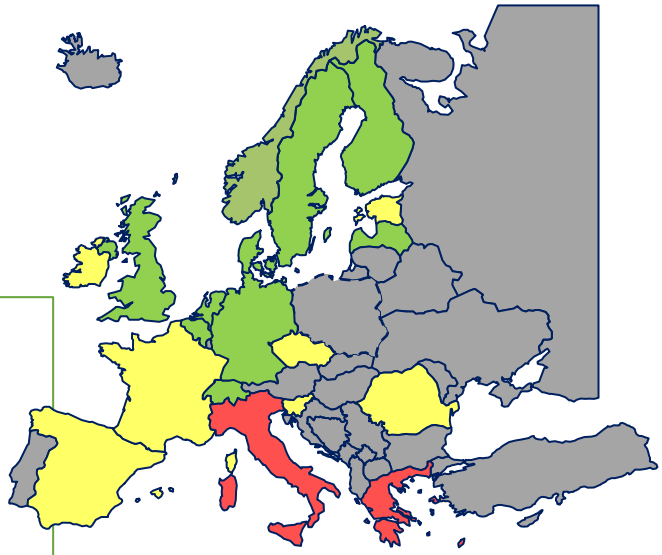



*Figure 5 – Overview of the payment of mandatory visits in EU*

**Semi – mandatory visits**

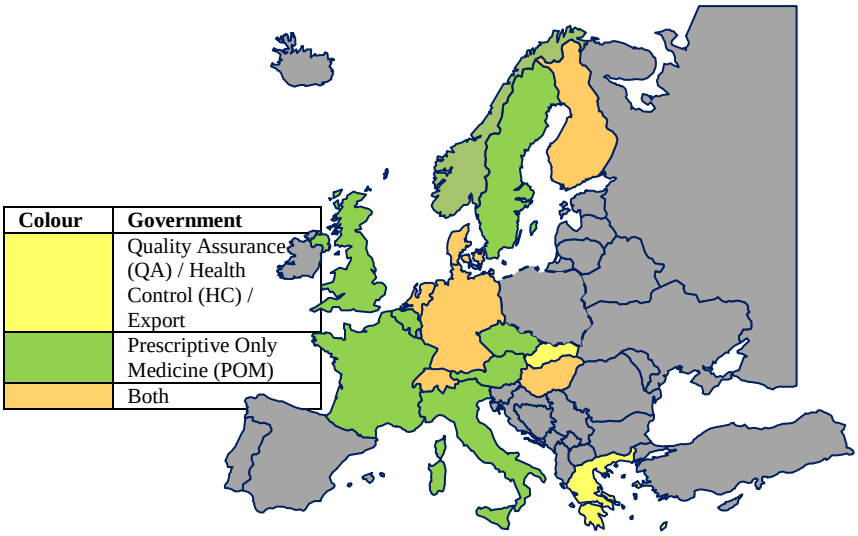



*Figure 6 – Overview of semi-mandatory preventive animal health farm visits in EU*

Figure 6 illustrates all countries that carry out semi-mandatory preventive animal health farm visits, for one or multiple species (differentiation will follow in section per species). 16 out of 22 countries have semi-mandatory preventive visits. These visits are not a result of legislation, but are demanded by private organisations (e.g. slaughterhouses, dairy industry) or if the farmer wants to use prescriptive medicines. Without them it is nearly impossible for the farmer to farm, as not following them farmers are not allowed to sell or use prescriptive medicines.

**What do they 'demand'?**

In **8 countries**, the aim of the semi-mandatory visit is to obtain prescription-only medicines. Together with a veterinarian, the farmer needs to set up a health plan to receive medication. This health plan can contain strict instructions for medications and vaccinations, for the types of diseases that the medication can be used for, and how this medication should be handled (e.g. withdrawal periods). With such a herd health plan, the farmer will have access to prescriptive medicines. In **6 countries**, these semi-mandatory visits are for both prescriptive medicines and for other purposes (such as: quality assurance system, health control programme, additional visits for export). For example, in Finland most of the Finnish companies (e.g. slaughterhouse, dairy industry) include demands in the production agreements that the farmer must follow the instructions of ETT (quality assurance system) before delivering the animals and their products to the company. This organisation provides quality systems for the Finnish pig- and cattle farmers and created a set of requirements for responsible production.

**Who will pay for the semi - mandatory visits?**

The graph illustrates the focus of the semi-mandatory visits and who will cover the costs of the visits. All semi-mandatory visits are at least partly paid by the farmers. In **14** countries, the farmer will cover the total costs for the POM and the quality assurance visits. In two countries, the bill will be shared with the competent authority or with one of the stakeholders (e.g. Finland: shared cost by farmer, slaughterhouse and the dairy stakeholder).

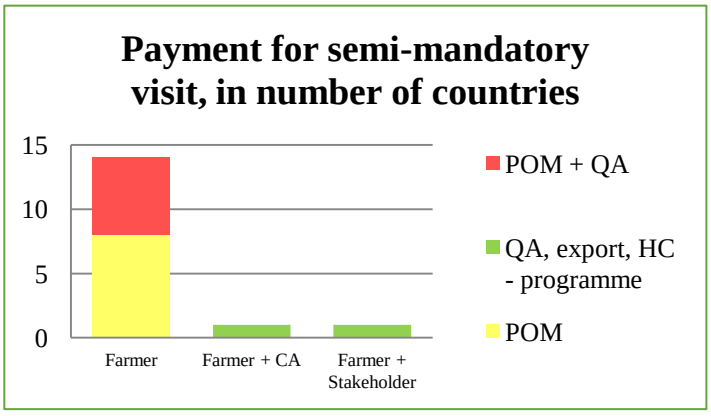



*Figure 7 – Overview of the payment of semi-mandatory visits in EU*

**Voluntary visits**

| Colour | Government |
|---|---|
| | QA |
| | HC |
| | POM + HC |
| | Advisory + HC |
| | E/B |

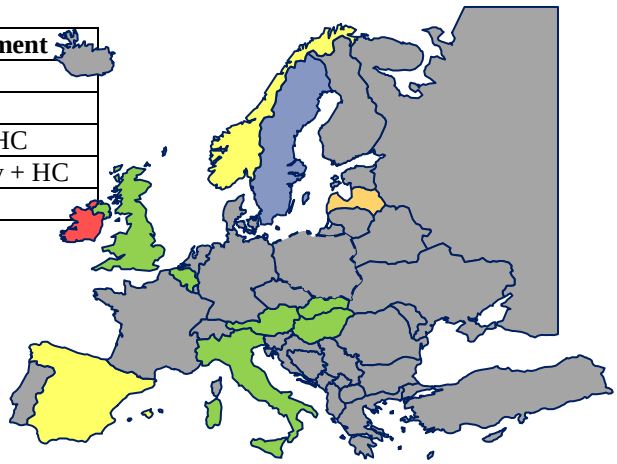


*Figure 8 – Overview of voluntary preventive animal health farm visits in EU*

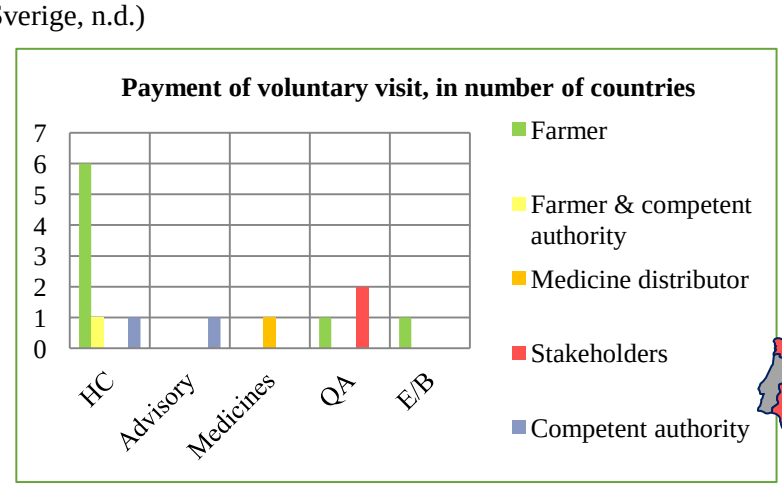
Figure 8 illustrates all countries that carry out voluntary preventive animal health farm visits, for one or multiple species (differentiation will follow in section per species). So far, **11 of 22** countries have **voluntary** preventive visits. These visits are not based on legislation, and only carried out if the farmer wants additional advice or certificates.

**What is the focus of the voluntary visits?**

In most countries, **quality assurance** is scheduled as semi-mandatory, because it is necessary for a farmer to their products on the market (e.g. dairy, slaughterhouse). In other cases, voluntary visits will be made to certify or label farms (e.g. Red Tractor (UK), Label Rouge (FR), in order for farmers to be able to sell their products for a higher price. In this case, the quality assurance system is seen as 'voluntary'. In addition, certain systems can help and support the farmer to run the farm according to current laws and regulations. In **8 out of 11 countries** with voluntary visits, these visits focus on the control of the health of the herd or flock (no legislation, and only if the farmer wants additional advice or additional certificates). For example, in Austria there is the 'Austrian Animal Health Service' ('Tiergesundsheitsdienst Österreich'). The underlying principle of this health service is to provide farmers with the best preconditions for timely stock supervision by the veterinarian (LFI Österreich, 2010).

**Who will pay for the voluntary visits?**

The graph illustrates the focus of the voluntary visits, including which party will cover the costs of the visits. Overall, the costs will be carried mainly by the farmer (**9 out of 11 countries**). For coverage of the advisory and health control programmes in Ireland, the competent authority will cover the costs. For example, an advisory programme that the competent authority will support is the FBIS (Farm Business Improvement Scheme). This scheme contains a collection of measures that aims to improve the competitiveness and the sustainability of the farming sector (DAERA, n.d.). The programme mainly focuses on the general principles of the management of the farm and should help farmers to deal with complex issues, such as: breeding plan, animal health, animal welfare and farm safety (DAFM, n.d.). In **Sweden**, there is a voluntary visit focussing on biosecurity and epidemiological monitoring. The 'Smittsäkrad besättning' aims to increase the biosecurity among herds and flocks, as well as on the farms in general, by enhancing the farmers' knowledge of how infectious diseases are spread and how this spread can be prevented. The farm needs to pass basic biosecurity and hygiene check points and will include an education part as well. The work is financed by the Swedish Board of Agriculture. In case of an outbreak of Salmonella, farmer will get higher a compensation (Växa Sverige, n.d.)



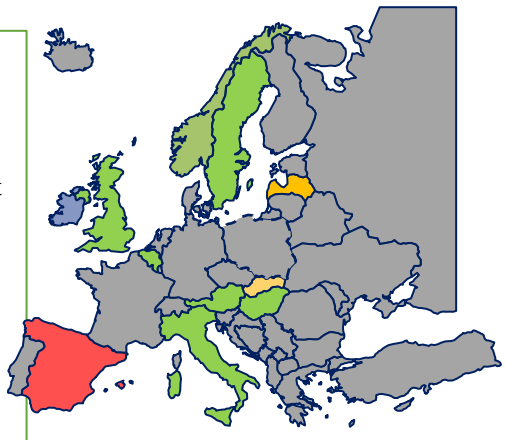



*Figure 9 - Overview of the payment of voluntary visits in EU*


## Differentiation per species: cattle

Cattle is of great importance to the European Union for many reasons. Without exception, **milk** is produced in every single Member State and has a value of approximately 15% of the agricultural output. Therefore, the EU is seen as a major player in the world dairy market – especially as the leading exporter of many dairy products (mostly cheeses). The main producers in the EU are **Germany, France, the United Kingdom, Poland, the Netherlands** and **Italy**. In 2016 there were around 23,5 million dairy cows in the EU28 (total EU28 bovine herds are around 87 million heads), with an average milk production of 6700 kg milk per cow. In the last year, the dairy herds in the EU has decreased steadily, as the milk yield per cow has increased. However, farm and dairy herd sizes vary enormously per country, as do the yield. In all Member States the dairy farming is structured differently. Firstly, distinct 'national markets' were once the norm. Now there is more cross-border ownership of farms and also processing facilities. Secondly, a variety of systems is in operation for the marketing of the produced milk on the dairy farms. Most dairy farmers sell the milk to processors of dairy, and then the milk will enter the food chain. Some dairy farmers will market their milk directly to consumers or let the milk consumed on the farm (EC.Europe.eu, n.d). For **beef and veal**, the main producing Member States are **France, Germany, Italy** and **the UK** – together they represent about 58% of the total EU production. The average EU year production is around 7,5 million tonnes of beef (EC.Europe.eu, n.d.).

An average of **79,2%** cattle farms per European country will receive preventive animal health visits (further specified in *Table 2*). In **13 countries, all cattle farms** will be visited preventive regularly. However, keep in mind that the spread between countries is high (sd. 30,81).

| Colour | Cattle |
|---|---|
| | 0 – 49% |
| | 50 – 69% |
| | 70 – 99% |
| | 100 % |

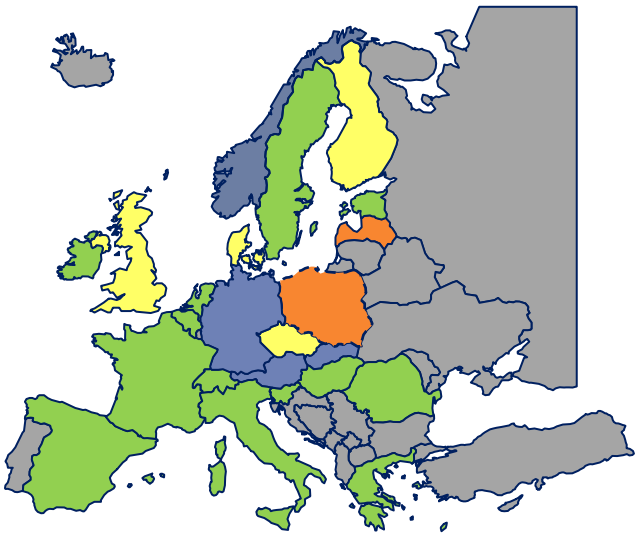


*Figure 10 – Percentage of cattle farms visited regularly (see Table 2) per country, in EU*

| ***Cattle*** | **Mandatory** | **Semi-mandatory** | **Voluntary** | **How often per year, minimum?** | **% of farms with visits** |
|---|---|---|---|---|---|
| *Austria* | - | POM | HC | 1 - 2 | 60 |
| *Belgium* | E/B | POM | - | 4 | 100 |
| *Czech Republic* | HC | POM | - | 1 - 12 | 90 |
| *Denmark* | HC + E/B | POM + QA | - | 2 - 9 | 80 |
| *Estonia* | HC | - | - | 1 | 100 |
| *Finland* | - | POM + QA | - | 1 - 24 | 80 |
| *France* | HC | POM | - | 1 | 100 |
| *Germany* | - | POM + QA | - | 12 | 65 |
| *Greece* | HC + E/B | QA | - | 1 | 100 |
| *Hungary* | - | POM + HC | HC | 1 | 100 |
| *Ireland* | HC | POM | HC + advisory | 1 - 12 | 100 |
| *Italy* | HC + E/B | POM | HC | 1 | 100 |
| *Latvia* | - | - | POM + HC | 1 - 12 | 30 |
| *Malta* | - | - | - | - | 0 |
| *Netherlands* | HC | POM + QA | - | 4 | 100 |
| *Norway* | - | POM | QA | 1 - 6 | 60 |
| *Poland* | - | - | - | - | 0 |
| *Romania* | HC | - | - | 1 | 100 |
| *Slovakia* | - | Export | HC | 4 | 60 |
| *Slovenia* | HC | - | - | 2 | 100 |
| *Spain* | HC | - | - | 2 | 100 |
| *Sweden* | HC | POM + QA | E/B | 8 - 52 | 100 |
| *Switzerland* | HC | POM + QA | - | 1 - 4 | 100 |
| *UK* | - | POM | HC | 1 | 80 |
| **Total of EU farms** | **58,33%** | **70,83%** | **37,5%** | * | **79,2%** |

Table 2: A European overview of existing mandatory, semi-mandatory and voluntary visits for cattle. Frequency of the visits is based on multiple factors (such as: use of medicine, sort of visit, number of cattle on the holding). For further specification regarding the frequency of the visits, please see **Annex 1 – Land profiles.** An average of the minimum frequency of visits could not be done, as multiple factors will influence this (e.g. size of farm, type of farm). Specification of abbreviations **Health Control Programme (HC)**: monitoring of the health of the livestock on the farm. **Epidemiological / Biosecurity monitoring (E/B)**: specific epidemio-surveillance on farm level (mostly done besides the specific Health Control Programme), as a result of high numbers of livestock on the farm, or a certain species (e.g. pigs / poultry) **Prescriptive medicine (POM):** clinical assessment on the farm, before the veterinarian can prescribe a medicine. **Quality Assurance (QA):** participation in a system can demand certain preventive visits in order to cover quality of products and/or label the product (e.g. Red Tractor (UK), Label Rouge (FR), QS (DE), etc). **Advisory programme:** participation in such a programme makes it possible for farmers to acquire new skills regarding biosecurity, animal health and more.

Specifying this spread between the percentages of farms that are visited annually per country, it is found that in the lowest quartile 63,75% of the farms will be visited. The **median** is seen as **97,5.** In the third and highest quartile, this number is 100%. (see *Table 1*). The **inter quartile range** (IQR) was calculated as **36,25**, indicating that a broad spread between countries and the visits in these countries is assumable.

| Colour | Cattle |
|---|---|
| | Q1 (63,75) |
| | Q2 (97,5) |
| | Q3 (100) |

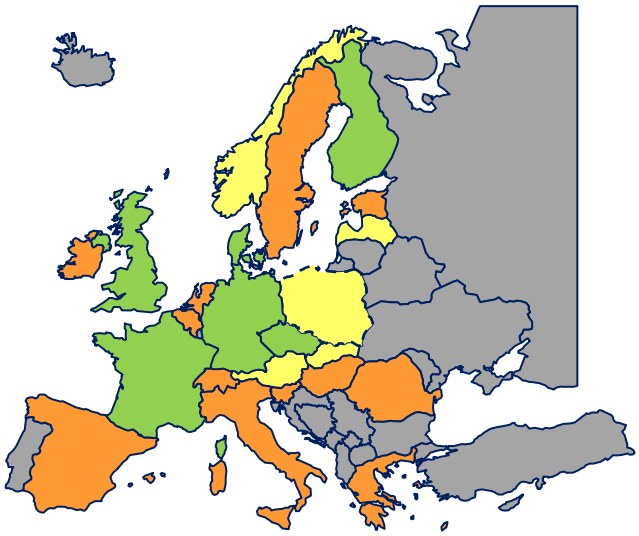


*Figure 11 – Spread between the percentages of cattle farms that are visited annually per country (see Table 1) in EU*

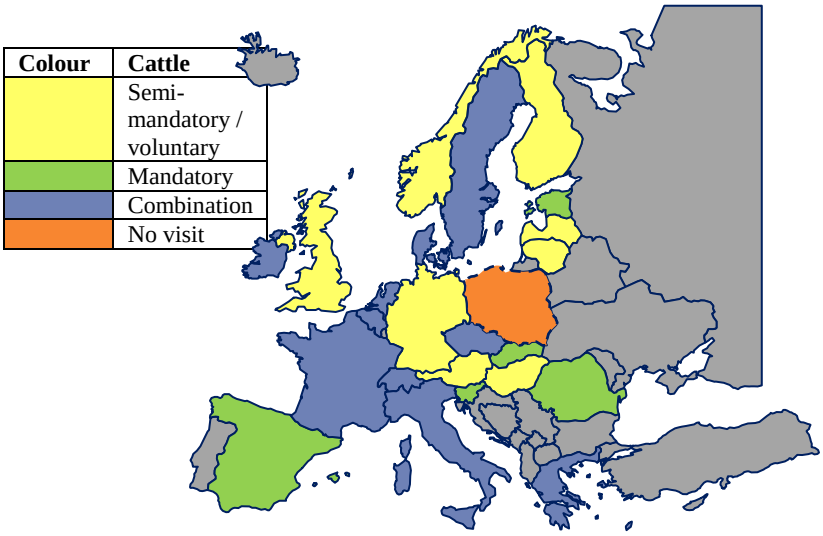
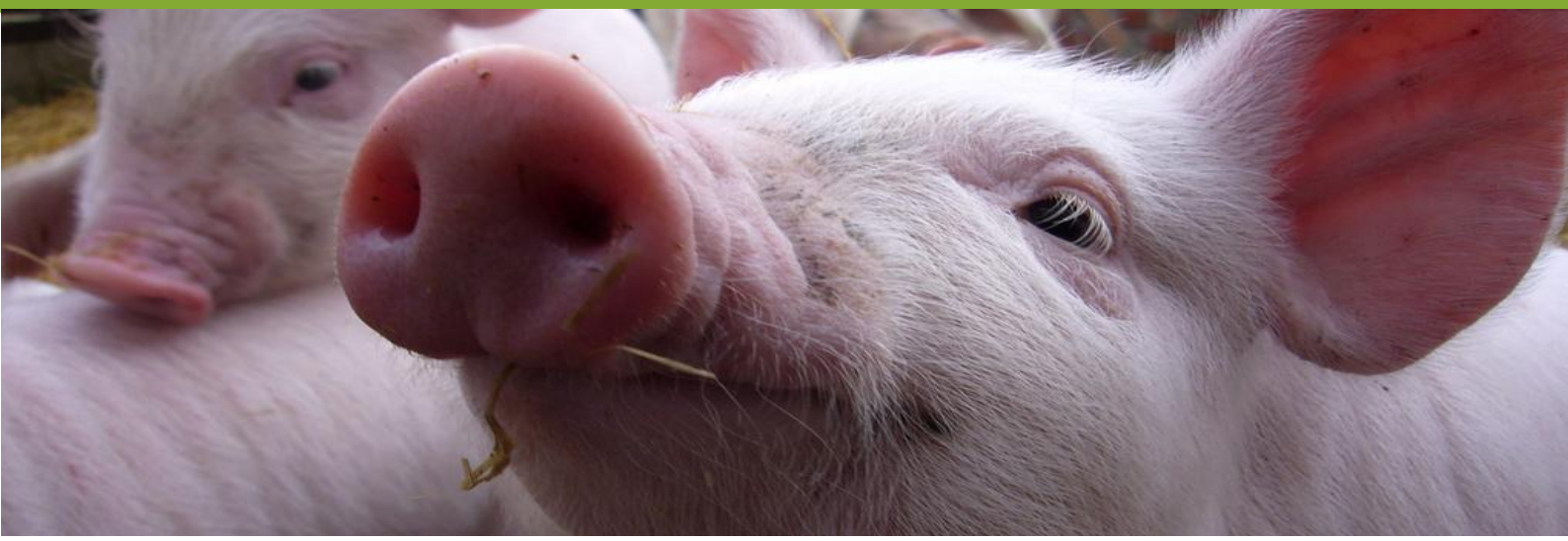



*Figure 12 – Sort of visits for cattle in EU*

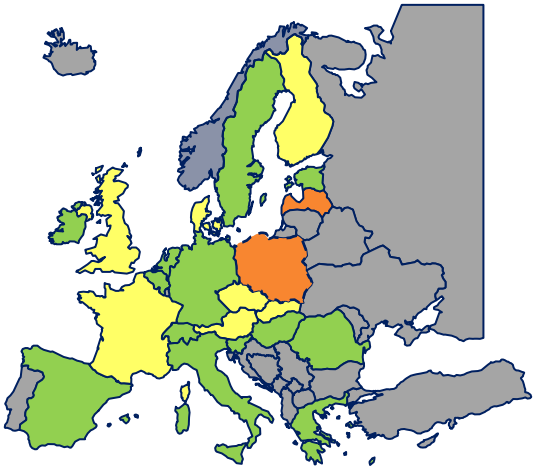
For cattle, **14 out of 24 countries** have **mandatory** preventive animal health farm visits**.** Most of these mandatory visits (92,9%) will be done for national health control programmes; to check and test for emerging infectious diseases which can have a major impact on the economics of the farm and sector (e.g. IBR, tuberculosis, BVD). Around 16,7% of the mandatory visits will focus mainly on epidemiological and biosecurity monitoring. In **17 out of 24 countries** will have **semi-mandatory** preventive animal health farm visits. In **9 countries voluntary** visits for cattle exist.



## Differentiation per species: pigs

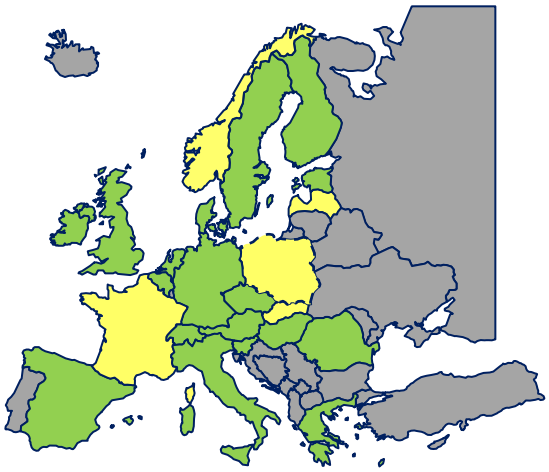
Overall, 150 million pigs in the EU and a yearly production of 22 million ton of carcass weight makes the EU the world's second biggest producer of pig meat (after China). The main countries which produce the products, are **Germany, Spain** and **France**. The self-sufficiency of pig meat (products) is about 111% and therefore it is possible to have an export number of 13% of the total production of pig meat (as import of non European countries will be done as well). The EU is the biggest exporter of pig meat and pig meat products. (EC.Europe.eu, n.d.).

An average of **83,8%** pig farms per European country will receive preventive animal health visits (further specified in *Table 3*). However, the difference between countries is high (sd. 29,79). In **15 countries, all pig farms** will be visited regularly.



| Colour | Pigs |
|---|---|
| | 0 – 49% |
| | 50 – 79% |
| | 80 – 99% |
| | 100 % |

*Figure 13 – Percentage of pig farms visited regularly (further specification in Table 3) per country, in EU*



Specifying this spread between the percentages of farms that are visited annually per country, it is found that in the lowest quartile 87,5% of the farms will be visited. The **median** is seen as **100.** In the third and highest quartile, this number is 100%. (see *Table 1*). The inter quartile range (**IQR**) was calculated as 1**2,5**, indicating that multiple countries are close to the median (100).

| Colour | Pigs |
|---|---|
| | Q1 (87,5) |
| | Q2 + Q3(100) |

*Figure 14 – Spread between the percentages of pig farms that are visited annually per country (see Table 1) in EU*

For pig farms, in **15 out of 24 countries** it is **mandatory** to have preventive animal health farm visits**.** Most of these visits **(93,3%)** will be done for national health control programmes; sometimes they will check and test on emerging infectious diseases which have a big influence on the economics of the farm and sector (e.g. Vesicular Disease, Aujeszky). Around **26,6%** of the visits will focus mainly on epidemiological and biosecurity monitoring. **75%** (18 out of 24) of the countries have **semi-mandatory** preventive animal health farm visits. In **37,5%** (9 out of the 24) countries, **voluntary** visits exist.

| Colour | Pigs |
|---|---|
| | Semi-mandatory / voluntary |
| | Mandatory |
| | Mandatory + semi – mandatory and / or voluntary |
| | No visit |

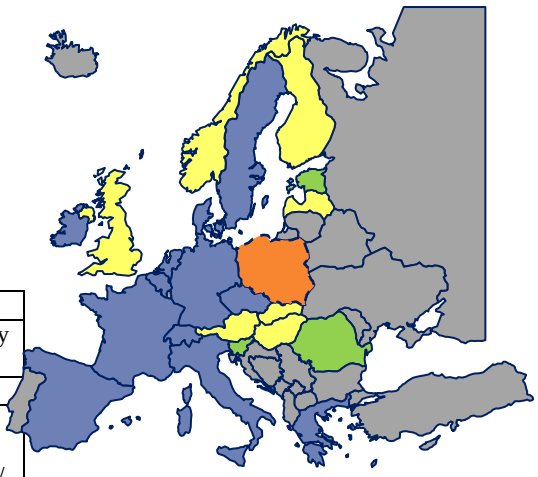


*Figure 15 – Sort of visits for pigs in EU*

| *Pigs* | **Mandatory** | **Semi-mandatory** | **Voluntary** | **How often per year, minimum?** | **% of farms with visits** |
|---|---|---|---|---|---|
| *Austria* | - | POM | HC | 1 - 4 | 90 |
| *Belgium* | E/B | POM | - | 4 | 100 |
| *Czech Republic* | HC | POM | - | 1 - 12 | 90 |
| *Denmark* | HC + E/B | POM + QA | - | 2 - 9 | 90 |
| *Estonia* | HC | - | - | 4 | 100 |
| *Finland* | - | POM + QA | - | 4 - 24 | 95 |
| *France* | HC | POM | - | ½ (once per two years) | 80 |
| *Germany* | HC | POM + QA | - | Every round | 100 |
| *Greece* | HC + E/B | QA | - | 1 | 100 |
| *Hungary* | - | POM + HC | HC | 1 | 100 |
| *Ireland* | HC | POM | HC + advisory | 12 | 100 |
| *Italy* | HC + E/B | POM | HC | 1 | 100 |
| *Latvia* | - | - | POM + HC | 1 - 12 | 45 |
| *Malta* | - | - | - | - | 0 |
| *Netherlands* | HC | POM + QA | - | 12 | 100 |
| *Norway* | - | POM | QA | 1 - 12 | 50 |
| *Poland* | - | - | - | - | 0 |
| *Romania* | HC | - | - | 1 | 100 |
| *Slovakia* | - | Export | HC | 10 | 80 |
| *Slovenia* | HC | - | - | 2 | 100 |
| *Spain* | HC | QA | - | 1 | 100 |
| *Sweden* | HC | POM + QA | E/B | 6 | 100 |
| *Switzerland* | HC | POM + QA | - | Every round | 100 |
| *UK* | - | POM | HC | 4 | 90 |
| **Total of EU farms** | **62,5%** | **75%** | **37,5%** | * | **83,8%** |

Table 3: A European overview of existing mandatory, semi-mandatory and voluntary visits for pigs. Frequency of the visits is based on multiple factors (such as: use of medicine, sort of visit, number of cattle on the holding). For further specification regarding the frequency of the visits, please see **Annex 1 – Land profiles.** An average of the minimum frequency of visits could not be done, as multiple factors will influence this (e.g. size of farm, type of farm). Specification of abbreviations **Health Control Programme (HC)**: monitoring of the health of the livestock on the farm. **Epidemiological / Biosecurity monitoring (E/B)**: specific epidemio-surveillance on farm level (mostly done besides the specific Health Control Programme), as a result of high numbers of livestock on the farm, or a certain species (e.g. pigs / poultry) **Prescriptive medicine (POM):** clinical assessment on the farm, before the veterinarian can prescribe a medicine. **Quality Assurance (QA):** participation in a system can demand certain preventive visits in order to cover quality of products and/or label the product (e.g. Red Tractor (UK), Label Rouge (FR), QS (DE), etc). **Advisory programme:** participation in such a programme makes it possible for farmers to acquire new skills regarding biosecurity, animal health and more.

## Differentiation per species: poultry

In the EU, production of poultry meat belongs to the top of world. In 2014, the poultry meat production was 13,1 million tons; along with imports (0,8 million tons, mainly from Brazil and Thailand) and exports (1,5 million tons). Leading countries in the poultry meat production are **Poland** (13,7%), **France** (12,7%), **UK** (12,4%), **Germany** (11,4%) and **Spain** (11,1%) (EC.Europe.eu, n.d.).

In **15 countries, all poultry farms** will be visited regularly. An average of **79,0% poultry farms per European country** will receive preventive animal health visits (*further specified in Table 4*). However, the difference between countries is high (sd. 37,36).

| Colour | Poultry |
|---|---|
| | 0 – 49% |
| | 50 – 79% |
| | 80 – 99% |
| | 100 % |

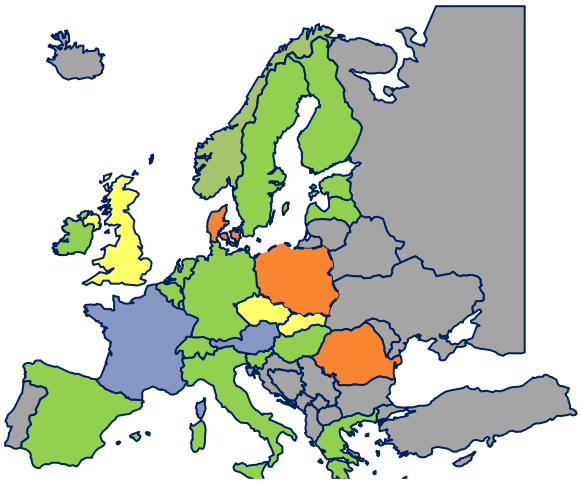
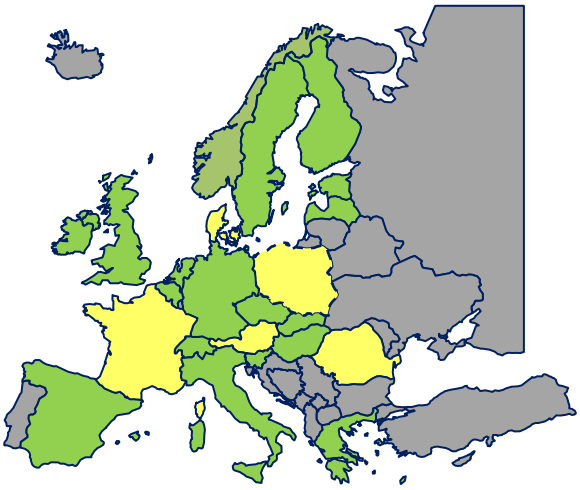


*Figure 16 - Percentage of poultry farms visited regularly (further specification in Table 4) per country, in EU*



Specifying this spread between the percentages of farms that are visited annually per country, it is found that in the lowest quartile 77,5% of the farms will be visited. The **median** is seen as **100**. In the third and highest quartile, this number is 100%. (see *Table 1*). The **inter quartile range** (IQR) was calculated as **22,5**, indicating that multiple countries are close to the median.

| Colour | Poultry |
|---|---|
| | Q1 (77,5) |
| | Q2 + Q3(100) |

*Figure 17 – Spread between the percentages of poultry farms that are visited annually per country (see Table 1) in EU*

For poultry farms, in **70,83%** (17 out of 24) countries it is mandatory to have preventive animal health farm visits**.** Most of these visits (**93,3%)** will be done for national health control programmes; sometimes they will check and test on emerging infectious diseases transmissible and have a big influence on the economics of the farm and sector (e.g. salmonellosis). Around **17,6%** of the mandatory visits will focus mainly on epidemiological and biosecurity monitoring. In **75%** (18 out of 24) of the countries, semi-mandatory preventive animal health farm visits exist. In **37,5%** (9 out of the 24) of the countries, voluntary visits exist.

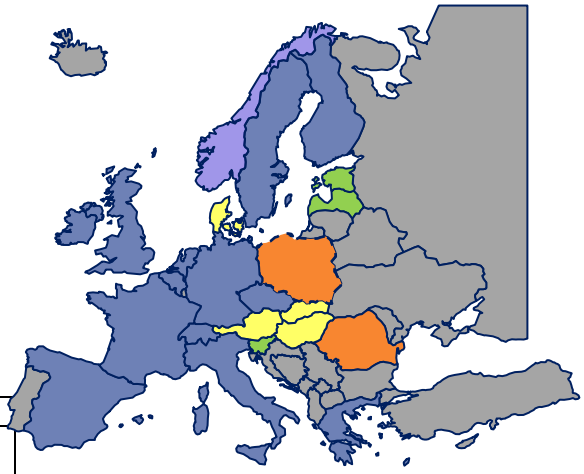



*Figure 19 – Sort of visits for poultry in EU*

| *Poultry* | **Mandatory** | **Semi-mandatory** | **Voluntary** | **How often per year, minimum?** | **% of farms with visits** |
|---|---|---|---|---|---|
| *Austria* | - | POM | HC | 1 | 70 |
| *Belgium* | E/B | POM | HC | 4 | 100 |
| *Czech Republic* | HC | POM | - | 1 - 12 | 90 |
| *Denmark* | - | POM + QA | - | 1 | 0 |
| *Estonia* | HC | - | - | 2 | 100 |
| *Finland* | HC | POM | - | 1 | 100 |
| *France* | HC | POM | - | 1 | 65 |
| *Germany* | HC | POM + QA | - | Every round | 100 |
| *Greece* | HC + E/B | QA | - | 1 | 100 |
| *Hungary* | - | POM + HC | HC | 1 | 100 |
| *Ireland* | HC | POM | HC + advisory | 12 | 100 |
| *Italy* | HC + E/B | POM | HC | 1 | 100 |
| *Latvia* | HC | - | POM + HC | 1 - 12 | 100 |
| *Malta* | - | - | - | - | 0 |
| *Netherlands* | HC | POM + QA | - | Every round | 100 |
| *Norway* | HC | POM | QA | 1 - 12 | 100 |
| *Poland* | - | - | - | - | 0 |
| *Romania* | - | - | - | - | 0 |
| *Slovakia* | - | Export | HC | 10 | 80 |
| *Slovenia* | HC | - | - | 2 | 100 |
| *Spain* | HC | QA | - | 1 | 100 |
| *Sweden* | HC | POM + QA | - | 6 | 100 |
| *Switzerland* | HC | POM + QA | - | 4 | 100 |
| *UK* | HC | POM | HC | ¾ (once per 18 months) | 90 |
| **Total of EU farms** | **70,83%** | **75%** | **37,5%** | * | **79,0%** |

Table 4: A European overview of existing mandatory, semi-mandatory and voluntary visits for poultry. Frequency of the visits is based on multiple factors (such as: use of medicine, sort of visit, number of cattle on the holding). For further specification regarding the frequency of the visits, please see **Annex 1 – Land profiles.** An average of the minimum frequency of visits could not be done, as multiple factors will influence this (e.g. size of farm, type of farm). Specification of abbreviations: **Health Control Programme (HC)**: monitoring of the health of the livestock on the farm. **Epidemiological / Biosecurity monitoring (E/B)**: specific epidemio-surveillance on farm level (mostly done besides the specific Health Control Programme), as a result of high numbers of livestock on the farm, or a certain species (e.g. pigs / poultry) **Prescriptive medicine (POM):** clinical assessment on the farm, before the veterinarian can prescribe a medicine. **Quality Assurance (QA):** participation in a system can demand certain preventive visits in order to cover quality of products and/or label the product (e.g. Red Tractor (UK), Label Rouge (FR), QS (DE), etc). **Advisory programme:** participation in such a programme makes it possible for farmers to acquire new skills regarding biosecurity, animal health and more.

## Differentiation per species: small ruminants

The main producing Member States for the meat of small ruminants are the **UK (Scotland leading), Spain, Greece** and **Franc**e. **Romania, Ireland, Germany** and **Italy** are following. Also for the **dairy** sector, the small ruminants participate in a significant proportion of value of EU agricultural output. Export of live animals and meat increased over the last couple of yours (8% of the total production). Live animals mainly go to the Middle East and North Africa, whereas the meat (products) go to all destinations, and in greater extent to the Far East (EC.Europe.eu, n.d.).

In **11 countries, all small ruminant farms** will be visited regularly. An average of **67,7%** small ruminant farms per European country will receive preventive animal health visits (further specification of the frequency of the visits is specified in *Table 5*). However, the difference between countries is high (sd. 37,63).

| Colour | Small ruminants |
|---|---|
| | 0 – 34% |
| | 35 – 55 % |
| | 56 – 99% |
| | 100 % |

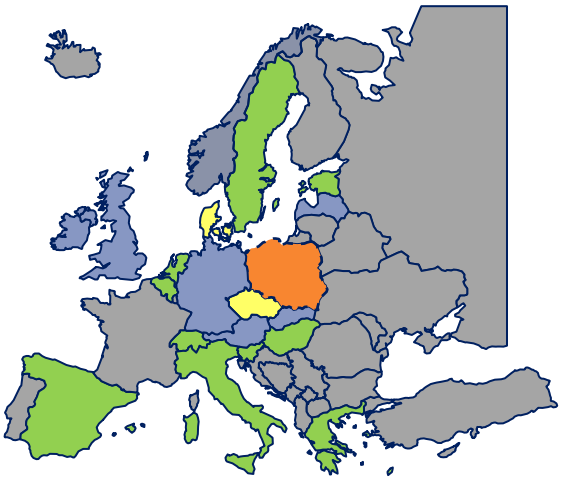


*Figure 20 – Percentage of small ruminant farms visited regularly (further specification in Table 5) per country, in EU*

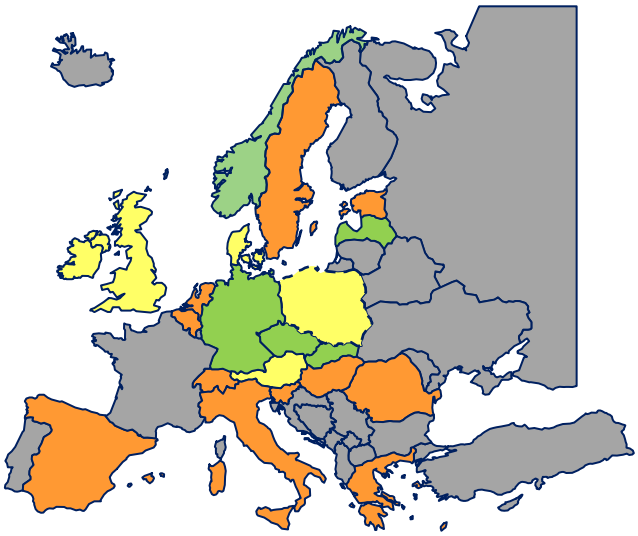


*Figure 21 – Spread between the percentages of small ruminants farms that are visited annually per country (see Table 1) in EU*

Specifying this spread between the percentages of farms that are visited annually per country, it is found that in the lowest quartile 36,25% of the farms will be visited. The **median** is seen as **95**. In the third and highest quartile, this number is 100. (see *Table 1*). The **inter quartile range** (IQR) was calculated as **63,75**, indicating that a very broad spread between countries and the visits in these countries is assumable.

| Colour | Small Ruminants |
|---|---|
| | Q1 (36,25) |
| | Q2 (95) |
| | Q3 (100) |

For small ruminant farms, in **45,8%** (11 out of 24) countries it is mandatory to have preventive animal health farm visits**.** Most of these visits (**90,9%)** will be done for national health control programmes; sometimes they will check and test on emerging infectious diseases transmissible and have a big influence on the economics of the farm and sector (e.g. scrapie). Around **27,3%** of the mandatory visits will focus mainly on epidemiological and biosecurity monitoring. . In **70,83%** (17 out of 24) of the countries, semi-mandatory preventive animal health farm visits exist. In **33,33%** (8 out of the 24) of the countries, voluntary visits exist.

| Colour | Small ruminants |
|---|---|
| | Semi-mandatory / voluntary |
| | Mandatory |
| | Combination |
| | No visit |

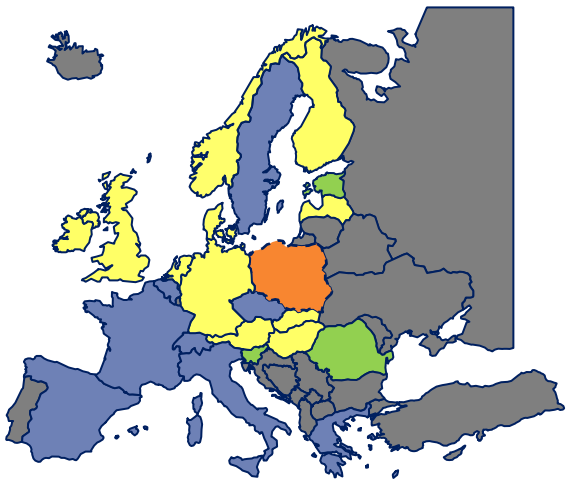


*Figure 22 – Sort of visit for small ruminants in EU*

| ***Small ruminants*** | **Mandatory** | **Semi-mandatory** | **Voluntary** | **How often per year, minimum?** | **% of farms with visits** |
|---|---|---|---|---|---|
| *Austria* | - | POM | HC | 1 - 2 | 35 |
| *Belgium* | E/B | POM | - | 4 | 100 |
| *Czech Republic* | HC | POM | - | 1 - 12 | 90 |
| *Denmark* | - | POM + QA | - | 2 – 9 | 90 |
| *Estonia* | HC | - | - | 1 | 100 |
| *Finland* | - | POM | - | Depending on use | - |
| *France* | HC | POM | - | ½ | - |
| *Germany* | - | POM + QA | - | Depending on use | 55 |
| *Greece* | HC + E/B | QA | - | 1 | 100 |
| *Hungary* | - | POM + HC | HC | 1 | 100 |
| *Ireland* | - | - | HC | Depending on selection | 20 |
| *Italy* | HC + E/B | POM | HC | 1 | 100 |
| *Latvia* | - | - | POM + HC | 1 – 12 | 50 |
| *Malta* | - | - | - | - | 0 |
| *Netherlands* | - | POM + QA | - | 4 | 100 |
| *Norway* | - | POM | QA | 1 – 6 | 40 |
| *Poland* | - | - | - | - | 0 |
| *Romania* | HC | - | - | 1 | 100 |
| *Slovakia* | - | Export | HC | 2 | 50 |
| *Slovenia* | HC | - | - | 2 | 100 |
| *Spain* | HC | QA | - | 1 | 100 |
| *Sweden* | HC | POM + QA | E/B | 6 | 100 |
| *Switzerland* | HC | POM + QA | - | 1 | 100 |
| *UK* | - | POM | HC | Depending on purpose | 20 |
| **Total of EU farms** | **45,83%** | **70,83%** | **33,33%** | ***** | **70,5%** |

Table 5: A European overview of existing mandatory, semi-mandatory and voluntary visits for small ruminants. Frequency of the visits is based on multiple factors (such as: use of medicine, sort of visit, number of cattle on the holding). For further specification regarding the frequency of the visits, please see **Annex 1 – Land profiles.** An average of the minimum frequency of visits could not be done, as multiple factors will influence this (e.g. size of farm, type of farm). Specification of abbreviations - **Health Control Programme (HC)**: monitoring of the health of the livestock on the farm. **Epidemiological / Biosecurity monitoring (E/B)**: specific epidemio-surveillance on farm level (mostly done besides the specific Health Control Programme), as a result of high numbers of livestock on the farm, or a certain species (e.g. pigs / poultry) **Prescriptive medicine (POM):** clinical assessment on the farm, before the veterinarian can prescribe a medicine. **Quality Assurance (QA):** participation in a system can demand certain preventive visits in order to cover quality of products and/or label the product (e.g. Red Tractor (UK), Label Rouge (FR), QS (DE), etc). **Advisory programme:** participation in such a programme makes it possible for farmers to acquire new skills regarding biosecurity, animal health and more.

## Carrying out preventive animal health visits

In all countries **private veterinary practitioners** are involved in carrying out preventive animal health visits (see **Annex 4**). Furthermore, almost in all countries the farmer has a specific '**one-on-one' relationship** with a veterinarian. Specific education for veterinary practitioners is **not needed**. In some cases, **trained technicians** (for example: in the UK, from the quality assurance system) are allowed to do preventive animal health farm visits. There are some countries, where **official veterinarians** will carry out the visits. Not as an audit, but as a real monitoring tool. For example, in Italy, the competent authority is responsible to draw up national programmes for the eradication of animal diseases and the provision of guidelines for the control of animal welfare on farms. The visits will be done by the veterinarians who work in the 'Animal Health Service' of the Local Health Units. Italy is divided into 19 regions and two autonomous provinces, and they are able to adopt their own programmes on issues in areas that are not regulated at national level. However, animal welfare, animal health, the use of medicine and biosecurity have always high priority (Ministero della Salute, n.d.). Also, other companies can be involved in carrying out such preventive health visits, for example, in Latvia with the aim to purchase (prescriptive) medicine. It is noticed that in Latvia the **drug sales companies** are active to carry out visits and some other veterinarians who can make it very easy for the farmers to use prescriptive medicine. Veterinarians working for the pharmaceutical industry or wholesalers can visit the farm and advice the farmer. The veterinarian needs to make a request for a drug purchase, and with this request the farmer is able to buy drugs from the drug sales company.

In some countries, you also see the use of **farm employed veterinarians**. These veterinarians have all the normal rights of a veterinarian, but are at the same time subjected to the farmers' financial interests. So, it can be questioned whether they are *'independent'*.

## Aspects monitored during visits

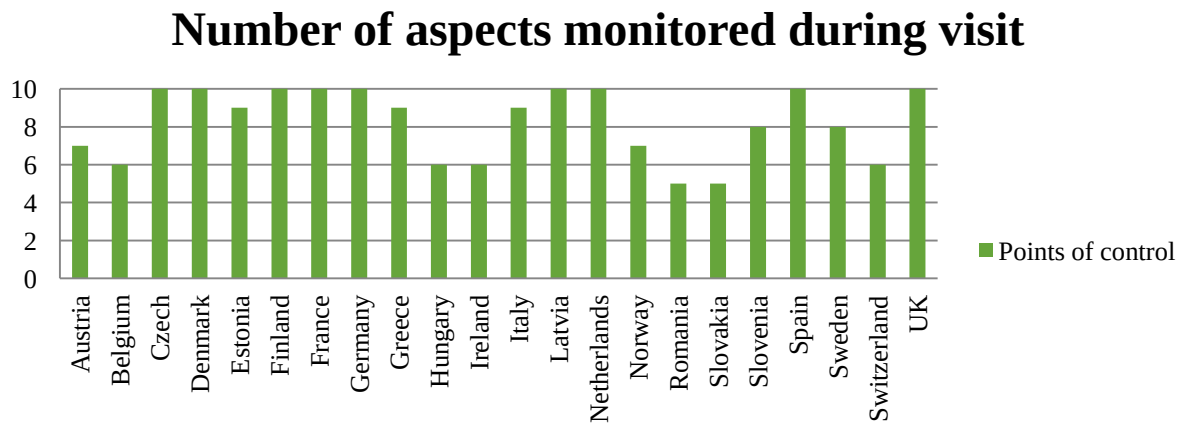



*Figure 23 – Number of aspects monitored per country*

The questionnaire involved the following control points:

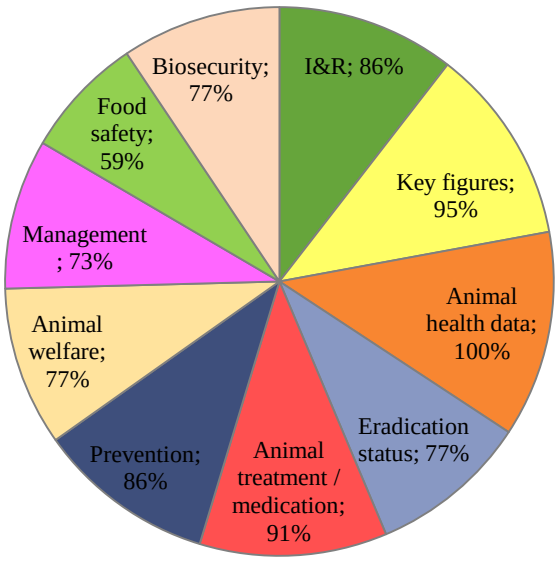
1. Identification & Registration (I&R);
2. Key figures on the farm (e.g. mortality data, production rates);
3. Animal health data (e.g. most common diseases, samples);
4. Eradication status (e.g. BVD, Neospora, IBR, Aujeszky);
5. Animal treatment (e.g. antibiotics);
6. Prevention (e.g. vaccinations);
7. Animal welfare (e.g. tail-docking, non-curative surgeries);
8. Management (e.g. housing, food, water);
9. Food safety;
10. Biosecurity (internal, external).

In almost all countries, a similar type of aspects is monitored and recorded during the preventive visits; namely the identification of the animals, the key production figures on the farm (e.g. mortality, turn-over rate, etc), the use of medicine, the check of the animal health, the prevention of diseases and the eradication of them. **40,9%** (9 out of 22) of the countries usually focus on all ten control points during their visits.

Malta and Poland are not included in the results, because they have no preventive visits. In Malta, most of the farmers do the 'veterinary work' themselves. The Maltese farmers are, for example, able to purchase 'Prescribed Only Medicines' and other treatments from retail outlets, without the supervision of a veterinarian. This is a very negative situation both from the perspective of animal health and welfare but also regarding use of medicines, risk on antimicrobial resistance and public health implications. The veterinary organisations of Malta and Poland both strongly request proper legislation for preventive visits, because these visits are necessary to improve good practice of animal husbandry.

## Aspects monitored during the visits

**Depending on the contract that the farmer has with a third party (e.g. quality assurance system), or out of own willingness – visits can be more expanded.**




During preventive animal health farm visits, multiple aspects are monitored and/or recorded. In almost all visits (91%), **the use of medicine** will be advised and monitored. In several countries (e.g. Finland, the Netherlands) it is mandatory to have a Farm Treatment Plan before using prescriptive medication without a visit of a veterinarian. In this way, regulation of the use of antibiotics and advice giving is more attractive to discuss. Another opportunity that will arise in these visits, is the discussion about the disposal of expired medicines. In Austria, the veterinarian is obliged to take back expired veterinary medicines or if remnant arise.

*Figure 24 – Overview of average control points per visit*

**Animal welfare** criteria will be included in 77% of the visits. For example, in Denmark, all producers must identify three focus areas, where they will work on to improve the animal welfare on their farm. The areas (based on the observation of the veterinarian) will be monitored and be tried to improve during the following preventive animal health farm visit. In Germany, the farmers need to follow the '*Initiative Tierwohle'*. Together with the veterinarian, the farmer will work towards less food pad dermatitis lesions, will receive instructions on better handling his / her animals and receive advise on how to best approach minor surgical procedures (e.g. pig castration, beak trimming). In Finland, veterinarians will focus mainly on the surgical procedures to reduce pain. Tail-docking in pigs is forbidden in Finland, therefore the veterinarian needs to look (together with the farmer) for appropriate enrichment material for pigs and other measures to prevent tail-biting.

**Biosecurity** criteria will also be included in 77% of the visits in Europe. For example; in Belgium, Estonia and France, veterinarians will check the protocol for pesticide control during the visits. Denmark involves the HACCP rules (e.g. disinfection methods), to work towards better biosecurity. Traffic in- and outside the farm and 'disease barriers' are well involved in the Finnish visits.

**Management** criteria will be included in 73% of the farm visits**.** For example, in Finland: housing, ventilation and everything what is the 'near environment' of the animals. Noteworthy, in Ireland a special control point will be done on 'farm safety'. They experience a lot of accidents with Irish farmers and they want to help the farmers to prevent these terrible situations. Other points, optional for the Irish farmers, are to set up a *'Grassland Management Plan'* and a *'Sustainability Plan'* as well.

## Collection of results in database

After performing the visits, the results are written up and advice can be given to the farmer. In some countries, the results of these visits are recorded in a database, in others they are not. The results of **23%** of the visits will **not** be **collected** in a database. In this case the farmer will have an oral agreement with the veterinarian, or the visits have to be filled in on hard copy paper and to keep only them for their own administration.

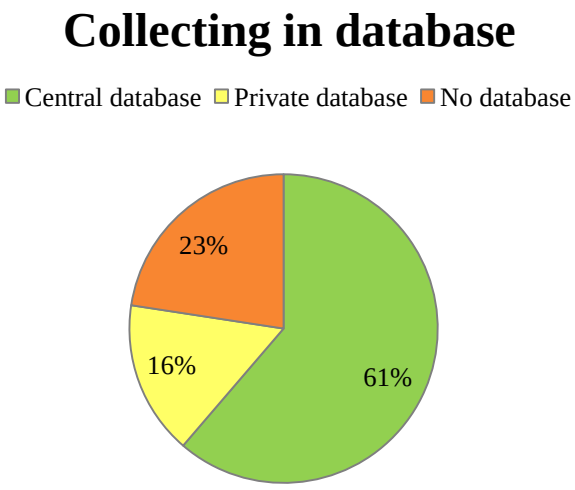



*Figure 25 – Overview of collection of results in databases*

In **61%** of all the visits, results will be recorded in the **central database** (no difference between mandatory and semi-mandatory / voluntary visits). For example, in Greece: after the veterinarian did his / her observations on the farm, he / she needs to complete a detailed archive of all official documents, needs to maintain the archive and should report to the competent authority, when necessary. In the end, the competent authority will establish, maintain and update the registry of all farm veterinarians (Official Journal of Hellenic Republic, 2016). Another example for using a central database, could be found in France. If the veterinary practitioner carried out the visit on the farm, he / she needs to fill in all results in SIGAL, which will collect all health data for the ICA (information on the French food chain). ICA will exchange all essential health information of livestock in France. In the end, the farmer, the veterinarian and the competent authority are allowed to see the results. The circulation of information in the food chain is seen as an essential tool for the slaughterhouses and the farmers, to improve their health control plan and veterinary services (such as: inspections in slaughterhouses, farms and other holdings). The farmer will receive the health data for his or her animal products with additional feedback (Ministère de l'agriculture de l'agroalimentaire et de la forêt, 2015a; SNGTV, 2013). If the farms are approved by the competent authority, there are benefits for the farmers as well. For example, for French pig farmers. Pigs from approved farms do not

have to participate in the systemic research of the trichina larvae in the slaughterhouse (Ministère de l'agriculture de l'agroalimentaire et de la forêt, 2015b).

In **16%** of the visits, administration of the results will **only** be done **in a private database** (this is especially seen when visits are done for quality assurance systems), for example, in Germany, when farmers are involved in the QS-scheme. All implementation of livestock care should be documented in the private database. This is necessary for monitoring and screening measures (e.g. foot pad health), along with assessment of slaughter data (QS-Scheme, 2017a, b, c,d). Also in Finland, results of the quality assurance system will be recorded in a private database. Sikava and Naseva both store the procedures of health care on the farms, the results of the laboratory and the data of the butchery, to be able to review food safety and the quality level of the products. In addition, it is possible to have disease- and medication recordings. In this database, the farmer and the veterinarian have access to see all data. The dairy industry, slaughterhouse and egg packing companies can see the health and the welfare situation, whereas the competent authority can see which farm has a contract and with whom. If one of the parties supposes a problem, the farm will be taken into special attention and will receive advise in how to make the situation better. In this way, all parties are working together to improve the quality in the hole food chain – 'from farm to fork' (Naseva, n.d.; Sikava, 2015).

## Accessibility for government

In **65%** of all visits, the competent authority will have access to the results. For example, in Romania the veterinarians will print all documents related to the visits of the farm from the database for identification and registration. After the visit, the veterinarian will complete the inspection sheet from the animals' holding. Since the visits are noted down on paper, they are not collected in a central database. However, the results will be send to the competent authority; so they have access to see the results. In **35%** of the visits, the competent authority is not allowed to see the results immediately. This happens mostly in visits, that will be done for a private system (such as: quality assurance system, with a private database). However, the government requests the data, and after approval of the farmer and the company organising the visits, the request can be granted.

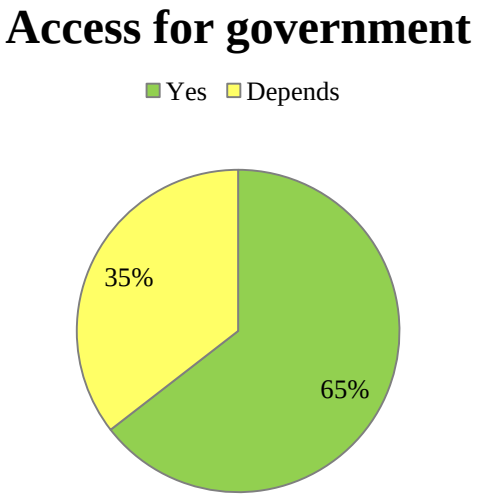



*Figure 26 – Overview of average control points per visit*

## The 'value' of the visits

In the questionnaire, the participants were asked to give their validation of the visits in their country. Hungary did not reply this question and Malta and Poland could not reply, as they have no visits. Overall, participants scored the value of the visits **83,3** (on a scale from 1 (not important at all) – 100 (very beneficial)) with a standard deviation of 14,07. All in all, the validation of the 5 indicators of value (animal health, animal welfare, biosecurity, disease prevention and use of medicine) within the whole coring value, differs from a validation from 80,10 – 87,5 (sd. 15,38 – 18,74). Multiple remarks were made, as additional comments on the survey, such as:

- *'It is very important that the farmer, who is monitored, will follow up the vet's advice given as a part of the preventive animal health visit. Otherwise it will be a 'paper tiger'.*

- '*But right now in the field, the visits are more perceived as a mandatory procedure ('fill in the form and sign'), than a real opportunity to widen the picture on the farm'.*

- *'The veterinary practitioner needs to be informed and formed about the preventive animal health farm visits, because the perception of the use and need of these visits is low'.*

# Validation of the visits

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| **Animal health** | 21 | 50,00 | 100,00 | 85,21 | 16,78 |
| **Animal welfare** | 21 | 43,00 | 100,00 | 81,99 | 16,40 |
| **Biosecurity** | 21 | 40,00 | 100,00 | 80,10 | 18,74 |
| **Disease prevention** | 21 | 37,50 | 100,00 | 87,50 | 15,39 |
| **Use of medicine** | 21 | 45,00 | 100,00 | 81,39 | 16,56 |
| **Overall** | 21 | 50,00 | 100,00 | 83,32 | 14,07 |
| **Valid N (listwise)** | 21 | | | | |

*Figure 27 – Overview of average control points per visit*

## IV. Discussion

This study tried to identify which preventive animal health farm visits exist in the different Member States of the European Union. A questionnaire was send out to the national veterinary organizations / chambers per country and answers were given by individuals. Validation of the visits was based on a reflection of personal replies and there is a possibility that some answers did not cover all practices in a certain country (e.g. frequency of the visits, the percentage of farms that will be visited). Therefore, the results may be subject to bias. Nevertheless, as this is to our knowledge the first survey looking at the preventive visits in 24 European countries, this study could be seen as a valuable introduction in the identification of the coverage and the content of preventive visits in the European Union.

**Sort of visits**

In 22 out of 24 countries taking part in this investigation, preventive farm visits are regularly organised. The legislation in a country, the differences regarding cultural habits, the importance of the livestock sector, the epidemiological situation of the country and the size of the different holdings per country will influence the motivation (and therefore the scope) of these preventive animal health visits. Several EU Member States have the need for regular preventive animal health visits embedded in legislation. In some countries, all animal keepers (e.g. in the Netherlands; animal holdings with more than 5 bovines, 5 pigs or 250 chicks) need to carry out preventive visits. Whereas in most other countries, the visits will be done on holdings with animals that are kept especially for production goals**.** In the results, there has been observed that in some countries there are mandatory visits, but not all farms are visited annually (for example: in France there are mandatory visits for cattle, but coverage is only 80%). The fact that certain visits are mandatory in a country, will not ensure that all farms will be visited.

**Coverage**

As it is recognized that there is a wide spread between the percentages of farms that are visited annually per country, for each species, further specification was carried out. This has been done by calculating the quartiles and the inter quartile range (IQR) for each species. It was seen in the species poultry and pigs, that the first quartile (87,5% and 77,5%) was already high. For these species the IQR's are quite low (12,5 and 22,5), which indicates that spread between numbers is not high. Therefore it is concluded that already a big part of European poultry and pig farms will be visited annually. However, it is recognized that spread still runs between 0 – 100%. For small ruminants the IQR was seen as 63,75. This may indicate that there is a very broad spread in coverage of small ruminants farm by preventive animal health farm visits in European countries. In conclusion, already a

big part of European livestock farms will receive preventive visits annually. However, there is a huge spread of coverage between farms and between countries; and certainly - not all farms are visited.

**Content**
To cover the multiple objectives from all different stakeholders (e.g. authority, sector), preventive animal health farm visits should always include: a protocol to monitor the herd / flock health, the identification and registration of the livestock, the welfare and preventive healthcare and the guidelines for the use of medicines and feed additives. Guidelines for the prevention of epizootics and zoonotic diseases should receive attention as well, just as biosecurity measures (such as: microclimate and hygienic condition, surveillance, regrouping and transport of animals, disease outbreak control and production process organisation) (Stanković et al, 2010). In 2015, FVE wrote a publication regarding herd health planning, to support objectives as well (FVE, 2015b). As seen in the study, in almost all countries with preventive visits, a 'basic' pattern exists. All visits will contain at least identification and registration of the animals, the key figures on the farm, the use of medicine, the check of the animal health, the prevention of diseases and the eradication of them. Therefore, additional to the 'basics', the farmer can expand these mandatory visits, or can organize 'semi-mandatory' or voluntary preventive visits on his / her farm for additional advice / certificates / services. This will result in the fact, that most of the goals about the health of the herd / flock are set by the individual farmer, for higher profitability and the control of production diseases (Murphy et al, 2017). Participating in quality systems or additional controls can be attractive for farmers, as it can lead to more sale possibilities and higher prices (Trienekens et al, 2009).

**Carrying out preventive animal health farm visits**
In all countries where visits are carried out, private veterinary practitioners are involved. The veterinarian is seen as the main 'information source' for the farmer concerning prevention of diseases and biosecurity (Laanen et al, 2014). Positive perceptions about the veterinarian are mainly associated by his or her specialization (in species), the knowledge, the network, received training (expertise: not only in medicine, but also in the production process), a lot of experience in the field (constantly visiting other farms) and the ability to communicate this to the farmer. Farmers indicate that receiving more explanation by the herd veterinarian, will increase their interest and willingness in the prevention of diseases (Laanen et al, 2014; Ifende et al., 2014). In addition, the positive role of the veterinarian most be considered in utilising modernisation and food chain information for the enhancement of food safety, animal health and welfare, public health and the environment (FVE, 2015a; O'Sullivan et al., n.d.).

**Veterinarian**
Success of the herd health plan and the preventive visits however, are very depending on the relationship and the cooperation between the farmer and the veterinarian (Derks et al, 2014). In addition, the veterinarian (or other advisor) needs to tackle and consider the economic aspects, the impact of diseases and the control measures for the farmer. It is very much appreciated if the veterinarian can demonstrate 'cost-effectiveness' advise (Alarcon et al, 2014), as the veterinarian can make the farmer save money. The current difficult economic environment limits in certain circumstances the profit of the farmer. As a result, this will decrease their capacity to undertake important investments and control measures. Demonstrating this 'cost-effectiveness' is still a main concern for veterinarians; it can be improved by more training and effective communication (Hall et al, 2012).

**Database**
Most of the results and advices from the preventive visits and the herd / flock health plans will be collected in databases. In 61% the visits, all data will be centrally and in 16% privately stored. With these key figures and production data, all parties can work together if they have access to the database. Cooperation between farmers, veterinarians and third parties will be stimulated in this way as well (FVE, 2016a; Ruoho, 2016). For example, in Finland the database can be used by the employees of dairies, by butchers, the veterinarians, the competent authorities and all parties who are involved in the 'food-chain'. If every party keeps their data up-to-date, they make each other also aware of the results.

Creating access to these data for researchers and authorities results in easier and more substantial risk based control, risk management and risk communication by the authorities and access for researchers for epidemiological studies in animal health and welfare (Nielsen, 2011). Accessibility of competent authority to results is seen as necessary in case to deal with outbreaks in an efficient way. These outbreaks represent a major threat to agriculture and can impose significant social and economic costs (Beach, Poulos, & Pattanayak, 2007).

**Coverage of the costs**
Overall, coverage of the costs of the preventive visits will mainly include participation of the farmer. However, differences arise. It is seen that some competent authorities (or stakeholders) will also share the costs (e.g. for mandatory visits mainly in the southern countries), hence this mostly depends on the collaboration between the two parties or legislation. For example, the competent authority in Spain will cover the costs for the health visits on the farm and for the services that are delivered. Collaboration between government and the Spanish farmers is based on the fact that farmers need to set up partnerships, to protect the health of their herd / flock. Partnerships must present a corresponding common health program and this program needs to be approved by the competent authority, before costs will be covered (Boletín Oficial del Estado, 2011). In other cases, some stakeholders are involved. As seen in Latvia, sometimes a drug sale company will cover the costs for the health visits. However, this system has some 'issues' – misuse is seen. Therefore, the Latvian Chamber is very much against this.

**Validation**
This study focussed on the visits that already existed and in addition, asked for the validation of these visits as well. The subjects that have been validated, were based on *Article 25*. In the questionnaire, the respondents were able to use a bar (0 to 100, whereas 0 = not at all, 100 = very beneficial) to give their validation about the influence the visits will have on 1) animal health, 2) animal welfare, 3) use of medicine, 4) disease prevention and 5) biosecurity). Overall, opinion of the visits was 83,3 and it was very positive to see that multiple countries responded '100' on all subjects. While validation by using the bar was very positive, we have seen with open responses some 'critical' points. In quite some countries the respondents referred to the health plan as a 'paper tiger', a mandatory procedure, instead of a possibility to open the discussion with the farmer. Visits are appreciated, but improvement is necessary to give room to the discussion between veterinarian and the farmer. Another point might be that validation by bar was not useful. Perhaps we should have drafted more consensus in the meaning of the validation with the bar, by using a Likert-type scale to indicate the opinions of the responders better (Nemoto & Beglar, 2014).

**No visits**
In two countries, preventive visits will not be carried out on livestock farms. The Veterinary Chambers are very much against this, as suffering of animals on the farm (in cases with no vet service) and public health implications are severe issues. They will warmly welcome the initiative of carrying out the visits, as the management of the farmer is influenced by monitoring the herd / flock and production figures. This can help the farmer to work towards a good and productive farm, which has a lot of benefits for farmer and his or her animals. The higher level of welfare and well-being of the animals will lead to less diseases and less exceptional situations for the animals. Related to the decrease of diseases will be the decrease in the use of medicines. Less use of medicines is beneficial for the farm's efficiency (less treatment; less labour, better livestock management) and necessary for responsible food production (less use of medicine; less residues). Good farming can work positively for a better job satisfaction of the farmer: working in an healthy environment, with better welfare and health of the animals (Derks et al., 2014; FVE, 2016b).

**Advice**
By adoption of the Animal Health Law, the EU requires that all operators shall ensure that their establishments receive regular animal health visits from a veterinarian As this report focused on the farmers (operators) and the livestock farms (establishments) of the EU, not all establishments are

covered to give a full veterinary advice for the implementation of *Article 25* (EU, 2016). Therefore, more research will be strongly advised to cover the establishments for cats, dogs and other animals.

## V. Conclusions

There is no one reality – all visits are differently organized amongst Europe. The livestock sector seems very much interested in the possibilities to improve the management on the farm with all interested parties. A lot of different visits (from mandatory, to voluntary) are organized by multiple parties of the sector and by the Governments. Already a big part of European livestock farms have preventively visits, but it is recognized that there is a huge spread of coverage between farms and between countries. Regarding the content of the visits, there are still a lot of possibilities to improve the preventive animal health farm visits. Recognizing that the veterinarian is indicated as one of the main sources to deliver information to the farmers - regarding management, regarding biosecurity, regarding responsible use of medicine, diseases monitoring and prevention - it is of upmost importance that veterinarians will be involved in developing and the carrying out of the preventive visits. Together with farmers, veterinarians need to make Article 25 practical accessible. In this way, we can work towards better food safety and more prevention against transmissible diseases

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## VI. Recommendations

*Collaboration is key!*

- **All farms** should receive regular preventive animal health farm visits!

- The visits should **cover all aspects of disease prevention** - in particular biosecurity and detection of diseases.

- **Involve all livestock holders** – from recreation holders to the large scale farmers. Every person who keeps livestock, should be conscious about their actions; for animal welfare, animal health and public health!

- Make sure that **all parties are motivated and involved ('multidisciplinary approach')** in preventive animal health farm visits and know each other's aims (e.g. production numbers, improving animal health, improving biosecurity)
    - Farmers **and** all other livestock holders;
    - Private veterinary practitioners and other advisors (e.g. feed, housing);
    - Competent authorities;
    - Stakeholders (e.g. post mortem findings should be sent back to the farmer, vet and competent authority).

- **All parties need to be informed and trained** about the best implementation of the preventive animal health farm visits.

- **A private veterinary practitioner should perform the mandatory visits.** A contract needs to be made between the farmer and the veterinarian.

- **Regularly inspection of the carrying out of these mandatory visits should always be done by an official veterinarian.** When additional (besides the preventive animal health farm) visits will be done by other stakeholders on request of the farmer, try to see if collaboration between advisors is possible.

- **Frequencies** of visits should depend on the size of the farm, location of the farm (Livestock Density Index) and the species of the animals. However, in all cases – **at least once a year**, and in production cycles – every cycle.

- Herd health plans should **guide the veterinarian and the farm through the farm.** This guidance should be usable and attractive to follow (e.g. short, easy handling) and to report findings in a herd health plan, as room for **discussion is very important.**

- **Prevent 'fill in and sign' form**. Visits should not be perceived as a mandatory procedure, but as an opportunity to widen the picture on the farm.

- The **competent authority should always receive the reports and the results** of the visits, and will collect them in a central database.

- The central database should be **available for the farmer and his / her specific stakeholders** in the Food Chain (e.g. slaughterhouse, hatching company); as parties

need to work together for effective implementation and enforcement of the Food Chain Information.

- A farmer needs to **respect the advice of the veterinarian**. The best advices for animal health, animal welfare or public health will not always lead to the highest production results.

- **Following-up the advices should be feasible and attractive** for the farmer.

- Make as much as possible the requirements **SMART** – specific, measurable, achievable, realistic and timely.

- **Payment should be done directly by farmers**, as it is their responsibility to keep their livestock healthy and in good welfare. When results are registered at the **competent authority, compensation** should be given; as it is a case (or a duty) for the State to invest in public health.

**It is recognized that very good and interesting ideas and plans already exist throughout the EU (e.g. 'Farm Safety' from Ireland, 'Biosecurity' from Belgium and 'Animal Treatment Plans' from the Netherlands). Therefore, it is highly recommend to formulate in tertiary legislation and with involvement of all stakeholders (e.g. farmers, veterinarians) the 'basics' for herd health plans for the main livestock species. As the livestock holder (farmer, and recreation holder) is the primary responsibly person for the health of their animals and the veterinarian is the primary advisor on disease prevention, use of medication, welfare promotion and ensuring food safety, they should be seen as the most important stakeholders. Based on these formulated 'EU basics", countries could formulate their own guidelines to implement Article 25, with involvement of all stakeholders.**

**Better biosecurity and better disease prevention starts with better collaboration!**

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## *Annex 1* Results of the survey: land profiles

**Please bear in mind, that these profiles of all countries are formulated by response of individuals in one country, instead by a wide consultation. Also all numbers that were given as estimates, were estimated as individual.**

### 1. Austria

Austria

*Livestock Density Index*: 0,89

*Visits:* 63,75%

- *Cattle:* 2 million
- *Pigs:* 2,8 million
- *Sheep:* 0,4 million
- *Goats:* 0,1 million
- *Poultry:* 17 million

**Semi – mandatory: prescriptive medicine**

In 2002 the 'Austrian Veterinary Medicines Control Act' came into force. Jointly with the 'Residues Control Regulation', the act established rules for the use of veterinary medicines and the relevant documentation. These rules apply to every use of veterinary medicines in food production animals, regardless of the use of medicine is implemented by the veterinarian or by the livestock owner (under the instructions of the veterinarian). If the farmer wants to use prescription medicine, he / she needs to receive veterinary visits on the farm and document about the medication which is used.

**Voluntary: health control programme**

The 'Austrian Veterinary Medicines Control Act' was also the legal basis for the Austrian Animal Health Service ("Tiergesundheitsdienst Österreich", chaired by the Ministry of Health). The underlying principle of this health service is to provide the livestock owner the best preconditions for timely stock supervision by his / her veterinarian Over 60% of the cattle in Austria, over 70% of the poultry, almost 90% of the pigs, just under 40% of the goats and around 30% of the sheep participate in Animal Health Service. Also a numerous of aquaculture facilities join this service (LFI Österreich, 2010).

**Organization**

The participation in the 'Animal Health Service' is achieved, if a written participation agreement between the livestock owner, the veterinary surgeon and the relevant Animal Health Service is signed. Results will be collected in every Administration per province ('Bundesland') of the eight regional 'Animal Health Services'. The farmer, the veterinarian and the competent authority are allowed to see in the results of the visits.

Note out of survey: *'The more the veterinarian visits the farm in his / her 'normal' veterinary work, the less you need regular 'preventive animal health farm visits'. E.g. veterinarians do AI (artificial insemination) in cattle, she / he will visit a farm more frequently. This is still the case in Austria, especially in the cattle practice. The more a farmer will do by him / herself, the more important the animal health visits will become.'*

**Content of the visit**

| *Subject* | *Involved* | *For example* |
|---|---|---|
| **Identification & Registration** | | |
| **Key figures (e.g. mortality data, production rates)** | X | |
| **Animal health data** | X | |
| **Eradication status** | X | |
| **Animal treatment / medication (e.g. antibiotics, withdrawal times)** | X | Veterinarian is obliged to take back returned veterinary medicines (e.g. out of date) |
| **Prevention (e.g. vaccinations)** | X | |
| **Animal welfare (e.g. tail docking, non – curative surgeries)** | X | |

| | | |
|---|---|---|
| **Management (feeding, housing)** | X | |
| **Food safety** | | |
| **Bio security (on the farm + environment around the farm)** | | |

Frequency: *"Tiergesundheitsdienst Österreich"*

- **Cattle**
  - Dairy cows, suckler cows, fat stock and heifer rearing
    - < 50 cows: one visit per year
    - > 50 cows: two visits per year (the second visit can be replaced by proof of participation in a veterinary health programme, which is announced in the 'Amtliche Veterinärnachrichten')
  - Specialised veal calf production
    - One facility survey per fattening cycle
- **Pigs**
  - Breeding sows
    - ≤ 11 sows: one visit per year
    - ≤ 31 sows: two visits per year
    - ≤ 71 sows: three visits per year
    - ≥ 72 sows: four visits per year
  - Fattening pigs
    - ≤ 110 pigs: one visit per year
    - ≥ 111 pigs: two visits per year
  - Baby piglet rearing
    - Two visits per year
  - Gilt rearing
    - Two visits per year
- **Small ruminants**
  - Sheep and goats (from 1 year old)
    - < 200 animals: one visit per year
    - > 200 animals: two visits per year (the second visit can be replaced by proof of participation in a veterinary health programme, which is announced in the 'Amtliche Veterinärnachrichten'
- **Poultry, fish, venison**
  - One visit per year (in accordance with specific programme)
- **Bees, horses and other**
  - One visit per year (in accordance with specific programme, according to current hourly rate of the Austrian Veterinary Surgeons' Council)

Veterinarian:

- **Semi – mandatory and voluntary:** a private veterinary practitioner, who has a 'one-to-one' relationship with the farmer and has received special training (recognised by the Austrian Veterinary Chamber).

Payment:

- **Semi – mandatory and voluntary:** the farmer needs to pay for the visits.

## 2. Belgium

Belgium

*Livestock Density Index*: 2,74

*Visits*: 100%

- *Cattle:* 2,5 million
- *Pigs:* 6,4 million
- *Sheep:* 0,114 million
- *Goats:* 0,04 million
- *Poultry:* 36,7 million

**Mandatory: epidemiological / biosecurity monitoring**
In Belgium the AFSCA (*Agence Fédérale pour la Sécurité de la Chaîne Alimentaire* = Food Safety Center for Wallonia / Brussels) and the FAVV (*Federaal Agentschap voor de veiligheid van de voedselketen* = Food Safety Center for Flanders) demand that all livestock farmers should have epidemiosurveillance on the farm. This needs to be done by a veterinarian. The veterinarian will visit therefore farms, with a strict eye on the epidemiological protection. In addition, they need to check, to stamp and to sign the medication register on the farm every three months.

Note out of survey: '*But right now in the field, the visits are more perceived as a mandatory procedure ('fill in the form and sign'), than a real opportunity to widen the picture on the farm'*

**Semi – mandatory: prescriptive medicine**
All prescriptive medication which is in stock on the farm (with a quantity for more than five days), has to be liable with an 'Medication Delivery Document' (TVD = *Toedienings- en Verschaffings Document*). This document needs to be delivered by a qualified veterinarian. In Chapters 3 and 4 of the Royal Conclusion of '*Veterinary managing of a farm'* (KB - Houdende bepalingen betreffende de diergeneeskundige bedrijfsbegeleiding, 2000), the rights and obligations are described for the farmer (Art. 6) and for the veterinarian (Art. 5). The document is based on the findings and diagnoses the veterinarian did on the farm and contains the advice of the vet for the best treatments and management on the farm. The visits should be done every four months with an evaluation on a standardised short report (e.g. alerts on abnormal mortality, health problems, lab results, identification and register of medication).

**Voluntary: health control programme**
In Belgium, poultry farmers are able to subscribe on a voluntary basis to a health surveillance program (by a private organization). Therefore, visits are 'demanded' at least six visits per year (or more, if or breeding cycle is shorter). In addition, during the visits the veterinarian shall check the medication register of the farm and sign it (even if he didn't administrate the treatment).

All in all, all livestock farms in Belgium will be visited each year multiple times. Results of the visits are not collected in a central database. However, the competent authority, the veterinarian and the farmer are able to see in the results of the visits. It is strongly recommended by multiple organizations (AMCRA, 2013; FAVV, 2005), to organize more than the mandatory visits. A regular round on the farm by a veterinarian will help the farmer to prevent a 'blind spot' for the problems on his farm. Also, it is a good solution to detect symptoms faster, makes it possible to handle with the problems faster and will decrease the outbreak of disease and the use of medication.

**Content of the visit**

| *Subject* | *Involved* | *For example* |
|---|---|---|
| **Identification & Registration** | X | |
| **Key figures (e.g. mortality data, production rates)** | X | |
| **Animal health data** | X | |
| **Eradication status** | | |
| **Animal treatment / medication (e.g. antibiotics, withdrawal times)** | X | |
| **Prevention (e.g. vaccinations)** | | |
| **Animal welfare (e.g. tail docking, non – curative surgeries)** | | |

| | | |
|---|---|---|
| **Management (feeding, housing)** | X | Ventilation, capacity of animals, overall hygiene (AMCRA, 2013) |
| **Food safety** | | |
| **Bio security (on the farm + environment around the farm)** | X | Pest control |

Frequency:

- **Mandatory (epidemiological / biosecurity monitoring), all species**
  - Every three months.
- **Semi – mandatory (prescriptive medicine), all species**
  - Every four months.
- **Voluntary (health control programme)**
  - Every two months (or even shorter, if the breeding cycle is shorter).

Veterinarian:

- **Mandatory, semi – mandatory and voluntary**:
  - Private practitioner, who has a 'one-to-one' relationship with the farmer (on contract).

Payment:

- **Mandatory, semi – mandatory and voluntary**:
  - Farmer.

## 3. Czech Republic

Czech Republic

*Livestock Density Index*: 0,5

*Visits:* 90%

- *Cattle:* 1,4 million
- *Pigs:* 1,6 million
- *Sheep:* 0,2 million
- *Goats:* 0,013 million
- *Poultry:* 24 million

**Mandatory: health control programme**

The preventive animal health farm visits in Czech Republic are carried out regularly by an official veterinarian of the State Veterinary Administration (SVA), based on an annual plan. The SVA as a competent authority under the Ministry of Agriculture of the Czech Republic is established according to the Veterinary Act No. 166 / 1999 (DG JRC / IPTS, 2005). The official veterinarian will make an appointment with the farmer, to monitor the animal health situation and to monitor the animal welfare. The farmer receives the report from the visit and the results will be collected in a central database operated by the SVA. The competent authority has access to the database.

In order to keep diseases-free status on farms (e.g. brucellosis, tuberculosis, IBR, AD), each farmer must comply with national animal health preventive scheme. Sampling and tuberculinations are performed by approved veterinarians (= private veterinarians approved by SVA for preventive health scheme). Frequency of the visits for each particular year is based on a risk analysis (e.g. farms that recorded with compliances will be inspected more often, than other farms. In addition; size matters - big commercial farms will be visited more frequently, than small family farms). The competent authority prepares an annual control plan and a list of farms that are selected for inspection. In the end, this information will be communicated to the regional offices, as they will plan on spot visits during the year.

**Semi – mandatory: prescriptive medicine**

If the farmer wants to use medicines for his/her animals, (s)he needs to be visited by a private veterinarian to diagnose the disease of the animal(s). Because of prescription rules - which do not allow more than a monthly supply of prescriptive medicine on the farm - health visits by a private veterinarian will be carried out regularly. As a result, visits will be done more frequently on a farm with health problems. Results of these visits are not collected in a central database, however they are recorded in paper documents, and will be collected by the farmer and the private veterinarians. On request, the results could be presented to official veterinarians.

All in all, around 90% of all farms will be visited annually.

**Content of the visit**

| *Subject* | *Involved* | *For example* |
|---|---|---|
| **Identification & Registration** | X | |
| **Key figures (e.g. mortality data, production rates)** | X | |
| **Animal health data** | X | More attention, when visits will be done for prescriptive medicine |
| **Eradication status** | X | " " |
| **Animal treatment / medication (e.g. antibiotics, withdrawal times)** | X | " " |
| **Prevention (e.g. vaccinations)** | X | " " |
| **Animal welfare (e.g. tail docking, non – curative surgeries)** | X | |
| **Management (feeding, housing)** | X | " " |
| **Food safety** | X | |
| **Bio security (on the farm + environment around the farm)** | X | |

Frequency:

- **Mandatory: health control programme**
    - The minimum frequency of farm visits is not laid down in national legislation, but will be based on the annual plan of the competent authority that year.
- **Semi – mandatory: prescriptive medicine**
    - 1 – 12 times per year. The frequency of visits mostly depends; in cases where treatment is necessary private veterinarian is at farm more often (minimum monthly visit).

Veterinarian:

- **Mandatory: health control programme**
    - Official veterinarian.
- **Semi – mandatory: prescriptive medicine**
    - A private veterinary practitioner - independent - without contract signed with farmer.

Payment:

- **Mandatory: health control programme**
    - Competent authority.
- **Semi – mandatory: prescriptive medicine**
    - Farmer.

## 4. Denmark

Denmark

*Livestock Density Index*: 1,58

*Visits:* 50%

- *Cattle:* 1,6 million
- *Pigs:* 12,7 million
- *Sheep:* 0,15 million
- *Goats:* -
- *Poultry:* 14,6 million

**Mandatory: health control programme**

The preventive animal health visits have to be carried out on holdings which have more than 300 sows / 3000 slaughter swine / 6000 weaners / 100 cows / 200 young stock. These farms are obliged to have a '*Veterinary Advisory Service Contract*' (VASC) with a private veterinarian. The *Danish Veterinary and Food Administration* (DVFA) is responsible for all the prevention and control of animal diseases in Denmark. Official controls on animal welfare will be done by the Ministry of Food, Agriculture and Fisheries. Poultry is not introduced to the contracts, because the use of veterinary medicines in this sector is generally low and the industry did not request to apply such a scheme.

**Mandatory: epidemiological / biosecurity monitoring**

The 'VASC visit' which the monitoring of biosecurity and the epidemiological monitoring should be carried out on holdings with more than 330 heads of dairy cows and/or young stock, or 1400 sows and piglets (European Commission, 2016a). The biosecurity plan must be approved in the end of the visit by the veterinary practitioner. When the plan is approved, the herd owner must submit the plan for scrutiny to the Regional Veterinary and Food Administration (RVFA) (Houe et al, 2011).

**Semi – mandatory: prescriptive medicine**

However, in Denmark, conventional livestock producers are also motivated to establish health plans, the VASCs'. They must have a VASC with a local veterinarian, to have access to prescription medicines (without a visit of the veterinarian before every use on the farm) (Frandsen, 2013). They mentioned that the health plan will increase the perception of the farmer in responsible use of the medication. Swine herds with antibiotic use above the national threshold are submitted to extra visits from the veterinarian.

**Semi – mandatory: quality assurance systems**

Not only the Danish government, but also 'quality assurance' systems require the preventive animal health farm visits. QSG (Quality and Safety Guarantee) is such a quality system. This system is based on legal requirements and will stimulate farmers to be part on a self-control system. The system wants to improve breeding, animal welfare, animal health, feeding, production systems, transport, slaughtering and cutting.

Most of the cattle farmers (80%), pig farmers (90%) and a small part of the small ruminants farmers (30%) receive animal health visits. Poultry will not receive any mandatory visits.

**Organization**

Farmers can choose between two contracts: a **basic** or **additional contract**. All farms who have a VASC must receive preventive animal health visits regularly and together with the veterinarian select up to three focus areas where they will, for example, improve animal welfare. The aim of the VASC is to increase responsibility of the farmer, regarding animal health, welfare and disease prevention. This will stimulate the farmers to work towards a preventative approach, instead of curative. The focus areas of the VASC will be based on the observations that the veterinarian will do during the visits. In After each visit, the veterinarian will write a report in *VetReg* (part of the Central Husbandry Register) with the focus on health and production data (incl. finding reasons for high mortality), use of antibiotics, diagnosis on herd level, guidance for treatment and animal welfare parameters (DVFA, 2015; SEGES Pig Research Centre, 2016). All medicine records will be collected in *VetReg* and another national database as well.

Denmark was one of the first countries, that collected and related all data concerning animal husbandry, - health, –welfare and biosecurity in production animals to each other in a database called

the *Central Husbandry Register* (CHR). This database was set up by the Ministry of Food, Agriculture and Fisheries. The CHR contains information of all holdings with cattle, pigs, sheep and goats, and additional commercialised holdings with poultry, fur animals, deer, game birds and fish.

**Content of the visit – VASC contract**

| *Subject* | *Involved* | *For example* |
|---|---|---|
| **Identification & Registration** | X | CHR number, address, geographical position, number of animals with ear tags |
| **Key figures (e.g. mortality data, production rates)** | X | |
| **Animal health data** | X | All veterinary events / reports, including results of inspections (on-the-spot), samples for TSE and Salmonella, eradication status |
| **Animal treatment / medication (e.g. antibiotics, withdrawal times)** | X | Use of medication: date of sale, drug identity and quantity, identification of the prescribing veterinarians and the farm, where the medicine is being used, codes for animal species, age and disease, person who provided the treatment |
| **Prevention (e.g. vaccinations)** | X | |
| **Animal welfare (e.g. tail docking, non – curative surgeries)** | X | All producers must pin point three focus areas where they work to improve animal welfare – based on the veterinarians' observations |
| **Management** | X | Housing, food, water |
| **Food safety** | X | |
| **Bio security (on the farm + environment around the farm)** | X | Management, hygiene (e.g. disinfection methods) and (surgical) procedures; zoonotic infection protection plan; Identification of potential risks (HACCP); Animals, feed, bedding, semen, medicine; |

Frequency:

- **Mandatory: health control programme and epidemiological / biosecurity monitoring**
  - The holdings with a **basic contract** must have two annual advisory visits a year and then the farmer is not allowed to start medical treatment;
  - Holdings with an **additional contract** must have at least 9 annual advisory visits each year and may use prescribed medicine for use of treatment (depending on herd type and category of the herd (ordinary, extra or intensified)). Additional visit can provide the farmers with more autonomy to initiate treatment;
- **Semi – mandatory: prescriptive medicine**
  - Every time when access to prescriptive medicine is necessary

Veterinarian:

- **Mandatory and semi-mandatory**
  - The farmer needs to have a *Veterinary Advisory Service Contract* with a local veterinarian ('one-on-one' – relationship), special education is not necessary.

Payment:

- **Mandatory and semi-mandatory**
  - Farmer.

## 5. Estonia

Estonia

*Livestock Density Index*: 0,32

*Visits:* 100%

- *Cattle:* 0,3 million
- *Pigs:* 0,3 million
- *Sheep:* 0,3 million
- *Goats:* 0,04 million
- *Poultry:* 2,14 million

**Mandatory: health control programme**

On the basis of the 'Animal Infectious Disease Control Act', the Veterinary and Food Board created a 'National Infectious Animal Disease Control Programme'. The preventive animal health farm visits are mandatory by government in Estonia and in this way forward, all farms will receive preventive visits. The veterinarian, who will carry out the visit, needs to report to the competent authority (e.g. local veterinary administration). In this report, (s)he will report about performed diagnostics, vaccinations and inspections to the local veterinary administration monthly (Veterinaar- ja Toiduametini, n.d.) An official veterinarian is able to carry out selective health visits, to supervise the system.

**Organization**

In Estonia, inspection of animal breeding facilities should be done at least once every three years. Dairy farms should be checked at least once a year. Sometimes visits can focus on additional issues, such as seen in the last two years at pig farms. Monitoring of African Swine Fever will be done very strictly. All inspections / visits will be carried out by authorized veterinarians and officers of the Veterinary and Food Board. A control report regarding situation in each inspected farm is issued. The results will be collected in a register of the 'Veterinary and Food Board' and in a register of 'Agricultural Animals at Estonian Agricultural Registers and Information Board'. The farmers, the veterinarians and the competent authority are allowed to see the results of the visits, which makes the selection of risk based inspections more easy.

**Content of the visit**

| *Subject* | *Involved* | *For example* |
|---|---|---|
| **Identification & Registration** | X | ID and production rates available at Estonian Livestock Performance Recording Ltd. |
| **Key figures (e.g. mortality data, production rates)** | X | |
| **Animal health data** | X | Including eradication status |
| **Eradication status** | | |
| **Animal treatment / medication (e.g. antibiotics, withdrawal times)** | X | Antibiotics, drugs, doses, treatment duration, holdback period; |
| **Prevention (e.g. vaccinations)** | X | |
| **Animal welfare (e.g. tail docking, non – curative surgeries)** | X | |
| **Food safety** | X | |
| **Bio security (on the farm + environment around the farm)** | X | Fight against insects and rodents |

Frequency:

- **Cattle and small ruminants:** once a year
- **Pigs:** four times a year
- **Poultry:** twice a year

Veterinarian:

- **Mandatory: health control programme**
  - Private veterinary practitioner, who has a 'one-to-one' relationship with the farmer in his / her working area and an authorisation of the administration.

Payment

- **Mandatory: health control programme**
  - Competent authority, covered by the State.

## 6. Finland

Finland

*Livestock Density Index*: 0,51

*Visits: 91,7%*

- *Cattle:* 0,9 million
- *Pigs:* 1,2 million
- *Sheep:* 0,16 million
- *Goats:* 0,005 million
- *Poultry:* 7,14 million

**Mandatory: health control programme**

In Finland, preventive animal health farm visits are only mandatory for poultry. With this visit, an official veterinarian needs to take samples for testing on *Salmonella*. Preventive animal health farm visits for pigs, cattle and small ruminants are not mandatory by government. The Finnish Food Safety Authority (*Evira*) monitors all livestock farmers, but these monitoring visits are selective controls to check for compliance of the Finnish laws (Evira, 2017). However, pig, small ruminants and cattle farmers are motivated to partcipite in systems which provide preventive animal health farm visits

**Semi – mandatory: prescriptive medicine**

Finnish farmers need to establish an health plan to have access to prescriptive medication, without the need to have a visit from a veterinarian every time to the farm. The health plan must contain - in short- strict instructions on how to use medicines and vaccines; for which diseases the medicines can be used and how the materials should be handled (e.g. withdrawal periods). Medical recordings must be stored electronically in the health care database systems of the organisation 'Animal Health ETT' (Association for Animal Disease Prevention).

**Semi – mandatory: quality assurance system**

Participating in a quality system can demand the use of preventive animal health visits on the farm. In Finland, Animal Health ETT provides quality systems for the Finnish pig- and cattle farmers. ETT has created a set of requirements for responsible production of pork, beef and dairy (Sikava, 2015). With the services and data from ETT, it is possible to develop and follow-up the national health care of the farm animals. Production agreements between farmers and the industry include instructions on animal and feed imports, biosecurity and more. For the farmer it is in principle voluntary to join the health care systems: Sikava (pigs) and Naseva (cattle), but they must anyway follow ETTs' instructions. However, nearly all slaughterhouse-, dairy- and egg-packing companies are members of ETT and they therefore demand that the farmer must follows the ETT's production agreements, before (s)he can deliver his / her animals and their products to the companies. The regulations of ETT are often referred by sourcing and refinery companies in order to explain the level of quality and food safety (Rantanen, 2011).

**Organization of visits**

After signing a *Health Care Contract* with a special Sikava or Naseva veterinarian, the farmer authorizes the access of the veterinarian to farm data and the 'herd' is accepted. The *Health Care Contract* and the *Management Plan* will be collected in the database. This contract and plan will include the health status, disease- and medication recordings, and production data of the herd, the results of the laboratory and the data of the butchery. In the end, review of food safety and quality level of the products is possible (Naseva, n.d.; Sikava, 2015).

For the pig farmers in Finland, it is in practise necessary ('semi-mandatory') to belong to Sikava (95% of the Finnish pig farms belong to the system). For cattle farmers, the requirements for responsible beef and milk production are under development. There we see that around 65% of the Finnish cattle farms and 80% of the cattle production belongs to Naseva. For poultry farms there are no voluntary flock health or 'quality assurance system' visits. The four biggest poultry slaughterhouses (three for broilers, one for turkeys) however, have quite strict production agreements and chain management in their food production chains. The slaughterhouses have their own veterinarian and a database for health service of their producers. For the egg production, the 'Finnish Poultry Association' maintains a database system, called 'Kanava'. Kanava will contain the results of Salmonella surveillance and laboratory results. The poultry slaughterhouses and the egg-packing companies, which are members of ETT, require in the production agreements with the farmer, that (s)he needs to follow ETTs'

instructions (e.g. import of eggs, chickens or feed, biosecurity). If the poultry farmers do not follow the instructions of ETT, the members do not buy their products.

The systems and databases are used by the employees of dairies, the butchers, the advisory organisations, the competent authorities and veterinarians. Every part in the chain needs to keep their data up-to-date in the programme. In this way, the quality system can improve the quality in the hole food chain – 'from farm to fork'. The farmer and the veterinarian can see all data. The dairy, slaughterhouse an egg packing companies can see the health and the welfare situation, whereas the competent authority can see which farm has a contract and with whom. If one of the parties suspects problems, the farm will be taken into special attention and will receive advise in how to make the situation better (Naseva, n.d.; Sikava, 2015).

**Content of the visit – 'Naseva and Sikava'**

| *Subject* | *Involved* | *For example* |
|---|---|---|
| **Identification & Registration** | X | |
| **Key figures (e.g. mortality data, production rates)** | X | Mortality, laboratory, section results, production parameters |
| **Animal health data** | X | Evaluation symptoms, disease situation |
| **Eradication status** | X | |
| **Animal treatment / medication (e.g. antibiotics, withdrawal times)** | X | Advice on medication; checking the medication plan, use of medicines and medication recordings. A special medication plan must be drawn, if the farm is using prescriptive medicines without a visit |
| **Prevention (e.g. vaccinations)** | X | Vaccination, good nutrition |
| **Animal welfare (e.g. tail docking, non – curative surgeries)** | X | Stimulus material for swine to prevent tail biting (tail docking is forbidden in Finland), painkillers & anaesthesia for dehorning, painkillers for castration |
| **Management** | X | Housing, good nutrition, water, ventilation, temperature, air quality, production conditions, 'near environment' for the animals |
| **Food safety** | X | Testing of milk after AB treatments before delivering to dairy, test recordings, withdrawal period recordings |
| **Bio security (on the farm + environment around the farm)** | X | Disease barrier ('hygiene lock'), hygiene, animal traffic in- and outside the farm, feed and water quality, protection of the feed stores, pest and rodent control etc.<br>(Naseva special – level: swine breeding units and cattle farms in the *Mycoplasma bovis* resistance programme) |

Frequency:

- **Mandatory: health control programme**
  - **Poultry:** once a year

- **Semi - mandatory: prescriptive medicine**
  A certain number of visit by the veterinarian during a time period, depending on the sort of holding
    - **Cattle;** dairy farms
      - Farms < 60 cows; 4 times a year
      - Farms 60 – 120 cows, 6 times a year
      - Farms 121- 300 cows, 12 times a year
      - Farms > 300 cows, 24 times a year

- **Catte;** suckler cows
  - Farms < 100 cows; 2 times a year
  - Farms 100 – 200 cows. 3 times a year
  - Farms > 200 cows, 4 times a year
- **Cattle**; calf stations
  - All in – all out; once for every batch
  - All in – all out by compartments, < 1000 calves; 6 times a year
  - All in – all out by compartments, > 1000 calves; 12 times a year
- **Cattle;** finishing units of beef production, animals over 6 months:
  - Farms < 500 animals; 2 times a year
  - Farms 500 – 1000 animals; 4 times a year
  - Farms > 1000 animals, 6 times a year
- **Cattle**; heifer hotels, beef production from calf to slaughter etc.
  - Farms < 250 animals; 2 times a year
  - Farms 250 – 500 animals; 4 times a year
  - farms > 500 animals, 6 times a year
- **Swine;** fattening unit
  - All in – all out; once for every batch
  - Farms < 1000 fatteners, cont. production; 4 times a year
  - Farms 1000 – 2000 fatteners, cont. production; 6 times a year
  - Farms > 2000 fatteners, cont. production; 8 times a year
- **Swine;** piglet production, integrated production
  - Farms < 75 sows; 4 times a year
  - Farms 75 – 299 sows; 6 times a year
  - Farms 300 – 599 sows; 8 times a year
  - Farms 600 – 1499 sows; 12 times a year
  - Farms > 1500 sows; 24 times a year

- **Semi – mandatory: quality assurance system**
  - An *Health Care Management Plan* (special documentation) must be renewed by the special veterinarian once a year - always related to a farm visit.
    - **Cattle**
      - All cattle farms: once a year (if the farm does not want to use / have prescriptive medicines without a vet visit)
      - Dairy and suckler cow farms in the resistance programme for *Mycoplasma bovis* ("special level" for cattle farms, high health status); 2 times a year
    - **Pigs**
      - Fattening units, all in – all out; once for every batch
      - Piglet production, integrated production, fattening units with continuous production; 4 times a year
      - Farms on the Sikava- special level (breeding units, high health status); 6 times a year
    - **Poultry**
      - For laying hens the owner takes a self-contol sampling for salmonella every 3 months (3 times a year), the official veterinarian takes the 4 th sampling
      - For broilers (meat poultry) the owner samples every batch (mostly all in – all out), the official veterinarian takes samples once a year

Veterinarian:

- **Mandatory: health control programme**
  - **Poultry**: official veterinarian
- **Semi – mandatory: quality assurance system**
  - **Pigs / cattle**: a special *Sikava* or *Naseva* veterinarian (who has followed a special course), and which has a 'one – on – one' relationship noted in the *Health Care Contract.*

Payment:

- **Mandatory: health control programme**
  - Farmer
- **Semi – mandatory: quality assurance system**
  - The farm visits are paid by the farmer himself. The costs for maintaining the Sikava and Naseva on-line health care database systems are paid by the slaughterhouse companies and dairies, that are members in the Animal Health ETT

## 7. France

France

*Livestock Density Index*: 0,79

*Visits:* 80%

- *Cattle:* 19,4 million
- *Pigs:* 13,3 million
- *Sheep:* 7,1 million
- *Goats:* 1,2 million
- *Poultry:* 216,1 million

**Mandatory: health control programme**

In France, the 'Visite Sanitaire' is mandatory on the farms as seen in the *Code Rural et de la Pêche maritime - article R203-1* (Legifrance, 2012) for cattle (> 5 cows, excluded KI – stations) poultry (> 250 chickens), small ruminants (> 50 sheep, or > 25 goats) and pigs (excluded 'open air' farms). Every year, the preventive animal health farm visits are based on an annual campaign. For example in '12 – '13, the main subjects of the campaign were: awareness in biosecurity, awareness of the risks of antimicrobial resistance and the responsible use of medication. The expected effects of the animal health visits are to strengthen the link between farmer and veterinarian, in order to control the health risks on their farm and to raise more awareness about veterinary public health. Collecting of the visits will be done by SIGAL (Mesdémarches, 2016). SIGAL will send the results to ICA ('Information sur la chaîne alimentaire' = information on the food chain), which will collect all health data and additional information. In this way, evaluating and managing of health risks will be more practical for official controls (Ministère de l'agriculture de l'agroalimentaire et de la forêt, 2015a; SNGTV, 2013). The French government (section DDPP – 'Direction Départementale de la Protection de Populations') monitors the legislation on the farms.

**Semi – mandatory: prescriptive medicine**

If the farmer wants to have access to prescriptive medicines, the farmer needs to have a contract with a private veterinarian. Therefore, follow-up visits are necessary, at least once a year. The visits are called 'Suivi Sanitaire Permanent de l'Elevage' and they will include a control on the health of the livestock and a protocol for the use of preventive and curative medicine (SNGTV, 2013).

All in all, almost 95% of the cattle farms, 80% of the pig farms and 65% of the poultry farms will receive these visits (small ruminants not known).

**Organization**

The ICA exchanges all essential health information of livestock in France. The farmer, the veterinarian and the competent authority are allowed to see the results. The circulation of information in the food chain is an essential tool for the slaughterhouses to improve their veterinary services (e.g. inspections in slaughterhouses, farms and other holdings) and most important for the farmer to improve their health control plan. The farmer will receive the health data for his animal products (slaughtered / dairy), in particular when this information can have an impact on the management of the farmer's livestock (Ministère de l'agriculture de l'agroalimentaire et de la forêt, 2015a). There are additional benefits for the farmer to have the health visits done and improve the animal health. For example for French pig farmers. Pigs from approved farms (approval by the DDPP) do not have to participate in the systemic research of the trichina larvae in the slaughterhouse (Ministère de l'agriculture de l'agroalimentaire et de la forêt, 2015b).

**Organization – 'Visite Sanitaire' and 'Suivi Sanitaire Permanent de l'Elevage'**

| *Subject* | *Involved* | *For example* |
|---|---|---|
| **Identification & Registration** | X | Identification, register; |
| **Key figures (e.g. mortality data, production rates)** | X | Documents of health assessments, veterinary inspection reports, hygiene checks |
| **Animal health data** | X | Veterinary Health Logbook; |
| **Eradication status** | X | |

| | | |
|---|---|---|
| **Animal treatment / medication (e.g. antibiotics, withdrawal times)** | X | Antibiotics, drugs, doses, treatment duration, holdback period; |
| **Prevention (e.g. vaccinations)** | X | |
| **Animal welfare (e.g. tail docking, non – curative surgeries)** | X | |
| **Management** | X | |
| **Food safety** | X | |
| **Bio security (on the farm + environment around the farm)** | X | Against insects and rodents |

Frequency:

- **Mandatory: health control programme** (Mesdémarches, 2016)
  - Cattle: at least one visit per year;
  - Poultry, small ruminants and pigs: at least one visit per two years;
- **Semi – mandatory: prescriptive medicine** (SNGTV, 2013)
  - Every year

Veterinarian:

- **Mandatory: health control programme**
  - If the farmer has designated a veterinarian / veterinary practice, the veterinarian has access to the 'Teleprocedure' (a list of farms which need to be visited);
  - For farms without a veterinarian, visits will be done by DDPP-veterinarians.
- **Semi – mandatory: prescriptive medicine**
  - Private veterinarian on contract with farmer;

Payment:

- **Mandatory: health control programme**
  - The State of France will pay for the visit, if the visit is registered in SIGAL.
- **Semi – mandatory: prescriptive medicine**
  - Farmer.

## 8. Germany

Germany

*Livestock Density Index*: 1,1

*Visits:* 80%

- *Cattle:* 12,6 million
- *Pigs:* 27,7 million
- *Sheep:* 1,6 million
- *Goats:* 0,1 million
- *Poultry:* 177,3 million

**Mandatory: health control programme**

The veterinary administration in Germany is responsible for the prevention and control of (transmissible) animal diseases and the defence against the introduction of diseases from abroad. In the form of veterinary checks, they will control animal welfare and safeguard and improve animal health (BMEL, 2015). For pigs and poultry it is mandatory to perform preventive animal health farm visits on the farms. These visits should be done by a private veterinarian. For cattle and small ruminants the visits are not mandatory. In the end, the results of the visits are not collected in a central database, which makes it difficult for the competent authority to see in.

**Semi – mandatory: prescriptive medicine**

Prescriptive medicine can only used by livestock holders who follow treatments instructions from a veterinarian. For food producing animals, the veterinarian can only dispense antibiotics which are not intended for local application. To avoid that farmers 'hording' a stock of products and use them, without a veterinarian visiting the farm regularly. It is only allowed for the veterinarian to give not more products for 7 (antibiotics) or 31 days (other prescriptive medicine). For every additional use of prescription medicine in farm animals, another visit from a veterinarian is required by law (European Commission, 2016b).

**Semi – mandatory: quality assurance systems**

Not only by government, but also by multiple 'quality assurance' systems animal health visits can demand the visits; if the farmer participates in the system. Participating in a 'quality assurance' system can have a big influence on the sale of animal (products) and a big part of the farmers therefore participate. For example, the biggest 'quality assurance' system in Germany is the 'QS: Quality Scheme for food' (in short: QS – scheme) and requires audits at regular intervals by the veterinarian (random sample audits) and regular independent inspections by QS – auditors.

All in all, almost 65% of the cattle farms, 55% of the small ruminants farms and 100% of all pig and poultry farms receive these regularly visits.

**Organization**

For the mandatory visits, the farms should be visited by their private veterinarians. In some federal states, Animal Health Services can be called by the farmer or his veterinarian to carry out regular inspections and advise on animal husbandry, animal hygiene, stable hygiene, feeding and stabling techniques. However, not every federal state veterinary administration does have its own veterinary service. Therefore, contribution of non-governmental bodies (e.g. quality assurance systems) is sometimes necessary (BMEL, 2015).

The requirements in the QS - scheme are determined and adopted by all participating production and marketing stages. They compromise all legal requirements. QS goes beyond legal (EU) regulations, when processes have a crucial influence on food safety and animal welfare. Within the QS – scheme, every livestock farmer must arrange veterinarian care for his livestock. This 'care – relationship' should be done with a veterinary practice or with a 'one-on-one' veterinarian . The relationship must be laid down in a written '*Veterinary Care Contract*' and all further implementation of livestock care must be documented (QS-Scheme, 2017d). The veterinary care must be curative and preventive. The scheme evaluates the monitoring and screening measures (e.g. foot pad health for broilers) along with the assessment of slaughter data (QS-Scheme, 2017a, 2017b, 2017c). When a cause for action is determined by both (the veterinarian and the livestock owner), an animal health- and hygiene plan must be generated for the farm. If necessary, an action plan must also be elaborated. This plan will contain the individual actions, that should be carried out by the livestock owner and the veterinarian (QS-Scheme, 2017).

**Content of the visit –** *'QS – Scheme'*

| *Subject* | *Involved* | *For example* |
|---|---|---|
| **Identification & Registration** | X | Location numbers, species |
| **Key figures** | X | Mortality data, production rates) |
| **Animal health data** | X | |
| **Eradication status** | X | |
| **Animal treatment / medication** | X | Administration of the treatment, including prescribed veterinary drug certification, waiting times, dosage, application |
| **Prevention** | X | Vaccination |
| **Animal welfare** | X | ('*Initiative Tierwohle'*, e.g. climate, space, handling, castration, dehorning, foot pad health, tail docking, non – curative surgeries |
| **Management** | X | Housing, food and water |
| **Food safety** | X | Monitoring of*Salmonellae* (poultry, pigs); Findings from slaughtering; |
| **Bio security (on the farm + environment around the farm)** | X | Internal and external hygiene |

Frequency:

- **Mandatory: health control programme**
  - Pigs: every circle of fattening, or twice a year with sows;
  - Poultry: every breeding circle;
- **Semi – mandatory: prescription medicine**
  - When it is necessary; on shortest, every week (antibiotics) or every month (other prescriptive drugs)
- **Semi – mandatory: quality assurance system**
  - Cattle: at least once a year (QS-Scheme, 2017);
  - Pigs: at least twice a year, or once per fatting cycle (in line with pig farming hygiene regulations) (QS-Scheme, 2017);
  - Poultry (QS-Scheme, 2017)
    - Chickens, broiler breeders and Peking ducks: at least once per fattening cycle;
    - Turkeys and turkey breeders: at least once a month;

Veterinarian:

- **Mandatory: health control programme**
  - Official veterinarian or commissioned veterinarians of the Animal Health Services in case of audits
  - Private veterinarian
- **Semi – mandatory: prescription medicine**
  - Private veterinarian
- **Semi – mandatory: quality assurance system**
  - Non – veterinarian control staff according to the correct documentation of the visits and the contract (control audits)
  - The veterinary care is laid down in a contract (with the private veterinary practice / veterinarian = 'one-on-one' relationship)
    - **Cattle:** with the veterinary practice / veterinarian = 'one-on-one'-relationship, which is employed by the 'quality assurance' system
    - **Poultry**: qualification as specialist vet for poultry, or additional designation 'commercial poultry' or many years' practical experience in the field of treating commercial poultry stocks

- **Pigs:** the veterinarian must have specialist training in pig health in accordance with pig production hygiene regulations, confirmed by the veterinary chamber

Payment:

- **Mandatory and semi-mandatory:**
  - Farmer.

## 9. Greece

Greece

*Livestock Density Index*: 0,44

*Visits:* 36,3%

- *Cattle:* 0,6 million
- *Pigs:* 0,9 million
- *Sheep:* 8,9 million
- *Goats:* 4 million
- *Poultry:* 35,2 million

**Mandatory: health control programme**

Since May 2016, it is mandatory for all Greek cattle, pigs, small ruminants and poultry farmers to have a 'farm veterinarian'. These farm veterinarians need to be on a special register. This register is established, maintained and controlled by the national competent authority. The farmer needs to select a veterinarian from the official register and should declare the name of this veterinarian to the competent authority.

If the farmer or the veterinarian wants to terminate the contract, one of both needs to notify in written the competent authority. The authority needs to review the file and the justifications. Based on this information, they make a decision, which will be followed by recommendations, the validation of the withdrawal of the contract or sanctions to the respective parties.

The farm veterinarian has multiple obligations. For example, implementation of eradication programs (such as Brucellosis) and any other similar approved programs will be done by the farm veterinarian. In addition, the veterinarian will also conducts epidemiology inspections and sampling as necessary, in collaboration with the national competent authorities. In case that the veterinarian employs more persons, he /she has to directly supervise supporting staff when they complete their tasks. Also, the veterinarian will fill in and sign the certificate with all health information of animals that will be transferred or transported. All in all, the veterinarian will help the farmer to fulfil all his / her obligations according to the Law (such as: registration of his / her animals, the implementation of health plans, the best practices for the optimisation of animal health and welfare and the production of safe animal products)'. Another important point to mention, is that the veterinarian shall ensure responsible use of medicines on the farm (such as: proper production of medicated feed, appropriate medicines). The veterinarian prescribes all medicines for the farm and signs the dedicated register. In the case that the farm produces medicated feed, the veterinarian additionally ensures the proper production of the medicated feed. After the veterinarian did his or her observations on the farm, he / she needs to complete a detailed archive of all official documents (including report on the causes of death of any animal on the farm and the dedicated register for the use of medicines), maintain it and report to the competent authority according to the details laid down in the legislation. In case of suspicion or confirmation of notifiable diseases, he / she need to report these observations to the competent authority.

The competent authority will establish, maintain and update the registry of all farm veterinarians. The competent authority is establishing the control and eradication programs, as well as the control process of their implementation. The farm veterinarians will be provided by the competent authority with the biological materials, that are necessary for the implementation of national programmes, which they are responsible for. The competent authority is responsible for organising training (CPD) for the 'farm veterinarians' to keep them updated with regard to their obligations according to national and European legislation. The competent authority will also inform farms about the obligations to have a farm veterinarian and will help the farmer to select one from the registry. The competent authority supervises the proper implementation of the whole programme of 'farm veterinarian' (Offical Journal of Hellenic Republic - ΤΗΣ ΕΛΛΗΝΙΚΗΣ ΔΗΜΟΚΡΑΤΙΑΣ, 2016 - Αρ. Φύλλου 1502).

**Voluntary: quality assurance system**

Some private organizations, such as 'quality assurance' systems can demand visits. Results of these visits will be send to the veterinarian and the competent authority, but are not collected in a central database.

All farms will be visited by the 'farm veterinarian'. However around 20% of the cattle farms, 50 % of the pig farms, 45% of the poultry farms and 30% of the small ruminants farms may have some additional checks, such as the one from the quality assurance system.

**Content of the visit**

| *Subject* | *Involved* | *For example* |
|---|---|---|
| **Identification & Registration** | X | |
| **Key figures (e.g. mortality data, production rates)** | X | |
| **Animal health data** | X | |
| **Eradication status** | X | |
| **Animal treatment / medication (e.g. antibiotics, withdrawal times)** | X | |
| **Prevention (e.g. vaccinations)** | X | |
| **Animal welfare (e.g. tail docking, non – curative surgeries)** | | Most probably |
| **Management (feeding, housing)** | X | |
| **Food safety** | X | |
| **Bio security (on the farm + environment around the farm)** | X | |

Frequency:

- **Mandatory: health control programme and epidemiological / biosecurity programme**
    - At least once a year, but continuously in case of eradication programme. For example, in the programme of Brucellosis, the veterinarian needs to submit reports every month.

Veterinarian:

- **Mandatory: health control programme and epidemiological / biosecurity programme**
    - Private veterinary practitioner, 'one-on-one' relationship. The competent authority organizes additional training for farm veterinarians, however this is not mandatory to be in the '*farm veterinarian registry'*.

Payment:

- **Mandatory: health control programme and epidemiological / biosecurity programme**
    - The State pays for the services that are linked to the implementation of control of diseases and eradication programmes, established at national level. The farmer needs to pay for all the services that the farm veterinarian will provide on the farm.

## 10. Hungary

Hungary

*Livestock Density Index*: 0,49

*Visits:* 100%

- *Cattle:* 0,8 million
- *Pigs:* 3,1 million
- *Sheep:* 1,2 million
- *Goats:* 0,1 million
- *Poultry:* 38,5 million

**Semi - mandatory: health control programme**

In Hungary, all livestock farmers need to have a contract with a private practitioner. An exception has been made for small backyard farms. This is formerly regulated by the Hungarian Animal Health Law. The law does not provide details on what type of services a contract need to entail; nor on the visitation period, nor on the price. This is all decided between the farmer and the private veterinarian through negotiation by free market. Without the contract, the farmer cannot send animals for slaughter or (s)he can get a sanction from the States' Veterinary Services. The contracts are agreed for a period of one year. Normally in the contract, the visitation schedule is fixed as well. As Hungary has this system of farm contracts, they did not see the need to introduce an separate obligatory farm visitation system.
A farmer can have a contract with one private veterinarian, or (s)he can have different contracts for additional services (e.g. milk hygiene) with other veterinarians. In the weekend, if the contracted veterinarian is not available, they need to use the services of other veterinarians. Also species associations (e.g. the poultry association), have some veterinarians who have contracts with a great number of farms.

**Semi – mandatory: prescriptive medicines**

Looking at who can prescribe antibiotics to a farmer, different veterinarians can do. Every veterinarian who will come to the farm and prescribing, administering and delivering medicines, needs to record this in the medicines record on the farm (paper form). So far, this is not yet electronically submitted or centrally collected.

**Voluntary: herd health programme**

Some large farms in Hungary employ a veterinarian. These veterinarians have not a license for a practice, but are registered in the Veterinary Chamber as a 'service provider member'. They have to follow the Veterinary Act and can be disciplined. Large farms do not need to agree on a contract with a private licensed practitioner, because their own veterinarian will do all the work. As the State recognises that these veterinarians are not independent, they will control these veterinarians and their work more strictly. In addition, the State does not allow them to perform certain delegated official tasks.

All in all, all livestock farms in Hungary will be visited annually.

**Organization**

The farmer should have a contract with a private veterinarian, who is licensed by the Chamber. For certain tasks (e.g. animal identification, certain delegations of official tasks, recording into the state database), the licensed veterinarian need to be extra certified by the State. This extra certification does not need extra training, it is just extra permissions given. Farmers prefer to make a contract with a licensed certified veterinarian, as (s)he will be able to perform all taks.

District veterinarians of the Hungarian' Veterinary Services need to control the farms that have a contract. In some districts this is more strictly controlled, than in other districts. Recently the separate district veterinary services have been merged in, into the Hungarian' authority offices. This has led to less veterinary inspectors and a loss of independency. A national database exists in which all animals are registered (e.g. births, deaths) and all holdings are registered. The certified and licensed veterinarian can input or edit data in the database.

The farmer is paying for the services that will be provided by the veterinarian. The price is fixed in the contract. The Chamber has the right to suggest prices for different types of contracts. These suggested

prices will help the veterinarians to negotiate to a fair price. Sometimes when farms are not very profitable (e.g. sheep farms) it is difficult for a veterinarian to get a fair price agreed in the contract.

**Content of the visit**

| *Subject* | *Involved* | *For example* |
|---|---|---|
| **Identification & Registration** | X | Categories and number of animals at the holding, animals registers The contracted vet controls this, as a delegated task from the state. |
| **Key figures (e.g. mortality data, production rates)** | X | Data of holding, holding logbook<br>Done by contracted vet, state delegation. |
| **Animal health data** | X | Systematic monitoring of the disease of the animals each year |
| **Eradication status** | X | Done by contracted vet, state delegation. |
| **Animal treatment / medication (e.g. antibiotics, withdrawal times)** | X | All licensed veterinarians having a contract can prescribe/administrate/deliver medication. Need to log it in the medicines record on the farm. |
| **Prevention (e.g. vaccinations)** | X | Most vaccinations are done by the contracted vet, some official vaccinations by state. |
| **Animal welfare (e.g. tail docking, non – curative surgeries)** | | **Optional:** Farmers need to keep their animals in relation to the state Regulations on Animal Welfare. The farmer can include animal welfare services from the vet in his contract but does not need to. |
| **Management** | | **Optional:** Same as Animal Welfare, according to contract |
| **Food safety** | | **Optional:** Same, according to contract |
| **Bio security (on the farm + environment around the farm)** | | **Optional:** Same, according to contract |

Frequency**:**

- **Semi-mandatory and voluntary:**
    - At least once a year

Veterinarian:

- **Semi-mandatory and voluntary:**
    - Private veterinary practitioner, licensed by the Veterinary Chamber, extra certification is preferable.

Payment:

- **Semi-mandatory and voluntary:**
    - Farmer.

## 11. Ireland

Ireland

*Livestock Density Index*: 1,2

*Visits:* 80%

- *Cattle:* 6,4 million
- *Pigs:* 1,5 million
- *Sheep:* 3,7 million
- *Goats:* 0,1 million
- *Poultry:* 17,1 million

*Farmers need to respect the various standards, which are set down in EU legislation on the environment, good agricultural condition of the land, animal health, welfare and so on. The farmer takes responsibility for the animal health on his / her own farm. The farmers signs therefore a declaration for the products that he / she delivers. The products must be free from diseases, to be a part of the Food Chain Information. The system to check the farms in Ireland is quite fragmented.*

**Mandatory: health control programme**

The Irish government has direct involvement in eradication of diseases (e.g. tuberculosis, liver fluke), legacy and preventing of cross boundary diseases (e.g. avian influenza, bluetongue, Food and Mouth Disease). Therefore, DAFM (Department of Agriculture, Food and the Marine) will perform regularly visits. For example: (1) in the case of tuberculosis, they are running a state scheme to help the farmers to eradicate it. In the eradication of Bovine Viral Diarrhoea (BVD), they have now a statuary roll (in this example: stakeholder *Animal Health Ireland* has overall responsibility). Only if farmers do not comply with the rules for BVD, DAFM will comes in (e.g. re strict herds, stop movement and 'name and shame') (DAFM, 2016b). (2) To check if the farmer is not putting in a fraudulent claim (e.g. to check the actual size of the farm, to see if the person is really farming) and to check compliance with the SMR's. These 5% of the farms will be selected by the DAFM. At these visits, DAFM can check all requirements, such as: an ensured safe production of food, welfare of animal, sustainable use of land and more. The Cross Compliance checks are not focussing on animal health and welfare, but when these subjects are not compliant with regulation, the DAFM will make an action on it. To help the farmer, Farm Advisory Services (FAS) will deliver farmers advice on Cross Compliance. The advisor of FAS should act as a consultant, who will link all different elements of farming (including financial aspects) with the various Cross Compliance obligations (DAFM, 2016b). Also, (3) if farmers will do export and import on the farm, the DAFM will check first. (4) Knackery sampling is the active surveillance for TSE. Suspected cases of TSE will be investigated on the farm. And last, but not least: (5) to check the 'checking veterinarian'. Private veterinary practitioners are subject in ongoing monitoring and supervision by the Department. For example: carrying out tuberculosis testing and other preventive animal health farm visits. During field visits, additional quality control checks are carried out on-farm by personnel of the Department. They will check testing facilities, the reactor animals with regard to the appearance, location and regression of reactions, fitness to transport and aspects of animal welfare as well.

All results of the inspections and visits by DAFM are collected in a central reporting computerised system, called AFIT. For the farmer, veterinarian and competent authority the results are visible.

**Semi – mandatory: POM**

Veterinary prescriptions are issued on the foot of emergency visits and herd health visits by private veterinary practitioners. This is in relation to individual or group animals.

**Voluntary: advisory programme and health control programme**

In addition, the DAFM is not only organized to 'control'. They are also preparing a national strategy for the agri-food sector: 'National Farmed Animal Health Strategy'. This strategy will outline contributions to overall economic growth, job creation and environmental sustainability by the livestock sector over the coming decade. Therefore, the DAFM works together with multiple stakeholders to reach this aim (Animal Health Ireland, 2015). The biggest stakeholder is 'Animal Health Ireland' (AHI). AHI is a partnership between private sector organisations, businesses in the agri-food and the DAFM. It is a movement out of the agri-food industry and independently managed . In order to provide more support for farmers (e.g. to improve health of their livestock), they give advice (e.g. during visits, by social media or seminars) and this service is free. The AHI is funded by the Government. However, to implement these measurements on the farm, it can give costs to the

farmer. AHI is also tasked to provide effective control strategies for economically important diseases in livestock, which are not subject to international regulation. They have made a significant contribution in relation to the BVD eradication programme, Johne's disease control programme, parasites control programme (e.g. liverfluke, coccidiosis) and the national dairy cow mastitis control programme (somatic cell count checks). They perform visits mainly on eradication (Animal Health Ireland, 2015). All results of the visits of AHI will not be collected in a central database. The competent authority and farmer are not able to see in the results.

**Voluntary: subsidised, health control programme and quality assurance scheme**
The EU *Common Agricultural Policy* (CAP) has its objects on market-oriented sustainable food production - supporting the incomes of farmers, preservation of the environment and rural development. They support the development of the sector through a combination of direct payments to the farmers, financial assistance towards investments in rural development and environmental protection and market support measures. Multiple systems and programmes let the farmer engage in the best practice to improve efficiency on their farms. Ireland used the money of CAP to develop multiple systems to support the farmer, such as:

1. **Voluntary: health control programme**

The Farm Business Improvement Scheme (FBIS) is an important part of the Rural Development Programme (2014 – 2020) from the Irish government, to fund Irish farmers. The FBIS is a package of measures which will aim to improve the competitiveness and the sustainability of the farming sector. For example; projects could have been set up to purchase higher value equipment for the needs in the farmer's business plan (DAERA, n.d.).

Another project which was set up in this FBIS, is the 'Knowledge Transfer Programme' This programme mainly focuses on the general principles of the management of the farm and it should help farmers to deal with complex issues (e.g. breeding plans, animal health, animal welfare and farm safety) (DAFM, n.d.). These subjects will be all discussed in the farmers' 'Farm Improvement Plan':

- Animal Health & management;
- Profitability and financial Management / Farm progression;
- Grassland management plan;
- Animal Health Measures;
- Sustainability Plan;
- Breeding plan;
- Farm Health and Safety

All the results of the visits, as well as the approved action plan, need to be completed on the Animal Health Computer System (AHCS), by an approved DAFM 'Knowledge Transfer Private Veterinary Practitioner' (DAFM, 2016a). Both, the competent authority and the farmer, are able to see in the results.

2. **Voluntary: advisory programme**

'Teagasc' is an advisory service for farmers from the Agriculture and Food Development Authority. The annual Teagasc advisory programme will provide all participating farmers opportunities to see best practices in operation and will make it possible for the farmer to acquire new skills through public events, training opportunities and more. The farmer needs to attend at least 7 – 8 meetings per year. Advice will be given on subjects, such as: genetics, breeding, finances, environment, nutrition, management, animal husbandry and farm safety. As the farmer becomes a client of Teagasc and he / she will participate actively in the programme, the farmer will be in a position to avail of opportunities to grow his / her farm business (Teagasc, n.d.).

### 3. Voluntary: advisory programme

The 'Targeted Advisory Service on Animal Health' (TASAH) is also an import part of the Rural Development Plan of the Irish Government. The service will be provided by trained veterinary practitioners. Provision is made for advice on animal and public health issues in the pig and poultry sectors; especially on salmonellosis and campylobacteriosis. For cattle, the focus will be on Bovine Viral Diarrhoea and followed by Johne's disease. For TASAH, the DAFM will pay veterinary practitioners for up to three hours of advice per visit (Animal Health Ireland, 2016). All results of the visits will be collected in a central database and competent authority and farmer are able to see in the results.

**Voluntary: health control programme**
There are also a lot of private 'contracts' between farmers and their private veterinarians. Not only in emergency cases (in response to call out to deal with sick animals), but also planned preventive animal health farm visits. In most of the cases, the veterinarians will do 3 – 4 visits per year on the farm. To check the quality of these preventive animal health farm visits, private veterinary practitioners are subject to ongoing monitoring and supervision by the DAFM.

**Voluntary: quality assurance systems**
Quality assurance plays an important role in the promotion of food and horticulture. Besides, it provides a platform for consumer promotion of product quality. In Ireland, **Bord Bia** operates a series of quality assurance schemes for the (agri) food industry. The assurance schemes are built on the best practices in farming and processing, current legislation, relevant industry guidelines and international standards (by stakeholders, such as: DAFM, Teagasc, Farm Organisations). Traceability, welfare, environmental protection and food safety are the cornerstones of the standards. In addition, Bord Bia wants to develop new standards, to improve existing standards, to ensure the timely and efficient auditing and to certificate the members. They now have quality assurance schemes for beef, lamb, dairy, pig meat, poultry, eggs and meat (Bord Bia, n.d.).

**Exception: sheep, health control programme**
For sheep it is quite different. Sheep farmers can be involved in a voluntary 'Sheep Knowledge Transfer Scheme' for the last two years. These visits are free. The only visits from DAFM are for targeted welfare visits and the medicine checks, and taking of random blood samples from a small part of the flock every year for *Brucellosis melentensis* and other viral diseases exotic to Ireland. So therefore, not every sheep farm is visited. DAFM will select sheep farms on results of ante-mortem reports from sheep slaughter plants. If there high levels of 'abnormalities' are found (e.g. severe lameness, especially in multiple sheep) DAFM will plan visits. Cross Compliance Visits also take place, as these tend to target large sheep holdings.

In the end, all cattle, pig and poultry farms will be checked regularly in Ireland. Especially the tracking of every bovine in Ireland is very tight. On annual basis, 20% of the small ruminant farms are checked (mainly by cross compliance and sheep sampling (selected out of ante-mortem check at the slaughterhouse)). The competent authority can intervene at an early stage, because of the work of all local groups working together. In this way, identifying of risks on the farms that encounter difficulties of a financial, social or management nature. Because of the early intervening, the authority can prevent deteriorating of the conditions on the farms, including animal welfare (European Commission, 2016)

**Content of the visits**

| *Subject* | *Involved* | *For example* |
|---|---|---|
| **Identification & Registration** | X | Spot checks, Cross Compliance |
| **Key figures (e.g. mortality data, production rates)** | X | Surveillance; a lot of data-anlayses. Traceability system |

| | | |
|---|---|---|
| | | AIM (Animal Identifcation and Movement) |
| **Animal health data** | X | TB; Animal Health Ireland |
| **Eradication status** | X | |
| **Animal treatment / medication (e.g. antibiotics, withdrawal times)** | | Single forms, farmer can choose to do |
| **Prevention (e.g. vaccinations)** | | Single forms, farmer can choose to do |
| **Animal welfare (e.g. tail docking, non – curative surgeries)** | | Single forms, farmer can choose to do |
| **Management (feeding, housing)** | | Single forms (risk based), farmer can choose to do |
| **Food safety** | X | |
| **Bio security (on the farm + environment around the farm)** | X | |

Frequency:

- **Cattle:**
  - Once a year for Tuberculosis and selected for other DAFM visits on risk basis / post import / before export / disease investigation / etc.
  - Once a month for herd health and emergency purposes, by the private veterinary practitioner
- **Poultry / pigs:**
  - Once a month an official vet (Salmonella, Campylobacter)
  - Once a month at larger units, by private veterinary practitioner
- **Other:**
  - Post-import and export, every time when necessary
  - If you are selected, for cross compliance
  - Risk herd programme (welfare issues, or high mortality on the farm)

Veterinarian:

- **Mandatory: health control programme**
  - Official vet
    - Post-import and export health checks
    - Animal health, animal welfare and medicine checks
    - Cross Compliance checks
    - Checks of the Knowledge Transfer system (5 – 10 %)
  - Authorised private veterinary practitioners
    - TB testing and advice giving
    - Legal yearly or pre-movement test
- **Semi – mandatory and voluntary: prescriptive medicine, advisory programme, quality assurance system and health control programme**
  - Private veterinary practitioner, who has a 'one-to-one' relationship (once a month / once every two months)
    - Tuberculosis testing and advice giving
    - Legal requirement to test herd annually and pre-movement tests, where required

        - Knowledge Transfer Programme
        - Visits as discussed with farmer
    - Veterinary practitioner who have participated in the BVD TASAH training provided by AHI
        - TASAH

Payment:

- Visits by the competent authority will be paid by the State;
- Visits for the Knowledge Transfer Programme, will be paid by the State (farmer therefore gets also paid).
- Visits by a private veterinarian, (e.g. herd health visits, or emergency cases), are paid by the farmer;

## 12. Italy

Italy

*Livestock Density Index*: 0,77

*Visits:* 100%

- *Cattle:* 6,2 million
- *Pigs:* 8,7 million
- *Sheep:* 7,1 million
- *Goats:* 1 million
- *Poultry:* 161,2 million

**Mandatory: health control programme and epidemiological / biosecurity monitoring**

The Italian Ministry of Health (MOH) is the central body of the National Health Services' dealing with certain issues, such as: public health, veterinary health, food hygiene and safety. MOH is responsible for general policy, coordination, monitoring and supervision on all issues at the national level. The Directorate General for Animal Health and Veterinary Medicinal Products (DGSAF) is responsible to set up national programmes for the eradication of animal diseases and to set up guidelines for the control of animal welfare on the farms. These programmes should be implemented by regional authorities. Italy is divided into 19 regions and two autonomous provinces who are responsible to coordinate, manage and verify the controls in their territories. The veterinarians who work in the 'Animal Health Service' of the Local Health Unit (LHU-ASL) will carry out the controls on a local level. Animal welfare, animal health, the use of medicine and biosecurity have high priority.

The regions may adopt their own programmes on issues in areas that are not regulated at national level. For example, the regional government of *Emilia-Romagna* set up the following 'rules': all livestock farms should be checked every 3 years according to the Health Control Programme, in relation to the use of medicines and to animal feeding. The checks on animal welfare will be carried out every 5 – 6 years. Pig and poultry farms will be checked every 1 – 2 years, in relation to biosecurity requirements. What is common between all regions, is that the frequency of the visits can vary – according to a new *risk categorization model*, which was proposed in 2017.

Information on epidemiological data and technical reports will be forwarded twice a year from the Local Health Unit to the Regions and later to the competent authority. All results of the programmes will be sent to the competent authority for information only. The national database cover holding registration, animal identification and movement controls (for bovine, small ruminants, pigs, poultry, aquaculture and beehives) (Ministero della Salute, n.d.).

**Semi - mandatory: prescriptive medicine**

In all regions, preventive animal health farm visits are mandatory for the farmer, if the farmers needs medicine for the animals. In this way, all the farms have a visitation system for this purpose. Some of the results of the visits, will be collected in a regional database (only in five regions). There is also a national database, which will include all results. The veterinarian and the competent authority are able and allowed to see the results.

**Voluntary: health control programme**

If a farmer is enrolled in 'eradication voluntary plans' (e.g. IBR, paraTBC), a farm practitioner must be in charge of them.

Currently, all farms will be visited at least once per year. This frequency of visits can be higher, if risk based assessment on the farm gives inducement. Note out of survey: '*The veterinary practitioner needs to be informed and formed about the preventive animal health farm visits, because the perception of the use and need of these visits is low.'*

**Content of the visit**

| *Subject* | *Involved* | *For example* |
|---|---|---|
| **Identification & Registration** | X | |
| **Key figures (e.g. mortality data, production rates)** | X | |
| **Animal health data** | X | Herd database |
| **Eradication status** | X | |
| **Animal treatment / medication (e.g. antibiotics, withdrawal times)** | X | |
| **Prevention (e.g. vaccinations)** | X | Farm vet is responsible for the prevention of the animals |
| **Animal welfare (e.g. tail docking, non – curative surgeries)** | X | |
| **Management (feeding, housing)** | X | Feed, residues |
| **Food safety** | | |
| **Bio security (on the farm + environment around the farm)** | X | |

Frequency:

- **Mandatory: health control programme and epidemiological / biosecurity monitoring**
  - At least every year
- **Voluntary: health control programme**
  - **Dairy**
    - Tuberculose, brucellose and leucose, every four years;
    - IBR and ParaTBC: every year (if farmer is in voluntary program)
  - **Pigs**
    - Once a year (Vesicular disease, Aujeszky)
  - **Poultry:**
    - Once a year (influenza, salmonellose)

Veterinarian:

- **Mandatory: health control programme and epidemiological / biosecurity monitoring**
  - Official veterinarian (state officer)
- **Voluntary: health control programme**
  - The private veterinary practitioner who will do the visits, should have an ‘one-to-one’ relationship with the farmer. If the farmer participates in a ‘quality assurance system’, the veterinary practitioner should be employed by this system.
  - An official vet only visit the farm for other reasons, such as certificates, tuberculosis-, leucosis- and brucellosis prophylaxis.

Payment:

- **Mandatory: health control programme and epidemiological / biosecurity monitoring**
  - State
- **Voluntary: health control programme**
  - Farmer

## 13. Latvia

Latvia

*Livestock Density Index*: 0,26

*Visits:* 56,3%

- *Cattle:* 0,4 million
- *Pigs:* 0,3 million
- *Sheep:* 0,1 million
- *Goats:* -
- *Poultry:* 4.9 million

*The Latvian government demands the monitoring of the health and welfare of all food-producing animals and the registration of the animals in a common registration database. Animal owners should organise prevention of infectious animal diseases together with veterinary practitioners, except for the diseases which are monitored by the State (Section 59 - Valsts Valodas Centre (vvc.gov.lv), 2001). Also farmers need to ensure good conditions for animal welfare and timely veterinary care for sick animals. However, there are no strict laws or rules which would regulate preventive animal health farm visits in Latvia.*

For all livestock in Latvia, audits will be done by the Food and Veterinary Service. The Food and Veterinary Service has the right to visit facilities, without previous notice: request their documents and information, take samples for laboratory investigation in accordance with the monitoring programmes of the State and check the conditions of drug storage. In addition, inspectors can visit farms, if it is suspected that animals are ill with an infectious animal diseases (which are monitored by the State) or complaints regarding violations of regulatory enactments (Section 8 - Valsts Valodas Centre (vvc.gov.lv), 2001).

**Mandatory: health control programme**

For big poultry farms it is described expressively to perform preventive animal health visits on the farm. This will be done mainly to control Salmonella, animal disease control and farm registration (European Commission, 2011).

**Voluntary: prescriptive medicine**

There are a few overall rules for farmers in how to purchase drugs. The contractor (the veterinarian) makes a request for a drug purchase. With this request only, the farmer is able to buy drugs from the drug sales company. However, most of the time, these contracts will be made by farm employed veterinarians. These veterinarians have all the rights for veterinary practice, but are subjected to the farmers' financial interests. However, there are farms which receive the 'requests' from a veterinarian who is not employed by the farmer. In these farms, the only thing a veterinarian does, is to sign the contract of drug purchase. The actual veterinary work will be done by unprofessional people. Regulation about how the veterinarian is responsible - for a responsible use of these bought drugs - is not present. This is seen as a high concern, regarding public health and animal health.

**Voluntary: health control programme**

Big farms sometimes use the preventive animal health farm visits, but these are mainly done by a veterinarian who is employed by the farm. Also drug sales companies are allowed to conducts such preventive visits, but regulation about the performance of these visits is not present. For a huge amount of medicine or advice in medicine giving, veterinarians from medicine distribution networks can visit the farm and advice the farmer. Some 'quality assurance' systems and some certification for export indicate that the animal (products) had additional checks; then a farmer needs to organize preventive animal health farm visits.

It is hard to say how many farms in Latvia receive preventive animal health farm visits. Expected it will be 30% of the cattle farmers, 45% of the pig farmers, all poultry farmers and 50% of the small ruminants farmers.

Note out of survey: *'Animal health visits should be done by a veterinarian, who has an agreement with the farm and it has to focus on helping by emergency's and the sale of drugs'*

Note out of mail: *'Just I wanted to emphasise (was mentioned also in the text) that we feel very important that on the EU level there are more precise rules defining the significance of the*

*independence of a veterinary practitioner in his professional decisions from any commercial or political pressure and his rights to work for the balanced benefit of animals , animal owners and society. There is a need for better explanation of the meaning conflict of interest in the veterinary practise. We found some explanation in the Commission guidelines for the responsible use of AB, but those are only guidelines.'*

**Content of the visit**

| *Subject* | *Involved* | *For example* |
|---|---|---|
| **Identification & Registration** | X | |
| **Key figures (e.g. mortality data, production rates)** | X | |
| **Animal health data** | X | |
| **Eradication status** | X | Most common diseases |
| **Animal treatment / medication (e.g. antibiotics, withdrawal times)** | X | Contract with veterinarian for distributing drugs, antibiotics |
| **Prevention (e.g. vaccinations)** | X | Vaccination |
| **Animal welfare (e.g. tail docking, non – curative surgeries)** | X | |
| **Management** | X | Housing, food, water |
| **Food safety** | | |
| **Bio security (on the farm + environment around the farm)** | X | Food and water quality, hygiene, drag of animals, disinfecting, quarantine |

Frequency:

- **Mandatory: health control programme**
  - Big poultry farms, at least once a year.
- **Mandatory and voluntary: prescriptive medicine and health control programme**
  - Other farms: by necessity – can differ from one time per year, till once a month.

Veterinarian:

- **Mandatory: health control programme**
  - Veterinarian from the Food and Veterinary Service.
- **Mandatory and voluntary: prescriptive medicine and health control programme**
  - Veterinarians who are employed by the farms (also a form of a 'one-to-one' relationship).
  - A private veterinary practitioner, with no specific relationship contract.

Payment:

- The monitoring of infectious animal diseases will be paid by the State;
- For all further prevention / monitoring, the farmer needs to pay;
- Sometimes the drug sales company will pay for a 'prescriptive medicine' visit.

## 14. Malta

Malta

*Livestock Density Index*: 3,21

*Visits:* 0%

- *Cattle:* 0,02 million
- *Pigs:* 0,04 million
- *Sheep:* 0,01 million
- *Goats:* 0,005 million
- *Poultry:* 1 million

**No visits**

In Malta, preventive animal health farm visits for the purposes of animal welfare, animal health and prescriptive medicine purposes are not mandatory by organizations: nor public, nor private. Also, there is no 'Farm Veterinary Service' in Malta, which makes that farmers do most of the 'veterinary work', including diagnosing and treating. Farmers are able to purchase prescriptive medicines and other treatments from retail outlets, without supervision of a veterinarian. For the purchases of medications and treatments, the farmer does not have to do training courses. However, if there are any regulations, they are not enforced. The Veterinary Chamber of Malta is very much against this, because of the suffering of farm animals (in case no vet service is on the farms) and the very serious public health implications.

**Expected benefits**

| **Subject in visits** | **Importance** *(Scale: 0 = not at all, 10 = very beneficial)* |
|---|---|
| Animal health | **100** |
| Animal welfare | **100** |
| Biosecurity | **100** |
| Disease prevention | **100** |
| Use of medicine | **100** |

Malta is very much in favour of the benefits of the preventive animal health farm visits, therefore they think the visits should be regular and mandatory.

## 15. The Netherlands

The Netherlands

*Livestock Density Index*: 3,57

*Visits:* 100%

- *Cattle:* 4,3 million
- *Pigs:* 12,5 million
- *Sheep:* 1 million
- *Goats:* 0,5 million
- *Poultry:* 99,37 million

**Mandatory: health control programme**

The Dutch government demands the monitoring of the health and welfare of farm animals. The documents '*Besluit houders van dieren'* (Decree for animal holders, (Overheid.nl, 2017)) and '*Besluit diergeneeskundingen'* (Decree for veterinarians, (Overheid.nl, 2016)) are legal regulations for the health- and treatment plan on the farm (with an accent on the registration of antimicrobials). By ministerial regulations (in article 1.28, '*Besluit houders van dieren'*) the farmer needs to take care in his / her management of the farm, that there is an health- and treatment plan if he / she has more than 5 cows, 5 pigs or 250 chicks (small ruminants not included) (Overheid.nl, 2016, 2017). The farmer can be monitored by the Dutch Food Authority (NVWA) for compliance of the law (NVWA, 2015).

**Semi-mandatory: quality assurance systems**

Not only by government, but also multiple 'quality assurance' systems (such as: IKB (*Integrale Keten Beheersing* = indicates that the animals and their products had additional checks on production, transport and processing) (IKB Varken, 2017)). Also, for some certificates for export, the farmer needs to organize the preventive animal health farms visits. For goats, the Dutch Goat Dairy Organization (NGZO) set up a chain-quality care system. It is a private law recognition scheme for milk farms, established by collectors and processers of the goat milk. Almost all dairy goat farms are included in this scheme (NGZO, 2017).

**Semi – mandatory: prescriptive medicine**

A veterinarian can only prescribe medicines for the animals, if he / she knows the circumstances of the animals and the history of medication which is used. In practice: a veterinarian should therefore visit the farm multiple times a year. In addition, before the treatment of a couple would be given on the farm, this always needs to be covered with a visit.

**Organization of the visits**

Overall, the demanding of the preventive animal health visits, gives the Dutch veterinarians an important role in advice giving on animal health management, responsible use of medicine and biosecurity on the farm. The farmer needs to commission a practitioner ('one-on-one' relation) to set up an animal health- and treatment plan together. These plans are specific for the farm and contain concrete agreements which will be evaluated each year. The veterinarian can change the animal health- and / or treatment plan during the year, if it is necessary during one of the demanded visits. At this moment, multiple systems (such as: VeeOnline, Digi-DAP) are allowed to register the results of the health- and treatment plans. However, not all data is centrally collected. Some data, such as antibiotic prescription, is collected in a central database. It depends on the kind of data, if a farmer or a veterinarian is allowed to see it. The NVWA has always access (Stichting Geborgde Dierenarts, 2017).

Note out of survey: *'It is very important that the farmer, who is monitored, will follow up the vet's advice given as a part of the preventive animal health visit. Otherwise it will be a 'paper tiger'.*

**Content of the visit**

| *Subject* | *Involved* | *For example* | *Exceptions* |
|---|---|---|---|
| **Identification & Registration** | X | | |
| **Key figures (e.g. mortality data, production rates)** | X | Lab- and section results, mortality | |
| **Animal health data** | X | Most common diseases | |
| **Eradication status** | X | | |

| | | | |
|---|---|---|---|
| **Animal treatment / medication (e.g. antibiotics, withdrawal times)** | X | Antibiotics, based on formularies, lab results and more | Special 'treatment plan' will be set up |
| **Prevention (e.g. vaccinations)** | X | Vaccination | |
| **Animal welfare (e.g. tail docking, non – curative surgeries)** | X | | Special test, such as 'CowSignals' |
| **Management** | X | Housing, food, water | |
| **Food safety** | | | |
| **Bio security (on the farm + environment around the farm)** | X | Food and water quality, hygiene, drag of animals. | |

Frequency:

- **(Semi)-mandatory: health control programme, quality assurance systems and use of medicine**
  - **Cattle**
    - Four times per year. Exception: farms with structural low antibiotic – use will be visited one time per year)
  - **Pigs**
    - Once a month
  - **Poultry**
    - One time per round for broilers
- **Semi – mandatory:**
  - **Small ruminants (dairy goats)**
    - Four times per year

Veterinarian:

- **(Semi)-mandatory: health control programme, quality assurance systems and use of medicine**
  - 'One-on-one' – relationship (contract) with a veterinarian, who is qualified (special certification).

Payment:

- **(Semi)-mandatory: health control programme, quality assurance systems and use of medicine**
  - Farmer.

## 16. Norway

Norway

*Livestock Density Index*: 1,25

*Visits*: 62,5%

- *Cattle:* 0,85 million
- *Pigs:* 0,84 million
- *Sheep:* 2,4 million
- *Goats:* 0,07 million
- *Poultry:* 4,5 million

**Mandatory: health control programme**

Preventive animal health farm visits in Norway are mandatory by government for poultry and aquaculture animals (Lovdata.no, 2001). The Norwegian Food Safety Authority (NFSA), Section for Animal Health, is the competent authority for the control and monitoring of animal health and welfare. Also, for minimum requirements for the measurements of biosecurity on the farm, the district offices of the NFSA will do on-the-spot checks (EFTA, 2014). All animals for food production can be controlled and checked for minimum requirements in an audit form. Passive surveillance of terrestrial animal diseases relies on a reporting system.

**Semi – mandatory: prescriptive medicine**

For the use of prescription medicine (without a vet visiting the farm) preventive visits are demanded.

**Voluntary: quality assurance system**

In Norway, quality assurance systems are known. An example of such a system, is KSL (Kvalitetssystemet i Landbruket). KSL aims to reach higher quality in the agriculture system. Therefore, they ensure that the Norwegian agriculture is run, according to current laws and regulations. In addition, they want to safeguard food safety, animal welfare and the quality of the Norwegian food products (Government.no, n.d.).The KSL is not mandatory, but farmers who are members of this quality assurance system will get a premium (e.g. better prices for their products).

All in all, around 60% of the cattle farms, 50% of the pig farms, 100% of the poultry farms and 40% of the small ruminants receive preventive animal health farm checks. In addition, all fish farms are obliged to have regular visits (at least 6 times per year) by a veterinarian or a fish health biologist.

**Organization**

A veterinarian will check by a passive surveillance the animals and the holding; results will be reported in the system 'Husdyrregister' (the domestic animal database). The 'Husdyrregister' is a part of the MATS; the operating system for official controls in the NFSA. 'Husdyrregister' will record the origin, identity, the movement and disposal of all livestock. Therefore, they use input and movement data, livestock markets, slaughter houses and export points for all livestock. MATS contains a register of all cattle, pigs, chickens and small ruminants in Norway. Updating and reporting to this central register, will be done by direct input through the web from multiple stakeholders (such as: animal keepers, slaughterhouse organisations, dairy organisations, NFSA district offices and data personnel in charge of the central register).Veterinarians are always allowed to see the data they filled in and also the data from single farms, if the farmers grant them access (EFTA, 2014).

**Content of the visit**

| *Subject* | *Involved* | *For example* |
|---|---|---|
| **Identification & Registration** | X | |
| **Key figures (e.g. mortality data, production rates)** | X | |
| **Animal health data** | X | |
| **Eradication status** | | |
| **Animal treatment / medication (e.g. antibiotics, withdrawal times)** | X | |
| **Prevention (e.g. vaccinations)** | X | |
| **Animal welfare (e.g. tail docking, non – curative surgeries)** | X | |
| **Management (feeding, housing)** | X | |

| | | |
|---|---|---|
| **Food safety** | | |
| **Bio security (on the farm + environment around the farm)** | | |

Frequency:

- **Mandatory: health control programme**
  - **Poultry**
    - Estimation of 1 – 12 times a year.
- **Semi – mandatory / voluntary**
  - **Cattle and small ruminants**
    - Estimation of 1 – 6 times a year.
  - **Pigs**
    - Estimation of 1 – 12 times a year.
  - **Poultry**
    - Estimation of 1 – 12 times a year.

Veterinarian:

- **Mandatory / semi – mandatory / voluntary**
  - A private veterinary practitioner, who has a 'one-to-one' relationship / with no specific relationship.
  - A private veterinary practitioner, who received additional education and employed by the 'quality assurance' system.

Payment:

- **Mandatory / semi – mandatory / voluntary**
  - Farmer

## 17. Poland

Poland

*Livestock Density Index*: 0,64

*Visits:* 0%

- *Cattle:* 5,8 million
- *Pigs:* 10,6 million
- *Sheep:* 0,22 million
- *Goats:* 0,17 million
- *Poultry:* 140,35 million

**No visits**

In Poland the preventive animal health farm visits for the purposes of animal welfare, animal health and preventive medicine purposes are not performed by organizations: nor public, nor private.

**What should a good visit contain?**

The veterinarian should perform a visit, because of the responsibilities:

- They can take all appropriate measures to prevent introduction, development and spread of diseases;
- They are very important in raising animal health awareness and the interaction between animal health, animal welfare and human health;
- They are very important in prevention and early detection to diseases;
- They can raise awareness of resistance of treatments, including antimicrobial resistance, and its implications.

A good visit shall include all subjects: identification and registration, key figures, animal health data, eradication status, animal treatment (very important!), prevention, animal welfare, management, food safety and biosecurity. The Chamber believes that preventive animal health farm visits are beneficial to improve good practice of animal husbandry for the animals under the care of the farmer. Such animal health visits should be based on a mandatory contract ('one-on-one' relationship), and the frequency of the visits should be at least once per two months.

**Expected benefits**

| **Subject in visits** | **Importance** *(Scale: 0 = not at all, 10 = very beneficial)* |
|---|---|
| Animal health | **10** |
| Animal welfare | **10** |
| Biosecurity | **10** |
| Disease prevention | **10** |
| Use of medicine | **10** |

**The farmer should pay for the visit, because in Art. 25 Reg. EU Nr 429 / 2016 – operators shall ensure that establishments under their responsibility receive animal health visits from a veterinarian.**

## 18. Romania

**Mandatory: health control programme**
By the 23th of December 2013, Decision No. 1156 was approved (Annex – Procedura). In this decision, the Romanian government approved multiple actions for the veterinarian. This included the program of actions for surveillance, prevention, control and eradication of animal diseases. Also the protection of animals, protection of the environment and identification and registration of all livestock is included. The preventive animal health farm visits are since then mandatory for cattle, pigs and small ruminants (poultry not included) by government.

Romania

*Livestock Density Index*: 0,38

*Visits:* 75%

- *Cattle:* 2,1 million
- *Pigs:* 4,9 million
- *Sheep:* 9,8 million
- *Goats:* 1,4 million
- *Poultry:* 90,02 million

**Organization**
All documents related to the visits on farms are printed from a central database. The veterinarian should complete the inspection sheet, which is prepared for the specific animal holding. If there are pigs in the farm, a special sheet for swine fever surveillance should be completed. If there are sheep in the farm, a special sheet for scrapie should be completed. However, the results of the visits will not be collected in a central database as they are noted down on paper. The results of the visits will be send to the farmer, veterinarian and the competent authority.

**Organization**

| *Subject* | *Involved* | *For example* |
|---|---|---|
| **Identification & Registration** | X | |
| **Key figures (e.g. mortality data, production rates)** | X | |
| **Animal health data** | X | |
| **Eradication status** | X | TBC, Brucellose |
| **Animal treatment / medication (e.g. antibiotics, withdrawal times)** | | |
| **Prevention (e.g. vaccinations)** | | |
| **Animal welfare (e.g. tail docking, non – curative surgeries)** | | |
| **Management (feeding, housing)** | | |
| **Food safety** | | |
| **Bio security (on the farm + environment around the farm)** | X | |

Frequency:

- **Mandatory: health control programme**
  - One visit per year, between February and May. After analysis, when results could improve even more, it is possible to have one more visit that year.

Veterinarian:

- **Mandatory: health control programme**
  - Commercial farms: official veterinarian.
  - On the backyard farms,: private veterinary practitioner (‘one-on-one’ relationship with the farmer and a contract with the competent authorities).

Payment:

- **Mandatory: health control programme**
  - Competent authority.

## 19. Slovakia

Slovakia

*Livestock Density Index*: 0,34

*Visits:* 67,5%

- *Cattle:* 0,5 million
- *Pigs:* 0,6 million
- *Sheep:* 0,4 million
- *Goats:* -
- *Poultry:* 11,7 million

**Semi - mandatory: export**

If farmers want to produce their animal (products) for the export, then visits are necessary (Slovenskej republiky, 2003). The ŠVPS (*Štátna veterinárna a potravinová správa Slvenskey republiky:* State Veterinary and Food Administration) is a state administration on veterinary care and in the field of the food surveillance. Veterinary control, physical inspection and examination of documents needs to be done of all livestock that are intended for trade. An official veterinarian should be appointed by the competent authority, before carrying out the visits.

**Voluntary: health control programme**

Visits that will be done are on farmers request, by his / her own motivation and results that will follow, will be collected in a central database. Only the competent authority is allowed to see the results of all visits.

Around 60% of the cattle farms, 80% of the pig farms and poultry farms and 50% of the small ruminants farms already receive these visits.

**Content of the visit**

| *Subject* | *Involved* | *For example* |
|---|---|---|
| **Identification & Registration** | | |
| **Key figures (e.g. mortality data, production rates)** | | |
| **Animal health data** | X | |
| **Eradication status** | X | |
| **Animal treatment / medication (e.g. antibiotics, withdrawal times)** | X | |
| **Prevention (e.g. vaccinations)** | X | |
| **Animal welfare (e.g. tail docking, non – curative surgeries)** | X | |
| **Management (feeding, housing)** | | |
| **Food safety** | | |
| **Bio security (on the farm + environment around the farm)** | | |

Frequency:

- **Semi – mandatory / voluntary:**
  - **Cattle**
    - Four times per year.
  - **Pigs and poultry**
    - Ten times per year.
  - **Small ruminants**
    - Two times per year.

Veterinarian:

- **Semi - mandatory: export**
  - **Voluntary: health control programme**
    - A private veterinary practitioner, with no specific relationship contract.
  - **Mandatory: expert**
    - Official veterinarian appointed by the ŠVPS.

Payment:

- **Semi - mandatory: export**
  - Competent authority and the farmer (very beneficial for the farmer).

## 20. Slovenia

Slovenia

*Livestock Density Index*: 1

*Visits:* 100%

- *Cattle:* 0,5 million
- *Pigs:* 0,3 million
- *Sheep:* 0,07 million
- *Goats:* 0,02 million
- *Poultry:* 3,30 million

**Mandatory: health control programme**

The preventive animal health farm visits are mandatory in Slovenia under the *Article 6, point 6 of the Veterinary Compliance Criteria Act* (Uradni list RS, 2005). Detailed conditions of the method of animal health visits and the financing are prescribed in the rules on regular official veterinary visits of holdings (OJ 23/06 and 57/08). These preventive animal health farm visits must be carried out at the holdings with ungulates (bovine, porcine, ovine / caprine, equines), poultry, lagomorphs and game intended for trade purposes or for processing of food (Uradni list RS, 2006, 2008). Control over the implementation of the official veterinary checks is carried out by official veterinarians, according to the annual control plan of the AFSVSPP.

In this way, all farms in Slovenia receive regularly visits.

**Organization**

Farms have to be supervised by veterinary practitioners, as recorded in the *Veterinary Compliance Critera Act*, in view of the regular nature. In this way, private veterinary practitioners will do the preventive animal health farm visits in Slovenia. An annual inspection programme is approved by the *Administration of the Republic of Slovenia for Food Safety, Veterinary Sector and Plant Protection* (AFSVSPP). At the beginning of each year, the AFSVSPP selects farms which need to be checked in the frame of official veterinary checks. Specific criteria for the selection of the holding will be defined annually, based on an assessment of risk factors (such as: biosecurity, animal welfare) that are associated with each farm. The holdings which are selected, will be put into the central database VOLOG (national animal register). Before the visit will be carried out, the veterinarian has to print out a protocol of the holding with assigned protocol number. Findings which are done by the veterinarian during the visits, should be entered into the database (VOLOG) and reported to the Regional Office of the AFSVSPP within three days. If an approved veterinarian finds any deficiencies or irregularities at the farm, (s)he has to write an additional instruction for the farmer to eliminate the shortcoming or irregularities. This report should also be send to the database.. The veterinarian has to enter the data and the registration number of the protocol into the herd log book that is kept on the farm. The veterinarian and the competent authority are allowed to see the results of the visits. (Uradni list RS, 2006).

**Content of the visit**

| *Subject* | *Involved* | *For example* |
|---|---|---|
| **Identification & Registration** | X | Categories and number of animals at the holding, animals registers |
| **Key figures (e.g. mortality data, production rates)** | X | Data of holding, holding logbook |
| **Animal health data** | X | Systematic monitoring of the disease of the animals each year |
| **Eradication status** | X | |
| **Animal treatment / medication (e.g. antibiotics, withdrawal times)** | X | |
| **Prevention (e.g. vaccinations)** | X | Vaccination |
| **Animal welfare (e.g. tail docking, non – curative surgeries)** | X | Housing system for the husbandry of the animals, compliance with animal welfare conditions |
| **Management** | | |
| **Food safety** | | |
| **Bio security (on the farm + environment around the farm)** | X | Possible hazards (eg. chemicals / biocides which are used) and safety measures for the environment |

Frequency:

- **Mandatory: health control programme**
    - Two visits per year, in addition to the routine checks on the documents (e.g. medicine records). (European Commission, 2008; Pravno-informacijskega sistema Republike Slovenije, 2001).

Veterinarian:

- **Mandatory: health control programme**
    - Private veterinarian, with 'one-on-one' – relationship on contract (special education not necessary). The veterinarians should be approved by the veterinary organisation, with concession of the competent authority.

Payment:

- **Mandatory: health control programme**
    - Republic of Slovenia.

## 21. Spain

Spain

*Livestock Density Index*: 0,62

*Visits:* 100%

- *Cattle:* 6,2 million
- *Pigs:* 28,4 million
- *Sheep:* 16,5 million
- *Goats:* 3 million
- *Poultry:* 138,86 million

*In Spain, there is an interesting system as well. Farmers will be visited a lot by multiple parties. Collaboration in the Spanish livestock sector is strong. In this way - farmer, government and third parties fight for improvement in hygiene on farms and to improve the commercial agility and profitability of the sector. Therefore, collaboration mainly focus on the fight and the eradication of diseases and to maintain defensive structures to prevent that risks can appear.*

**Mandatory: health control programme**

For Spanish farmers, it is mandatory to be part of an 'Animal Health Defense Group' (Las Agrupaciones de Defensa Sanitaria Ganadera, ADSG) if they want to keep livestock and produce the products. Together with the veterinary administration, farmers need to set up groups together to protect the health of their livestock herd. In this way collaboration with government and farmers will be realized to prevent, control and eradicate diseases in livestock farms. The competent authority will establish a territorial scope or census of livestock depending on the production system, the size of the holdings or the peculiarities existing in the given area. The ADSG is obliged (after their recognition) to collaborate in an active way with the related competent authorities.

Farmers need to create an health plan based on results of visits, to participate in an ADSG. The total group must present an corresponding common health programme. This common programme must be approved by the competent authority. The group must be technically led by at least one veterinarian and should commit to the collaboration with competent authorities and comply with the obligations. Every year, farmers need to update their recognised ADSG files, together with their group veterinarian.

The veterinarian is responsible for technical management and health actions. Therefore (s)he shall carry out actions, such as: the control of the design and the supervision of the common health programme, the compliance with obligations (e.g. (prescribed) veterinary medicines, residues), the supervision on the correct application of codes of good biosecurity practices in holding. In addition, the veterinarian of the group will also advice farmers in certain issues, such as: fed, animal health and animal welfare (Boletín Oficial del Estado, 2011). The National Register of Livestock Health Protection Groups (RADSG) is attached to the directorate general of Agricultural and Livestock Resources of the MAGRAMA (Ministry of Agriculture, Food and Environment). All data of each holding will be registered in the general register of livestock farms.

In addition, official veterinarians of MAGRAMA will visit farms, more as an audit. They will check if the farmer complies with the Spanish legislation. The focus for these visits will be on animal welfare and the biosecurity (movement of animals). In Spain, these visits will happen quite a lot, because there are a lot of official veterinarians. For the farmers it is mandatory to participate in these official visits, for all farms and all species. (MAGRAMA, 2016).

**Voluntary: quality assurance systems**

There are some quality systems in Spain, but not in a large quantity. It is possible that participating in a quality can demand the use of preventive animal health farm visits on the farms. Systems are mainly found for the responsible production of pigs and poultry.

**Content of the visit**

| *Subject* | *Involved* | *For example* |
|---|---|---|
| **Identification & Registration** | X | |
| **Key figures (e.g. mortality data, production rates)** | X | |
| **Animal health data** | X | |
| **Eradication status** | X | |
| **Animal treatment / medication (e.g. antibiotics, withdrawal times)** | X | |
| **Prevention (e.g. vaccinations)** | X | |
| **Animal welfare (e.g. tail docking, non – curative surgeries)** | X | |
| **Management (feeding, housing)** | X | |
| **Food safety** | X | |
| **Bio security (on the farm + environment around the farm)** | X | |

Frequency:

- **Mandatory and voluntary**
  - **Cattle**
    - Twice a year.
  - **Pigs, poultry and small ruminants**
    - Once a year.

Veterinarian:

- **Mandatory: health control programme**
  - Veterinarian who is selected by the ADSG.
- **Voluntary: quality assurance system**
  - Veterinary practitioner, who is employed by the 'quality assurance system'.

Payment:

- **Mandatory: health control programme**
  - Direct: farmer, indirect: competent authority.
- **Voluntary: quality assurance system**
  - Private organization.

## 22. Sweden

*The general health of the Swedish livestock is favourable due to geographic isolation, restricted import rules, vaccination programmes, biosecurity measures, eradication programmes and active disease surveillance. All species are declared free from all infections presented on the A-list of the International Office of Epizootics (OIE). The SVA (Swedish National Veterinary Institute) is a national authority for veterinary medicine. They provide the advice of experts and are working for good animal and human health. As the farmers and veterinarians are the key groups in detecting diseases, the SVA works close in co-operation with both to reach the aims. (SVA, n.d.)*

Sweden

*Livestock Density Index*: 0,56

*Visits:* 100%

- *Cattle:* 1,4 million
- *Pigs:* 1,4 million
- *Sheep:* 0,6 million
- *Goats:* 0,01 million
- *Poultry:* 8,69 million

**Mandatory: health control programme**
For Swedish farmers, the preventive animal health visits are mandatory by government, if a farmer wants to sell the livestock or their products. These visits will be controlled by the Board of Agriculture and are performed by veterinarians with a special authorization.

**Semi – mandatory: prescriptive medicine**
If a Swedish farmer wants to use prescription medicine without a visit of a veterinarian, the farmer needs have regular visits by the veterinarian on his farm. Also, private organizations (such as 'quality assurance' systems or movements from out the sector), could demand the visits from the farmer.

**Voluntary: epidemiological / biosecurity programme**
For small ruminants, cattle and pigs there is a voluntary biosecurity programme, 'Smittsäkrad besättning'. The program has been developed by Växa Sverige in cooperation with Farm and Animal Health (Gård&Djurhälsan) and the National Veterinary Institute, and the work is financed by the Swedish Board of Agriculture. The veterinary visit is repeated on a regular basis; the farm needs to pass basic biosecurity and hygiene check points and include an education part as well (Växa Sverige, n.d.)This programme is an addition for previous organized measures against infectious diseases in Sweden. These specific agent programmes (e.g. bovine leucosis, Salmonella) are successful in controlling the specific infection, as well as generally increasing the level of biosecurity. The aim of 'Smittsäkrad besättning' is to increase the biosecurity in herds and flocks by enhancing the knowledge of the farmer in the different routers of the spreading of infectious diseases and spreading can be prevented. In this way, a farmer will receive tools to implement on-farm biosecurity routines. Farmers that are enrolled in the programme are entitled to higher compensation from the Swedish Board of Agriculture in case of an outbreak of Salmonella.

The results of the visits are not collected in a central database. However, results are visible for the farmer, veterinarian (after an allowance from the farmer), the farmer's organization and the competent authority. Some results, linked to treatment, are reported to central authorities. All in all, 100% of all farms in Sweden will receive the preventive animal health farm visits. In addition, almost all poultry, beef cattle and pig farms will be visited (because of sales or use of medicines). Around 10% of all dairy cattle will receive visits, which are linked to medicine usage and another 10% of all dairy cattle receive other types of regular preventive health care. The estimation of other preventive visits for small ruminants will be around 25%.

**Content of the visit**

| *Subject* | *Involved* | *For example* |
|---|---|---|
| **Identification & Registration** | | |
| **Key figures (e.g. mortality data, production rates)** | X | |
| **Animal health data** | X | |
| **Eradication status** | | |

| | | |
|---|---|---|
| **Animal treatment / medication (e.g. antibiotics, withdrawal times)** | X | |
| **Prevention (e.g. vaccinations)** | X | |
| **Animal welfare (e.g. tail docking, non – curative surgeries)** | X | |
| **Management (feeding, housing)** | X | |
| **Food safety** | X | |
| **Bio security (on the farm + environment around the farm)** | X | |

Frequency:

- **Mandatory, semi – mandatory, voluntary (related to prescriptive medicine)**
    - **Dairy cattle**
        - Farms < 100 cows; every 6 weeks (normal interval), every 3 weeks (increased interval).
        - Farms 100 – 250 cows; every 4 weeks (normal interval), every 2 weeks (increased interval).
        - Farms > 250 cows; every week.
    - **Beef, pigs, small ruminants and poultry**
        - Interval of 5 – 8 weeks.

Veterinarian:

- **Mandatory: health control programme**
    - Veterinarians with a special authorization.
- **Semi – mandatory: prescriptive medicine**
    - Any veterinary practitioner (in case of pigs) or veterinarians with a special authorization (in case of dairy cattle), who has a 'one-to-one' relationship with the farmer.
        - Depending on sort of visit: additional education and / or employment by the 'quality assurance system' (depending on QA system).

Payment:

- **Mandatory and semi – mandatory**
    - Farmer.
- **Voluntary: epidemiological / biosecurity programme**
    - Swedish Board of Agriculture.

## 23. Switzerland

**Mandatory: epidemiological / biosecurity monitoring**
For all farmers (except farms with less than 25 milking goats ( 20% of the small ruminants farms)) in Switzerland it is mandatory to organize preventive animal health farm visits on their farm.

**Semi – mandatory: quality assurance system and prescriptive medicine**
Swiss farmers can also be demanded by a private organization, such as a 'quality assurance' system to organize these visits. The visits have to be done at least once a year, if the farmer wants to use medicine without a visit of the veterinarian each time.

Switzerland

*Livestock Density Index*: 1,7 (±)

*Visits:* 100%

- *Cattle:* 1,6 million
- *Pigs:* 1,5 million
- *Sheep:* 0,41 million
- *Goats:* 0,09 million
- *Poultry:* 10,17 million

**Organization**
Each year, the veterinarian who received the responsibility of the BLV (*Bundesamt für Lebensmittelsicherheit und Veterinärwesen* = Federal Office for Food Safety and Veterinary Affairs) will monitor the livestock, out of an epidemic point of view (art. 292a, (SR, 1995)). This authority shall order the control of all livestock. After the visit, the veterinarian draws up a report which presents the monitoring activities and the decisions which were taken during the visit (SR, 1995). The farmer, the veterinarian and the competent authority are able to see the results of the visits. These official checks should be reported in a control data information system, named *Acontrol*. (SR, 2008). *ASAN* serves the authorities by fulfilling the tasks in the field of business administration, the health of the animals, animal welfare and food hygiene (SR, 2014).

**Content of the visit**

| *Subject* | *Involved* | *For example* |
|---|---|---|
| **Identification & Registration** | X | (SR, 2013) |
| **Key figures (e.g. mortality data, production rates)** | X | |
| **Animal health data** | X | |
| **Eradication status** | | |
| **Animal treatment / medication (e.g. antibiotics, withdrawal times)** | X | |
| **Prevention (e.g. vaccinations)** | X | |
| **Animal welfare (e.g. tail docking, non – curative surgeries)** | X | |
| **Management** | | |
| **Food safety** | | |
| **Bio security (on the farm + environment around the farm)** | | |

Frequency:

- **Mandatory and semi - mandatory**
  - **Cattle**
    - Dairy: one time per year.
    - Calves: four times per year.
  - **Pigs**
    - Weaners: each round.
    - Sows: one time per year.
  - **Poultry**
    - Broilers and spent hens: four times per year.
  - **Small ruminants**
    - One time per year.

Veterinarian:

- **Mandatory: epidemiological / biosecurity monitoring**
    - A private veterinary practitioner, who has a ‘one-to-one’ relationship.
- **Semi – mandatory: quality assurance system and prescriptive medicine**
    - A veterinary practitioner, who is employed at the ‘quality assurance’ system.

Payment:

- **Mandatory and semi – mandatory:**
    - Farmer.

## 24. United Kingdom

United Kingdom

*Livestock Density Index*: 0,76

*Visits:* 70%

- *Cattle:* 9,8 million
- *Pigs:* 4,4 million
- *Sheep:* 23,1 million
- *Goats:* 0,1 million
- *Poultry:* 158,6 million

**Mandatory: health control programme**

In general, the UK Government does not conduct mandatory preventive animal health farm visits. However, there are exceptions. For example, live poultry (either adult, day old chicks or hatching eggs of 20 or more) will need to be part of the Poultry Health Scheme and will need to be a member for six weeks, before export is permitted. Poultry of less than 20 can go on a 'lots under 20' certificate, but Salmonella testing will still need to be carried out. This Poultry Health Scheme has strict regulations (DEFRA, 2016).

Official controls on animal welfare and health will be done by the *Department for Environment, Food and Rural Affairs* (DEFRA) and its agencies. DEFRA safeguards public and animal health and protects animal welfare, the economy and food safety. Inspectors of DEFRA and the other agencies can do multiple checks, such as: animal inspections (e.g. identification, special meat marketing farms), disease inspections, facility inspections and land and environmental inspections (GOV.UK, 2016).

**Semi – mandatory: prescriptive medicine**

In addition, before a veterinarian can prescribe a medicine, they must first carry out a clinical assessment of the animal under their care. The phrase 'under his or her care' has been interpreted by the RCVS (Royal College of Veterinary Surgeons) and Veterinary Medicines Directorate (VMD) to mean, amongst other things, that the animal(s), herd or flock must have been seen immediately before prescription or recently enough or often enough for the veterinary surgeon, to have personal knowledge of the condition of the animal or current health status of the herd / flock to make a diagnosis and prescribe (RCVS, 2016). What amounts to 'recent enough' is a matter for the professional judgement of the veterinary surgeon in the individual case.

**Semi – mandatory: quality assurance system**

In practice, UK 'preventive animal health farm visits' are almost semi-mandatory. There are multiple private organizations (e.g. 'quality assurance', farm assurance bodies, dairy processors and purchasers, and even some private veterinarians) who 'demand' these preventive visits. For the farmer it is really beneficial to be a part of a 'quality assurance' system, because he / she will be more secure to sell his / her animals, or animal products. The 'Red Tractor' is the biggest 'quality assurance' system in the UK, which requires a veterinary health plan based on preventive animal health farm visits (Red Tractor, 2017). When the visits are done, the veterinarian will present his / her findings to the farmer. However, much is already confidential between vet and client (internally). Therefore, results are not collected in a central database. The farmer and vet are allowed to see the results of the visits. The competent authority can only see the results, if the farmer wants to present them to the authority. In addition, for the farmer organisations to see the results of the farm, it will depend on the relationship they have with the farmer.

**Voluntary: health control programme**

For example, the 'Environment Agency' provide UK pig and poultry farmers with a Pig and Poultry Assurance Scheme (voluntary, but beneficial). This Assurance Scheme cuts red tape and reduces charges for farmers for pig and poultry farmers who achieve a high standard of compliance with their environmental permit. Every farmer that joins the Scheme, will therefore save money and will decrease the number of visits on the farm; because Certification Bodies will inspect and also carry out audit for other schemes (Environment Agency, 2016). However, for the Poultry Health Scheme, results are collected in a central database. Also individual assurance schemes will hold the data for their respective scheme. In the mean time, there is not one location for all reports. For PHS the competent authority is allowed to see the results, mostly for investigating notifiable disease, welfare or public health matters.

In our survey, respondents estimated that the vast majority of pig farms (around 90%), poultry farms (90%, very much because of assurance schemes) and cattle farms (80%), and around a fifth of the sheep farms received regular preventive visits. There are differences depending on the size of the holding; small-holder / hobbyists may have no visits at all. For goats, respondents did not provide an estimate, but noted that most of the larger commercial goat units interact with their private veterinarian periodically.

Note out of survey: *'Although respondents felt that preventive animal health farm visits were beneficial and pointed to individual farm evidence or anecdotal evidence, they were not aware of many published studies'.*

**Content of the visit – 'Red Tractor'**

| *Subject* | *Involved* | *For example* |
|---|---|---|
| **Identification & Registration** | X | |
| **Key figures (e.g. mortality data, production rates)** | X | Mortality data |
| **Animal health data** | X | |
| **Eradication data** | X | Sometimes flock specific |
| **Animal treatment / medication (e.g. antibiotics, withdrawal times)** | X | Approved medicine list by your vet |
| **Prevention (e.g. vaccinations)** | X | Strategy for: infectious disease and vaccinations, parasite control, foot care |
| **Animal welfare (e.g. tail docking, non – curative surgeries)** | X | Non – curative surgeries, welfare assessment; |
| **Management** | X | |
| **Food safety** | X | Salmonella Control, needle hygiene |
| **Bio security (on the farm + environment around the farm)** | X | Management of incoming stock, housing, farm visitors, |

Frequency:

- **Mandatory: health control programme**
  - Poultry: annual
- **Semi – mandatory and voluntary**
  - Cattle: once every 18 months.
  - Pigs: four times per year.
    - Intensive housing (farm inspection for environmental protection will be done at the same time)
      - Member of Pig Assurance Scheme: every three years.
      - Not a member of Pig Assurance Scheme: every year.
  - Sheep: flock specific (many may be annual).
  - Goats: depending on purpose.
  - Poultry
    - Every farm that uses certain marketing terms (such as 'free range').

        - At least once per flock turnaround (around 6 times per year).
    - Intensive housing (farm inspection for environmental protection will be done at the same time).
        - Member of Poultry Assurance Scheme: every three years.
        - Not a member of Poultry Assurance Scheme: every year.

Veterinarian:

- **Mandatory: health control programme**
    - Official veterinarian.
- **Semi - mandatory: quality assurance system**
    - Trained technicians (for assessment of various sections) for the audits.
    - Private veterinarian (employed by the quality assurance system) with a contract (health plan).
- **Semi – mandatory: prescriptive medicine**
    - Private veterinarian (received additional education).

Payment:

- **Mandatory: health control programme**
    - Competent authority.
- **Semi – mandatory: quality assurance system and prescriptive medicine**
    - Farmer.

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# *Annex 2* Questionnaire

## FVE Survey on 'Preventive Animal Health Farm Visits'

**Introduction**
Dear Delegates,

My name is Eline Nijhof and I just started as intern in the FVE office. The topic I will work on are the preventive animal health farm visits. My objective is to investigate what the current situation is in your country, regarding animal health visits. For that reason I would like to invite you to fill in the following questionnaire, which will take you approximately 5 - 10 minutes. If 'preventive animal health visits' are known in your country, the survey will contain:

- General information, including opinions
- Information for cattle *(optional)*
- Information for pigs *(optional)*
- Information for poultry *(optional)*
- Information for small ruminants *(optional)*

I'm trying to get all information back before the 20th of February. After that, I will analyse and will make a report about all input received. This will be presented to you.

If there are any questions / adds, please do not hesitate to contact me.

With many thanks for you cooperation,

*Eline Nijhof*
*Federation of Veterinarians of Europe, intern December '16 - May '17*

**COMMON INFORMATION**

1. **Please provide your contact details**
    - Country
    - Organisation / Authority
    - Name + surname
    - Email

2. Is the concept of 'preventive animal health visits' known in your country?
    - ☐ Yes
    - ☐ No (go to 3)
    - ☐ Yes, but only for certain farms (*please specify*)

**GENERAL INFORMATION – NO PREVENTIVE ANIMAL HEALTH VISITS**
**If you are interested in the concept of preventive animal health farm visits, would you please fill in follow questions?**

3. What do you think personally, should a good visit contain? *Multiple answers are possible*
    - ☐ Identification & Registration
    - ☐ Key figures on the farm (e.g. mortality data, production rates)
    - ☐ Animal health data (e.g. most common diseases, samples)
    - ☐ Eradication status (e.g. BVD, Neospora, IBR, Aujeszky)
    - ☐ Animal treatment (e.g. antibiotics, withdrawal times)
    - ☐ Prevention (e.g. vaccinations)
    - ☐ Animal welfare (e.g. tail docking, non - curative surgeries)
    - ☐ Management (e.g. housing, food, water)

- Food safety
- Biosecurity
- Please specify, if '**Other**' is chosen

4. Who should pay for the visits?
   - Farmer
   - Competent authority
   - Other

5. Do you believe that preventive animal health farm visits are beneficial to improve animal health on farms? (**Question 5 - 9:** 0 = not at all; 10 = very beneficial)

6. Do you believe that preventive animal health farm visits are beneficial to improve animal welfare on farms?

7. Do you believe that preventive animal health farm visits are beneficial to improve biosecurity on farms?

8. Do you believe that preventive animal health farm visits are beneficial to improve disease prevention

9. Do you believe that preventive animal health farm visits are beneficial to the use of medication on farms?

10. Are there any other points you would like to emphasise about the benefits of preventive animal health farm visits?

**GENERAL INFORMATION - YES, PREVENTIVE ANIMAL HEALTH FARM VISITS**

*11.* Are these regular animal health visits mandatory in your country? *Multiple answers are possible*
   - Yes, mandatory by government (public organization)
   - Yes, mandatory by organization (delegated by the government)
   - Yes, mandatory by private organization (e.g. 'quality assurance' system)
   - Yes, mandatory for farmer, if he / she wants prescription medicine without the vet visiting the farm
   - No, not mandatory by public / private organization
   - I do not know
   - Other or partly, please specify

*12.* Who are allowed to do these 'preventive animal health visits' on the farm? *Multiple answers are possible*
   - A private veterinary practitioner, who has a 'one-to-one' relationship (e.g. contracted veterinarian)
   - A private veterinary practitioner, with no specific relationship contract
   - A private veterinary practitioner, who has received additional education
   - A veterinary practitioner, employed by the 'quality assurance system'
   - An official veterinarian
   - Other person, please specify
   - I do not know

*13.* Which aspects will be observed and produced in these visits? *Multiple answers are possible*
   - Identification & Registration

- Key figures on the farm (e.g. mortality data, production rates)
- Animal health data (e.g. most common diseases, samples)
- Eradication status (e.g. BVD, Neospora, IBR, Aujeszky)
- Animal treatment (e.g. antibiotics)
- Prevention (e.g. vaccinations)
- Animal welfare (e.g. tail docking, non - curative surgeries)
- Management (e.g. housing, food, water)
- Food safety
- Biosecurity (on the farm + environment around the farm)
- I do not know
- Other, please specify

14. Are the results collected in a central database?
    - No
    - I do not know
    - Yes, please specify

*15.* Who is / are allowed to see the results of these visits? *Multiple answers are possible*
    - Farmer
    - Veterinarian
    - Farmers organization
    - Competent authority
    - I do not know
    - Other, please specify

16. Are the results accessible by the competent authority? (e.g. Could be the basis of risk based inspections)
    - Yes
    - No
    - I do not know

*17.* Who is paying for these visits? *Multiple answers are possible*
    - Farmer
    - Competent authority
    - I do not know
    - Third party, please specify

18. How important do you think that preventive animal health farm visits are for animal health on farms? (**Scale: 0 = not at all, 10 = very beneficial)**

19. How important do you think that preventive animal health farm visits are for animal welfare on farms? **(Scale: 0 = not at all, 10 = very beneficial)**

20. How important do you think that preventive animal health farm visits are for biosecurity on farms? **(Scale: 0 = not at all, 10 = very beneficial)**

21. How important do you think that preventive animal health farm visits are for disease prevention on farms? **(Scale: 0 = not at all, 10 = very beneficial)**

22. How important do you think that preventive animal health visits are for the use of medicine on farms? **(Scale: 0 = not at all, 10 = very beneficial)**

23. Do you have any studies in your country who show that regular animal health farm visits improve health, welfare and farm economics?
    - No
    - Yes (Please provide link / title, if '**Yes**' is chosen)

24. Are there any other points you would like to emphasise about the use of animal health visits?

**CATTLE**

25. Are there preventive animal health farm visits for cattle in your country?
    - Yes
    - No (please go to 'Next page')
    - I do not know

26. Are these visits for cattle mandatory?
    - Yes
    - No
    - I do not know
    - Depends on holding (e.g. more than ... cows / only young stock), please specify

27. What is the frequency of operating these visits on the farm? (e.g. Calves four times a year, cattle two times a year)

28. Which percentage of cattle farms in your country already receive such regularly preventive animal health farm visits? (**Scale from 0 – 100)**

29. Would it be possible to send / upload the checklist which you use for the visits of cattle? Preferably in English - sending is possible to stagiaire@fve.org

**PIGS**

30. Are there preventive animal health farm visits for pigs in your country?
    - Yes
    - No (Please go to 'Next page')
    - I do not know

31. Are these visits for pigs mandatory?
    - Yes
    - No
    - I do not know
    - Depends on holding (e.g. more than ... sows / slaughter swine), please specify

32. What is the frequency of operating these visits on the farm? (e.g. Each round of weaners, for sows two times a year)

33. Which percentage of pig farms in your country already receive such regularly preventive animal health farm visits? **(Scale from 0 – 100)**

34. Would it be possible to send / upload the checklist which you use for the visits of pigs? Preferably in English - sending is possible to stagiaire@fve.org

**POULTRY**

35. Are there preventive animal health farm visits for poultry in your country?
    - Yes
    - No (Please go to 'Next page')
    - I do not know

36. Are preventive animal health farm visits mandatory for poultry?
    - Yes
    - No
    - I do not know
    - Depends on the holding (e.g. more than ... broilers / spent hens), please specify

37. What is the frequency of operating these visits on the farm? (e.g. Broilers four times a year, spent hens once a year)

38. Which percentage of poultry farms in your country already receive such regularly preventive animal health farm visits? **(Scale from 0 – 100)**

39. Would it be possible to upload / send the checklist which you use for the visits of poultry? Preferably in English - sending is possible to stagiaire@fve.org

**SMALL RUMINANTS**

40. Are there preventive animal health farm visits for small ruminants in your country?
    - Yes
    - No (please go to 'Next page')
    - I do not know

41. Are these visits for small ruminants mandatory?
    - Yes
    - No
    - I do not know
    - Depends on holding (e.g. more than .... milking goats / more than ... sheep), please specify

42. What is the frequency of operating these visits on the farm? (e.g. Milking goats two times a year, sheep once a year)

43. Which percentage of small ruminant farms in your country already receive such regularly preventive animal health farm visits? **(Scale from 0 – 100)**

44. Would it be possible to send / upload the checklist which you use for the visits of cattle? Preferably in English - sending is possible to stagiaire@fve.org

**END OF SURVEY**

45. Can we contact you for further information?
    - Yes
    - No

*We appreciate it enormously, for all your help and knowledge about this subject. If there are any questions / adds, do not hesitate to contact me (stagiaire@fve.org).*

Yours sincerely - Federation of Veterinarians of Europe