

# Towards a common methodology for the collection of data on the use of plant protection products in non-agricultural sectors.

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(Version 1.1)

Belgian federal public service Health, Food Chain Safety and Environment

DG Plants, Animals & Food – Service pesticides and Fertilizers

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## Context

### Regulation on pesticide statistics

At the end of 2009 the European Parliament and the Council published four pieces of legislation which make up the Thematic Strategy for Pesticides. These are:

- a regulation concerning the placing of plant protection products on the market <sup>1</sup>;
- a directive on the sustainable use of pesticides<sup>2</sup>;
- a regulation on pesticide statistics<sup>3</sup>; and
- an amendment to the machinery directive (2006/42/EC) enabling standards to be set for new pesticide application equipment being brought to the market<sup>4</sup>.

The regulation on pesticide statistics recognized the importance of harmonized and comparable Community statistics on pesticide sales and use for the development and monitoring of Community legislation and policies in the context of the Thematic Strategy on the Sustainable Use of Pesticides.

The regulation establishes that in a first step statistics should cover plant protection products (as defined in Regulation (EC) No 1007/2009) and could in the future be extended to biocidal products<sup>5</sup>. Therefore, we will mainly refer in this document to plant protection products (PPP) which are currently the sole object of this regulation.

The regulation defines two sets of data to be delivered by the Member States to the Commission. The first set of data, defined in Annex I, concerns statistics on the placing on the market of pesticides (PPP) which have to be delivered annually. The second set of data, defined in Annex II, covers statistics on agricultural use of pesticides (PPP) to be gathered on a five-year base.

According to the definitions of the regulation, the first set of data on pesticides sales describes the overall quantities of plant protection products which are placed on the market to be used in both agricultural and non-agricultural sectors whereas the second set of data focuses exclusively on the quantities of plant protection products which are used in the agricultural sector.

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<sup>1</sup> Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC (OJ L 309, 24.11.2009, p.1).

<sup>2</sup> Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for Community action to achieve the sustainable use of pesticides on the sustainable use of pesticides (OJ L 309, 24.11.2009, p.71).

<sup>3</sup> Regulation (EC) No 1185/2009 of the European Parliament and of the Council of 25 November 2009 concerning statistics on pesticides (OJ L 324, 10.12.2009, p.1).

<sup>4</sup> Directive 2009/127/ of the European Parliament and of the Council of 21 October 2009 amending Directive 2006/42/EC with regard to machinery for pesticide application (OJ L 310, 25.11.2009, p.29).

<sup>5</sup> Biocidal products are defined in Regulation (EU) No 528/2012 of the European Parliament and of the Council of 22 May 2012 concerning the making available on the market of biocidal products (OJ L 167, 27.06.2012, p.1) which repealed Directive 98/8/EC.

A comparison of the quantities of plant protection products used in agriculture with the overall amount placed on the market is foreseen in the quality report described in section 6 of Annex II that will accompany use data. Additionally, the quality report shall contain a summary description of the commercial non-agricultural uses of pesticides obtained in the framework of pilot studies to be led by the Commission (Eurostat).

## **EU Guidelines for agricultural data**

In November 2008, Eurostat published a common methodology for the collection of pesticide usage statistics within agriculture and horticulture<sup>6</sup> based on guidelines established by several EU Member States and OECD countries in 1989. The experience of this first task force served as a reference and was consolidated by several pilot studies carried out between 2005 and 2007 in the new EU Member States and in the candidate countries under the Phare Programme and the Transition Facility/ multi beneficiary statistical cooperation programmes.

These guidelines provide useful information and should be used as a reference by Member States to collect statistical data on agricultural use of plant protection products which constitutes the main requirement of Annex II of the regulation on pesticide statistics.

Additionally, most of the general considerations and some methods described in these guidelines for the collection of agricultural data can also apply to specific non-agricultural sectors that present similarities with agriculture.

## **Pilot studies on estimating non-agricultural use of pesticides**

In 2011 Eurostat decided to award a grant for an action entitled “Pilot Studies on estimating non-agricultural use of pesticides”. To define the scope of this action, Eurostat suggested that pilot studies should be carried out on both commercial and non-commercial non-agricultural use of pesticides. In this context, non-commercial use includes all uses where the user is a private person and the aim is not to produce any products aimed for the market, i.e. the product is used only in the private household. All use by private companies, public or semi-public institutions, non-governmental organizations, etc., is considered commercial. Agricultural use covers the production of all agricultural products as defined in the FSS Regulation (1166/2008). For clarity, it is considered that production of such agricultural products only for own consumption is not considered to be agricultural production.

5 countries (Belgium, Italy, Lithuania, Latvia, Romania) applied for the pilot studies.

The common objectives for all pilot studies were to:

1) Identify methodologies and technical solutions for carrying out surveys on non-agricultural use of pesticides, with the aim of separating commercial and non-commercial use. This work should take

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<sup>6</sup> Eurostat Methodologies and Working papers, 2008.

[http://epp.eurostat.ec.europa.eu/cache/ITY\\_OFFPUB/KS-RA-08-010/EN/KS-RA-08-010-EN.PDF](http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-RA-08-010/EN/KS-RA-08-010-EN.PDF)

into account also the work required to collect data on the use of pesticides in agriculture, in order to ensure coherence between the statistics.

2) Compare current experiences of Member States. This will be done by participating in coordination meetings and potential Task Forces.

3) Carry out pilot surveys, using the chosen methodology.

4) Use the collected data to analyze the use of pesticides for non-agricultural purposes also in relation to agricultural uses, with the aim of describing the potential threats to environment and other issues linked to pesticides.

5) Streamline the methodology on the basis of experience gained in the pilot studies.

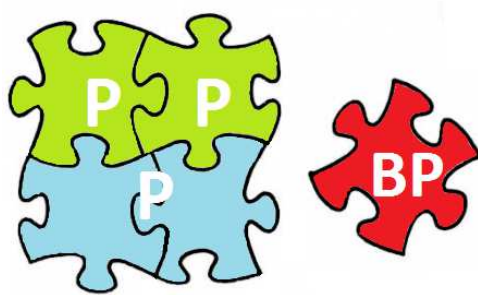
Additionally, the project aimed at compiling a common, non-binding, European methodology or alternatively a handbook on pesticide statistics, taking into account the lessons learned in the pilot studies and actual data collection exercises.

Only Belgium included this additional objective in its project description. During the Working Group Meeting on pesticide statistics held in Luxembourg on 26-27 September 2013 it was agreed that the guidelines would be based on the experience of the 5 participating countries and would integrate, as much as possible, any existing experience in other EU Member States.

## Guidelines for data collection

### Defining the scope

#### Plant Protection Products vs. Biocidal Products



Though the title of Regulation 1185/2009 refers to pesticides, the preamble and Article 1, defining the scope clearly indicate that statistics will initially focus on plant protection products as defined in Regulation 1107/2009.

Pesticides are defined in article 2 of the Regulation exactly in the same terms as in Directive 2009/128/EC as:

**Pesticides = Plant Protection Products** (Regulation (EC) No 1107/2009) + **Biocidal Products** (Directive 98/8/EC replaced by Regulation (EU) 528/2012).

As a general rule a relevant product is regulated either by the BP Regulation or by the PPP Regulation, though there may be some significant exceptions. In these exceptions exactly the same physical product would fall within the scope of both Regulations which means that for this product dual authorization would be needed.

For the purpose of defining a common methodology to cover non-agricultural use of pesticides a clear distinction between PPPs and BPs is very important.

First of all, it is important to highlight the fact that pesticide sales data will normally only cover PPPs since data are usually collected on administrative basis which are related to the PPP Regulation. In principle, all BPs will be excluded from this data.

To assure a reliable comparison between sales and use data it is therefore important that both data sets cover exclusively PPPs.

In the agricultural sector, PPPs are by far the most important products in terms of used quantities and borderline biocidal products will most probably not significantly affect the total amounts of products used. Moreover, inventories in the agricultural sector are generally carried on base of a reference list of authorized products (under the PPP Regulation). It is thus quite easy to exclude BPs from the inventory.

For what concerns non-agricultural uses, the share of BPs in the overall amount of pesticides used can vary between different sectors and be predominant for specific sectors of use. It is thus very important to distinguish PPPs and BPs as early as possible in the process of defining non-agricultural sectors to be covered by statistical surveys.

Main sectors of activities for:

- Plant protection Products:
  - Agriculture
  - Horticulture
  - Amenity
  - Forestry
  - Home & Garden
- Biocidal Products:
  - Disinfectants (PT 1-5):
    - Food and feed area
    - Veterinary hygiene
    - Drinking water
    - Disinfectants and algaecides
    - Human hygiene
  - Preservatives (PT 6-13)Amenity:
    - For wood
    - For liquid-cooling and processing systems
    - For products during storage
    - For film
    - For construction materials
    - Slimicides
    - For fibre, leather, rubber and polymerised materials
  - Pest control (PT 14-20):
    - Rodenticides
    - Avicides
    - Molluscicides, vermicides...
    - Piscicides
    - Insecticides, acaricides...
    - Repellents and attractants
    - Control of other vertebrates
  - Others products (PT 21-22):
    - Antifouling products
    - Embalming and taxidermist fluids

The determination of clear borderlines between Biocidal Products and Plant Protection Products has been identified as a crucial issue for a proper implementation of the legislations covering these two matters. Many borderline cases of BPs and PPPs have been identified and the Commission considered that there was a need to give practical guidance and examples and published a guidance

document which defines criteria for borderline setting between BP and PPP<sup>7</sup>. These guidelines were prepared under the old legislative framework (Directives 98/8/EN and 91/414/EEC) but the criteria defined at this time remain valid in the current legislative context.

Criteria for the distinction of borderline products apply in two steps:

Step 1: Define the intended purpose of the product

Criteria of the target organism.

- If detrimental to plant or plant products then it is a PPP (either directly when PPP is applied on the crop or the plant or indirectly when PPP is applied to destroy an organism which is harmful to plants or plant products (e.g. storage area)
- If it is detrimental to other areas it is considered as a Biocide

Step 2: The place where the product is applied to achieve the principal intended action.

Examples of PPPs:

- Space disinfectants in growing houses or greenhouses.
- Products to control growth or penetration of plant roots and sprouts.
- Products for use against garden snails
- Products for the disinfection or the disinfestation of empty store rooms or other structures if after the treatment only plants or plant products will be grown or stored there.
- Products for post-harvest treatment of fruits and vegetables against plant diseases
- Repellents used to treat seed, fruit trees or forestry against birds
- Products to protect trees or other plants from damage by squirrels or wildlife
- All herbicides regardless of whether they are applied to soil, water or other surfaces
- Algaecides applied on soil or water to protect plants
- Arthropod growth regulators and other pheromones used to control organisms harmful to plants or plant products.

Examples of BPs:

- Products for hygiene purposes to be used in greenhouses not intended for direct application to plants.
- Products used on a hydroponic systems to control harmful organisms.
- Products intended for the control of harmful organisms (other than plants), on surfaces like tennis courts, car parks and tombstones, concrete, pavements and walls.
- Products used against snails to prevent humans and animals disease transmission.
- Products used against snails that clog water pipes.
- Products to destroy dust mites from textiles.
- Fumigants used in storage rooms for food
- Repellents against cats, dogs and snakes
- Products added to water to wash fruits for public hygiene

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<sup>7</sup> [http://ec.europa.eu/food/plant/protection/evaluation/borderline\\_en.htm](http://ec.europa.eu/food/plant/protection/evaluation/borderline_en.htm) and [http://ec.europa.eu/health/medical-devices/files/manual\\_biocides\\_en.pdf](http://ec.europa.eu/health/medical-devices/files/manual_biocides_en.pdf)

- Products for the control of termites when used as a bait or as a soil-drench treatment
- Products for the control of birds for hygiene purposes

Some products can be difficult to classify according to the place where they are used as illustrated by the rodenticides which are all considered as biocidal products with the exception of products used in plant growing areas to protect plants, or to protect plant products temporarily stored in the plant growing areas. So, if rodenticides are used outside the plant growing areas ( in farms, cities, industrial premises) or inside the plant growing areas but not to protect plant or plant products (agricultural field, greenhouse, forest), they are biocidal products.

The authorization procedure to be followed prior to placing a given product on the market is governed in most cases either by the BP Regulation or by the PPP Regulation. However, there can be a few situations of dual authorizations when the same product can be used in several situations and fall under both legislations.

Normally the procedures of both Regulation do not apply cumulatively and, therefore, the easiest way to define if a product has to be considered as a BP or as a PPP is to look under which Regulation was the authorization delivered.

## Sales statistics vs. Use statistics



The differences between sales and use statistics were described in the common methodology for the collection of pesticide usage statistics within agriculture and horticulture published by Eurostat.

On the one hand, sales statistics are usually considered as being relatively simple to collect and fairly inexpensive. However, comparisons of sales data over time are, at best, a crude indicator of change. Moreover, sales statistics can give rise to confidentiality issues and restrictions on the release and use of data for commercial reasons. When they are collected from existing administrative sources (declarations by producers or sellers), sales data are rarely available at the active level and contain no information about the crop, timing, regional variation in use, dose applied, number of applications to the crop or percentage of crop treated. The dividing lines between agriculture, amenity, industry, etc. in terms of use are often blurred.

On the other hand, usage statistics in a broad sense cover all kinds of data on the actual use of pesticides by farmers and growers. They can be gathered through statistically valid samples of farms grossed up to give national estimates, or through compulsory returns by all users. Their accuracy depends mainly on the sample size, which is usually limited by the resources available, the mix of the population by region, farm size, education, etc., the truthfulness of respondents, and the quality of the interviews (visits by qualified staff versus unqualified staff or postal surveys; questionnaire on 'average' treatments or field-by-field treatments, etc.

Since the publication in 2009 of the regulation (EC) No 1107/2009 concerning the placing of plant protection products which made mandatory the annual delivery of sales statistics at active substance level from 2011 onwards, most of these difficulties should have been solved and sales statistics of pretty good quality should now be available in most Member States. The difficulties associated to the production of reliable use data should also be solved for the first delivery of pesticide use statistics on the period 2010-2014 at the end of 2015.

Hence, the limitations concerning the interpretation of sales statistics, their interest for policy making and the comparability with usage statistics remain valid.

Sales statistics are supposed to represent the overall quantity of plant protection present on the national territory during a defined period which is normally a year without any distinction between the different categories of users. In principle the total of sales statistics should be close to the sum of the quantities used by the different categories of users: agriculture + non-agricultural sector; professional + non-professional.

In that sense, they should give a good indication of the overall amount of the plant protection used and one could think that the quantity of plant protection products used by non-agricultural users can be obtained by simply making the arithmetic difference between total sales and the use data of the agricultural sector collected in the framework of the regulation, both for the overall amount and for each active substance.

It is unfortunately not so simple since some differences between sales and use data may exist. They are mainly due to:

- Under- or overestimates in sales data. Underestimates can be explained by an incomplete coverage of the actors placing plant protection products on the market or the resistance of these actors to deliver realistic data and their tendency to under declare the amount of product sales. Overestimates could be explained by the double counting of quantities of plant protection products sold several times by different retailers on the national territory or by the fact that farmers can, for different reasons, purchase more products than they will use during one year.
- Under- or overestimates in use data. The sampling schemes and extrapolation methods used to produce the statistics on the agricultural use of plant protection products can lead to both under or overestimates.

It is also expected that in most countries agricultural uses will be by far more important in volume than all other uses. Small deviations in the evaluation of the quantities of plant protection products used in agriculture could thus lead to huge variations in the quantities “remaining” for the non-agricultural uses. We can imagine as a worst case that an underestimate of sales statistics combined with an overestimate of agricultural uses would lead to the conclusions that non-agricultural uses are inexistent.

Besides the improvement of the methodologies to collect both sales and use statistics, one way to improve the comparability between those two sets of data is to work with multiannual averaged data for sales data which presents the advantage to limit the variations due to annual weather conditions, stock keeping, etc.

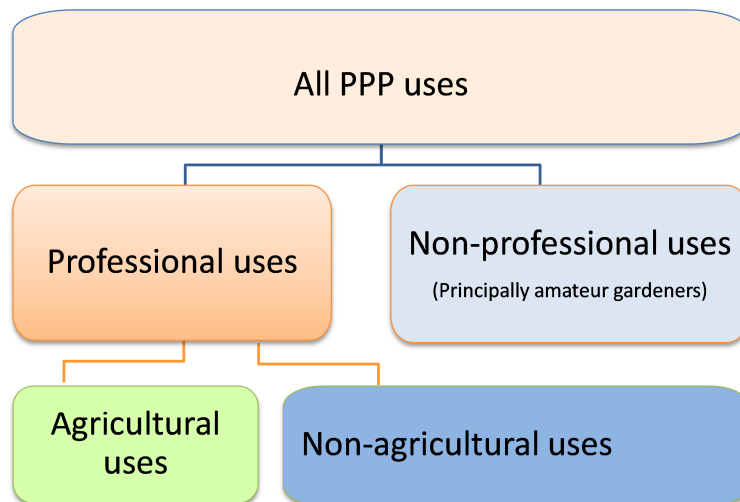
Moreover, in order to facilitate comparisons between the different sets of statistics it is important to collect comparable data. In most cases, data will be collected as quantities of commercial products and converted into quantities of active substances. As it will be illustrated by the example of separate authorizations for professional and non-professional use in Belgium, it can be interesting to exploit the information on sales data at product level to estimate the importance of different sectors of use.

In conclusion, it is important to gather as much information as possible on the different sectors of use of plant protection products in order to get a good comparison between sales and use data as requested in the section dedicated to the quality reports for use statistics in the regulation.

## Agriculture vs. Non-Agriculture – Professional vs. Non-Professional



Agriculture represents the most evident and probably the most important professional sector of use of plant protection products. However, other users, professional or amateurs, may contribute more or less significantly to the total amount of pesticides used. The aim of this methodology is to try to identify and to quantify as precisely as possible the importance of these different sectors.



Statistics on the use of plant protection products in agriculture shall be produced by all Member States according to Annex II of the Regulation (EC) No1185/2009 concerning statistics on pesticides. According to the regulation each Member State can establish the selection of crops on which statistics shall be collected by means of surveys, sales declarations, administrative sources or a combination of these means.

No threshold or precision goal has been fixed in the regulation concerning the coverage of the agricultural sector. However, the regulation stipulates that the selection of crops shall be designed

to be representative of the crops cultivated in the Member State and of the substances used. Moreover, the quality reports described in section 6 must contain a comparison between data on pesticides used during the five-year period and pesticides placed on the market during the five corresponding years and a summary description of the commercial non-agricultural uses of pesticides obtained in the framework of pilot studies to be led by the Commission (Eurostat),

According to this indent, Eurostat took a lead in identifying the importance of commercial non-agricultural use of pesticides and launched pilot studies with the objective to test at national level methods for the collection of statistics in the non-agricultural sectors and to develop a methodology which could be used by all Member states to cover these sectors of activities.

Moreover, Eurostat considered that, despite the text in Regulation 1185/2009, knowing only the commercial use of pesticides would create potential incoherence in data availability and lead to possible false conclusions on the non-commercial and non-agricultural use of pesticides. If possible, collecting data on all types of non-agricultural uses of pesticides, even if only in initial pilot studies would give the necessary data that gives the basis for decisions on how to further develop pesticide statistics, if it will give enough added value to start collecting data on non-agricultural use.

Therefore Eurostat suggested that pilot studies should be carried out on both commercial and non-commercial non-agricultural use of pesticides. In this context, non-commercial use includes all uses where the user is a private person and the aim is not to produce any products aimed for the market, i.e. the product is used only in the private household. All use by private companies, public or semi-public institutions, non-governmental organizations, etc., is considered commercial. Agricultural use covers the production of all agricultural products as defined in the FSS Regulation (1166/2008). For clarity, it is considered that production of such agricultural products only for own consumption is not considered to be agricultural production.

The pilot projects supported by Eurostat aimed at:

- 1) Identifying methodologies and technical solutions for carrying out surveys on non-agricultural use of pesticides, with the aim of separating commercial and non-commercial use.
- 2) Comparing current experiences of Member States.
- 3) Carrying out pilot surveys, using the chosen methodology.
- 4) Using the collected data to analyze the use of pesticides for non-agricultural purposes also in relation to agricultural uses, with the aim of describing the potential threats to environment and other issues linked to pesticides.
- 5) Streamlining the methodology on the basis of experience gained in the pilot studies.
- 6) Compiling, if possible, a common, non-binding, European methodology or alternatively a handbook on pesticide statistics, taking into account the lessons learned in the pilot studies and actual data collection exercises.

## Existing EU experiences on quantifying non-agricultural usages

The following Member States informed Belgium about their experience in collecting data on non-agricultural use of pesticides:

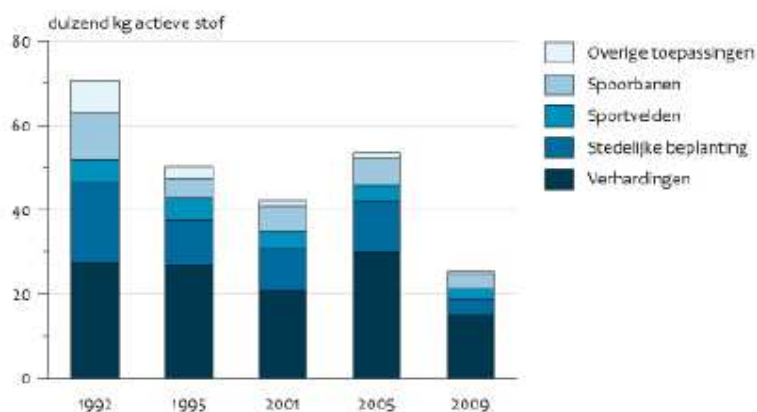
### The Netherlands

#### Use of plant protection products by public authorities

Compendium on the Environment (Compendium voor de Leefomgeving) is a joint publication of the Dutch "Environment Plan Bureau", the "Central Bureau of Statistics" and University of Wageningen. The Dutch survey follows since 1992 the use of plant protection products by public authorities with a distinction between municipalities, railways and public administrations. Detailed results are published on <http://www.compendiumvoordeleefomgeving.nl/indicatoren/nl0048-Bestrijdingsmiddelengebruik-door-de-overheid.html?i=15-82>. The survey quantifies the volumes of plant protection products used by the different public administrations, making the distinction between different kind of application (railways, sport fields, plantations, hard surfaces, others) and the share of the principal active substances. The survey also identifies alternative methods such as mechanic and thermic weed control.

The survey is carried out every 4 years by means of a questionnaire addressed to the municipalities and "public" services like railways who respond on a voluntary base.

Gebruik bestrijdingsmiddelen door overheid naar toepassing



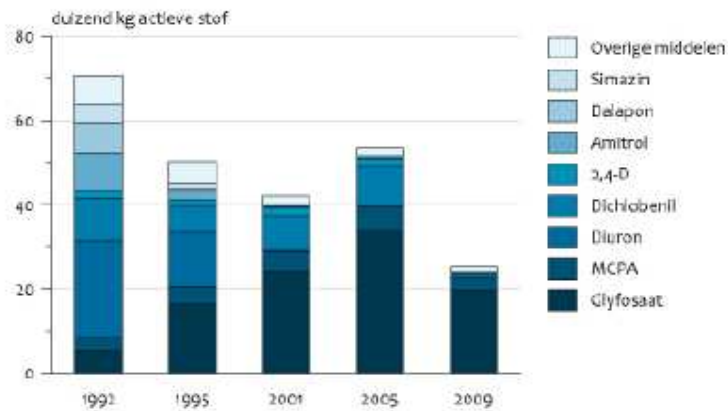
Bron: CBS.

CBS/jul9  
www.cbs.nl/nlbe4805

Figuur 1. Overheidsgebruik chemische bestrijdingsmiddelen naar toepassing

The Dutch survey indicates a significant reduction in the quantities of plant protection products used by the public administrations over the last decades. These products are almost exclusively herbicides with a very large and increasing predominance of glyphosate herbicides used on hard surfaces and railways. The survey also indicates that the application of herbicides on landscape areas and parks has been significantly replaced over the last years by mechanical weed control.

### Gebruik bestrijdingsmiddelen door overheid naar werkzame stof



Bron: CBS.

CBS/jul13  
www.cbs.nl/nl204905

Figuur 2. Overheidsgebruik chemische bestrijdingsmiddelen naar werkzame stof

## United Kingdom

### **Amenity pesticides in the United Kingdom 2012**

The Food & Environment Research Agency (FERA) regularly carries out surveys on the use of pesticides. Data on the usage of pesticides in the UK has been collated from across Great Britain for the last 40 years and continues to be collated today. FERA is commissioned to conduct agricultural, horticultural and amenity pesticide usage surveys by the Chemicals Regulation Directorate (CRD) of the Health and Safety Executive. These reports are published on

<https://secure.fera.defra.gov.uk/pusstats/surveys/index.cfm>.

Amongst the reports published on the DEFRA website, report 254 of 2012 concerns amenity pesticides:

<https://secure.fera.defra.gov.uk/pusstats/surveys/documents/amenity2012v1.pdf>

In contrast to the field based pesticide usage surveys, the Amenity PUS report is divided into two main sections. The first deals with the quantitative elements of the study, including estimates of UK usage; whilst the second provides case studies and verbatim answers from respondents which put their own usage in context with other areas of Amenity and field based pesticide usage.

### Methodology used in UK

The data on the area of pesticide treatments and the amounts of active substances applied were obtained by detailed interviews with manufacturers, distributors, specialist contractors and other users to obtain estimates at a national level. Information for the segment 'Public Authority: Self-applied' was derived from an earlier (2009) commercial study of the UK amenity market completed by GfK.

## Results

The quantitative report presents information on the use of amenity pesticides in the United Kingdom during the 2012 calendar year within the following overall sub-sector headings: Infrastructure (roads, railways and aquatic use), Industrial (pipes, cables, commercial contracted and construction, for land clearance only), Public Authorities (contracted and educational institutes, footpaths and public spaces), Residential (gardens, trees and landscapes, residential dwellings and multi-dwellings), Turf (farms and commercial contractors), and Golf.

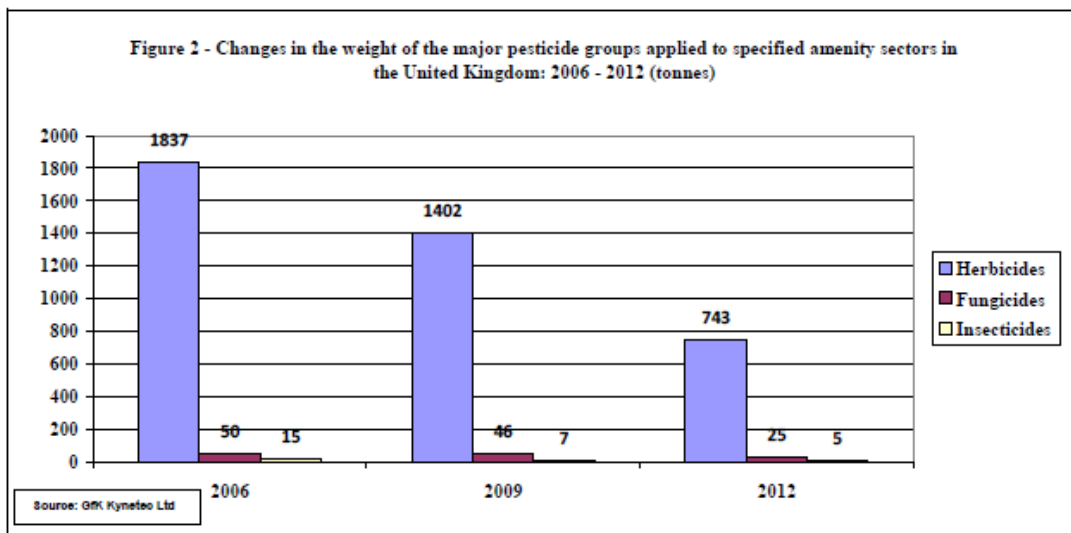
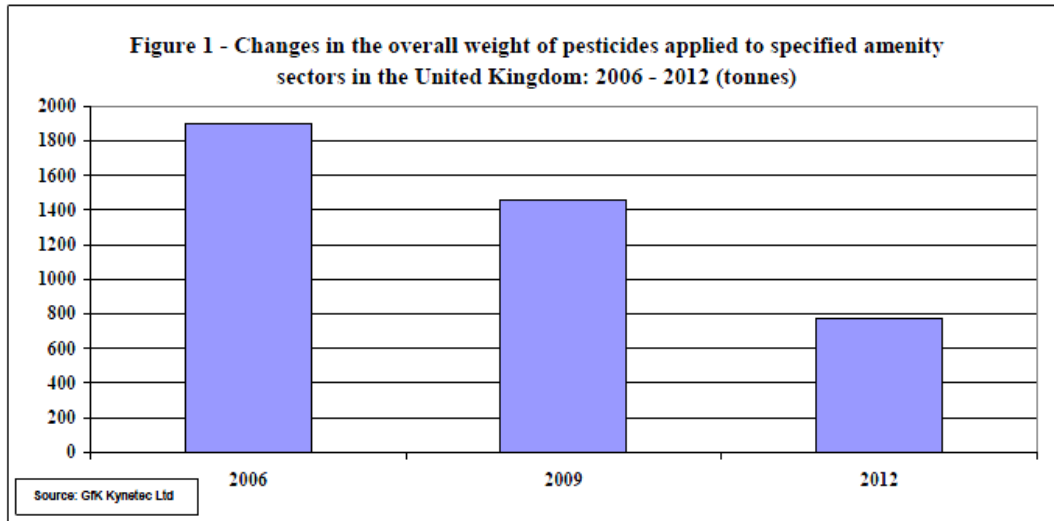
The UK survey also indicates an important reduction in the use of plant protection products in the non-agricultural sectors covered with the same predominance of glyphosate herbicides (together with 2,4-D, diflufenican and MCPA) used on infrastructure.

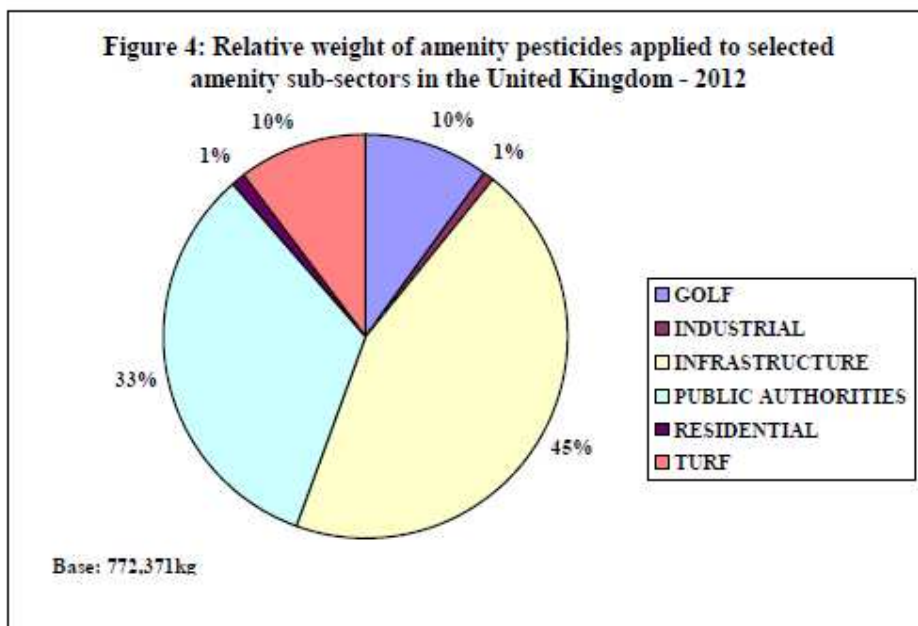
In 2012, an estimated 772,371kg of active substances were applied to 329,614 hectares. Of this total, herbicides accounted for 96% by weight (93% by area; approximately 306,716 hectares), fungicides accounted for 3% by weight (4.4% by area; approximately 14,661 hectares) and insecticides (including the molluscicide, metaldehyde) less than 1% by weight (2.5% by area; approximately 8,238 hectares).

Of the six amenity 'sub-sectors' studied, <Infrastructure> accounted for 57% of the area treated with pesticides (45% by weight of active substance applied), especially main and local roads, with <Public Authorities> (16% by area, 33% by weight) and <Turf> (13% by area, 10% by weight) being the next largest types. Collectively, the sub-sector <Public Authority> and the segments 'Road: main and Road: local' (from the sub-sector <Infrastructure>) accounted for 52% of the area treated with pesticides (172,217 hectares) and 61% by weight (473,882kg). Approximately 70% of all pesticide applications were targeted against mixed infestations of grass and broadleaf weeds, with sprays against broadleaf weeds alone accounting for a further 22%. Pesticides applied for the prevention and/or control of turf diseases was the next largest target at 5%.

A total of 15 formulation types were identified during the course of the research. Of these just four - soluble liquids (56%), soluble concentrates (19%), granules (15%) and emulsifiable concentrates (11%) - accounted for 99.6% of the weight of active substances applied in 2012.

**TRENDS**





## **Belgium**

### **Separation of authorizations between professional and non-professional users.**

From 2010 onwards Belgium has progressively installed a system of separation of the authorizations for plant protection products to be used by professional and non-professional users. This system is fully effective since 2013 and will be completed by the delivery of “phytolicenses” to the professional users in the future. From August 2012 onwards, plant protection products aimed for professional users receive an authorization with a reference number labeled “P/B” while products for home & garden use are marked “G/B”. These authorization numbers appear on the label of the products and in all data sets used and published by the authorities.

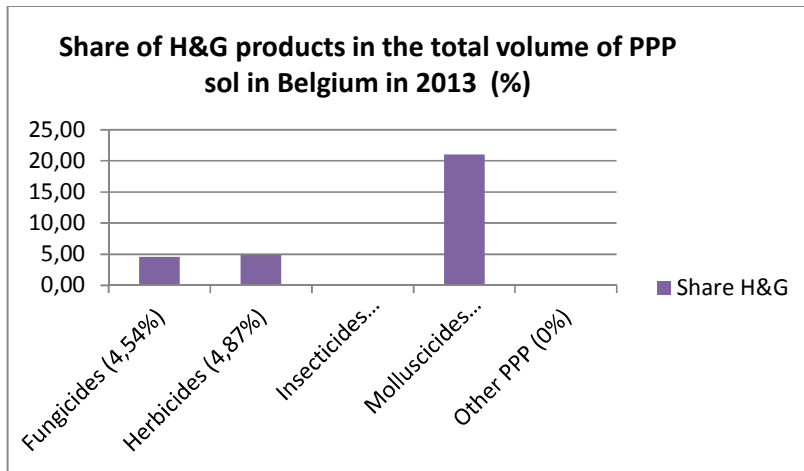
Besides the objective of improving the safety of the products used by amateurs, the separation of the authorizations offers the advantage to easily split sales statistics between professional and non-professional products. In Belgium, sales statistics are delivered annually by any owner of an authorization for the placing on the market of plant protection products. For each product identified by its authorization number, the quantity placed on the market and occasionally (re-)exported is delivered. These quantities are converted into quantities of active substances and used as official sales statistics by the Belgian authorities.

At the stage of commercial products, it is very easy to split professional and non-professional products thanks to the authorization number and to produce distinct statistics for both categories at active substance level.

Since the complete separation of authorization only became fully operational in 2013, a detailed analysis of 2013 sales data makes it possible to identify the quantities of each individual active substance that were sold for professional or amateur use.

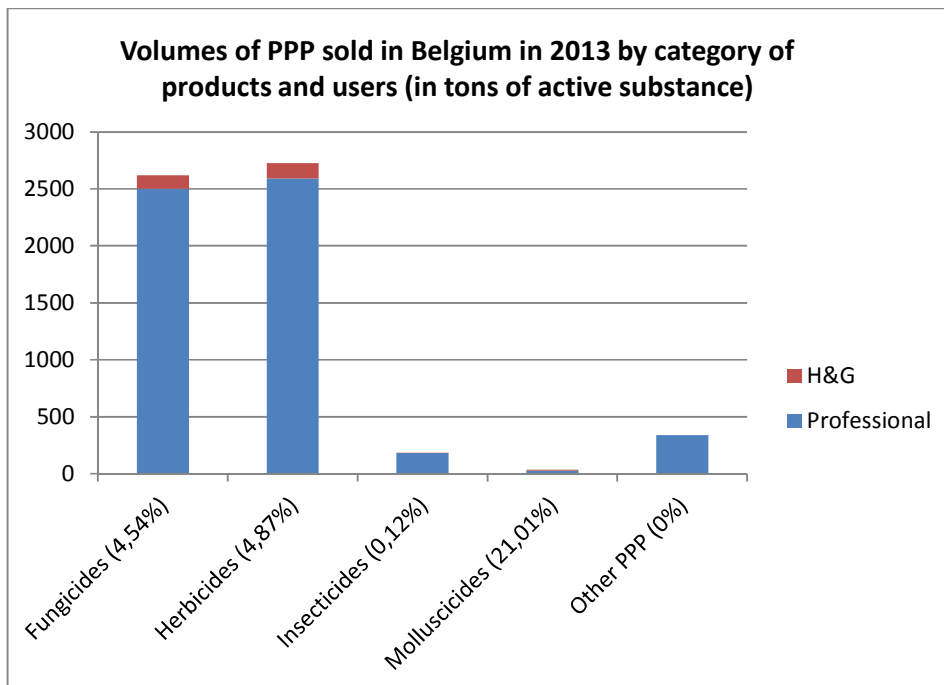
From a total volume of sales of around 6000 tons of active substances, approximately 4 % were sold for amateurs in 2013.

As indicated in the following figure, the proportion of amateur products is the highest for molluscicides where it reaches 21% of the total while the share of amateur products amongst fungicides and herbicides is close to 5 %.



Source: FPSHFCSE

In terms of absolute quantities, the following figure indicates that the highest amounts of amateur products is within fungicides and herbicides.



Source: FPSHFCSE

A closer look at the level of the active substances leads to a list of 50 substances which are sold as home and garden products. The following table lists these active substances with the indication of the share of H&G products and sorted by order of importance of the volume sold (rank) in each category of products (MO= Molluscicides; HE= Herbicides; FU= Fungicides; IN= Insecticides; GR = growth Regulators).

	ACTIVE SUBSTANCE	Share (%)	Rank
MO	METALDEHYDE	22	1
MO	IRON PHOSPHATE	43	2
HE	IRON SULFATE	39	1
HE	GLYPHOSATE	7	2
HE	DISODIUM EDTA	43	3
HE	MCPA	5	4
HE	DIFLUFENICAN	18	5
HE	2,4-D	11	6
HE	PELARGONIC ACID	100	7
HE	MECOPROP-P	11	8
HE	ACETIC ACID	100	9
HE	DICAMBA	6	10
HE	TRICLOPYR (HE)	8	11
HE	FLUROXYPYR	2	12
HE	METAZACHLOR	2	13
HE	OXADIAZON	2	14
HE	FLUFENACET	1	15
HE	CLOPYRALID	2	16
HE	CHLORPROPHAME	0	17
HE	DIQUAT	0	18
HE	QUINOCAMINE	11	19
HE	METOSULAM	16	20
FU	SULFUR	26	1
FU	COPPER SULFATE	100	2
FU	THIRAM	0	3
FU	FOSETYL	2	4
FU	PROCHLORAZ	0	5
FU	TRIADIMENOL	4	6
FU	TEBUCONAZOLE	0	7
FU	TRITICONAZOLE	4	8
FU	FENAMIDONE	2	9
FU	AZOXYSTROBIN	0	10
FU	TETRACONAZOLE	1	11
FU	MYCLOBUTANIL	1	12
FU	DIFENOCONAZOLE	0	13
FU	TRIFLOXYSTROBIN	0	14
IN	RAPESEED OIL	85	1
IN	FATTY ACIDS	100	2
IN	POTASSIUM SALTS OF FATTY ACIDS	100	3
IN	SPINOSAD	4	4
IN	POTASSIUM SALTS OF FATTY ACIDS	100	5
IN	PYRETHRINS	48	6
IN	THIACLOPRID	1	7
IN	ACETAMIPRID	3	8

IN	CYPERMETHRIN	0	9
IN	THIAMETHOXAM	0	10
IN	DELTAMETHRIN	0	11
IN	LAMBDA-CYHALOTHRIN	0	12
IN	ABAMECTIN	0	13
GR	MALEIC HYDRAZIDE	1	1
GR	1-NAPHTHYLACETAMIDE	2	2

Source: FPSHFCSE

Highlighted in color in the table is a list of 20 active substances which are representative of H&G use in terms of both the quantity sold and the share in the overall volume.

Such a table will serve as a support to the authorities in charge of the protection of health and the environment to define priorities of action in order to minimize the risks associated with the use of PPP by amateurs. For instance, this information should be crossed with information on water pollution, wildlife mortality, etc.

There is no obvious reason to believe that the quantities of products sold for amateur gardeners significantly deviates from the quantities used in this sector. Nevertheless, when available, multi-annual averaged values would decrease any bias resulting from household storage. The main expected remaining bias being illegal purchase by amateurs to professional users. This practice should disappear with the control of professional sales in the context of the implementation of the phytoliceance.

However, to the quantities of products purchased by amateurs, an additional amount of products purchased by H&G companies in the professional sector to be used on private gardens should be considered. This amount is at the present time difficult to quantify but should become more transparent with the implementation of the phytoliceance.

Therefore, data on the sales of H&G PPP is a reliable indicator of the quantities of products used in this non-professional sector. Since this information is delivered annually and easily accessible it should be the main tool in the future to follow the trends in the use of PPP and identify the most relevant products in the non-professional H&G sector.

## Main results of the pilot surveys

### Italy

The pilot study for Italy was carried out by INEA (Istituto Nazionale di Economia Agraria ). The survey was based on a short list of products identified either as representative of the non-agricultural sectors or relevant for environmental concerns. The survey focused on the following sectors:

- Landscaped areas or gardens, outdoor leisure areas, parks;
- Sports, leisure areas and facilities;
- Railways;
- Highways and roads;
- Airports and seaports;
- Archeological sites;
- Kitchen gardens growers / Hobby farmers;
- Others.

To characterize the usage of pesticides in each of the mentioned sectors a sample of key users has been identified and interviewed.

The implementation of the pilot survey has shown that the size of the pilot areas depends on the type of user, in some cases the pilot area is the entire country covering therefore the full universe. For practical reasons, the survey on the universe is considered only when a given sector is managed by a central body, this is the case of the national railway and road sectors in Italy.

In order to ensure a good level of response rate the questionnaire was kept as short as possible. To facilitate and encourage participation some data were collected in anonymous manner unless express permission to identify a respondent was obtained from the respondent concerned.

The survey revealed the difficulty to collect data for individual users at local level. For the most important users at national level, those having a centralized Environmental Management Systems could be easily covered while those without an EMS were hardly accessible.

A comprehensive estimation on PPPs use for all users was difficult to establish even in small pilot areas (mainly due to users unwillingness) with the risk of a partial snapshot of the phenomenon.

### Lithuania

The pilot study was carried out by the Lithuanian Department of Statistics in collaboration with the State Plant Service under the Ministry of Agriculture.

A list of users of pesticides for non-agricultural purposes was established on the list of the Statistical Business Register according to their scope. It included private companies, public and semi-public institutions, non-governmental organisations which use pesticides for:

- Landscape maintenance;
- Railways, roads, seaport, airport tracks maintenance;

- Sports fields;
- State forests;
- Gardens and parks.

An exhaustive survey on a list of 220 potential respondents was carried out by 20 interviewers from the SPS by means of face-to-face interviews . A response rate of 97.7% (215 respondents) was reached.

Since the production of agricultural products only for own consumption is not considered to be agricultural production, a sample survey of small agricultural units (under 1 ha) was also carried out in order to get data on non-commercial use of pesticides. This survey covered 800 respondents from total 150733 small agricultural units. The response rate was 74.4 %..

Problems faced during data collection:

- Unwillingness of respondents to provide data on the non-agricultural use of pesticides.
- Non-commercial pesticide users don't keep pesticide usage records, so they needed to recall what and how they were using.
- Non-agricultural commercial enterprises keep pretty poor records on pesticide usage; therefore, it was difficult for the respondents to remember the exact data.
- Respondents remember the generic name of the product used but cannot provide the exact product name.
- For some products, the amount of the pesticides used cannot be linked to the area treated.

Main results:

Total amount of pesticides used for non-agricultural purposes in 2012 was 9.4 tons of active substances (for a total of 2712.7 tons of PPP placed on the market).

- 83 % – used for commercial use
- 17 % – used for non-commercial use (small farms)

Amongst commercial use:

- 88% herbicides
- 3% Fungicides
- 2% insecticides
- 0% molluscicides
- 7% other.

Amongst non-commercial use (small farms):

- 67% herbicides
- 31% Fungicides
- 2% insecticides

The share of each sector of use being:

- 49% forestry
- 30% railways, roads, airports, seaports maintenance
- 17% small farms

- 2.5% growing ornamental plants
- 0.7 % landscape maintenance
- 0,7% parks and gardens and sports fields.

The Most popular active substances used for commercial purposes by order of importance are:

- Glyphosate (HE)
- Quartz sand (repellent)
- Tau-Fluvalinate (IN)
- Propamocarb (FU)
- Thiamethoxam (IN)
- Dicamba (HE)
- Fosethyl (FU)
- MCPA (HE)
- 2 4-D (HE)
- Boscalid (FU)

### Latvia

The pilot study was carried out by the Central Statistical Bureau of Latvia.

Identification of main segments of non-agricultural pesticide application: Sectors where pesticides should probably be used were specified using the available sources: reports, publications on the internet related to pesticide non-agricultural use.

six settings of pesticide non-agricultural commercial use were identified:

- public parks and gardens
- sports fields (prevalently for golf-courses)
- state railway and railway systems in territories of ports
- airports and seaports
- state forests etc.
- Other.

The list of potential pesticide users in each segment related to commercial use was established on the basis of the Statistical Business Register:

- All local authorities in Latvia. Local authorities are responsible for areas like parks, lawns, squares, sports grounds, forests etc. in both urban and rural areas, in small villages and towns
- Transport organisations - companies responsible for maintenance work of state highways and railway, administrations of 3 main seaports, 10 certified airports
- Industrial areas - energy supply company, natural gas transmission, storage, distribution and sale operator
- Company managing commercially usable state-owned forests
- Other: the national Botanic Garden, palaces, firms involved in landscape service activities

Commercial use of pesticides was estimated by means of full postal surveys on private companies, public or semi-public institutions, private companies, etc.:

- 111 municipalities (response rate 76%) and 8 councils of major cities (response rate 100%)
- «Latvia's State Forests» company
- «Latvia's Railway» (LDz)
- 149 companies involved in landscape service activities (85.5% response rate)
- 21 other respondents (golf- courses, terminals in the ports, castles with flower gardens etc.)

Big potential users involved in maintenance work of state highways, energy supply company, natural gas supply operator, airports, seaports were firstly contacted by phone.

Regarding non-commercial use where users are owners of kitchen gardens the method of stratified sample was used. Surveys were performed with help of interviewers through personal visits to the owners. 1100 owners of KG have been surveyed in 2012 and 1000 owners in 2013 (90% response rate).

Main results:

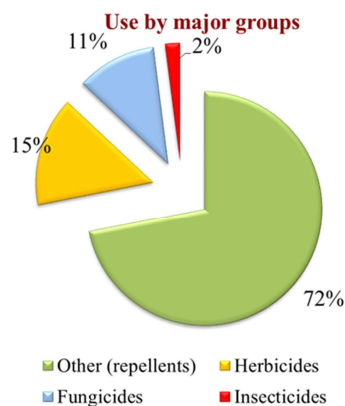
In non-agricultural area 14.8 tons of active substances were used, of which 1.7 tons in kitchen gardens. Non-agricultural uses represent 1,2 % of the overall amount of PPP placed on the market (1284 tons in 2012).

Within non-agricultural uses 88% are for commercial uses while 12 % are used for non-commercial purposes (kitchen gardens).

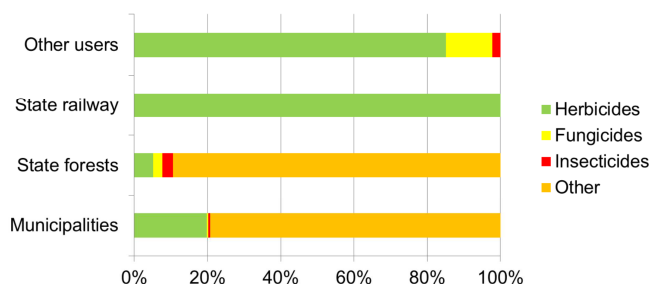
The shares of the different users amongst the non-agricultural sectors are:

- 82% forests
- 15% railways
- 1% hard surfaces
- 1% parks and gardens
- 1% sport grounds.

The importance of the different categories of pesticides used in the non-agricultural sector is detailed in the following figure.



Important differences are observed between the different categories of users for what concerns the type of products used.



The predominance of “other” pesticides for municipalities and State forests is explained by the importance of repellents .

By order of importance, the most popular active substances used for non-agricultural purposes are:

- Blood meal (repellent)
- Quartz sand (repellent)
- Glyphosate (HE)
- Mancozeb (FU)
- Propamocarb (FU)
- Imidacloprid (FU)
- Thiamethoxam (IN)
- MCPA (HE)
- Azoxystrobin (FU)
- Metalaxyl-M (FU)
- Alpha-Cypermethrin (IN)

Concerning the use of PPP in kitchen gardens, most of the applications (95%) concern potatoes principally with fungicides.

### Romania

The pilot study was carried out by the University of Agronomic Sciences and Veterinary Medicine Bucharest (USAMV B) and looked at the utilization of pesticides in the following sectors:

- Disinfection, desinsectisation and deratisation (DDD authorized units located in Bucharest);
- Households (Bucharest and surrounding areas);
- Public domains (Romanian local councils included in the Statistical Yearbook of local councils);
- Forestry (forest districts catalogued with the Ministry of Environment and Forests);
- Public roads and railways.

These uses were finally compared to the utilization in agriculture.

Surveys covering the different sectors of use were carried out by face-to-face interviews, by postal mail or by e-mail.

The different surveys covered simultaneously both plant protection products and biocidal products (Product type14: Rodenticides – control of mice, rats and other rodents. Product type15: Avicides – bird control. Product type16: Molluscicides – mollusk control. Product type17: Piscicides – fish control; these products include no products designed for treatment against fish diseases. Product type18: Insecticides, acaricides and products to control other arthropods).

Product type19: Repellents and attractants.

Response rates for the different sectors of use were:

- 68% for DDD operators
- 31 % for public domains
- 80% for households
- 10% for forestry (48 % completeness).

Main results:

The total amount of non-agricultural pesticides estimated in 2011 is 7338 kg , which represents 0,01 kg active ingredient per hectare of area treated.

The share of the different categories of pesticides is as follows:

- fungicides 17%
- insecticides 56% (largest share in the treated area: 95%)
- herbicides 7%
- rodenticides 2%
- biocides about 18%.

The three most quantitatively used active substances in the different categories are:

- Fungicides : copper oxychloride, aluminium phosphide, mancozeb
- Insecticides : cypermethrin, deltamethrin, Bacillus thuringiensis
- Herbicides : glyphosate, 2-4-D, imazamox

## Belgium

The pilot study focused on the methodological aspects of data collection and was carried out by the Catholic University of Louvain-la-Neuve and the University of Gent.

The study analyzed existing data collected in previous surveys in the different non-agricultural sectors of use and tried to identify the most relevant operators in these sectors and the most appropriate approaches to organize data collection from the different operators.

17 categories of non-agricultural users of PPP were identified and for each category the type of area treated and the contact institution or person were identified.

The study revealed a huge diversity in the contact points for the different sectors of use with important regional variations.

Four methods of investigation were tested : compilation of existing data; administrative inquiries, sample surveys and entire population surveys.

Each sector of use was characterized by its importance in use of PPP and by the accessibility of data. Expert judgment was used to classify the different sectors of use.

	Not Important	Important
Data readily accessible		<ul style="list-style-type: none"> <li>• amateur gardeners</li> <li>• golf courses</li> <li>• military fields and airport</li> </ul>
Data not readily accessible	<ul style="list-style-type: none"> <li>• Public Social Assistance Centre</li> <li>• health care establishment, rest home, hospital, day-nursery, childcare facilities</li> <li>• Donation royale</li> <li>• navigable waterways</li> <li>• immovable heritage</li> <li>• schools</li> <li>• water, electricity, gas, phone companies and public interest organisations</li> <li>• forest and nature management</li> </ul>	<ul style="list-style-type: none"> <li>• green areas</li> <li>• industrial areas, tertiary sector (commercial, touristic, car park...)</li> <li>• transport service</li> <li>• sport areas</li> <li>• leisure park, adventure park, campsites and miniature golf</li> <li>• road infrastructure</li> </ul>

A special attention was also given in this study to the impact of specific legislations on the use of non-agricultural pesticides and on the easiness of data collection.

Since the use of pesticides on public domains will be prohibited from 2020 onwards in application of regional legislations adopted in implementation of Directive 2009/128/EC, all public sectors will become non-relevant and can be withdrawn for the list of sectors to be covered.

Current situation (2014)				
Wallonia <sup>1</sup>			Flanders <sup>1</sup>	
Data readily accessible	Important	Not important	Important	Not important
	Cat.1: Private use <sup>4</sup> Cat.7: Golf courses Cat.8: Military fields and airport <sup>5</sup>			Cat.1: Private use <sup>4</sup> Cat.2: Green areas Cat.3: Road infrastructures Cat.4: Transport service Cat.6: Sport areas Cat.7: Golf courses Cat.8: Military fields and airport <sup>5</sup>
Data not readily accessible	Cat.2: Green areas Cat.3: Road infrastructures Cat.4: Transport service Cat.5: Industrial areas, tertiary sector (commercial, touristic...) Cat.6: Sport areas Cat.9: Leisure park, adventure park, campsites and miniature golf	Cat.10: Schools Cat.11: Health care establishment, rest home, hospital, day-nursery, childcare facilities Cat.12: Public Social Assistance Centre and housing corporations Cat.13: Water, electricity, gas phone companies and public interest organizations Cat.14: Forests and nature management <sup>6</sup> Cat.15: Navigable waterways Cat.16: Donation royale Cat.17: Immovable heritage	Cat.5: Industrial areas, tertiary sector (commercial, touristic...) Cat.9: Leisure park, adventure park, campsites and miniature golf Cat.13: Water, electricity, gas phone companies and public interest organizations <sup>3</sup>	Cat.10: Schools Cat.11: Health care establishment, rest home, hospital, day-nursery, childcare facilities Cat.16: Donation royale Cat.17: Immovable heritage
Future situation (2020)				
Wallonia <sup>4</sup>			Flanders <sup>4</sup>	
Data readily accessible	Important	Not important	Important	Not important
	Cat.1: Private use <sup>4</sup>		Cat.1: Private use <sup>4</sup> Cat.7: Golf courses	
Data not readily accessible	Cat.5: Industrial areas, tertiary sector (commercial, touristic...) (private) Cat.12: Housing corporations (private) Cat.4: Transport service (private) Cat.13: Water, electricity, gas phone companies and public interest organizations	Cat.3: Road infrastructures (private) Cat.15: Quays for navigable waterways (private) Cat.17: Immovable heritage (private)	Cat.2: Green areas Cat.3: Road infrastructures (private) Cat.4: Transport service (private) Cat.5: Industrial areas, tertiary sector (commercial, touristic...) (private) Cat.6: Sport areas (private) Cat.9: Leisure park, adventure park, campsites and miniature golf (private) Cat.13: Water, electricity, gas phone companies and public interest organizations (private) <sup>3</sup>	Cat.12: Public Social Assistance Centre and housing corporations (private companies) Cat.17: Immovable heritage (private)

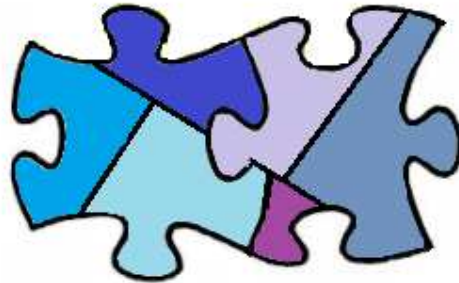
The most relevant remaining sectors of use in the future will be private use, golf courses, public supply, road and transport companies, industrial areas and tertiary sector.

Main results:

The relative importance of the different sectors of use in 2010 was estimated as follows:

- Total PPP use in 2010: 5472 tons active ingredients
- Professional use:
  - agriculture : 4550 tons
  - non-agricultural uses : 772 tons
- Non-professional use: amateur gardeners: 138 tons

## Defining categories of users



The following table lists the operator covered by the pilot project in the different participating countries.

Italy	Latvia	Lithuania	Romania	Belgium
Kitchen gardens growers/ Hobby farmers				Amateur gardeners
Landscaped areas or gardens, outdoor leisure areas, parks		Landscape maintenance	Public domain: plant protection and greening services ; DDD*	Green areas : parks, gardens, cemeteries
	Public parks and gardens	Gardens and parks		
Archaeological sites				Immovable heritage
				Donation Royale
				Industrial areas, tertiary sector (commercial, touristic, car park...)
				housing corporations
				Schools
				Health care establishment, rest home, hospital, day-nursery, childcare facilities...
Sports, leisure areas and facilities	Sports fields (prevalently for golf-courses)	Sports fields		sport areas (stadium, race course, tennis court...)
				Golf courses
				Leisure park, adventure park, campsites and miniature golf
Railways	State railway and railway systems in territories of ports	Railways, roads, seaport, airport tracks maintenance		Transport services: airplanes, trains, tramways, buses, etc.
Airports and Seaports				
				navigable waterways
Highway and roads				road infrastructure: public, private
				Military fields and airports
				Water, electricity, gas and phone companies and public interest organizations
	State forests	State forests	Forestry	Forest and nature management
Others				

			<i>DDD of public spaces*</i>	
			<i>DDD of households*</i>	

\* DDD: Disinfection, desinsectisation, deratisation. These applications are mainly related to the use of biocidal products and are therefore considered out of scope for the purpose of this methodology.

In a first step, a few specific uses could be discarded since they concern essentially biocidal products. These uses are the disinfection, desinsectisation and deratisation of households and public domains.

In order to classify these sectors of use, the list is compared to the typology of the amenity sector used by DEFRA in the UK<sup>8</sup>.

### Amenity Sector and Non-Crop Sub-Sector & Segment definitions

<b>Golf (sub-sector)</b>	
Golf Total	All turf care, and brush care operations contracted out or applied by employees of golf courses.

<b>Industrial (sub-sector)</b>	
Row-Pipelines	All herbicidal and insecticidal applications to pipes carrying petroleum, natural gases, and water, their pumping stations and protective fencing.
Row-Cables	All herbicidal and insecticidal applications to electrical and communication transmission rights-of-ways, microwave repeater stations, electrical sub-stations, their buildings and protective fencing, and environs.

<b>Infrastructure (sub-sector)</b>	
Aquatic: Water	All herbicidal applications in publicly owned canals, rivers, lakes, irrigation ditches, but excluding operations associated with fish farming or privately owned ornamental or farm waters. Insecticides and larvicides included in Public Health.
Aquatic: Banks	All herbicidal applications around publicly owned canals, rivers, lakes, and irrigation ditches, but excluding any operations associated with fish farming or privately owned waters. Insecticides and larvicides included in Public Health.
Forest: Roads/Rights of Way	All herbicidal, PGR, and insecticidal treatments alongside forest roads and rights of way, and in roadway ditches [+ berms] for control of grasses, broadleaves and brush, but excluding herbicides used beneath asphalt during construction
Roads: Main	All herbicidal, PGR, and insecticidal treatments alongside state and nationally maintained roads, and in roadway drainage ditches [+ berms] for control of grass, broadleaves and brush, excluding herbicides used beneath asphalt during construction.
Roads: Local	All herbicidal, PGR, and insecticidal treatments alongside locally maintained roads, and in roadway ditches [+ berms] for control of grasses, broadleaves and brush, but excluding herbicides used beneath asphalt during construction.
Railways: Mainline/Long Distance Lines	Pesticidal treatments of weeds, brush, and insects, excluding any mechanical eradication procedures.
Railways: Branch or Short Distance Lines	Pesticidal treatments of weeds, brush, and insects, excluding any mechanical eradication procedures.
Railways: Yards/Sidings	Pesticidal treatments of weeds, brush, and insects, excluding any mechanical eradication procedures

<b>Public Authorities (sub-sector)</b>	
Commercial Contracted: PCO	All insect and other pest control operations contracted for or by private industrial and commercial facilities including both interior and exterior applications of insecticides, but excluding turf care and any pesticides incorporated within products produced at such facilities.

<sup>8</sup> <http://www.fera.defra.gov.uk/landUseSustainability/surveys/documents/amenity2012v1.pdf>

Public Authority: Educational Institutions	All turf, landscape, brush control and pest control operations contracted for or by public authorities, or conducted on their own behalf, for educational institutions and facilities, including public and private secondary schools, and universities, and their sports arenas/playing fields.
Public Authority Contracted: Lawn Care Operators	All turf, landscape, and brush control, contracted for or by public authorities for cemeteries, local parks, public housing and sports areas (not associated with educational facilities), offices, streets, drains, sewers, sewage works, parking lots, hospitals and their grounds.
Public Authority Contracted: PCO	All insect and other pest control operations contracted out by local, state or national public authorities in cemeteries, parks, drains, sewers, streets, parking lots, hospitals, airports, etc., including both interior and exterior applications of insecticides but excluding turf care.
Public Authority: Self-Applied	All self-applied applications of herbicides, insecticides, fungicides, molluscicides by public authorities. Included are cemeteries, parks, car parks, footpaths, hospitals, and other public spaces.

<b>Residential (sub-sector)</b>	
H+G-Landscapers	All exterior pesticide spray operations contracted out for establishment or maintenance in relation to private and multi-dwelling residential buildings, including tree spraying and brush control, but excluding turf care.
Multi-dwelling Lawn Care Operators	Herbicides, PGRs, insecticides, and fungicides applied to turf under contract around multi-dwelling buildings.
Residential Lawn Care Operators	Herbicides, PGRs, insecticides, and fungicides applied to turf under contract around private residential buildings.

<b>Turf (sub-sector)</b>	
Commercial-Contract: Lawn Care Operators	Herbicides, PGRs, insecticides, and fungicides applied to turf under contract to commercial and industrial facilities by professional lawn care operators
Turf Farms	All weed, insect and disease control associated with turf grown at turf farms for transplanting.

The sectors of use of plant protection products covered in the pilot projects are compared below to the categories of the UK survey.

	Italy	Latvia	Lithuania	Romania	Belgium	UK		
1	Kitchen gardens growers/ Hobby farmers				Amateur gardens	<b>Residential</b>	H+G-Landscapers	
					housing corporations		Multi-dwelling Lawn Care Operators Residential Lawn Care Operators	
2	Landscaped areas or gardens, outdoor leisure areas, parks		Landscape maintenance	Public domain: plant protection and greening services ; <i>DDD*</i>	Green areas : parks, gardens, cemeteries	<b>Public Authorities</b>	<i>Commercial Contracted: PCO*</i> Public Authority Contracted: Lawn Care Operators <i>Public Authority Contracted: PCO</i> Public Authority: Self-Applied	
		Public parks and gardens	Gardens and parks		Immovable heritage			
	Archaeological sites			Donation Royale				
				Health care establishment, rest home, hospital, day-nursery, childcare facilities...				
				Schools	Public Authority: Educational Institutions			
	Sports, leisure areas and facilities	Sports fields (prevalently for golf-courses)	Sports fields		sport areas (stadium, race course, tennis court...)		<b>Golf</b>	Golf Total
					Leisure park, adventure park, campsites and miniature golf			
				Golf courses				
3					Industrial areas, tertiary sector (commercial, touristic, car park...)	<b>Industrial</b>		
					Water, electricity, gas and phone companies and public interest organizations		Row-Pipelines Row-Cables	
4	Railways	State railway and railway systems in territories of ports	Railways, roads, seaport, airport tracks maintenance		Transport services: airplanes, trains, tramways, buses, etc.	<b>Infrastructure</b>	Railways: Mainline/Long Distance Lines Railways: Branch or Short Distance Lines Railways: Yards/Sidings	
	Airports and Seaports							

					navigable waterways		Aquatic: Water Aquatic: Banks
	Highway and roads				Road infrastructure: public, private		Forest: Roads/Rights of Way Roads: Main Roads: Local
					Military fields and airports		
5		State forests	State forests	Forestry	Forest and nature management		
	Others					<b>Turf</b>	Commercial-Contract: Lawn Care Operators Turf Farms
				<i>DDD of households</i>			

This comparison indicates some coherence between the different approaches and leads to regroup the different sectors of use into 5 main categories:

1. Residential areas (including H&G)
2. Public areas (including golf courses)
3. Industrial areas
4. Infrastructure
5. Forests

These categories of users should be the base of all surveys on the use of PPP in the non-agricultural sector.

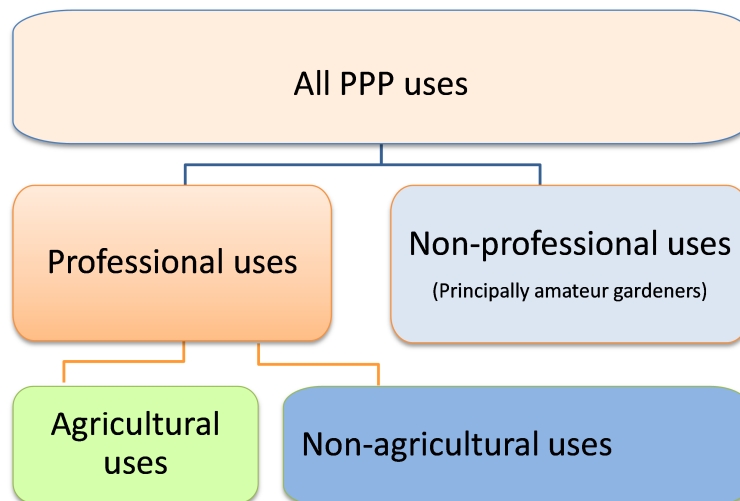
## Defining the best approaches for data collection



The scope of Regulation (EC) No1185/2009 being provisionally limited to plant protection products (PPP) both for sales and use statistics, data collection on non-agricultural uses should naturally be limited to PPP.

From a regulatory point of view, the first aim of collecting statistics on the non-agricultural use of PPP is to consolidate the statistics on agricultural use which are described in Annex II of the statistical Regulation.

This objective should be achieved by filling in the gap between the amounts of pesticides used in agriculture collected via the agricultural surveys and pesticide sales statistics which represent in theory the total amount of PPP used and will usually be gathered from administrative sources .



Two kind of activities are relevant for non-agricultural uses of PPP: professional non-agricultural and non-professional uses. From a strictly quantitative point of view the sum of professional and non-

professional uses should correspond to the total amount of PPP used which should be close to the volume of PPP sold.

Further to the first quantitative goal, statistics on the non-agricultural uses should provide relevant information on the risks and benefits associated with specific practices in relation to the objectives of Directive 2009/128/EC. In particular, specific risks for amateur users, for the wildlife or for water resources associated to non-professional practices should be associated to the intensity of use of PPP in specific sectors. .

Defining the importance of these specific objectives will greatly determine the degree of precision required for these statistics and, by way of consequence, the methods that should be used to achieve it.

Through the pilot projects and existing experiences in the Member States, different categories on non-agricultural users have been identified. Each of them can be associated with different kinds of risks and different statistical approaches. Some categories of users will be associated with significant volumes of products used and will therefore be quite important to achieve the first objective defined above, while others, which can be secondary in terms of volumes used will be more relevant from the point of view of the importance of the risk.

A third dimension which will influence the statistical design is the easiness or difficulty to cover specific sectors. For each sector of use, the investment required to collect reliable statistics should be balanced with the expected volume of products used and with the potential risk associated to these uses.

These three dimensions, quantitative importance, degree of risk and easiness-reliability of coverage, will be taken into account to define the best approaches for each category of users.

Finally, the evolution of the legislative framework will be taken into consideration to define on the long term the most appropriate data collection systems. Anticipated limitations or prohibition of use of pesticides in specific sectors, data reporting obligations, or any kind of legal measures having an impact on the use of pesticides in the non-agricultural sectors or on the reporting of such activities will influence the national data collection designs.

The main lessons learned for existing experiences and from the pilot studies are the following:

1. There is a huge diversity of patterns of non-agricultural uses of pesticides amongst the Member States or even between national regions.
2. Predominant sectors of use can be identified and are common to most Member States.
3. A restricted list of active substance can be associated to predominant uses.
4. The different sectors of use require different methods of data collection or a combination of methods.

### *Diversity of patterns amongst the Member States*

The importance of each sector of use may be very different from one country or region to another and depend on differences in the national legislations or in the economic importance of these

sectors. For instance, the utilization of pesticides in forestry appeared to be very different from one country to another according to importance of this sector in the local economy.

Though the influence of legal measures on the use of pesticides in non-agricultural sectors has not been clearly identified so far, it is expected that such measures taken in application of Directive 2009/128/EC will have an important impact on specific sectors of use.

The first step in the definition of a national data collection system must be the identification of the different potential sectors of use with their relative potential importance and the characterization of any national or regional specificity.

### *Key sectors*

The experience of pilot studies showed that an exhaustive survey on non-agricultural uses is in most cases illusionary. Choices must be made.

Besides the apparent diversity of national or regional situations, important actors are common to all Member States and should be the base of all surveys on the use of PPP in the non-agricultural sectors:

1. Residential areas (including H&G)
2. Public areas (including golf courses)
3. Industrial areas
4. Infrastructure
5. Forests

These sectors of activity should be covered in priority and should be the base for the comparability of statistics on non-agricultural PPP uses between Member States of regions.

The results and comparability of statistics between Member States or regions will depend on the decision to include or not one of these sectors in the statistical design, on the existence of specific legal measures affecting PPP use in these sectors, etc.

The decision to cover additional sectors of use and the definition of the degree of precision searched will be determined by political choices. Some sectors of use which can appear as quantitatively negligible can have an important impact on the environment or human health, for instance. For a given sector of use, the choice of the method for collecting data can determine the precision of the results and, therefore, their usefulness for specific policies.

### *Key products*

Existing experiences and pilot studies revealed that the list of active substances associated with the different non-agricultural sectors of use of PPP is relatively limited and usually associated with specific practices (such as weed control on hardened or permeable surfaces, specific disease control in forestry, etc. )

Amongst these products some can be associated with specific threats for human health, wildlife, natural resources... A specific attention should be given to these products in the organization of data collection methods.

Preliminary or small scale surveys can help identify those products on which the data collection methods should focus. In particular, these short lists should be taken into account to design the questionnaires that will be used in the surveys.

Sales data can also be a useful tool to follow the trends in the placing on the market and, therefore, in the use of those molecules.

### *Combined methods*

Pilot studies have shown the importance of the definition of the right collection method and of the correct identification of the contact points for each sector of use to assure a good response rate and the reliability of results.

Centralized public or private administrations such as municipalities or companies in charge of infrastructure management can be easily identified, normally keep records of all PPP used and have shown a good willingness to cooperate. Two approaches can be envisaged to collect the data from these operators: either via a questionnaire that can be sent every 4 years like in the NL or via an administrative reporting obligation.

Other operators with no “centralized” organization such as the managers of industrial areas are more difficult to identify and to involve in a data collection system. The importance of such actors can be estimated via sample surveys which will help decide if they should be included or not in the data collection design.

Two kinds of operators will require a specific attention: “amateur gardeners” and “parks and gardens” companies.

“Parks and Gardens” companies operate for a broad diversity of customers which can be private persons, public administrations or private companies. As professionals, they will usually use the same products as the professional agricultural users. Due to their large number and to the diversity of their activities, these actors are difficult to identify and to involve in a data collection survey. At the time being, a sample survey of these operators seems to be the most relevant approach. The delivery of operators licenses and the obligation of record keeping could help in future identifying these actors and collect relevant information on PPP use.

“Amateur gardeners” represent a huge diversity of users which is very difficult to characterize and to involve in a survey. However, due to the implementation of Directive 2009/128/EC, the products to which they have access rely on a limited list of active substances and are normally easily identifiable. In most Member States, H&G products are clearly identified and in some cases completely separated from professional products in terms of authorization numbers and commercialization. In such cases, H&G products will easily be covered via the sales statistics.