

How to implement a mandatory inspection in accordance with European directives:

The example of certified workshops

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Introduction

Progressively, the European Commission has established a complete set of rules (Directives) and enlarged the field of those regulations. So, since many years, each national regulations have to take in account the European Directives when provided new rules in its own country.

So, during the implementation of a mandatory inspection of sprayers in France, it was absolutely necessary to fulfil the main principle of the free circulation of bodies and goods.

In this way, when preparing our regulations, three main Directives had to be integrated in the regulations concerning the mandatory inspection of sprayer.

- Even if the French regulation started in 2009, the Framework Directive for a sustainable use of pesticide (2009-128) was still in preparation, and the main goals were still known.
- The Services Directive (2006-123) should simplify all procedures used in creating and establishing a service activity (like sprayer inspections)
- The recognition of professional qualification Directive (2005-36), demands a simplification of procedure of recognition in regulatory activities.

In this context, the French rules were written in order to facilitate the implementation of sprayer inspection's workshops, establish in France or in other European countries. Some details will be given here, explaining how workshops are agreed for this activity.

The French sprayer inspection; a long story!

In 2000, a first attempt to put into force a mandatory inspection of sprayer was started. Unfortunately, the law prepared in 2002 has not been published (changes in the ministerial priorities). So, the discussions re-started in 2005 for a publication of the law in 2006. The specific decrees and ministerial rules were finally published in 2008, in order to start the mandatory inspection in 2009.

During this period, a European tour has been made, in order to collect some very useful information coming from states which have implemented such mandatory inspections. Especially, Belgium, Germany and the Netherlands were asked for their experience (several years of inspection). The people involved in sprayer inspection gave us their feeling and feed-back about their organisation and procedures. These discussions permit to make ours the best points and adapt or modify the worst ones in order to improve the first basis of the French rules.

Moreover, it was important for our point of view to take in account all the voluntary operations developed all around in France. Many meetings with professional organizations (farmers, manufacturers ...) were organised in order to present and discuss all the projects. Those discussions allowed the optimization of the regulations and a quick start of inspections.

Finally, and according the 2009-128 Directive, the organization is based on three main sectors:

Teaching : the inspector are specially teach in specific teaching centres. Those centres have been agreed by the State. In order to obtain this agreement, teachers have to receive a complete set of information's and teaching materials. They are also submitting to audits, made once two or three years.

Inspecting : the workshop have to be specially agreed for this job.

Controlling / organizing: a specific organization (GIP Pulves) has been created in order to survey and organize the scheme. This structure has to answer technical and administrative questions, collect all data's coming from the inspections. It seems to be the main originality in our organisation: a complete centralized organisation, very light (2 persons) at totally dedicated to the sprayer inspection. It is directly connected to the French ministry of Agriculture. It gives an accurate knowledge on this subject, which permit a high reactivity and quick answers and upgrades for the inspection's methodologies and practices.

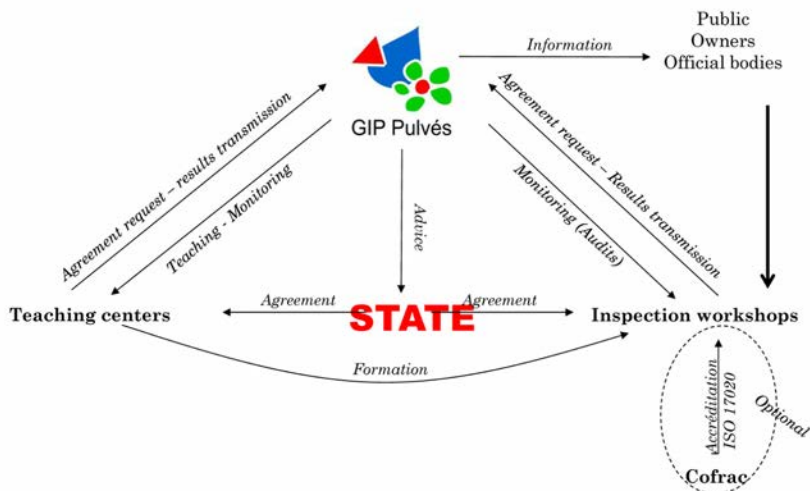


Fig 1. Global organisation of mandatory inspection of sprayer.

Three directives may concern the agreement of workshop

When preparing the agreement's procedure for workshop, we had to mind to European Directives (already published or under preparation)

The framework Directive for a sustainable use of pesticide

The Directive says that "the member states should define the bodies which have on charge to realize the inspection, and has to communicate to the european commission the list of the certified bodies." From our point of view, it means that the workshop have to receive an agreement. It means that the State has to install a recognition system, to guarantee the competence and an adapted organisation. The agreement system in France is based on two principles:

- Person's education: the inspectors have to follow a teaching cycle, divided in two sessions. The first step (4 days) is based on general information concerning the regulation, the sprayers, the safety of operators, and the main principles of the inspection. It is evaluated with a multiple choice questioner. Only people receiving at least 20 good answers from 30 questions can reach the second level. This one concerns only the inspection protocol (2 days) and at the end of this stage, each participant shall realise a complete inspection, in 2 hours. If not, he will not be validated for inspecting sprayers.
- Quality system. Two possibilities are available. The first one is based on international standards (ISO 17020) evaluated by an independent association (Cofrac). It means accreditation for inspection activities.
- The second one is based on external audits by the GIP Pulvés. Each 15 month, the workshops are audited, during a complete day. The inspector has to realise a complete inspection, he has to provide to the auditor all documents concerning the metrological control of the instrumentation (procedure, certificates...), and he has to explain the global organisation, administrative functioning (storage of documents, communications, customer's management...).

Professional recognition

As shown previously, the agreement of workshop is necessary to insured a high level of competence. One main condition is the education system. A specific Directive (2005-36) concerning the recognition of professional qualification has been transposed in the French regulation. So, inspectors who have an official recognition in their own countries (it means official certificates or licence) can work for any certified workshop in France.

It means that we consider that any inspector working in the sprayer inspection in Europe is efficient and do not need any additional teaching courses.

However, inspectors have to declare its activity to the GIP Pulves (like any inspector), and, in order to be allowed to work, he will have to present its local certificate. If needs be, during the first audit, some additional recommendations and information can be given for a complete adaptation to our national rules.

Services Directive

In order to facilitate the establishment of services activities in Europe, the 2006-123 Directive ask to simplify the procedures to create or implement the same activity all around the European Economic Space.

In the French regulation, we consider any certified workshop in the same way. For European workshops, already agreed in one country, a preliminary declaration has to be addressed to the GIP Pulves. After reception of this request, this workshop will be considered like anyone else: the audit process by accreditation office or the GIP Pulves structure or its national supervising organisation.

The workshop will preliminary have to provide its local agreement (naturally, the validity period will be checked).

After this administrative registration, the workshop just has to follow the same requirements than all other workshops: methodology of inspection, organisation, metrological specifications for the equipment, data transmission in the national database, and payment of fees for each inspection. The workshop will be included in the list of authorized bodies, regularly updated and published.

How to comply with the main exigencies of the 2009-128 framework directive?

Without coming into too many details, the framework Directive also stipulates:

A. That the sprayer inspection is mandatory, with regular intervals not exceeding 5 years.

This item is quite easy to transpose, but, it should be taken into account that all kind of sprayers are concerned by this. In the French regulations, in the law (highest level of rules) it is said that all kind of machines applying pesticides are submitted to such an inspection, with a five year interval. In more detailed rules, we define the different categories of machines and the methodology of inspection dedicated to each one.

B. That the member state shall recognise the certificates delivered in the other countries.

It is mentioned in the 6th paragraph.

In France, the general decree, insure this recognition, but three conditions should be respected:

- The inspection of the sprayer had to be done by a certified workshop
- The certificate establish in the original country is valid. Because of the different inspection intervals, the limit of validity taken in account is the one attributed by the country where the inspection has been done (no prolongation, no limitation).
- The sprayer has to be declared to the GIP Pulves when arriving in France; it allows providing some advice to the owner about the date of the following inspection.

For farmers establish in a neighboured country and cultivating fields in France, there is no need to do anything; they just have to follow their local requirements.

C. That the inspection procedure shall follow some essential requirements edited in the directive.

In order to provide the list of inspection points, the French rules are based on: the standard available in 2008 (NF EN 13790 series), the procedure used for voluntary inspections (some defaults not included in the standard were still inspected) and the feedback from other countries. It was really important to collect the experience of inspectors, especially not to define unrealistic inspection's point. Moreover, the methodology of inspection should be strictly defined without using general wording, which can be understood differently. The list of inspection defects is edited in ministerial rules for different categories of sprayers. Actually, for field crop sprayers 63 inspections points are relevant, corresponding to 179 defects.

In the future, some additional annex will be edited, for a full adaptation of the ISO 16122 standards (in preparation) and integration of some other type of sprayers.

Three years' experience after implementing this new regulation

France is the last country which have implement such a regulation since the publication of the three directives mentioned earlier. The main experience is that, building such a regulation needs time and cannot be put into force in few months. It is necessary to discuss with all the people involved in the crop protection: farmers association, manufacturers, equipment distributors... The rules should preferably be explain and communicate before their entry into force; it allows a quicker start and a quite

well acceptance of the new obligations. Particularly, if voluntary inspections have been implemented in the past, the mandatory inspections should preferably be as close as possible of the older scheme in terms of protocols and organisation. In our case, more than 75% of the actual inspectors were involved in the voluntary scheme. They were efficient with only a short teaching (2 days used to upgrade their knowledge for the new protocol).

So, less than two after the publication of the rules, around 20 workshops were already agreed for the mandatory inspections. In 2012, three years after starting, 5 teaching centres are agreed and more than 140 workshops. This level has been reached in 18 months. Today, the total French territory is covered (even in the French West Indies –FWI- islands !). This quick installation is due to a good communication two years before the entry in force of the regulation and the voluntary scheme installed and used for implementing workshops.

Another important point is the flexibility in the official text. From our point of view, it is difficult to prepare some definitive text and methods: the great variety of sprayers (more than 100 manufacturers are present in France), we sometimes have to adapt the methods to new situations. If everything should be strictly defined in the official texts (agreement procedures, teaching content, sprayer's defects) some other should be preferably written in a lighter way than official text (it takes time to approve and publish new rules in the official gazette).

The GIP Pulves edit a technical guide, where all main principles are remind, but additional information's are presented. For example, if the ministerial rules defined the defects (ie boom bending limits) the methods used for measuring are given in this guide. It gives also technical information about classification of sprayers and nozzles.

Moreover, the metrological specifications are given in this guide, with a complete scheme and procedures for testing the accuracy of the equipment. In order to integrate the progress due to innovation and new equipment's, we did not establish a closed-list of available equipment's but only metrological limits are provided. Each one can use (or build) its own equipment, which can be accepted if the minimal accuracy is reached.

A national database for collecting all the information from inspections

In addition to this organisation, the official bodies decided to implement a specific database, collecting all data's coming from the inspections. In this way, some interesting information can be registered: Characteristics of the sprayers (manufacturer, model, width, regulation system, tank capacity, year of building...), the localisation, and the defects encountered for each inspection. In order to be able to follow each sprayer, a specific registration has been implemented: a sticker with a unique number is fixed on the machine during its first inspection. It will be possible to determine how the sprayers make old, and the main points to take care when years go on.

	(M ha)
Arable crops	12,9
Grassland	14,6
Orchard	0,4
Vineyards	0,8
Forestry	23,3

Fig. 2. Distribution of the French territory.

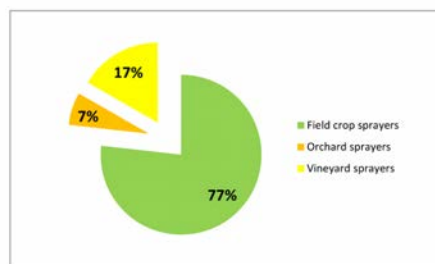


Fig. 3. Distribution of type of sprayer

Even if the orchards and vineyards represents around ten times less areas than field crops, the bush and tree sprayers represent more or less one quarter of the machines. Effectively, the characteristics of such machines make them relevant only for 10 to 30 ha max, per sprayer. Moreover, in some particular regions, machines can be used for very small areas (eg in Champagne, the average surface of vine per farm is about 2 ha).

Examples of technical description given by the data base:

- 40% of field crop sprayers are equipped with a travelling speed regulation system but only 8% of the vineyard sprayers;
- Field crop sprayers are divided in two main classes: those used in mixed farms (livestock + crop) with booms comprised between 12 and 15m and those used in large farms (arable crops only) with booms between 24 and 28 m. Each category represents more or less one third (See Fig 4).
- For vineyard sprayers, more than 85% are pneumatic sprayers and 10% air assisted.

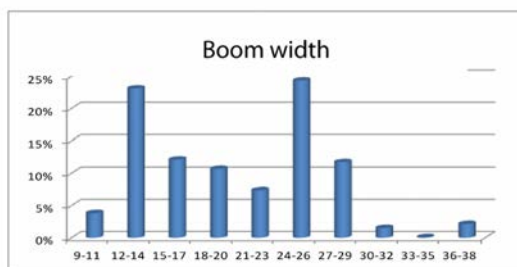


Fig. 4. Distribution of the boom width.

Those data's can be precisely established, with geographical analysis, and / or crossed request (age vs boom width, tank content vs type of production ...). This new knowledge about the characteristics of the sprayer will be used by technicians in order to prepare some well adapted teaching and / or information for farmers.

Examples of inspection details given by the data base:

- The geographical distribution is heterogeneous all-round the French territory (see fig 5), due to different farming systems
- The average number of defects per inspection is about 5; logically, it increased with the age of the machine but not with high rate. The oldest machines (more than 25 years) are generally well kept by owners and generally pass the inspection's test without being rejected!
- The two main defects concern the boom deformation and the accuracy of the manometer. It is encountered in 50% of sprayers (minor + major defects)
- Around 20 to 25% need to be repaired before receiving the sticker.

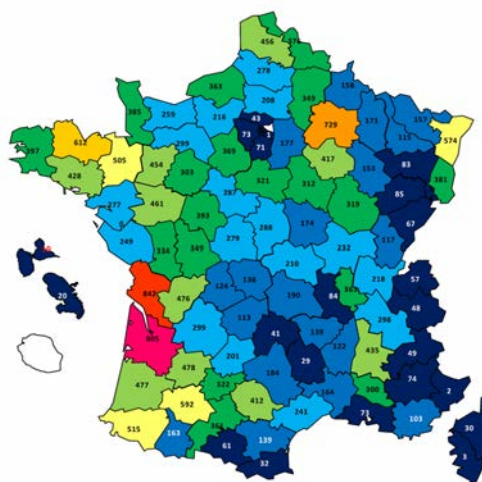


Fig. 5. Distribution of inspection in France.

Conclusion

Starting the implementation of mandatory inspections of sprayer seems to be quite easy considering the poor number of sprayers and owners concerned by such regulations. However, from the administrative point of view is exactly the same whatever is the scale of the project. Teaching centres, inspections workshops and organisational structure have to be put into force in a few time, and in accordance with European rules. When the scale of the subject is not very large, it may be useful to minimize the number of partners and rules. In France, the centralized organisation, with a light and specific structure at the head is a real chance for harmonising the methods and insures a quick broadcasting of information and data's. All the agreements are given at the national level and everyone can move from one part of the territory to another one without any difficulties. On the other hand, the completion of a national database gives some useful information about the state of the sprayers, their geographical distribution and will be used for well adapted advertising.

One difficulty encountered is the communication to owners of sprayers (not only farmers are concern but every kind of owner). Using professional newspapers and/or professional organisations is necessary, but seems not to be enough. It appears to be difficult to inform the owners about the new regulations and usefulness of such inspections. If the main goal of the inspections is to minimize environmental and operator's contamination, inspections shall also be presented in such a way that owners will find some direct benefits to that; for example, less consumption of pesticides (eg accuracy of the sensors), better distribution in the canopy (eg nozzle spacing) ...

Actually, in France, the main problem still is the fulfilment of this regulation. We consider that only 40% of farmers have submitted their sprayer to this inspection. Many reasons may explain such a lack: financial difficulties (specific vineyards or fruit productions), climate events (dryness during 2011's spring), fear about the poor condition of their machines (which will not satisfy the minimal request during inspection)...?

It is now absolutely necessary to insure that this regulation is respected by each owner. If around 1% of the farms are visited by official bodies every year, it appears not to be enough in order to complete a satisfying number of inspections. We now have to mind to other tools in order to finalize the introduction of this regulation and make it successful.