



Better Training for Safer Food *Initiative*

**Inspection and certification
of pesticide application
equipment**

***An introduction to EU legislative
framework***

Prof. EMILIO GIL
Universitat Politècnica de Catalunya



- Introduction
- Sustainable Use Directive
- Standard procedure for inspections
- Machinery Directive
- Standards for new sprayers
- Legal organization at different MS
- Final considerations



Introduction

- Sustainable Use Directive
- Standard procedure for inspections
- Machinery Directive
- Standards for new sprayers
- Legal organization at different MS
- Final considerations

Information and wide knowledge, not only about pesticide, but also about the most suitable conditions for its distribution, the optimal amount to apply and the most adequate spray technique to be used, are key factors in the success of any pesticide application process





Drift and not appropriate working parameters can produce environmental contamination



Well adjusted and inspected sprayer, together with training about the process result capital elements in the process



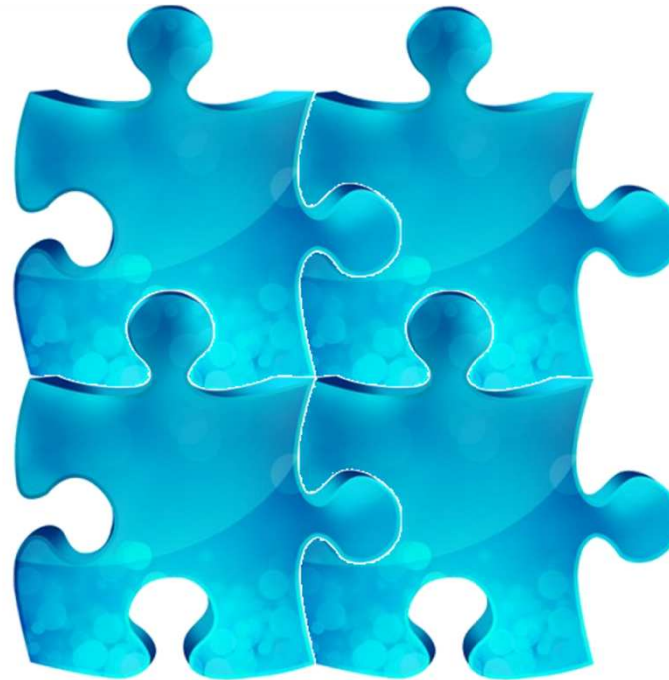
Special circumstances and situations need specific care during the PPP use



Operator's safety **MUST** be one of the most important aspects to be considered

**Pesticide Authorisation
(placing on the market)**
2009/1107 repl. Directive
91/414

**Revision of Machinery
Directive** (Pesticide
application equipment)
2009/127



**Framework Directive
on Sustainable Use of
Pesticides (SUD)**
2009/128

**Water Framework
Directive (WFD)**
2000/60/EC

TREND: INCREASING FOCUS ON THE USE PHASE OF PESTICIDES

Improve spraying equipment

Since Directive 2006/42/EC of the European Parliament and of the Council of 17 May 2006 on machinery will provide for **rules on the placing on the market of pesticide application equipment** ensuring that environmental requirements are met, it is appropriate, in order to **minimize the adverse impacts of pesticides on human health and the environment** caused by such equipment, to provide for **systems for regular technical inspection of pesticide application equipment already in use**. Member States should describe in their National Action Plans how they will ensure the implementation of those requirements.



Only sprayers meeting minimum requirements are placed on the market



To keep the quality high, regular inspections should be performed

Which of the following actions are more effective in the improvement of the PPP use?

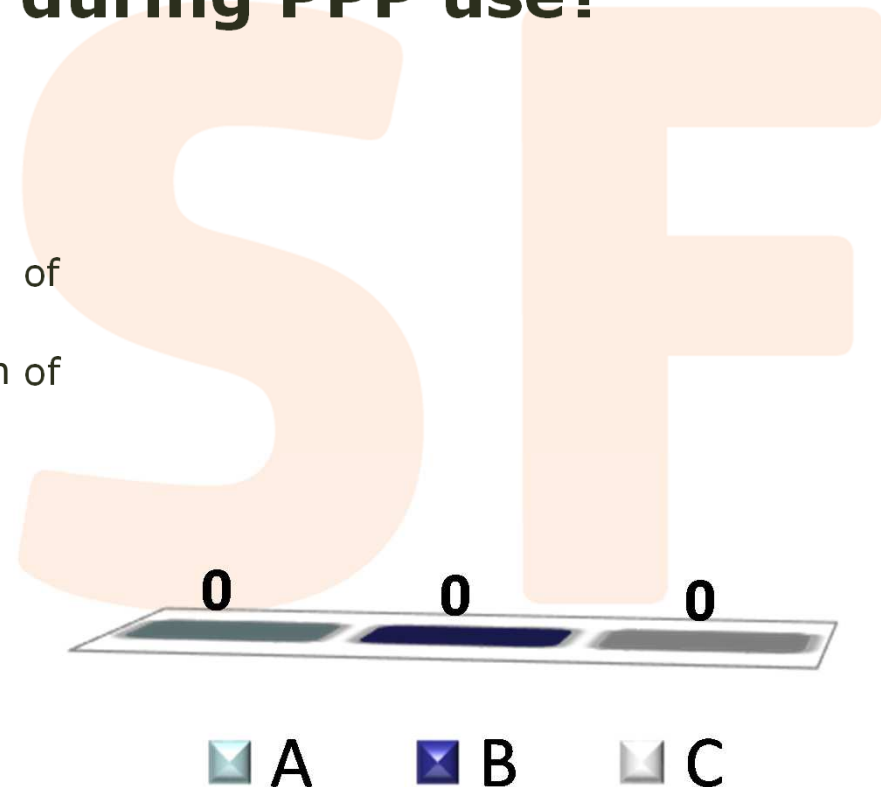
- A) Training and Information
- B) Legislation
- C) Penalties
- D) Subsidies



■ A ■ B ■ C ■ D

What is the most efficient measure to increase efficiency and reduce the environmental problem during PPP use?

1. To use the latest technology
2. To follow an appropriate calibration process of the sprayer
3. To arrange a mandatory program of inspection of sprayers





Introduction

Sustainable Use Directive

Standard procedure for inspections

Machinery Directive

Standards for new sprayers

Legal organization at different MS

Final considerations



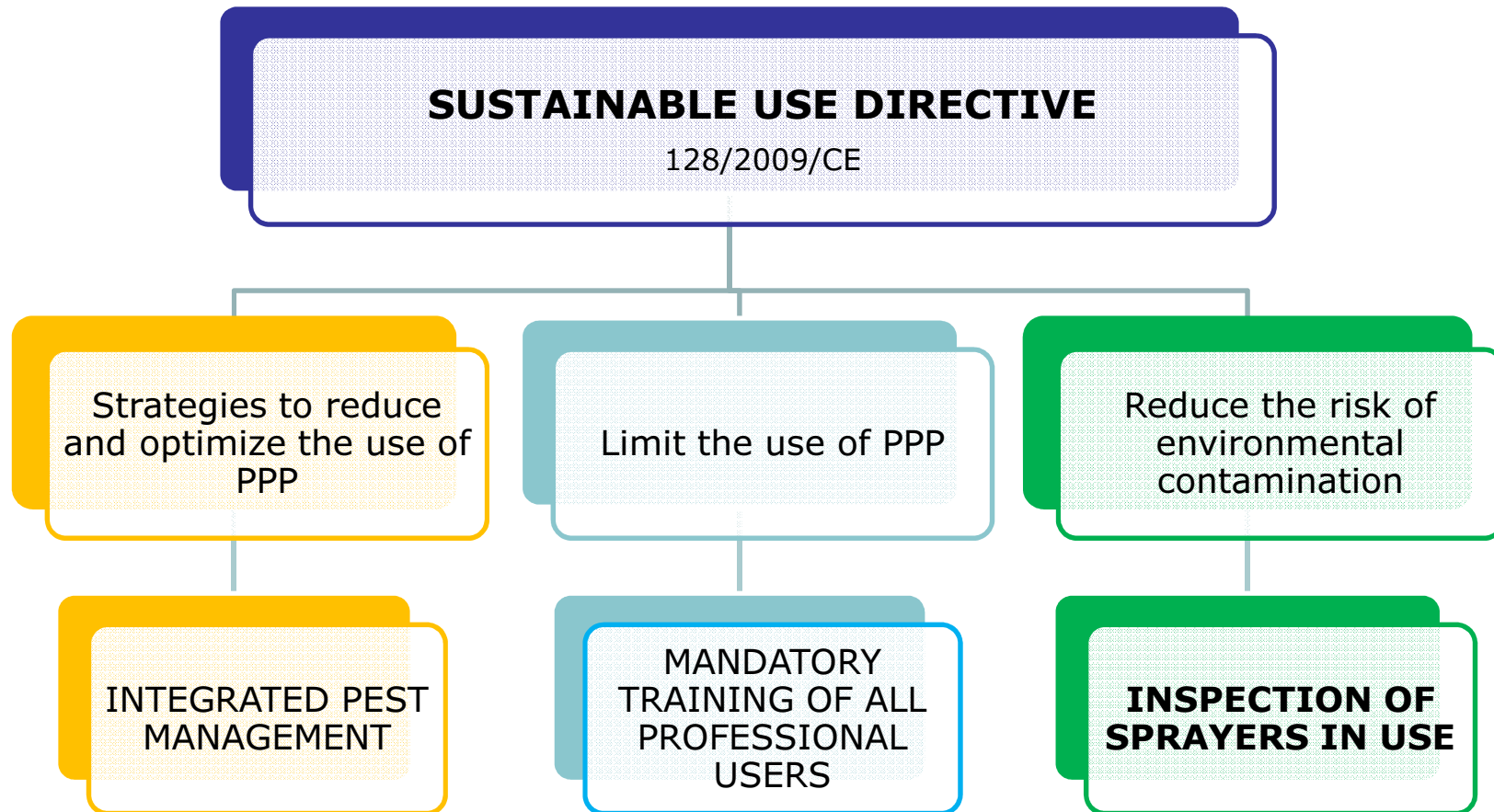
SUD Directive – 128/2009/CE

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



This Directive establishes a framework to achieve a **sustainable use of pesticides** by **reducing the risks** and impacts of pesticide use on human health and the environment and promoting the use of **integrated pest management** and of alternative approaches or techniques such as non-chemical alternatives to pesticides





European Commission

NATIONAL ACTION PLAN

Training-sales requirements

Information and awareness

Aerial spraying

Protect aquatic environment



Reduction of PPP on risk specific areas

Inspection of sprayers

Information to the public

Integrated Pest Management

Handling and storage of PPP




























Consumers, Health And Food Executive Agency



Implementation of SUD National Action Plans

➤ National Action Plans

Documents provided in original language and in English as soon as translation available - Submission is still ongoing

 Austria	 Finland	 Latvia	 Romania
 Belgium	 France	 Lithuania	 Slovakia
 Bulgaria	 Germany	 Luxembourg	 Slovenia
 Cyprus	 Greece	 Malta	 Spain
 Czech Republic	 Hungary	 Netherlands	 Sweden
 Denmark	 Ireland	 Poland	 United Kingdom
 Estonia	 Italy	 Portugal	

http://ec.europa.eu/food/plant/pesticides/sustainable_use_pesticides/national_action_plans_en.htm



- Introduction
- Sustainable Use Directive
- Standard procedure for inspections**
- Machinery Directive
- Standards for new sprayers
- Legal organization at different MS
- Final considerations



European Committee for Standardization

Technical Committee (TC) 144
"Tractors and machinery for agriculture and forestry"
Working Group (WG) 3
"Mobile machines and trailers"

CEN is focused in development of European Standard to define technical characteristics of pesticide application equipment, including procedures for inspection

European Standards for Inspection of Sprayers in Use – EN 13790



EN 13790-1: Agricultural Machinery – Sprayers –
Inspection of sprayers in use – Part 1: Field crop
sprayers



EN 13790-2: Agricultural Machinery – Sprayers –
Inspection of sprayers in use – Part 2: Air assisted
sprayers for bush and tree crops



Request from European Commission to CEN

CEN was requested to:

Develop European standards for the inspection of all types of equipment used by professionals that will enable equipment to comply with the essential health and safety and environmental requirements listed in Annex 2 to the Framework Directive on the sustainable use of pesticides.

The most common other types of pesticide equipment to be scrutinised belong to the following main categories:

- **Tractor mounted, trailed or self-propelled sprayers (including spray trains)**
- **Aircraft sprayers (airplanes/helicopters + mixing station)**
- **Handheld or portable sprayers**
- **Others (dusters, foggers, granules applicators, seed treatment equipment, large scale batch treatment, large-scale continuous application (conveyor belt), mistblowers/generators, wipers, etc.)**

Furthermore, standards for specific important spare parts of the application equipments like the nozzles could also be developed under this mandate, if deemed necessary.

Application equipment



- Field-crop sprayers (all types)
- Air-assisted sprayers for bush and tree crops (all-types)
- Sprayers on Seeders and planters
- High-volume fixed and semi-mobile sprayers
- LVM and fog equipment
- Soil Fumigation equipment
- Train-sprayers, aerial equipment
- Band sprayers
- Granulate application equipment
- All types of knapsack or handheld sprayers





International Standardization Organization

Technical Committee (TC) 23

“Tractors and machinery for agriculture and forestry”

Subcommittee (SC) 6

“Equipment for crop protection”

Different Working Groups (WG) focused in specific aspects

ISO is focused in development of standards to define assay methods for sprayers

New EN ISO 16122 series

EN ISO 16122:2015 – Agricultural and forestry machinery – Inspection of sprayers in use

Part 1. General

Part 2. Horizontal boom sprayers

Part 3. Sprayers for bush and tree crops

Part 4: Fixed and semi-mobile sprayers

Part 5: Aerial spray systems – environmental protection

PUBLISHED

PUBLISHED

PUBLISHED

PUBLISHED

NWIP



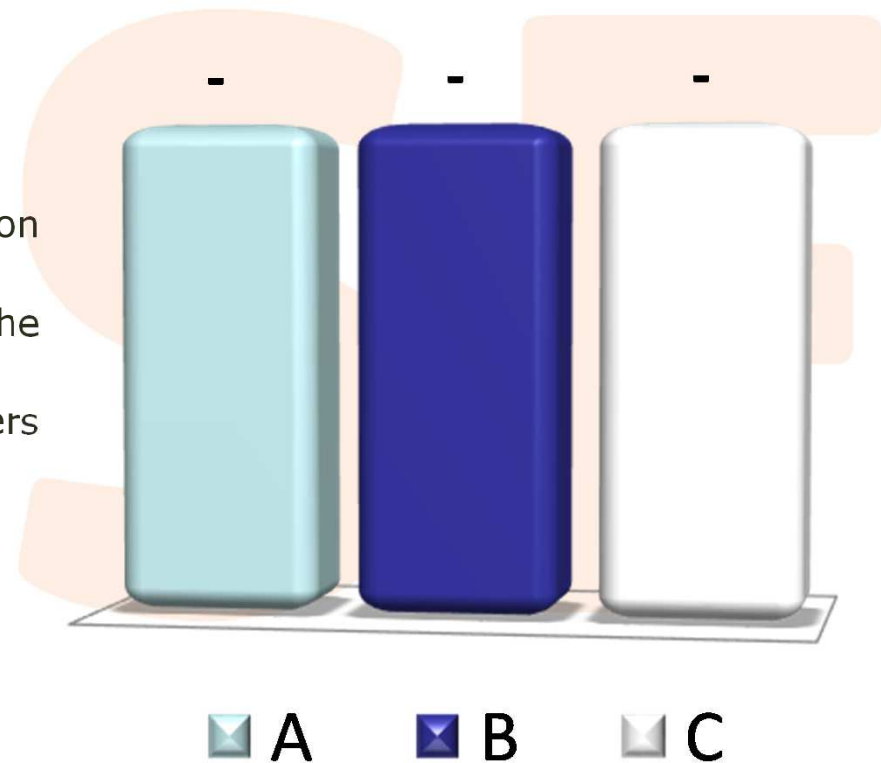
Other standards related to inspection of sprayers in use (16122 series and others)

Part X: Train sprayers – NWIP to be developed by France
Knapsack sprayers: ISO 19932-3



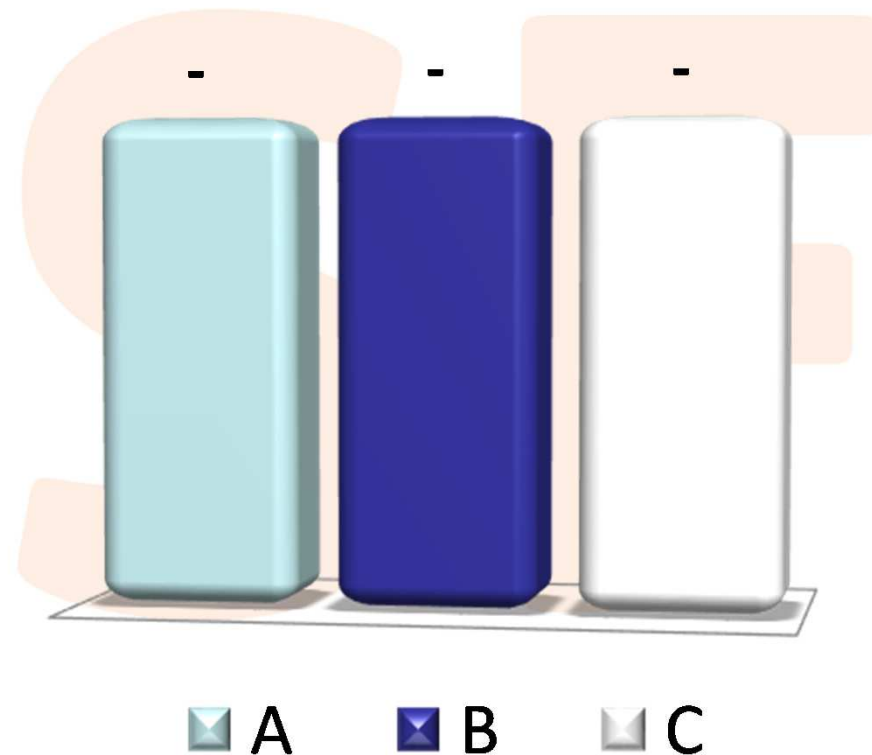
Article 8 of SUD:

1. Establishes the need of a mandatory inspection of sprayers
2. Specifies the technical procedure for the inspections
3. States that only field crop and orchard sprayers must be inspected



Inspection of sprayers in use in EU:

1. Must be organized in a voluntary scheme before 2016
2. Must be organized according EN 13790 and voluntarily in some cases according EN ISO 16122
3. Must be finished in all EU Members before December 2016





- Introduction
- Sustainable Use Directive
- Standard procedure for inspections
- Machinery Directive**
- Standards for new sprayers
- Legal organization at different MS
- Final considerations



Machine Directive – 127/2009/CE

DIRECTIVE 2009/127/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
of 21 October 2009
amending Directive 2006/42/EC with regard to machinery for pesticide application



This Directive is limited to the **essential requirements** with which **machinery for pesticide application must comply before being placed on the market** and/or put into service, while the European standardisation organisations are responsible for drawing up **harmonised standards providing detailed specifications** for the various categories of such machinery in order to enable manufacturers to comply with those requirements



Requirements for brand new sprayers before 2011



Machinery Directive 2006/42



Self Certification - CE mark



EN 12761 series (1, 2 & 3): Agricultural and forestry machinery —
Sprayers and liquid fertilizer distributors - Environmental protection



Requirements for brand new sprayers from January 1st 2012



European Directive 127/2009/CE



Self Certification - CE mark



EN ISO 16119 series (1, 2 , 3 & 4): Agricultural and forestry machinery — Environmental requirements for sprayers



- Introduction
- Sustainable Use Directive
- Standard procedure for inspections
- Machinery Directive
- Standards for new sprayers**
- Legal organization at different MS
- Final considerations

New EN ISO 16119 series

EN ISO 16119:2014 – Agricultural and forestry machinery – Environmental requirements for sprayers

Part 1. General

Part 2. Horizontal boom sprayers

Part 3. Sprayers for bush and tree crops

Part 4: Fixed and semi-mobile sprayers

PUBLISHED

PUBLISHED

PUBLISHED

PUBLISHED

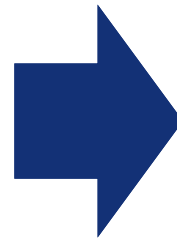


Other standards subject for a future part of EN ISO 16119 (Annex A)

- Portable sprayers
- Foggers
- Train mounted sprayers
- Aerial sprayers



Changes in the standards



Harmonized standards
Developed by CEN
Requested by European Commission





What does mean harmonised standard?

Harmonised Standards

A **harmonised standard** is a European standard developed by a recognized European Standards Organization: CEN, CENELEC, or ETSI. It is created following a request from the European Commission to one of these organisations. Manufacturers, other economic operators, or conformity assessment bodies can use harmonised standards to demonstrate that products, services, or processes **comply with relevant EU legislation**

The references of harmonised standards must be **published** in the **Official Journal of the European Union**



EN ISO 16119



Official Journal

of the European Union



EN ISO 16122



Commission communication in the framework of the implementation of 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

(Publication of titles and references of harmonised standards under Union harmonisation legislation)

(Text with EEA relevance)

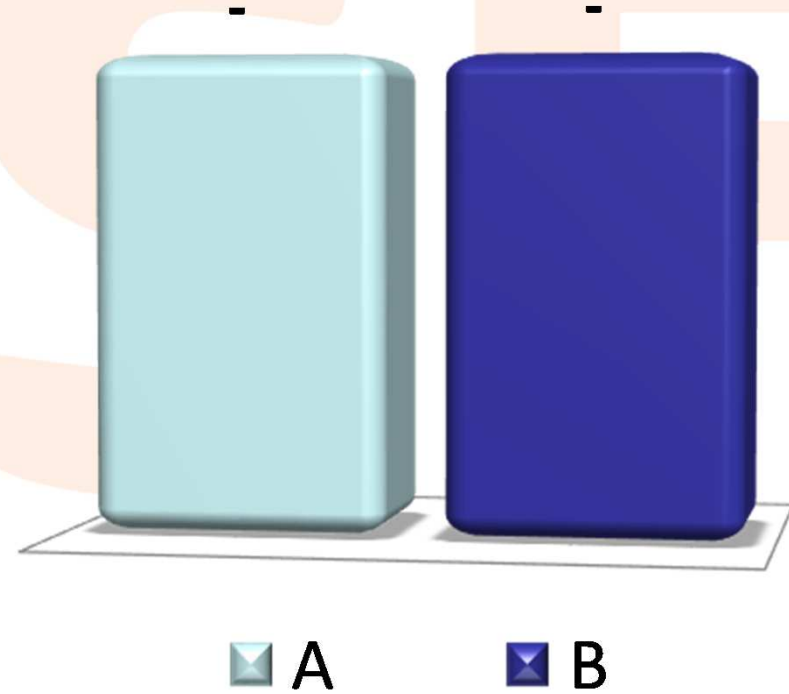
(2015/C 196/02)

ESO ⁽¹⁾	Reference and title of the standard (and reference document)	First publication OJ	Reference of superseded standard	Date of cessation of presumption of conformity of superseded standard Note 1
(1)	(2)	(3)	(4)	(5)
CEN	EN ISO 16122-1:2015 Agricultural and forestry machinery — Inspection of sprayers in use — Part 1: General (ISO 16122-1:2015)	This is the first publication		
CEN	EN ISO 16122-2:2015 Agricultural and forestry machinery — Inspection of sprayers in use — Part 2: Horizontal boom sprayers (ISO 16122-2:2015)	This is the first publication		
CEN	EN ISO 16122-3:2015 Agricultural and forestry machinery — Inspection of sprayers in use — Part 3: Sprayers for bush and tree crops (ISO 16122-3:2015)	This is the first publication		
CEN	EN ISO 16122-4:2015 Agricultural and forestry machines — Inspection of sprayers in use — Part 4: Fixed and semi-mobile sprayers (ISO 16122-4:2015)	This is the first publication		

EN/ISO 16122 standards are now also adopted by CEN and are thus becoming officially harmonized standards according to the EU legislation.

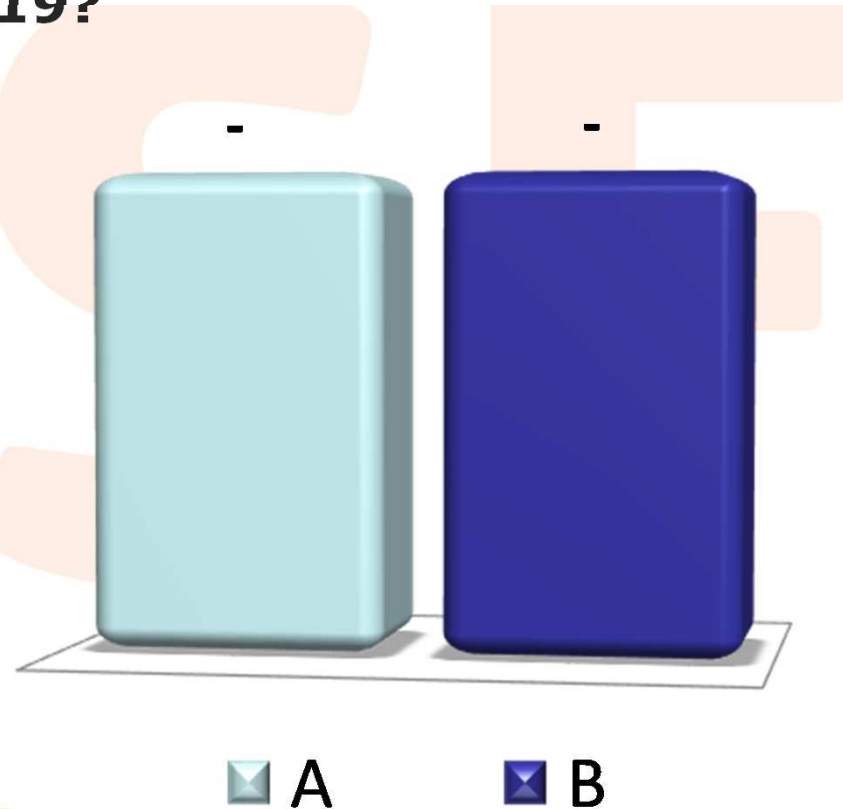
Is self-certification enough measure to guarantee the accomplishment of all aspects requested in European Directive EU 127/2009?

- A) Yes
- B) No



Have all the EU manufacturers, especially the SME, facilities and equipment needed to evaluate the mandatory environmental characteristics of the sprayers, according ISO 16119?

- A) Yes
- B) No





- Introduction
- Sustainable Use Directive
- Standard procedure for inspections
- Machinery Directive
- Standards for new sprayers
- Legal organization at different MS**
- Final considerations

Differences among MS in the organization process of mandatory inspections

Particular characteristics of MS and differences on expertise on inspection of sprayers, make difficult the arrangement of any harmonised procedure for the official organization process. It seems that the procedure must be adapted to the particular conditions. However, whatever the method, it should guarantee to objectivity, uniformity and quality of the inspection's process



Private/public centralised

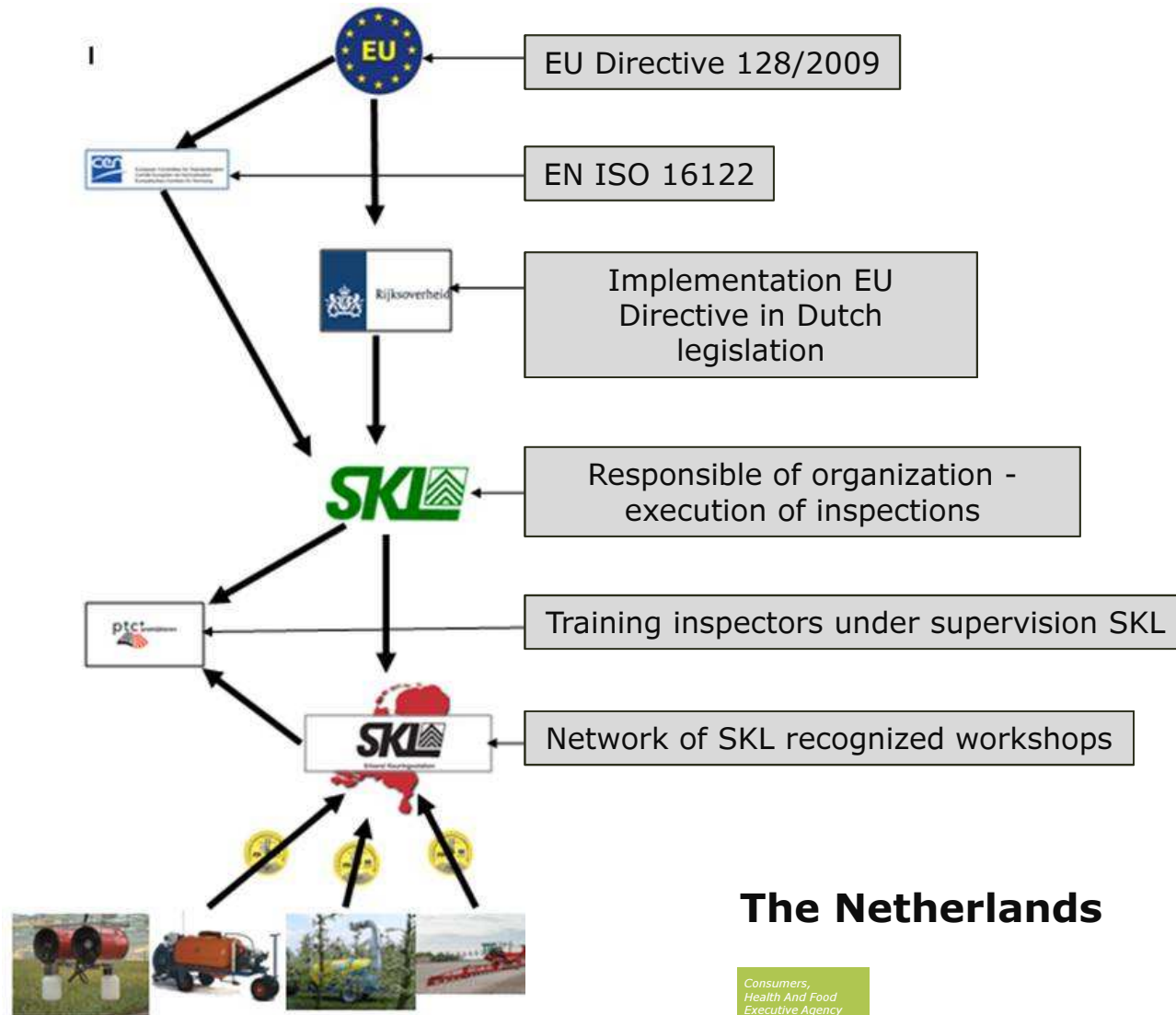


Private/public – local authorities, regions



Public centralised





The Netherlands





Spain



EU Directive 128/2009



Implementation EU Directive in Spanish legislation

National Reference Laboratory Guidelines, conflicts, support to workshops

Official Inspections Manual according ISO 16122



Responsibility on organization/execution of inspection program on the 17 local authorities



Public Universities responsible of inspectors training programmes

Publication of 17 local legislation. Official establishment of local inspections workshops

INSPECTION'S WORKSHOPS (public & private)



Ministry for Consumer Protection, Public Health and the Environment



Federal Agency for the Safety of the Food Chain



Two official centers (Flemish and Vallone regions)



INSPECTION'S WORKSHOPS (public)

Belgium





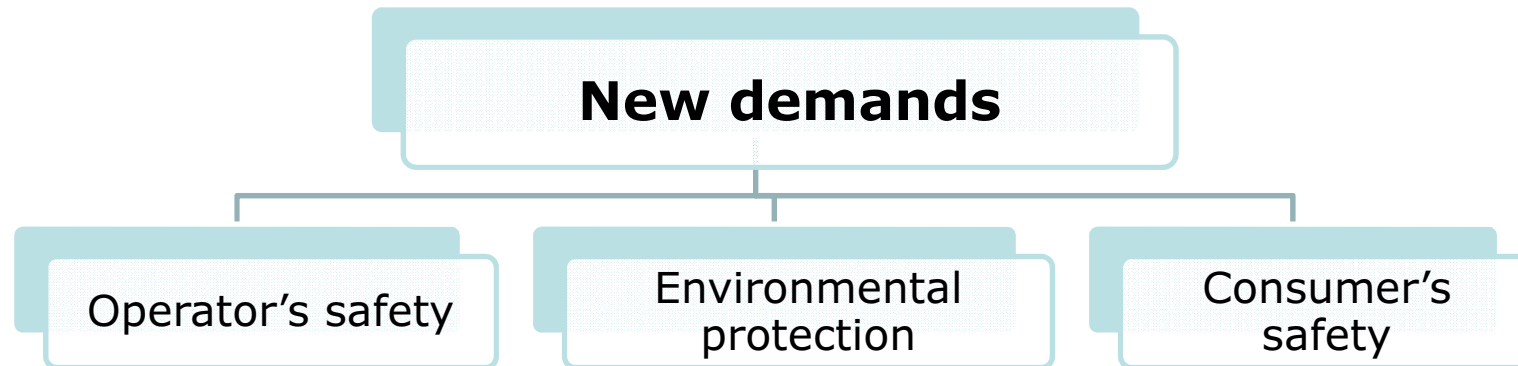
- Introduction
- Sustainable Use Directive
- Standard procedure for inspections
- Machinery Directive
- Standards for new sprayers
- Legal organization at different MS
- Final considerations**



**The use of PPP will be essential in the future
(World population = 9 billions in 2050)**



High food demand (quantity and quality)



Spray application techniques become a key factor in the process



New regulation / legislation

New market opportunities

Need to improve the use phase of PPP



European
Commission

SPRAYERS IN USE



Sustainable Use Directive
2009/128/CE



**NATIONAL
ACTION PLAN**



EN- 13790 (1 & 2)



Inspections
ISO 16122 (1,2,3 & 4)

BRAND NEW SPRAYERS



Machinery Directive
2009/127/CE



**NATIONAL
LEGISLATION**



EN- 12761 (1,2 & 3)



Certification
ISO 16119 (1,2,3 & 4)

Consumers,
Health And Food
Executive Agency



Thank you for your attention.

• **Prof. EMILIO GIL**

**Better Training for Safer Food
BTSF**

• *European Commission
Consumers, Health and Food Executive Agency
DRB A3/042
L-2920 Luxembourg*

*Consumers,
Health And Food
Executive Agency*