



## BTSF training course on Pesticide Application Equipment: Eight years of education on inspection. Benefits around Europe.

Gil, E<sup>1</sup>; Salcedo, R<sup>1</sup>; Balsari, P<sup>2</sup>; Herbst, A<sup>3</sup>; Kole, J<sup>4</sup>.; Douzals, J.P<sup>5</sup>

1 Universitat Politècnica de Catalunya, - UMA, Barcelona (Spain);

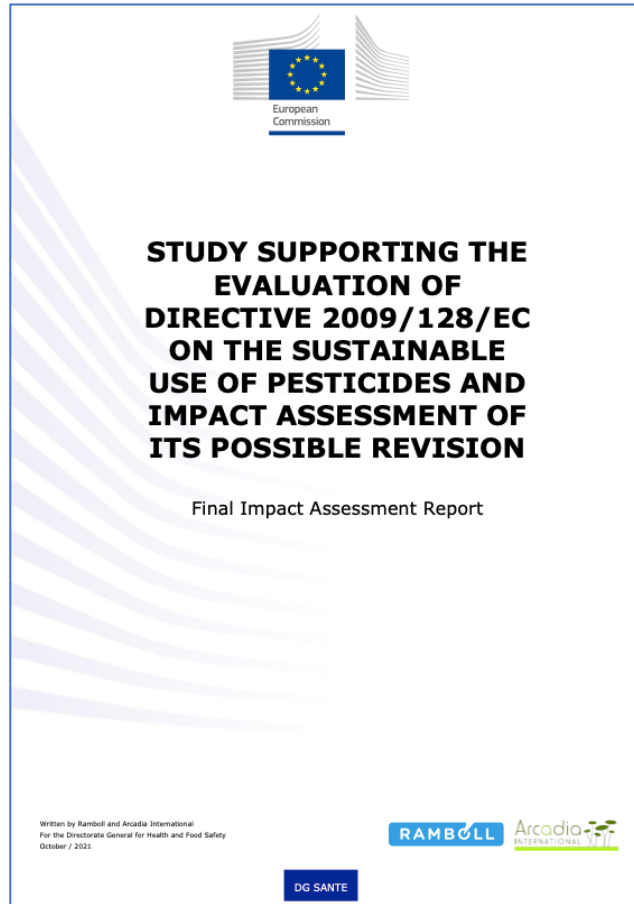
2 University of Turin – DiSAFA, Turin (Italy);

3 Julius-Kühn-Institut (JKI), Braunschweig (Germany);

4 Jaco Koke – SKL - Wageningen (The Netherlands);

5 INRAe, Montpellier (France)

# Situation of inspections in Europe



October, 2021

## Stakeholder opinions on harmonised testing of pesticides application equipment across the EU

The perspective of Member States differed regarding views on the promotion of guidelines, harmonised methodology and a requirement for PAE to be registered. No clear majority view was uncovered. Mandatory testing was broadly recognised to be an important tool in improving the efficiency of the use of PPP, however **only eight Member States put forward strong support for the SUD to put in place further requirements in this area.** Other Member States either did not state a preference, or made the point that PAE testing should be risk based and the specific types of machinery used (i.e. depending on the PPP that is being applied). **Regarding harmonised methodologies, there was a consensus that further revision of the methodology would be beneficial in a revised SUD, utilising the evidence base from advice from SPICE<sup>663</sup>.**

# Training, key for success

European Parliament

2014-2019



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Plenary sitting

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30.1.2019

A8-0045/2019

## REPORT

on the implementation of Directive 2009/128/EC on the sustainable use of pesticides  
(2017/2284(INI))

Committee on the Environment, Public Health and Food Safety

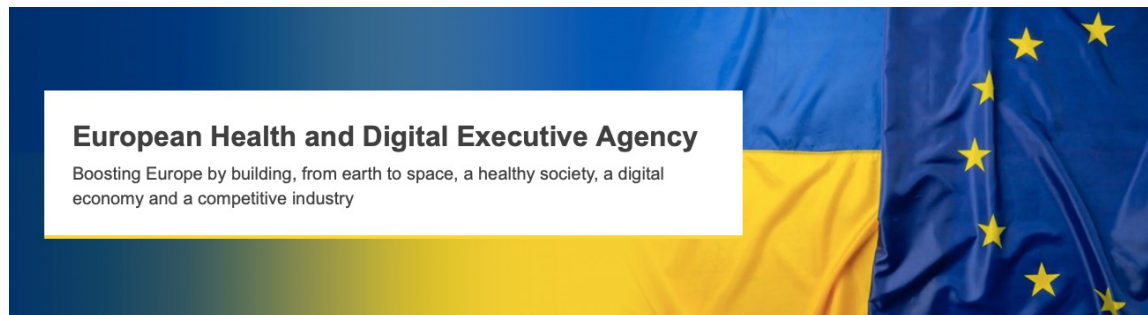
Rapporteur: Jytte Guteland

Rapporteur for the opinion (\*):  
Sofia Ribeiro, Committee on Agriculture and Rural Development

(\*) Associated committee – Rule 54 of the Rules of Procedure

Underlines the importance of training users to ensure the safe and sustainable use of PPPs, and emphasises that professional and non-professional users should receive adequate training, which should be extended to small and micro-businesses;

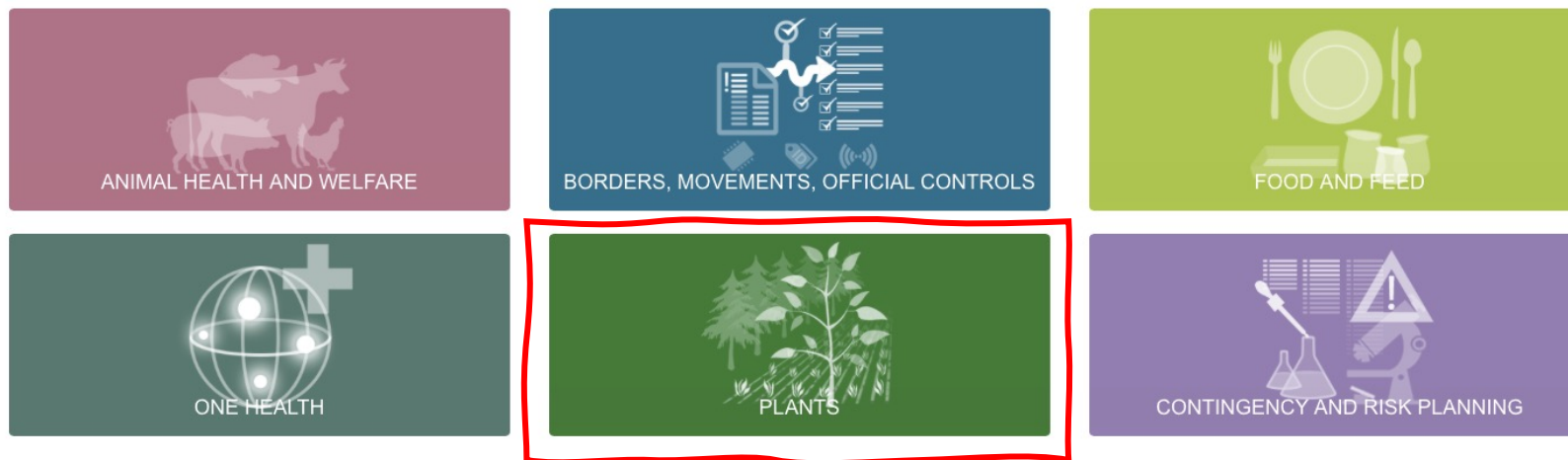
The rapporteur welcomes the Commission's evaluation report, but at the same time expresses deep concern over the poor implementation of the provisions of the Directive in the majority of Member States. It is clear that some progress has been made in the field of checks on spraying equipment, and in the development of training courses and certification schemes regarding how to best spray pesticides. However, very little progress has been made in promoting the uptake of alternative techniques, which are the key to ensuring real pesticide dependency reductions. According to the European Environment Agency, the EU demand for pesticides has remained nearly stable over the last years<sup>1</sup>, which could indicate that the risks of pesticides to humans and the environment have remained constant, despite implementation of the National Action Plans under the Directive on the Sustainable Use of Pesticides.



**BTSF ACADEMY**

## Better Training for Safer Food

Library and training on food safety, plant, animal and One health





## Pesticide application equipment



- ☑ Increase knowledge and awareness of EU regulations concerning inspection and calibration of pesticides application equipment (Sustainable Use Directive, Machine Directive, ISO standards for inspection of PAEs, ISO standards for new sprayer's requirements, etc.).
- ☑ Ensure a complete and better understanding on the field of inspections and calibrations of PAEs.
- ☑ Provide main guidelines and clear procedures on important aspects of calibration and maintenance of PAEs.
- ☑ Promote uniformity and harmonization of inspection procedures along MS of UE and networking among participants.
- ☑ Demonstrate the benefits (technical, economic and environmental) of the inspection procedure together with a proper calibration method.
- ☑ Ensure a harmonized, practical and suitable training process for staff in charge of the organization of inspector's training activities in Europe.
- ☑ Keep participants updated with the latest developments in the spray application technologies.
- ☑ Sharing country's experiences and knowledge.

## Call for tenders: 2014

Call for tender n° Chafea/2014/BTSF/02: Organisation and implementation of training activities on inspection and calibration of pesticide application equipment in professional use under the Better Training for Safer Food initiative

2015-2018 (*12 courses*)



Call for tender n° **Chafea/2018/BTSF/03**: Organisation and implementation of training activities on inspection and calibration of plant protection product application equipment in compliance with the provisions of Directive 2009/128/EC under the "Better Training for Safer Food" initiative

2019-2023 (*6 courses*)

# Program: structure and organization



1

**LEGISLATION & EU FRAME**  
(EU DIRECTIVES – ISO)

2

**INSPECTION OF PAE**  
(EQUIPMENT, METHODOLOGY)

3

**CALIBRATION OF PAE**  
(METHODOLOGY, TARGET, TOOLS)

4

**ASSURANCE QUALITY OF INSPECTION**  
(INSPECTOR'S TRAINING, CERTIFICATION, CONTROL)

5

**OPERATOR'S SAFETY & ENVIRONMENTAL ASPECTS**  
(REDUCE LOSSES, DRIFT MITIGATION, SAFETY)

6

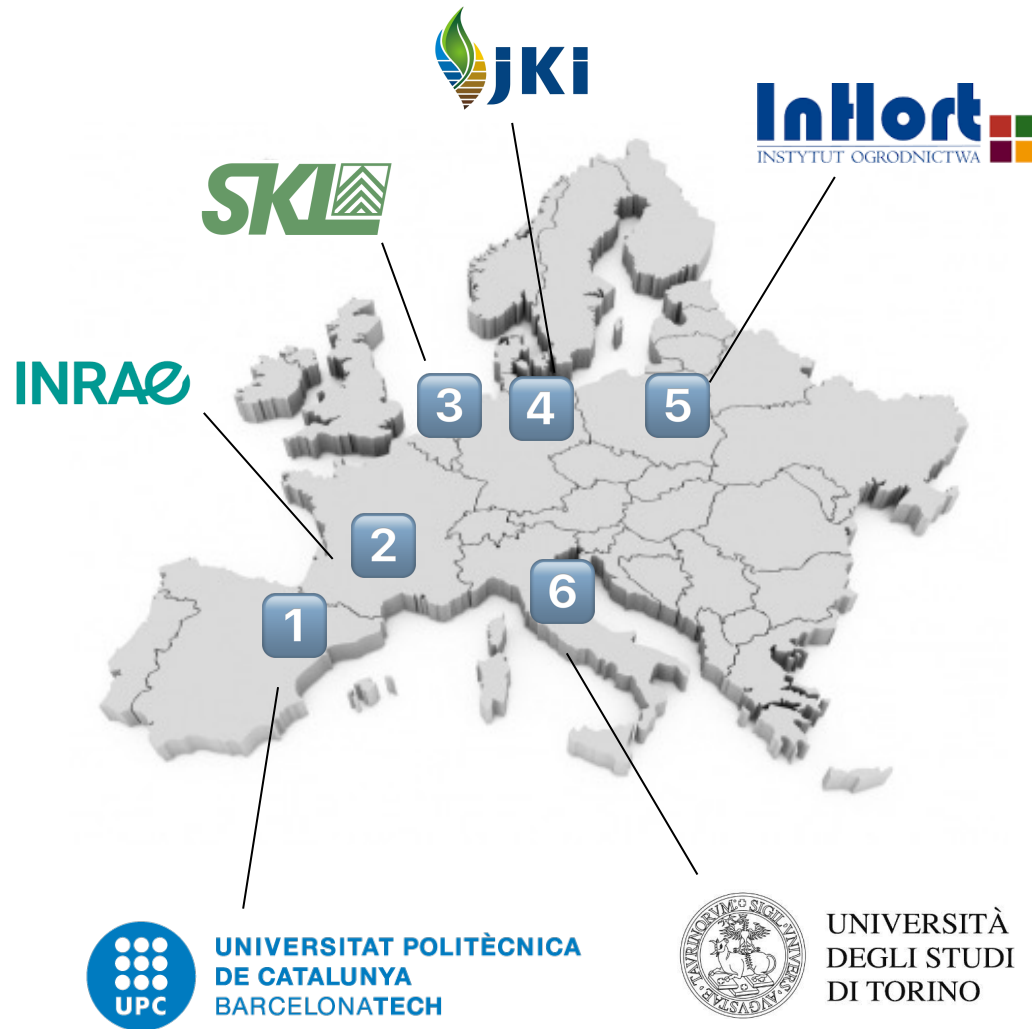
**NEW TECHNOLOGIES**  
(UAVs, PRECISION AGRICULTURE, GNSS)

The programme has been designed considering relevant **pedagogical aspects** as:

- Well balanced theory and practical (workshops, case studies,..) activities
- Topics organized in a logical sequence
- Tutor's skills according to assigned topics
- Time distribution aligned with interest and importance of the topics
- Balanced time distribution among tutors



## Where?



- 1** POLYTECHNIC UNIVERSITY OF CATALONIA  
BARCELONA (SPAIN)
- 2** NATIONAL RESEARCH INSTITUTE FOR AGRICULTURE,  
FOOD, AND ENVIRONMENT MONTPELLIER (FRANCE)
- 3** STICHTING KWALITEITSEISEN LANDBOUWTECHNIEK  
WAGENINGEN (THE NETHERLANDS)
- 4** JULIUS – KUHN INSTITUTE  
BRAUNSWEIGH (GERMANY)
- 5** RESEARCH INSTITUTE OF HORTICULTURE  
SKIERNIEWICE (POLAND)
- 6** UNIVERSITY OF TURIN  
TORINO (ITALY)



1



2



3



4



5



6



## Who?



Prof. Paolo Balsari  
Full professor – University of Turin



Ing. Andreas Herbst  
Researcher – Julius-Kuhn Institute



Ing. Jaco Kole  
Inspector – Quality Control of Ag Equipment



Dr. Jean Paul Douzals  
Researcher – IRSTEA



Mrs. Sheila Macken  
Inspector – Ministry of Agric and Food



### Training coordinator

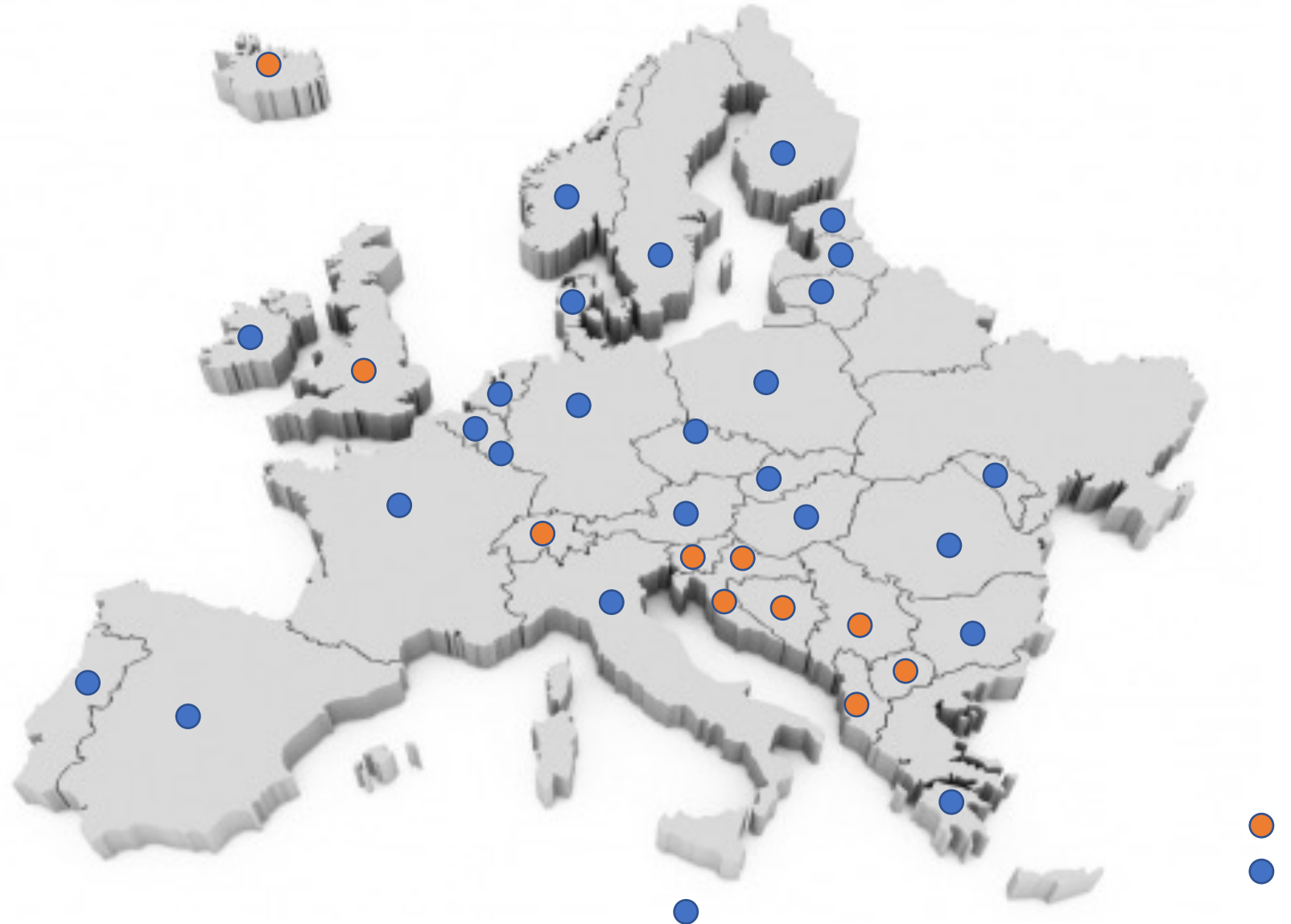


Prof. Emilio Gil  
Full professor  
Universitat Politècnica de Catalunya

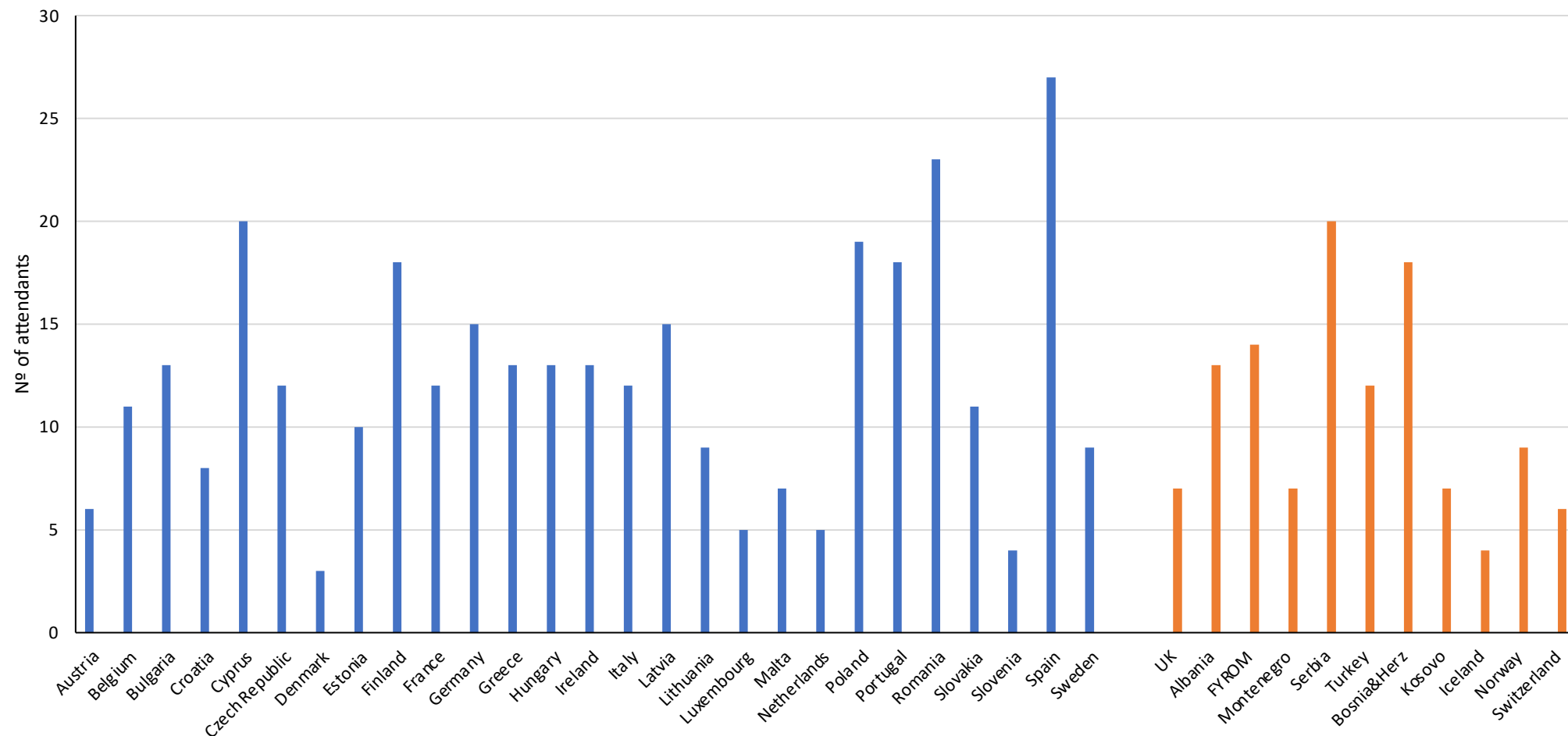




18 courses (2015-2023)  
450 attendants  
27 EU Member States  
11 Candidate Members







# How to quantify benefits of training?

A specific questionnaire was developed to be executed before and after the training in order to quantify the knowledge of the group (anonymous)

## Objectives

- Evaluate the general knowledge of the attendants regarding the topics of the course
- Adequate the organization of the course to the particular requirements of the group
- Evaluate the “level” of the group before the course in order to quantify the benefits of the training course

## Characteristics

- 15 questions multi- choice (4 options)
- Mixing technical and legislative questions
- Completely anonymous





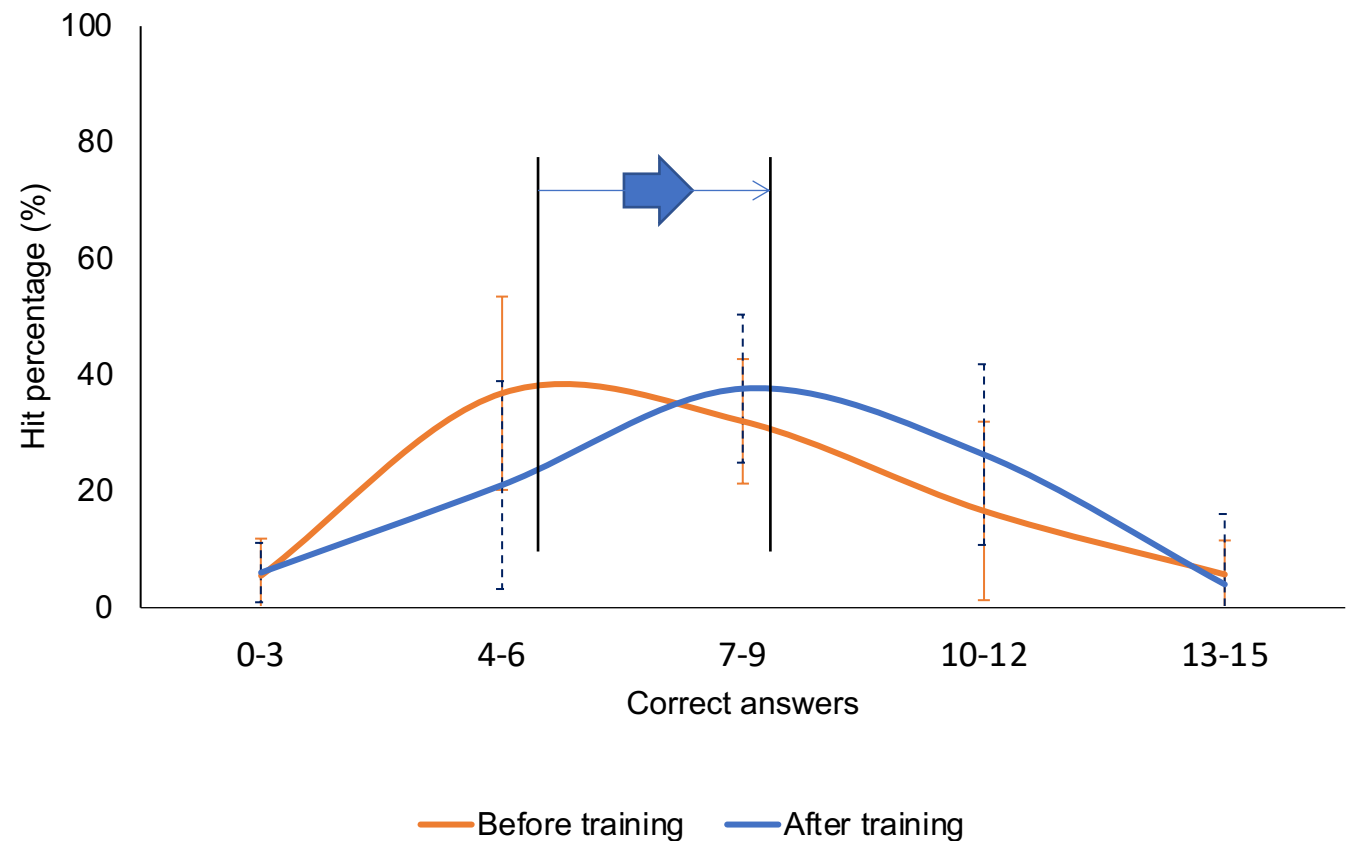
**Regarding the Pesticide Application Equipment (PAE) on the picture:**

- A. Inspection is not required for this type of equipment
- B. Inspection is mandatory only in the case of professional users
- C. Inspection is mandatory and ISO 16122-4 shall be applied
- D. This kind of sprayers is forbidden for professional uses, according to Directive 2009/128/EC

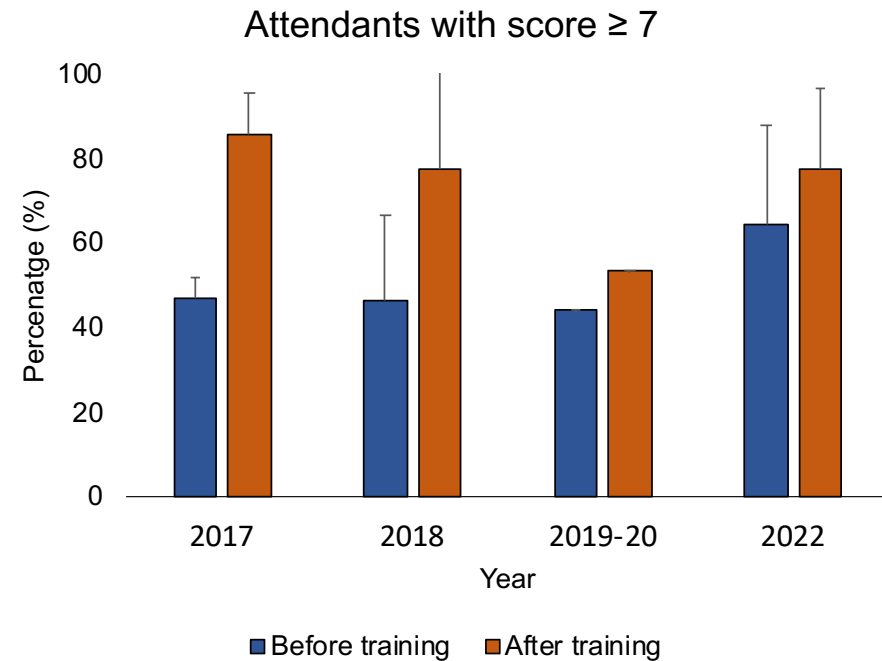
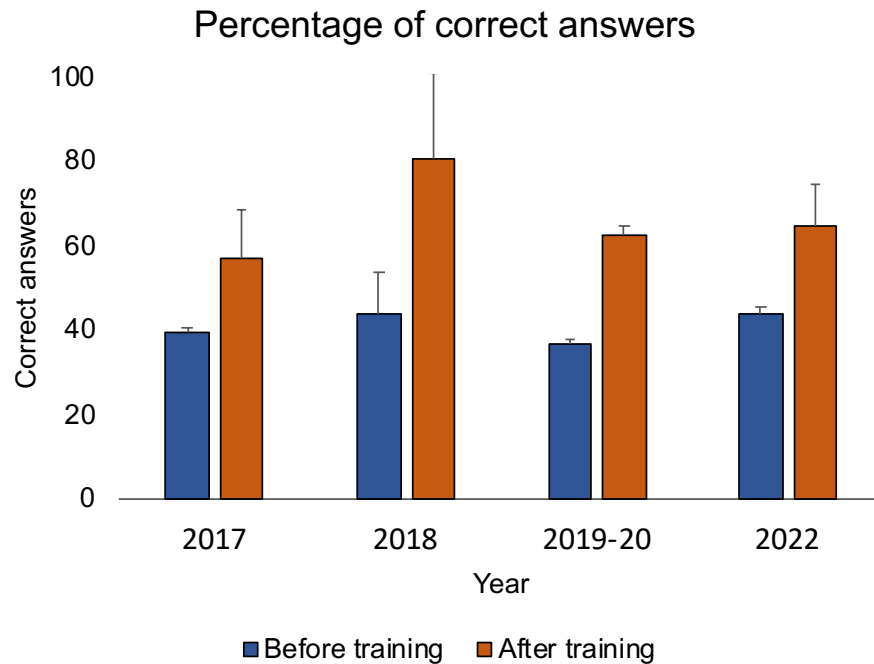


**According to Directive 2009/128/EC:**

- A. Aerial application of PPP is prohibited and, only by derogation, it may be allowed in some particular cases where specific conditions are met.
- B. Aerial application of PPP is authorized only in dried areas in all EU members
- C. EU Directive 128/2009/CE does not apply for aerial application of PPPs
- D. Aerial application is the most efficient spraying application technology and its use must be promoted



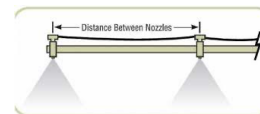




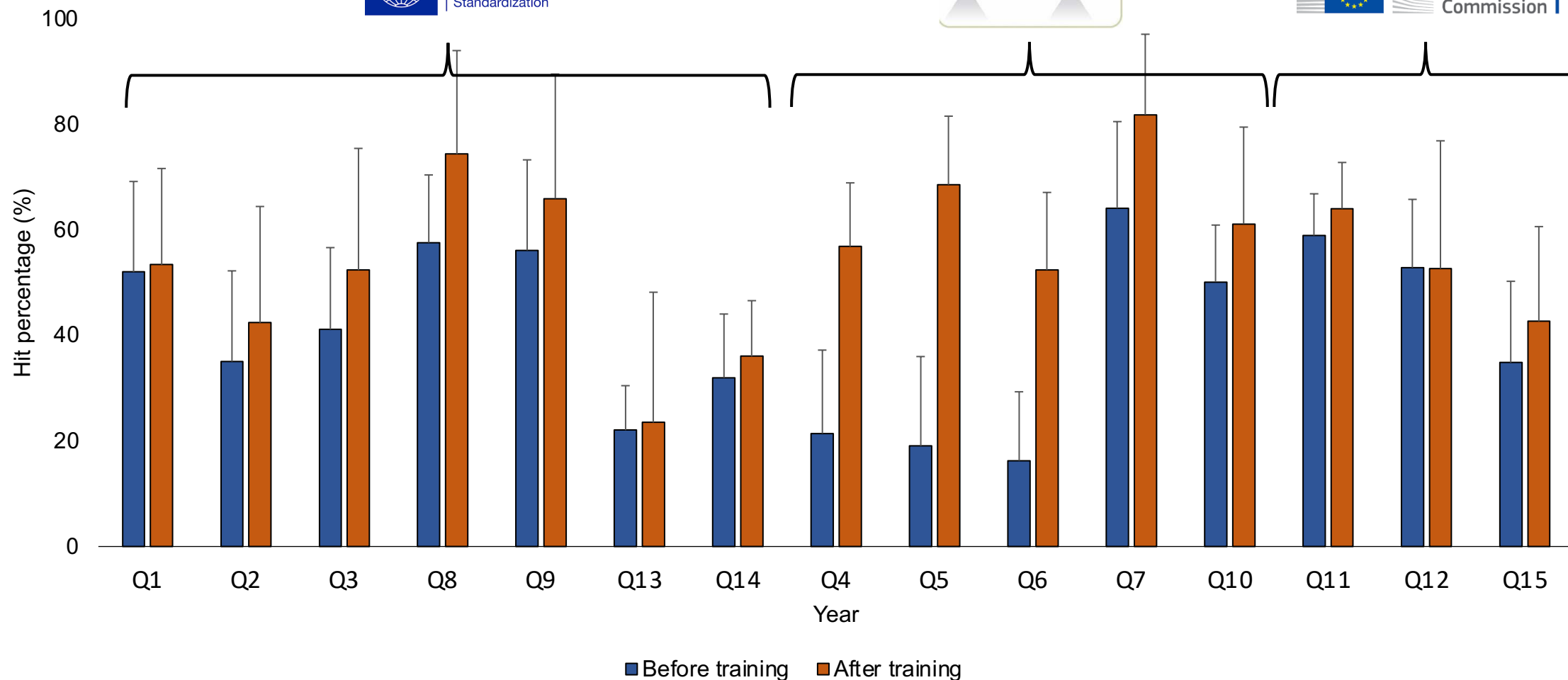
5.4 points ↑



35.1 points ↑

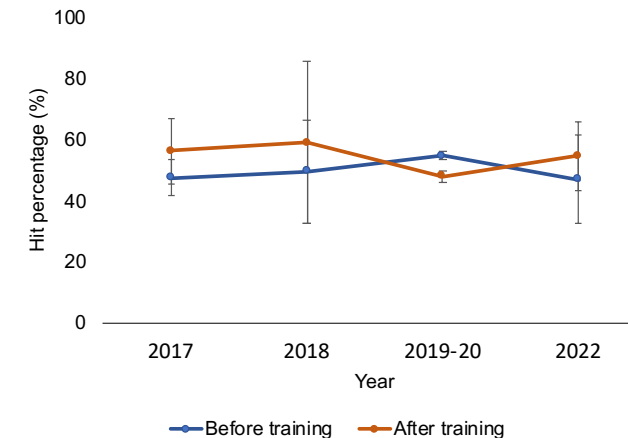
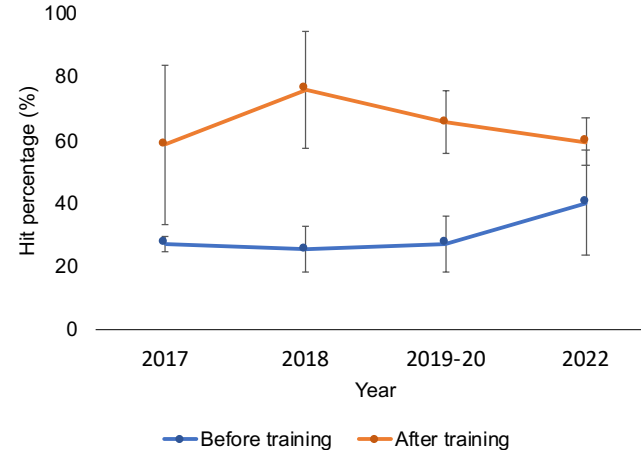
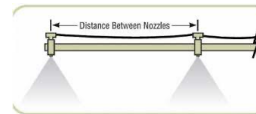
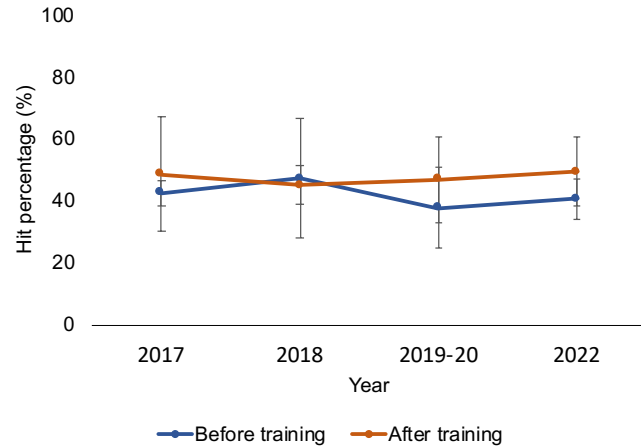


5.1 points ↑

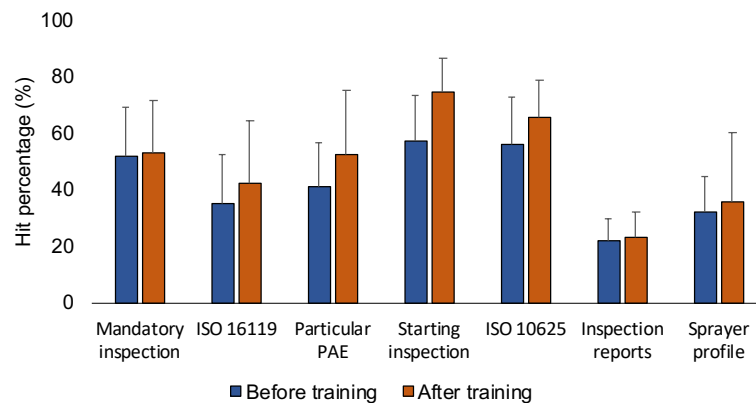




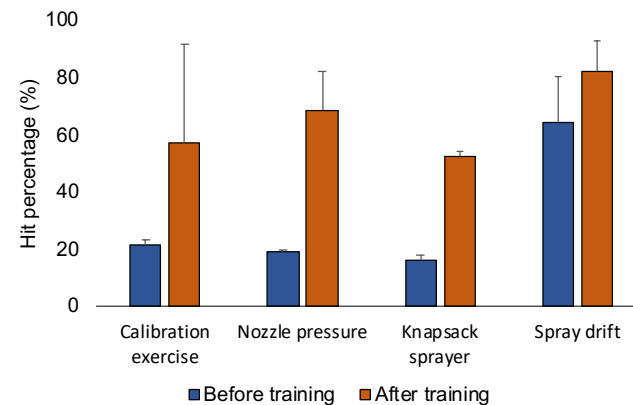
International  
Organization for  
Standardization



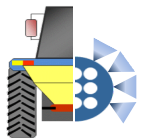
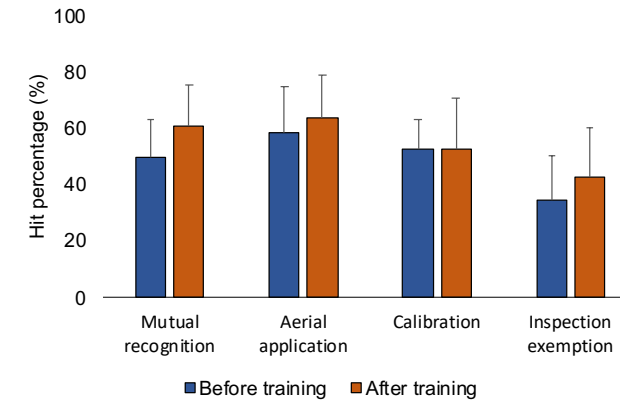
Questions



Questions



Questions



## Identified problems at MS



- We don't have properly **knowledge** and experience.
- Not all the sprayers are **covered by standards** and all sprayers must be inspected
- **Lack of knowledge** about inspections
- EU does not lay down **uniform requirements** for PAE inspectors
- **Farmers are not interested** in the inspection before deadline December 2016
- **Difficulties** to implement the standards
- Inspections are **expensive** for farmers and cheap for workshops
- **Absence of practical information** (nº of sprayers to be inspected)
- **Acceptance** of mandatory inspection for farmers
- Difficulties to guarantee **whole coverage** of the zones (low benefits)



## Expected benefits from the training course



- Information from experienced countries
- New **contact with experts** on this subject
- Information about **practical aspects** to implement inspections and training
- **Exchange of experiences/opinions** concerning PAE inspection
- Information and better understanding about **new regulations/standards**
- To see inspection procedure **not only in the room, but in the workshop**
- **New ideas** for inspection/calibration PAEs other than boom/orchard sprayers

## Some considerations



- ✓ 430 attendants from 27 EU MS (plus 11 candidate's countries)
- ✓ Training represents the best tool to improve the PPP use
- ✓ Practical activities have been very well accepted for the attendants
- ✓ Good combination between legislation and technical actions
- ✓ Differences among MS are really important
- ✓ Official bodies must be well trained
- ✓ Great success among attendants and very well evaluated by EC

Thanks to...





# New eLearning course

## RISK MITIGATION MEASURES FOR PESTICIDES USE

eLearning courses

- ★ **NEW COURSES!**
- ★ Animal disease contingency planning
- ★ Broiler welfare on farms
- ★ Agri-food fraud investigation techniques
- ★ Agri-food fraud investigation techniques in e-commerce
- ★ Food Improvement Agents
- ★ **Risk mitigation measures for pesticides use**
  - ☐ Hazard Analysis and Critical Control Point
  - ☐ Animal Welfare at slaughter and killing for disease control
  - ☐ Food Contact Materials rules
  - ☐ Animal Nutrition
  - ☐ Rapid Alert System for Food and Feed



### How to access the BTSF Library

Registered users in the BTSF ACADEMY can access the available training materials (BTSF Library) by navigating the categories and viewing the content of each of the courses.

To participate in any of the Face-to-face, Virtual Classrooms or eLearning courses, please follow the instructions in [How to apply?](#)



## Training coordinator



Prof. Emilio Gil  
Full professor  
Universitat Politècnica de Catalunya



## In collaboration with



Directorate-General for Health  
and Food Safety (DG SANTE)



Ing. Andreas Herbst  
Researcher – Julius-Kuhn Institute



Dr. Jean Paul Douzals  
Researcher – IRSTEA

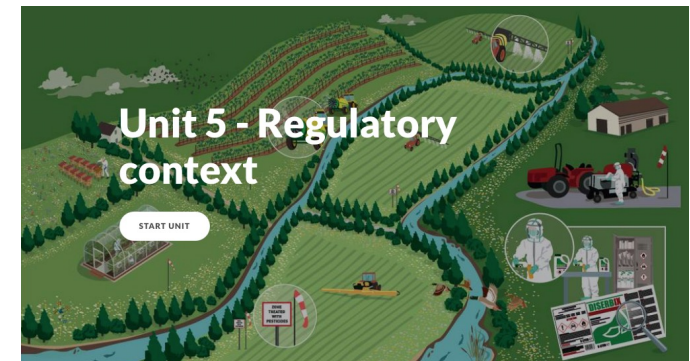
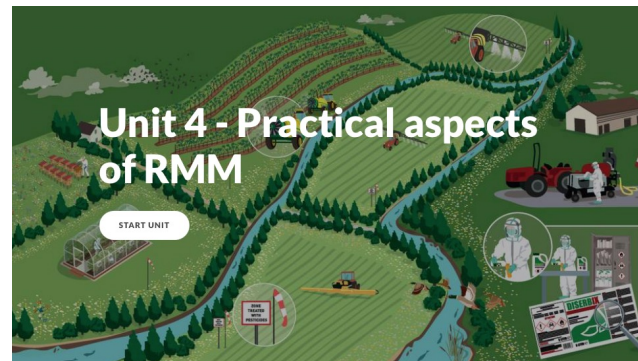
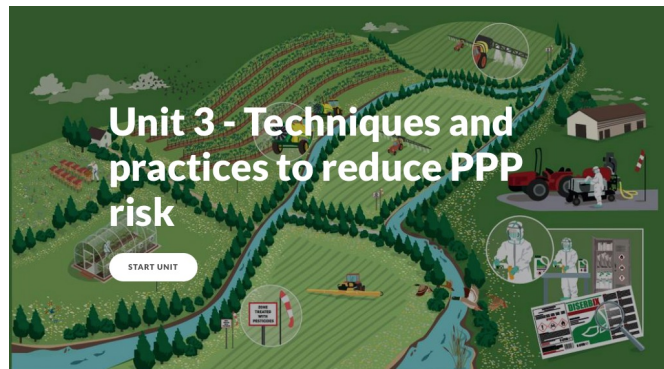


Dra. Maura Calliera  
Researcher – UNICATT



Ing. Eskil Nilson  
Advisor – VISAVI







## Three days in the life of Frederic Fieldman, a farmer

Seven steps for stopping a *Fusarium* outbreak







**Thank you very much for your attention**