Actual survey on the actions of the countries in Europe to implement the inspection system of sprayers concerning the Directive 2009/128/EC

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Summary
With a view to the SPISE 4 workshop at the end of the year 2011 a further survey in the European Member States (MS) and other countries in Europe was carried out. The aim of this survey was to compile information concerning the actual situation of sprayer inspection and the planning for the implementation of an inspection system following the Framework directive. The responsible colleagues of all involved countries got a short questionnaire where they updated the filled data and gave new information.

1. Introduction
On the occasion of the previous SPISE workshops in the year 2004, 2007 and 2009 similar surveys were carried out. With that information it was pointed out that the situation regarding sprayer inspections in the Member States and other European countries at first was marked by great differences. But in view of the publishing of the DIRECTIVE 2009/128/EC more and more countries started an inspection system.
With this actual survey the colleagues were asked for updating the data regarding the inspection of field and air-assisted sprayers, and for the first time for all kind of sprayers which are mentioned in article 8 of the Directive (as foggers, hand-operated and handheld sprayers, pesticide application equipment not used for spraying, knapsack sprayers and spray equipment mounted on aircrafts or trains). In detail the colleagues were asked for data regarding:

1. the number of sprayers in use,
2. the kind of data basis regarding the numbers of sprayers,
3. and if there will be established a sprayer register in future,
4. the obligation of the inspection.

Over that there are some further questions regarding
1. the exemption of kinds of sprayers and if this is following a risk assessment,
2. the average inspection costs,
3. the amount of inspected sprayers in 2009 and 2010,
4. the inspection interval,
5. the procedure for brand new sprayers,
6. the source for the requirements,
7. the procedure for sprayers where a defect is stated,
8. the prohibition of use if a sticker/test report is missing ,
9. the bodies responsible for implementing the inspection system (as requested by article 8, paragraph 6 of the Frame Work Directive),
10. a picture or scheme of a sticker,
11. the execution by authorized workshops or official teams,
12. the number of workshops or teams and the existence of a database where authorized workshops are listed,
13. the subsidies for the implementation of inspection sites from the government,
14. the measuring system concerning the cross or vertical distribution,
15. the offer or realization of adjustments and/or calibrations during the inspection procedure.

Herewith I would like to take the opportunity to thank all answering colleagues for the fruitful cooperation and for their contributions. Especially the compilation of the number of sprayers in use and the number of yearly carried out inspections was combined with some problems due to the fact that most countries do not maintain any central register in this connection.

2. Assessment

The tables 1 to 3 summarize many of the collected data separated for field sprayers and air-assisted sprayers for bush and tree crops.

Tab. 1. Inspection of field sprayers in the European Countries

Country	Number of sprayers in use	Number of sprayers inspected (average 2004-2006)	Number of sprayers inspected (average 2006-2008)	Number of sprayers inspected (average 2009-2010)	After how many years the inspection must be repeated	Average inspection cost (Euro) from…to...	After how many years the first inspection of brand new sprayers is scheduled	Inspection carried out by workshops (W) or official teams (T)
Austria	40.000	9.367	10.529	7.000	3	120	3	W
Belgium	18.300	6.344	6.344	5.842	3	70-160	3	T
Bulgaria	4.960	0	0	0	5	70-160	5	W
Czech Republic	7.163	1.150	1.437	1.419	5	100-350	5	W
Denmark	20.000	151	61	0	3	220-600	3	?
Estonia	1.500	218	234	248	3	48-96 + transp.	3	W
Finland	15.000	0	0	2.617	5	80-200	5	T
France	150.000	0	0	14.650	5	150-250	5	W
Germany	130.200	73.090	72.806	66.095	2	60-400	0.5	W
Greece	48.736	0	0	18	3	?	5	?
Hungary	35.000	0	0	0	0	?	?	?
Italy	200.000	2.300	2.333	3.660	2 to 5	40-150	after 2016 before delivery	W
Latvia		0	0	0	3	?	5	T
Lithuania	15.000	0	0	1.043	5	30-120	before delivery	W
Luxembourg	1.090	421	805	224	3	120-300	3	W
Netherlands	12.347	5.751	6.580	4.144	3	150-225	3	W
Norway	16.000	1.950	1.000	439	5	200-350	3	W
Poland	306.777	55.941	46.465	49.610	3	15-30	3	W
Portugal	28.000	0	0	200	5	35 + transp.	5	?
Romania	19.533	0	0	0	5	?	5	?
Serbia	20.000	0	0	14	2	100-250	2	T
Slovakia	3.500	605	685	597	5	160-350	5	W
Slovenia	16.078	7.172	10.053	6.625	2	40	0.5	T
Spain	100.000	300	1.433	0	4	120-150	5	Both
Sweden	14.500	1.700	1.750	1.250	2	~ 400	2	W
Switzerland	13.300	2.980	3.530	3.125	4	60-90	1	W
United Kingdom	47.500	11.424	13.447	14.700	1	150-230	before delivery	W

Tab. 2. Inspection of air-assisted sprayers in the European Countries

Country	Number of sprayers in use	Number of sprayers inspected (average 2004-2006)	Number of sprayers inspected (average 2006-2008)	Number of sprayers inspected (average 2009-2010)	After how many years the inspection must be repeated	Average inspection cost (Euro) from…to...	After how many years the first inspection of brand new sprayers is scheduled	Inspection carried out by workshops (W) or official teams (T)
Austria	20.000	6.000	6.500	5.500	3	120	3	W
Belgium	1.681	729	729	536	3	76	3	T
Bulgaria	1.665	0	0	0	5	70-160	5	W
Czech Republic	1.372	74	280	266	5	100-250	5	W
Denmark	?	0	0	0	3	?	3	?
Estonia	some	?	11	?	3	?	3	W
Finland	20	0	0	0	5	?	5	T
France	100.000	0	0	3.400	5	130-240	5	W
Germany	42.000	20.957	18.679	19.844	2	60-180	0.5	W
Greece	103.857	0	0	0	3	?	5	?
Hungary	15.000	0	0	0	0	?	?	?
Italy	400.000	5.967	4.933	7.320	2 to 5	40-150	after 2016 before delivery	W
Latvia	?	11	14	?	3	?	5	T
Lithuania	100	8	8	20	5	35-85	before delivery	W
Luxembourg	227			102	3	100-250	3	W
Netherlands	1.875	831	671	588	3	120-170	3	W
Norway	1.000	55	50	1	5	?	3	W
Poland	22.111	3.843	3.194	3.579	3	15-30	3	W
Portugal	28.000	180	430	610	5	35 + transp.	5	?
Romania	5.680	0	0	0	5	?	5	?
Serbia	?	2	2	10	2	100-250	2	T
Slovakia	500	80	102	108	5	130-250	5	W
Slovenia	6.821	2.881	2.958	2.739	2	40	0.5	T
Spain	200.000	1.133	933	?	4	120-150	5	Both
Sweden	250	50	50	0	2	~ 400	2	W
Switzerland	3.000	675	769	841	4	60-90	1	W
United Kingdom	2.500			850	1	180	before delivery	W

It can be stated that the involved 27 countries reported an existence of about 1.2 Million of field sprayers and nearly 1 Million of air-assisted sprayers. In Italy, France, Poland and Spain are located about 75% of these sprayers. The number of the other kinds of sprayers seems to be rather difficult to state. For all these equipment nearly all data we got were very imprecise.

Tab. 3. Kind of sprayers for which inspection systems exist or will be introduced till 2016

		Austria	Belgium	Bulgaria	Czech Republic	Denmark	Estonia	Finland	France	Germany	Greece	Hungary	Italy	Latvia	Lithuania	Luxembourg	Netherlands	Norway	Poland	Portugal	Romania	Serbia	Slovakia	Slovenia	Spain	Sweden	Switzerland	United Kingd.
1		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
2		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
3		x	x	x	x	x	x	x	?	x			x	x	x	x	x	x	x	x	x	x	x			(x)		x
4		x	only > 2 nozzles	x	x	x		x	?	x		x	only glass houses	x	x	x	x	x	x	x	x	x	x		only > 100l	(x)		
5		x	x	x	x		x	x	?	x			x	x	x	x		x	x	x	x	x	x			(x)		x
6								(x)												x		x						
7								(x)	?											x		x			(x)	(x)		
8		x	x		x	x		x	x	x		x	?	x	x	x	x	x	x	x	x	x	x			(x)		x

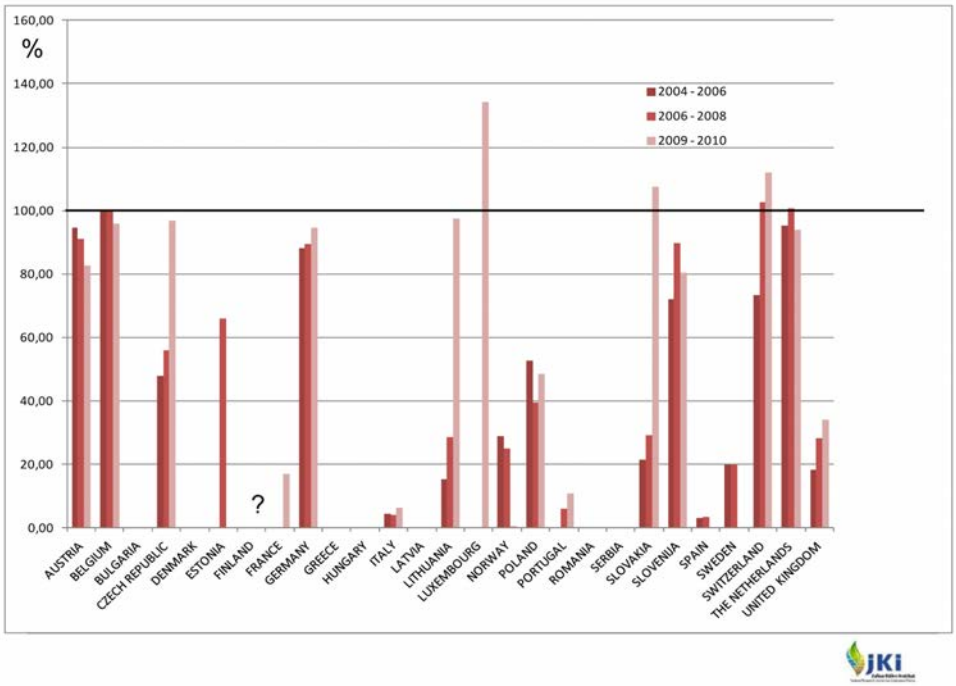
Exemption follows a risk assessment

With this table it is compiled in which countries and for which kinds of sprayers inspection systems already are introduced or the introduction is already prepared for 2016. As expected all attending countries focus on the field and the air-assisted sprayers. The foggers and the hand-operated sprayers and also the equipments not used for spraying, such as seed treaters, in nearly all countries are seen as objects to be inspected. This applies also for spraying equipment mounted on aircrafts or trains and so on. For handheld and knapsack sprayers nearly all countries use the possibilities of paragraph 3 of article 8 of the directive regarding a derogation. In the meantime the needed risk assessments are already in preparation. This is shown by the coloured table elements.

Doubtless an important key point regarding the mutual recognition is the inspection interval. Here the values range between 1 year in UK and 5 years in 9 other countries. In Italy and Spain for the different regions different intervals are defined. All in one the average inspection interval in the meantime increased from 2.7 years in 2006 to 3.0 years in 2009 to now 4.0 years.

Table 4 shows in which extent the users of air-assisted sprayers take part in the offered inspections. Yearly requested inspections in this case means: Number of sprayers in use divided by the inspection interval. From this value the percentage of real performed inspections was calculated. Assigned are the results from the time periods 2004-2006, 2006-2008 and 2009-2010. The single columns show that step by step nearly all asked countries are on the way to comprehensive inspections. The share of inspections is increasing in most cases. In some countries the 100 % seems to be reached nearly.

Tab. 4. Yearly inspected air-assisted sprayers as percentage of yearly requested inspections



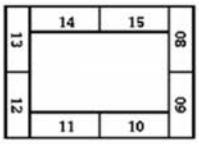
Concerning the scheduled time of the first inspection of brand new sprayers the answers differs a lot. Due to the fact that some defects (e. g. leakages or internal dirtying) occur directly from the production, Italy, Lithuania and United Kingdom decided that the sprayers shall be inspected before the delivering. Germany and Slovenia report a first inspection time at latest 6 months after the first use.
Furthermore it can be summarized that nearly all attending states follows the rules of EN 13790 till the EN 16122 will be available. Also most states accept minor defects ascertained during the inspection (some only after repair other without repair of the defect too). Meanwhile serious defects in all countries lead to a prohibition of use. Some reported over that a financial punishment for owners of defective sprayers. Nearly all countries prohibit the use for sprayers where a sticker/test report is missing or invalid – that means where a user ignored the last date of inspection. 14 states let perform the inspection by authorized workshops whereas 8 states prefer the system where official teams take this responsibility. The others are undecided in this field.

As inconsistent is to be seen the handling of the measurement of the cross distribution for field sprayers: Some states prefer the usage of the measurement of the coefficient of variation, some others of the nozzle flow rate of single nozzles. And others again utilise both system. The vertical distribution for air-assisted is measured by vertical patternator test benches in 6 countries. Also 6 countries prefer the measuring of the nozzle flow rates here. 13 offer no measurements in this direction.

Finally it can be summarized that countries where fruit/wine growing predominate adjustments or calibrations during the inspection are offered and often well accepted by the users.

The minimum prerequisite for a mutual recognition is to know the addresses of the responsible bodies and the additional an example of the used inspection sticker. In table 5 these essential data are summarized.

Tab. 5. Responsible bodies and examples of stickers of attending countries

Austria	Federal states of Austria	
Belgium	Federal Agency for the Safety of the Food Chain (FASFC) - Boulevard du Jardin Botanique 55 1000 Brussels http://www.afsca.be	
Bulgaria	Technical Control Inspectorate, address: Tzar Boris III 136 blvd., Sofia 1618, e-mail: kti@mbox.contact.bg	
Czech Republic	Ministry of Agriculture through the SPA	
Denmark	Danish Enironmental Protection Agency, Strandgade 29 DK - 1401 Copenhagen K	?
Estonia	Ministry of Agriculture, Lai 39/41, 15056 Tallinn, Estonia, and Agricultural Board, Teaduse 2, 75501 Saku, Harju county, ESTONIA	
Finland	The Safety and Chemicals Agency (TUKES), P.O. Box 66, FI-00521 Helsinki, Finland	
France	MINISTERY OF AGRICULTURE / GIP PULVES (MONTPELLIER) GIP PULVES, 361 rue Jean François Breton BP 5095 – 34196 MONTPELLIER Cedex 5	

Germany	Plant Protection Services of the Federal States	
Greece	Ministry of Rural Development And Food (Department of Agricultural Mechanization)	?
Hungary	?	?
Italy	ENAMA (Ente Nazionale per la Meccanizzazione Agricola), National Technical Workgroup, Regional Bodies	Actually national sticker isn't available. Successful inspection "Attestato di funzionalità". This document contains the informations: type of sprayer, any identifying marks, name o the farm, date, signature of the technician, name of authoriz
Latvia	State Plant protection Service of Latvia	?
Lithuania	State Plant Service under the Ministry of Agriculture, Ozo str. 4A, Vilnius	?
Luxem-bourg	ASTA sevice agri-environnement www.asta.etat.lu	
Netherlands	SKL, Agro Businesspark 24, NL-6708PW Wageningen, the Netherlands	

Norway	Norwegian Food Safety Authority, Felles postmottak, Postbox 383, N-2381 Brumunddal.	
Poland	Inspection of Plant Health and Seed (Państwowa Inspekcja Ochrony Roślin i Nasiennictwa) www.piorin.gov Main Inspectorate of Plant Health and Seed Inspection	
Portugal	DGADR (a new organisation of the Ministry is in preparation) dspfsv@dgadr.pf	
Romania	Ministry of Agriculture and Rural Development	?
Serbia	Ministry of Agriculture, Forestry and Wather Management - Plant Protection Directorate	
Slovakia	Ministry of the Agriculture, Agricultural Technical and Testing Institute in Rovinka (TSUP), Central Controlling and Testing Institute in Agriculture in Bratislava (UKSUP)	
Slovenia	Phytosanitary administration RS	
Spain	Spanish Ministry is in charge of coordinate and recover all the data. Local authorities have the responsability to organize the inspection procedure on their area.	

Sweden	none yet, probably the Swedish Board of Agriculture	?
Switzerland	Schweizerischer Verband für Landtechnik, Postfach 55, CH-5223 Riniken	
United Kingdom	AEA, NSTS, 62 Forder Way, PE7 8, Peterborough	

3. Conclusions

Summarising all data, it can be stated that the involved countries reported an existence of nearly 2.25 millions of field and air-assisted sprayers (2009: 2.5 millions). 18 countries already carry out a mandatory inspection. All other countries reported that at latest till December 2016 all concerned sprayers will be inspected for the first time.

Especially mentionable is the number of yearly carried out inspections: Since 2004 this number more than doubled from 148 thousand to now 300 thousand in the year 2010.