

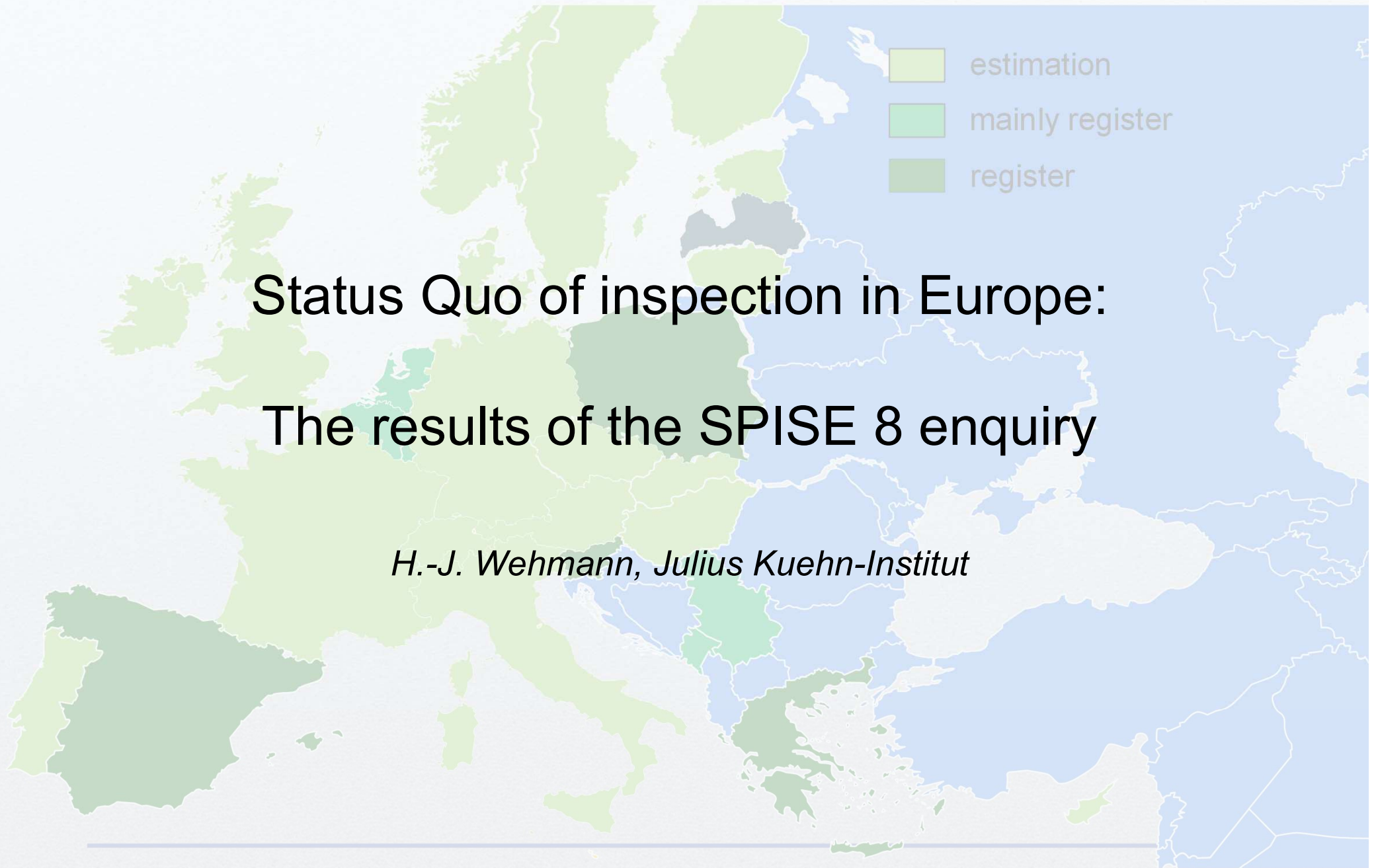
# SPISE 8



## 8<sup>th</sup> European Workshop on Standardized Procedure for the Inspection of Sprayers in Europe

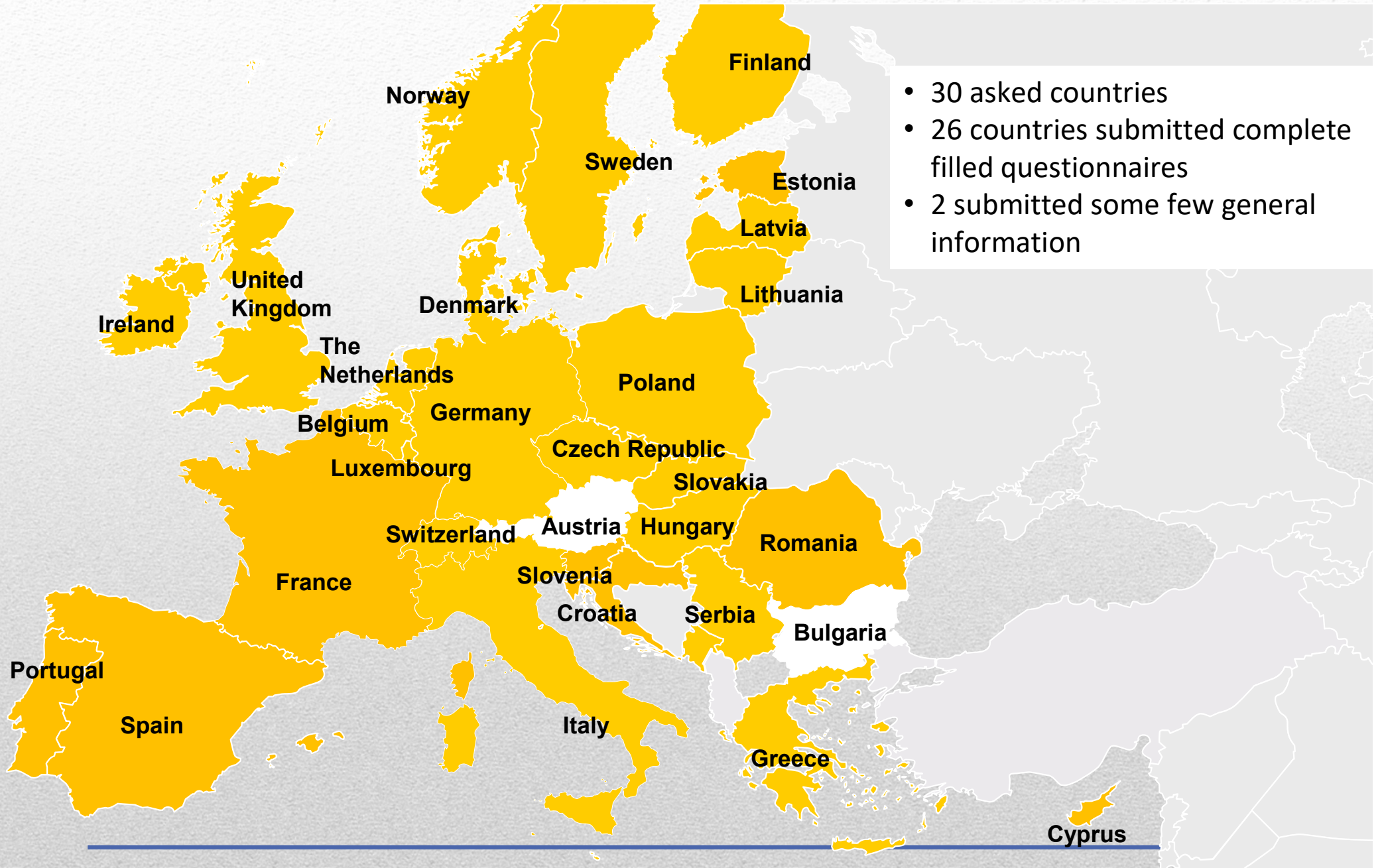
World Horti Center Naaldwijk, The Netherlands, 2. – 4. May 2023

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## Survey 2022: Attending countries



- 30 asked countries
- 26 countries submitted complete filled questionnaires
- 2 submitted some few general information



# Questionnaire (excerpt) SPISE 8, sent out November 2022

	2022	Horizontal boom sprayers 	Sprayers for bush and tree crops 	Fixed and semi-mobile sprayers 	Hot and cold foggers 	PAE used for seed treatment 	Handheld sprayers and wipers 	Knapsack sprayers manual and motorized 	Spraying equipment mounted on trains 	Dusters 	Granular applicators 	Not handheld wipers 	PAE for aerial use 	Band sprayers incl. PAE on seeders, potatoe planters and pole sprayers 	plot sprayers 	PAE with hose reel and spray lance 	
1	Name of your Country	Germany															
2	Number of PAE in use in the year 2021	116.290	28.330	no data available	no data available	no data available	exempted	exempted	no data available	no data available	no data available	no data available	no data available	no data available	no data available	no data available	no data available
2	Is there a register for PAE in use?	No. The data are estimated	No. The data are estimated	No	No	No	exempted	exempted	No	No	No	No	No	No	No	No	No
4	Number of PAE inspected in the year 2018	61.263	14.755	686	88	0	exempted	exempted	0	0	0	0	0	1.910	134	1004	
5	Number of PAE inspected in the year 2019	42.277	8.744	624	42	17	exempted	exempted	9	0	1	0	1	1.402	105	751	
6	Number of PAE inspected in the year 2020	16.533	4.538	600	57	573	exempted	exempted	11	0	863	0	4	746	108	363	
6	Number of PAE inspected in the year 2021	57.646	11.419	694	70	931	exempted	exempted	0	0	4.986	3	5	1.782	102	514	



# PAE in use in 2022



>1.000.000



1,5 Millions  
(reported only by 3 countries)



45.000



>500.000



30.000



60

(reported only by 2 countries)



15.000



120



40.000



2.600



30.000



80



1.300



23.000

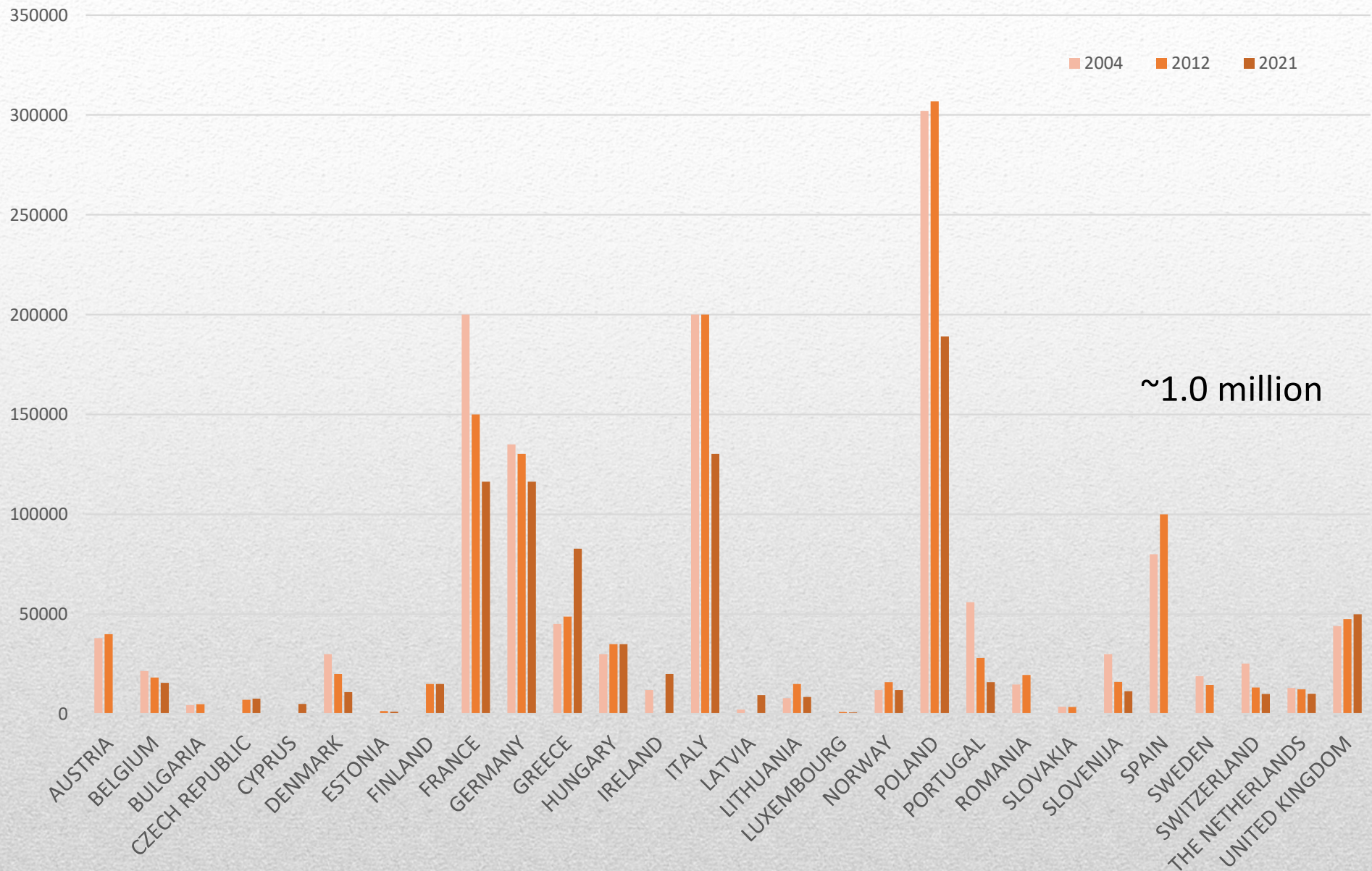
(reported only by 2 countries)



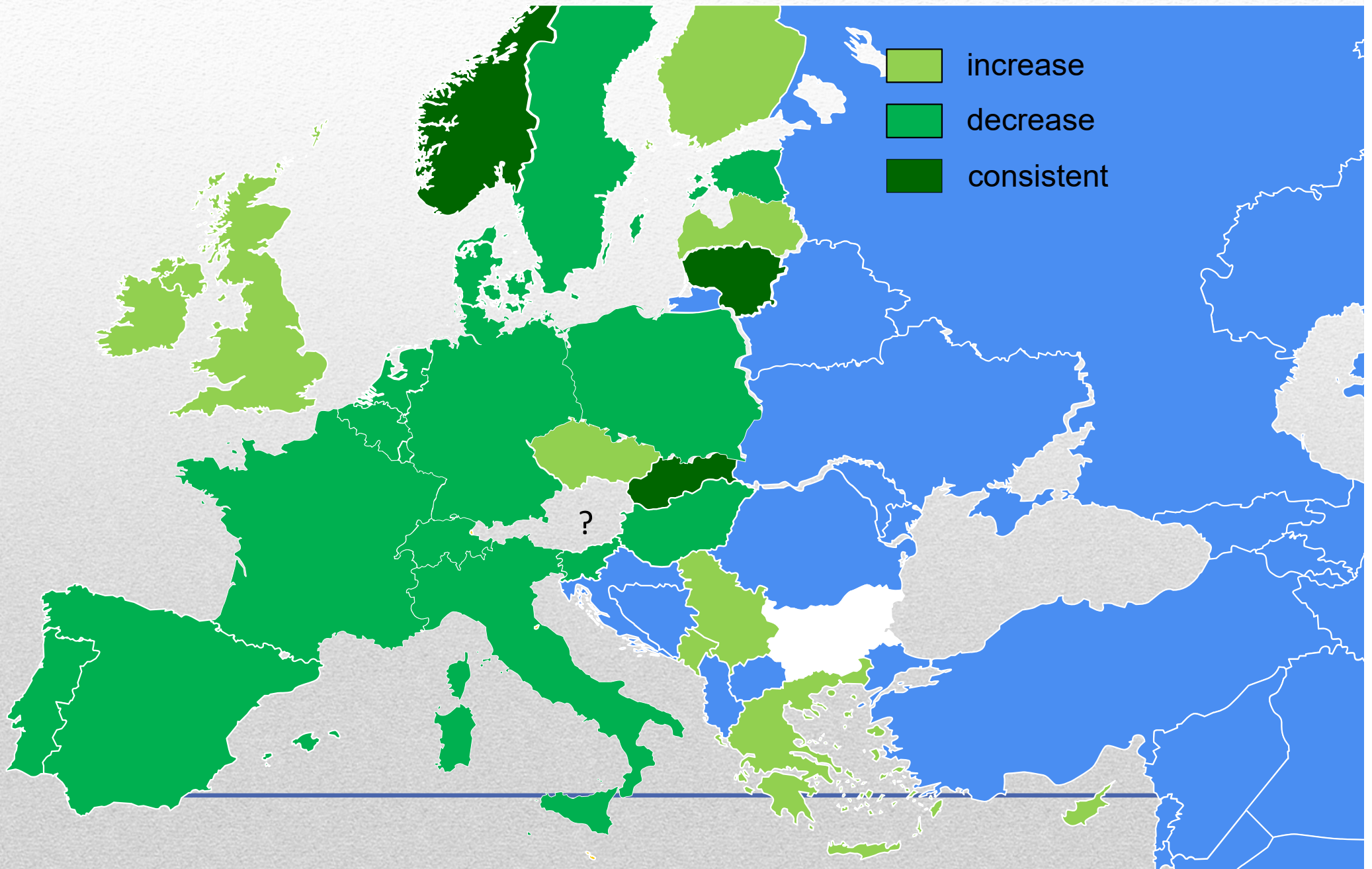
105



# Number of field crop sprayers in use (2004 – 2012- 2021)

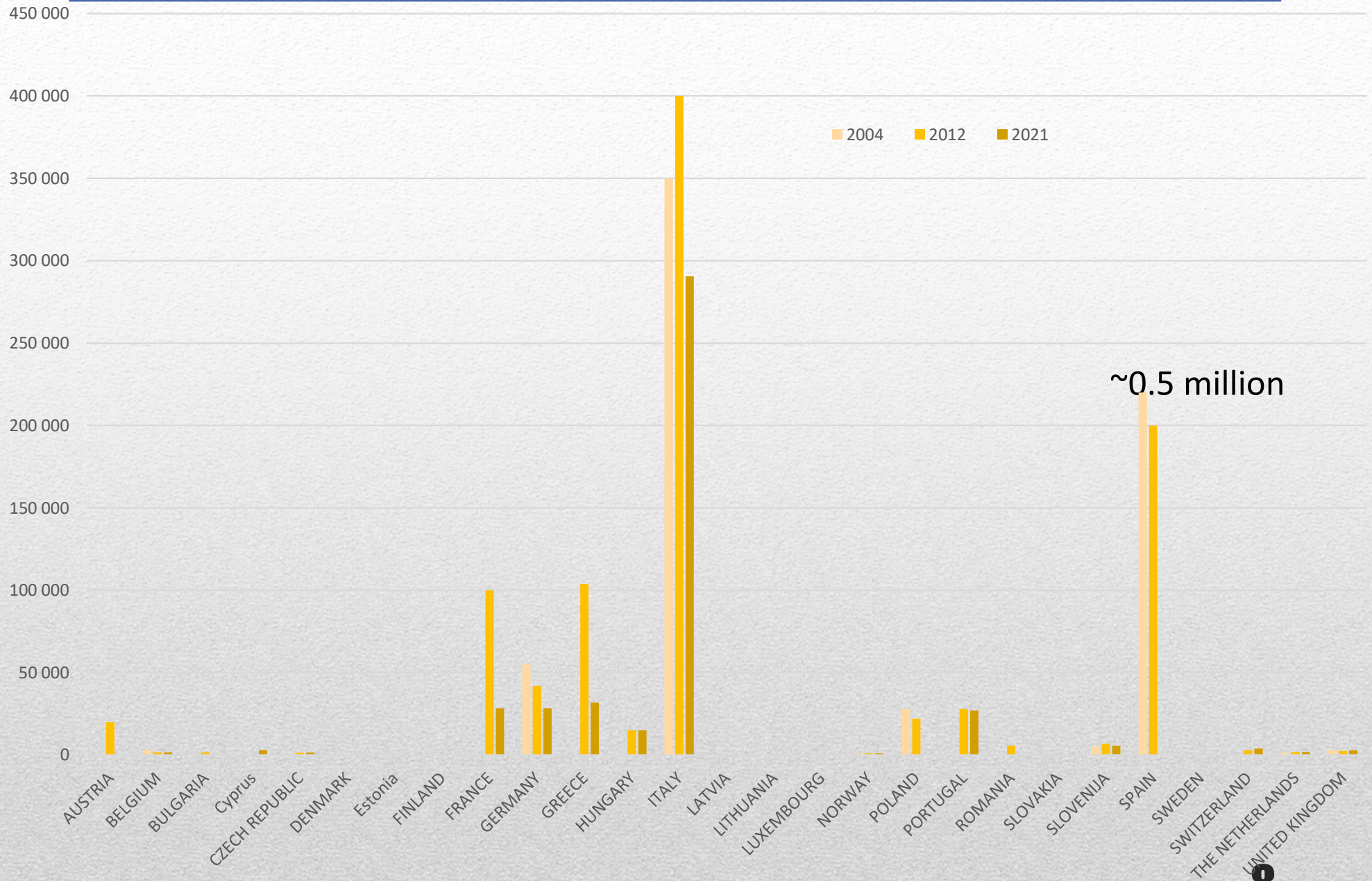


Development of the number of field crop sprayers in use  
Related to the first survey 2004 (data basis: mainly estimation)



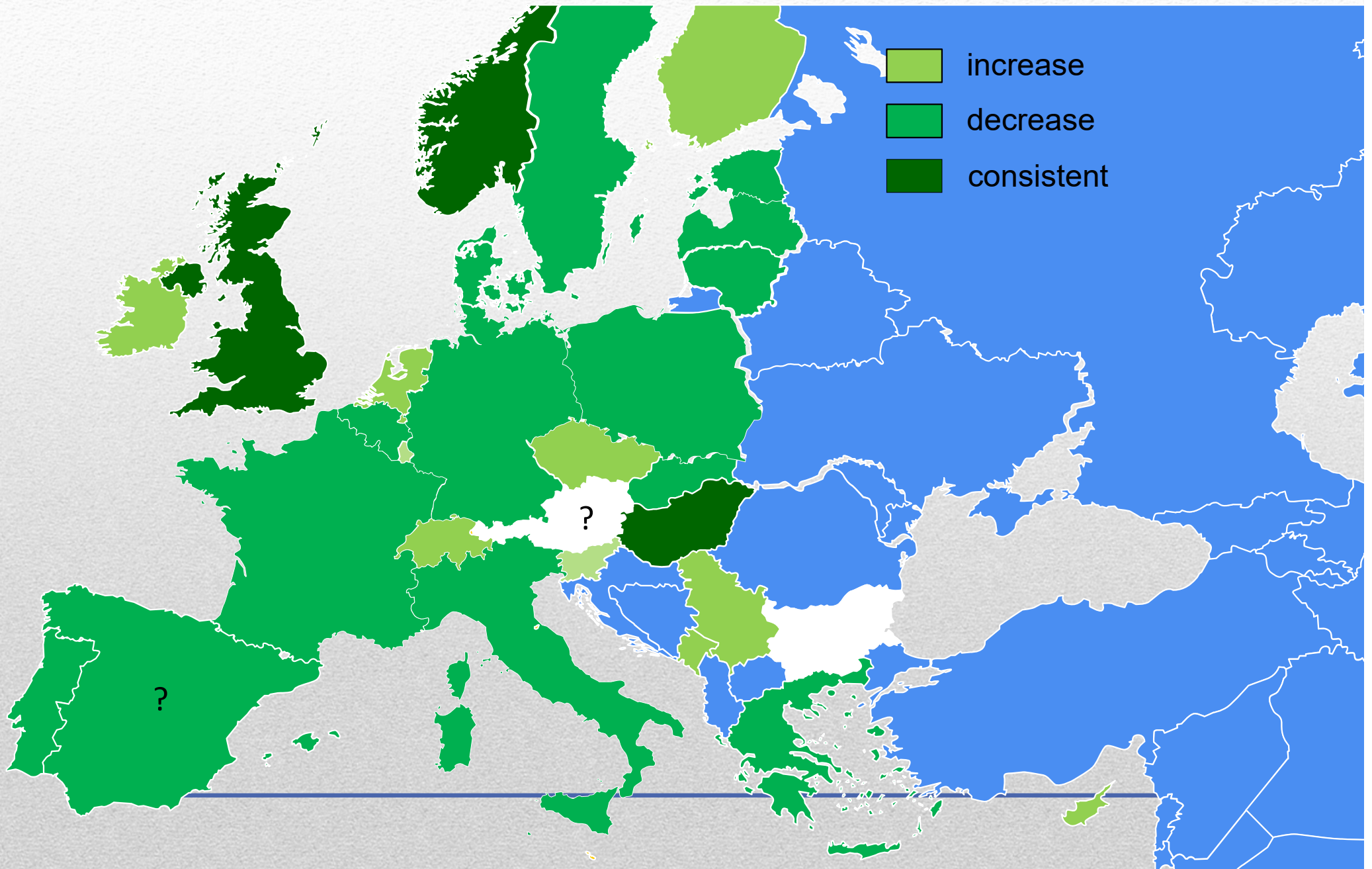


# Number of sprayers for bush and tree crops in use (2004 – 2012 -2021)



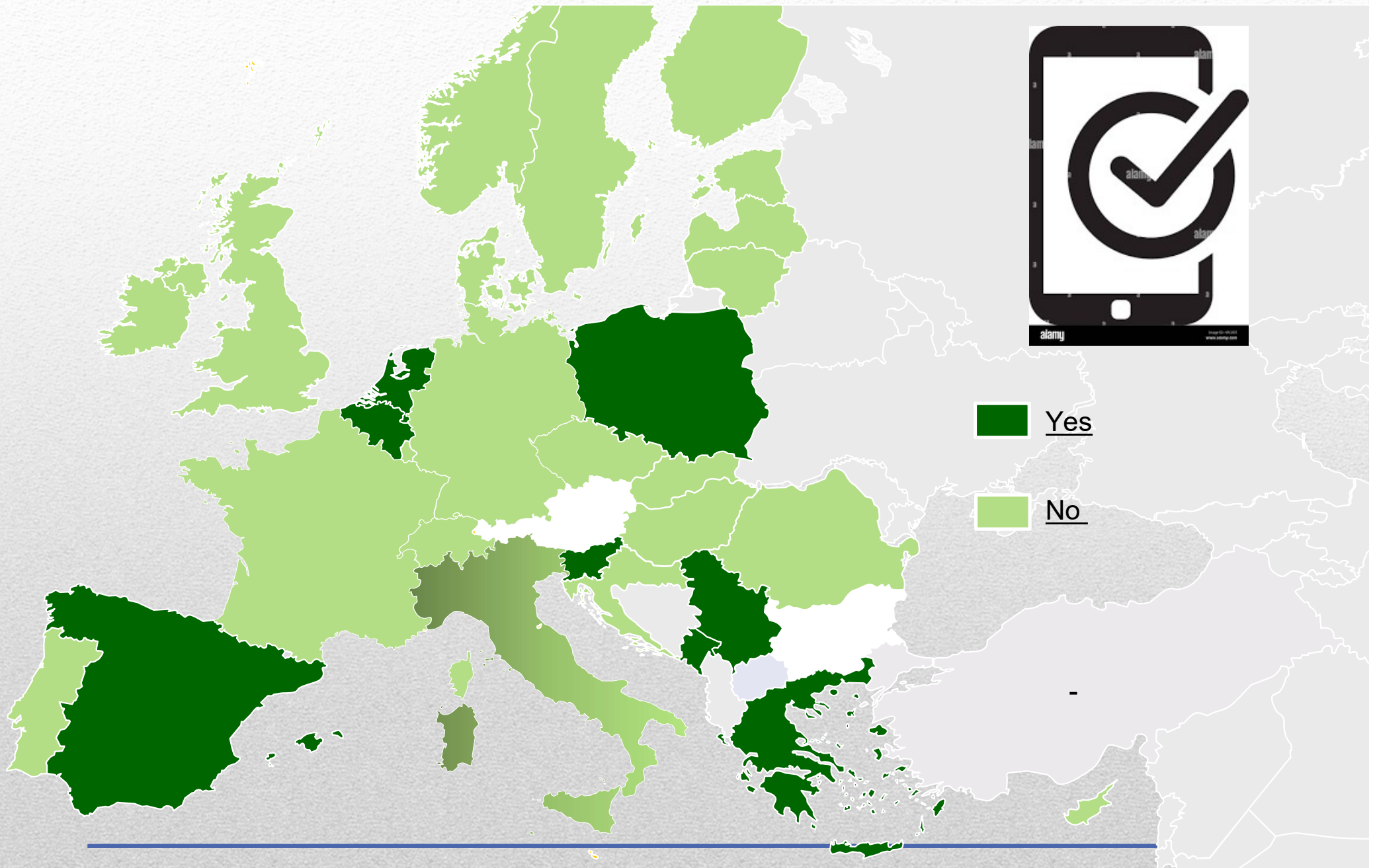


Development of the number of sprayers for bush and tree crops in use  
Related to the first survey 2004 (data basis: mainly estimation)





# Is there an electronic register for PAE in use?

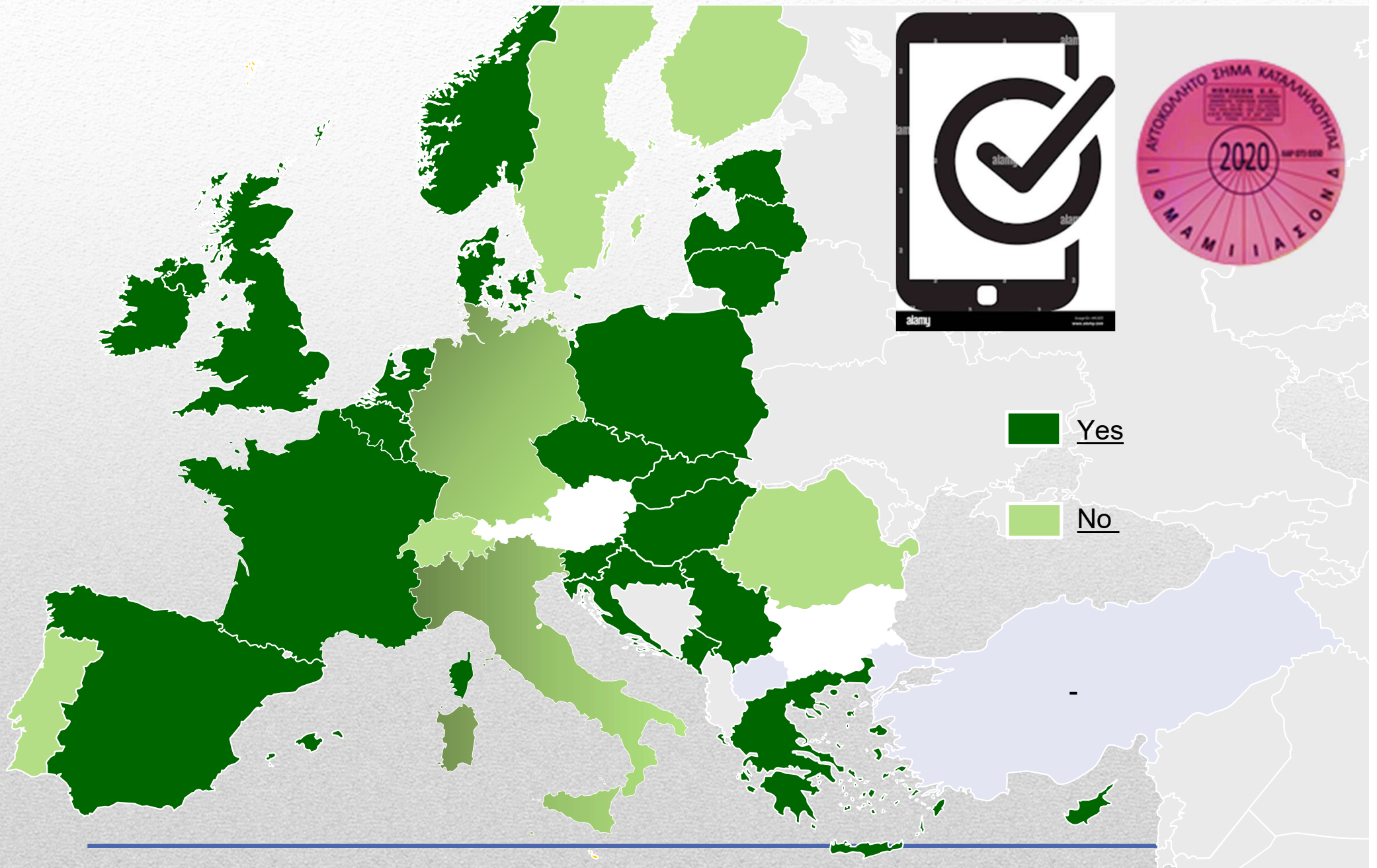


 Yes

 No



# Is there an electronic register for inspected PAE in use?

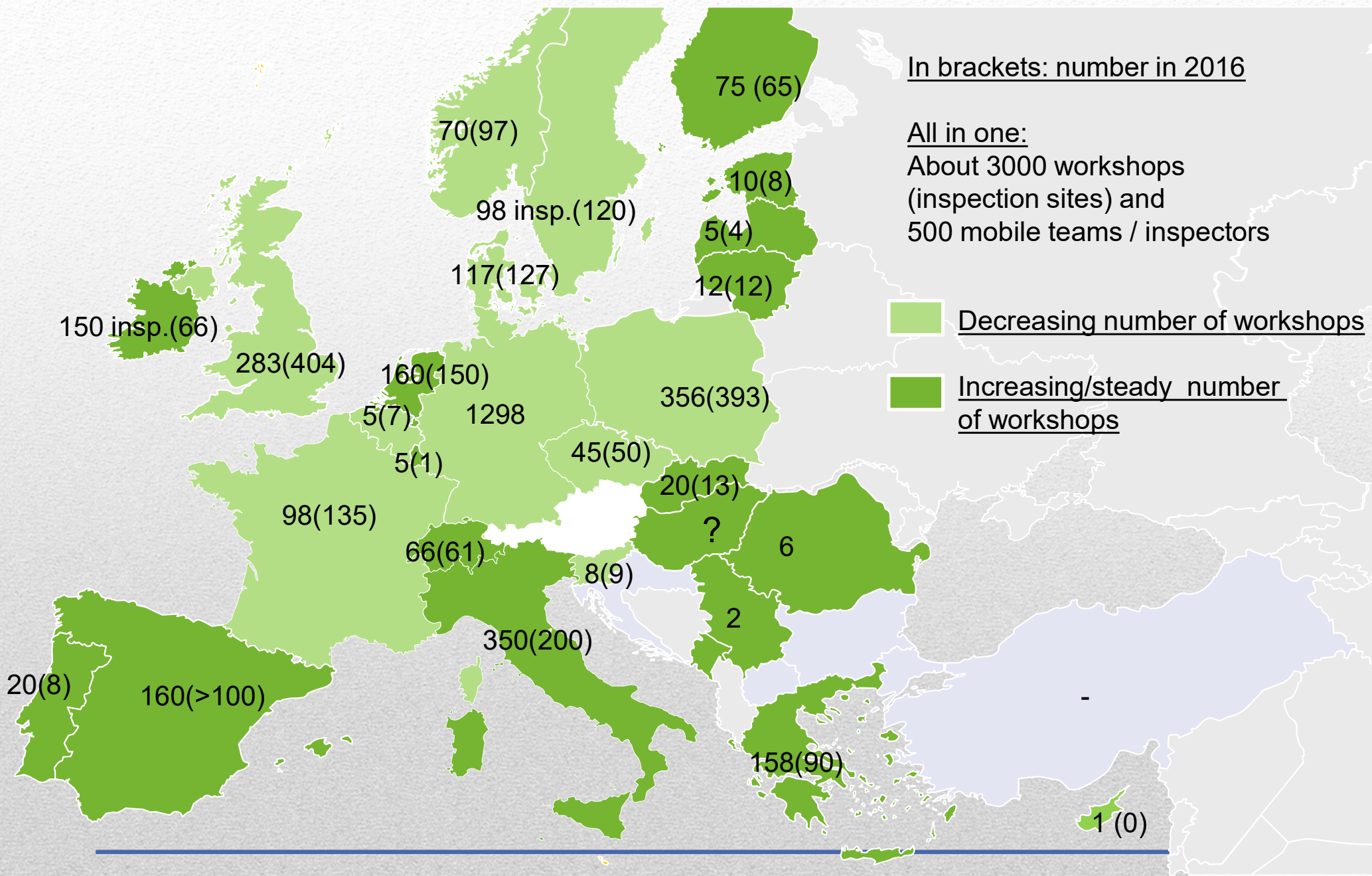


 Yes

 No



# Number of authorized workshops (official teams) in 2022

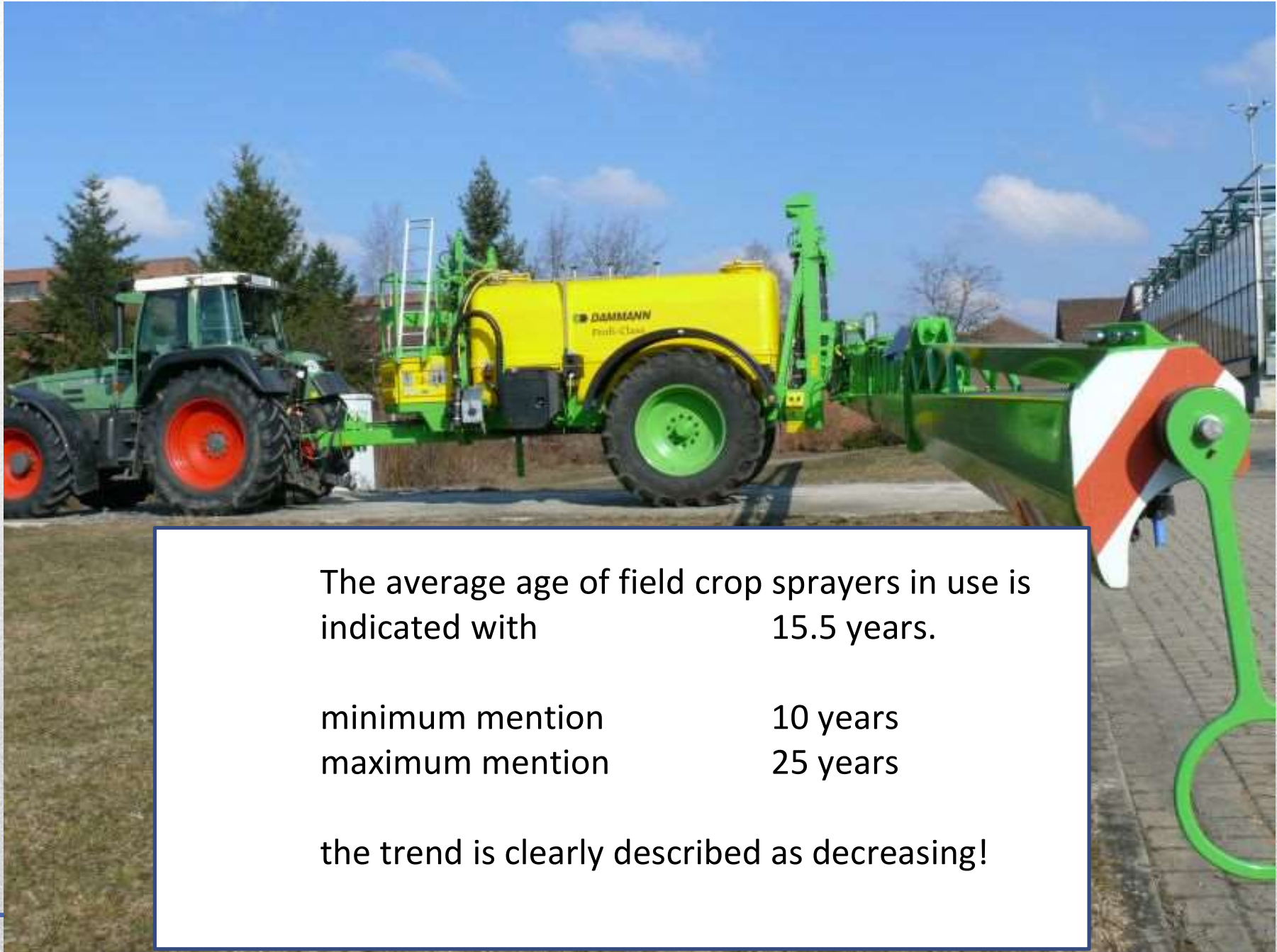


## After which time the first inspection is scheduled?





## Average age of field crop sprayers in use in your country?



The average age of field crop sprayers in use is indicated with 15.5 years.

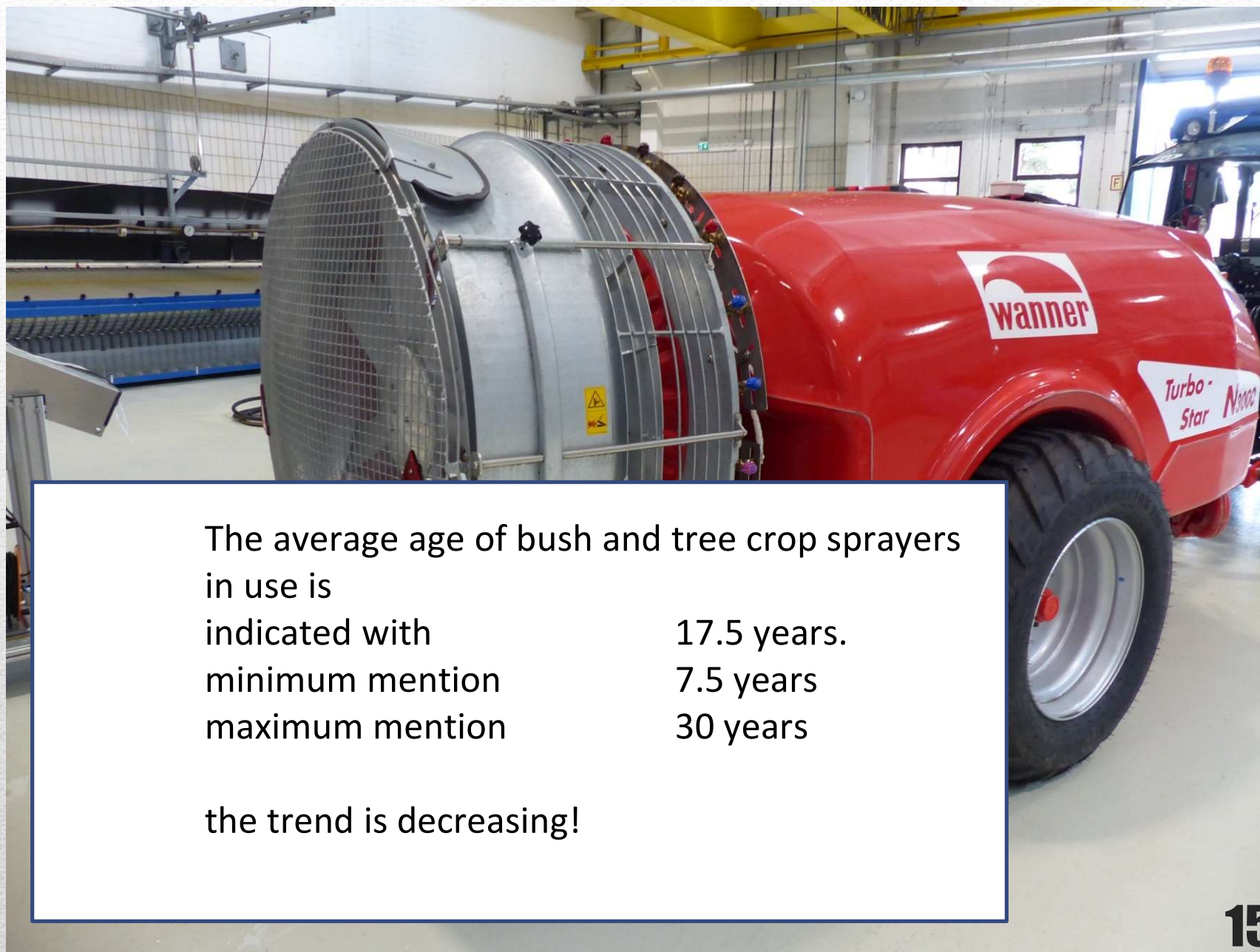
minimum mention 10 years

maximum mention 25 years

the trend is clearly described as decreasing!



## Average age of bush and tree crop sprayers in use in your country?



The average age of bush and tree crop sprayers in use is

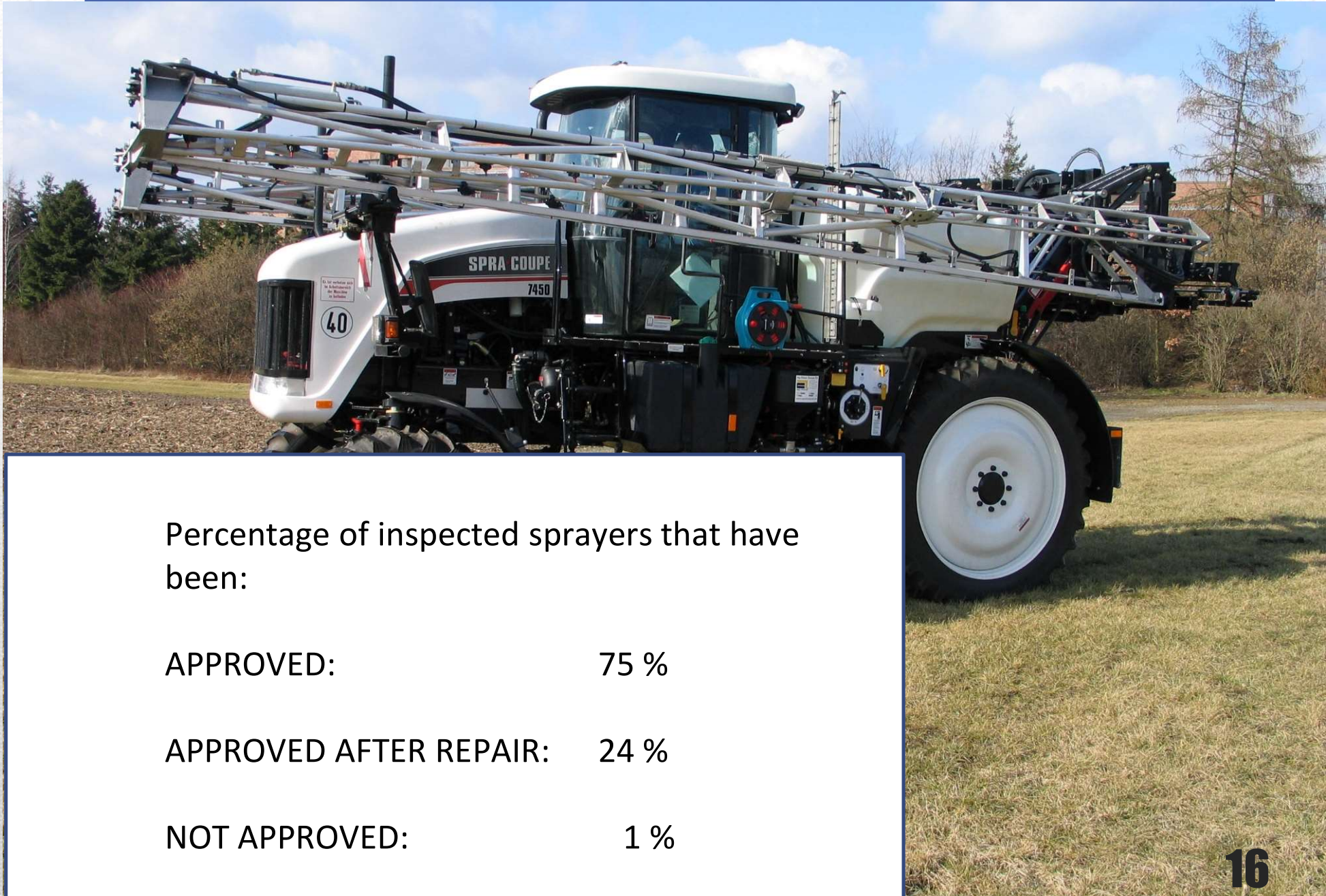
indicated with 17.5 years.

minimum mention 7.5 years

maximum mention 30 years

the trend is decreasing!





Percentage of inspected sprayers that have been:

APPROVED: 75 %

APPROVED AFTER REPAIR: 24 %

NOT APPROVED: 1 %





Percentage of inspected sprayers that have been:

APPROVED: 57 %

APPROVED AFTER REPAIR: 41 %

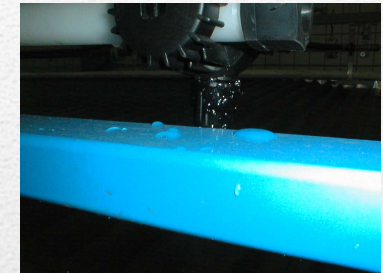
NOT APPROVED: 2 %



# Field crops sprayers - TOP of detected defects (2021)



Nozzles	18 mentions
Leakages (Hoses and pipes)	18
Anti drip device	10
Manometer	9
Filters	8
Pump flow rate	5
Controls/regulation system	5
Drive/PTO	4
Technical state of boom	5
Pressure drop	3

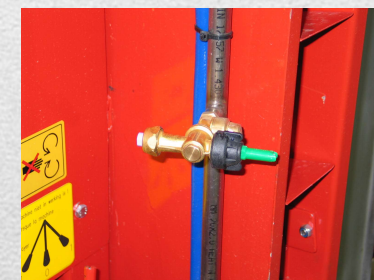
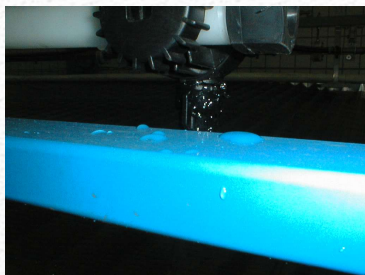


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# Sprayers for bush and tree crops - TOP detected defects (2021)

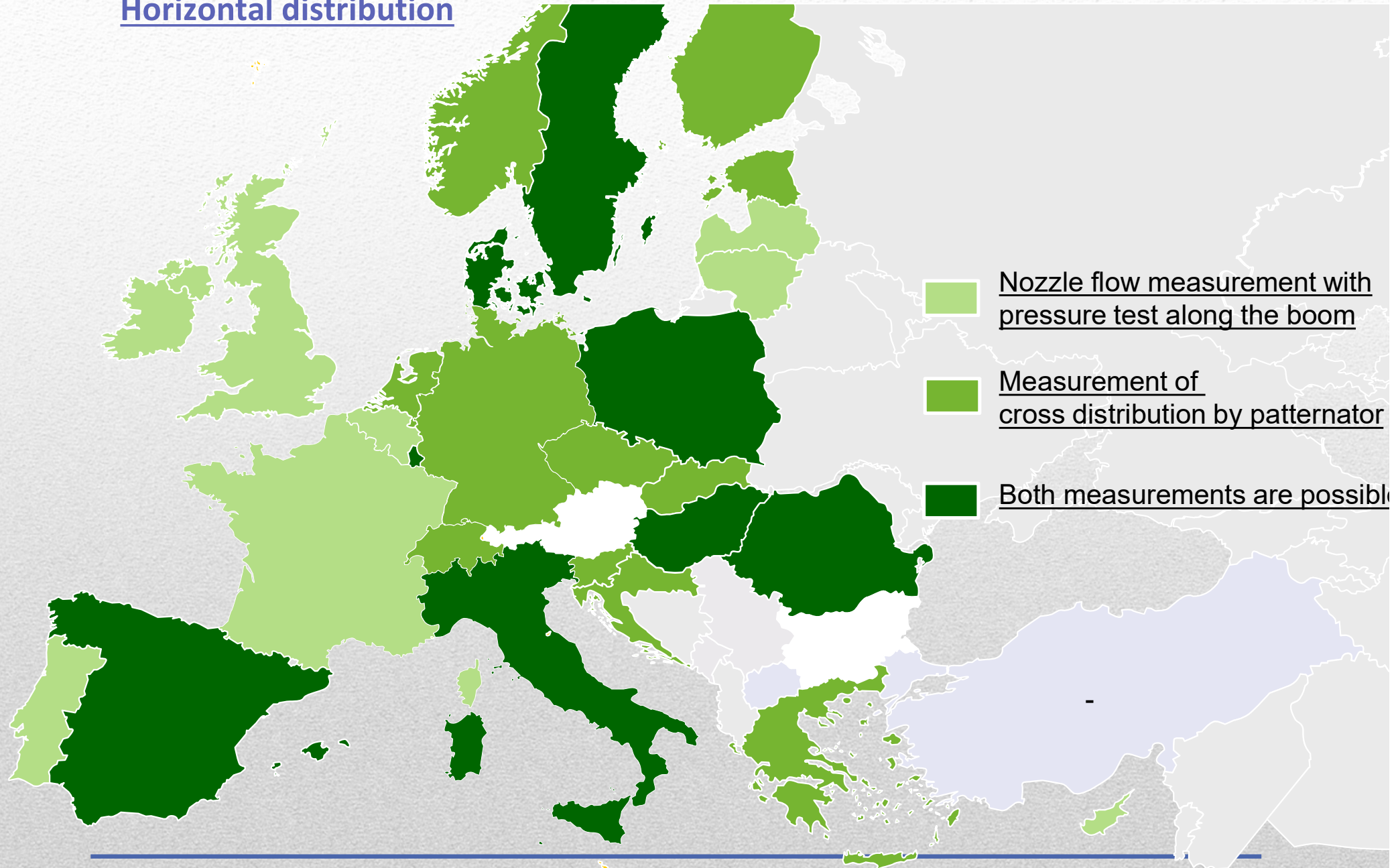
Nozzle output deviation	17 mentions
Manometer	17
Filters (dirt, isolation device)	9
Leakages	8
Pump flow rate	7
Anti drip device	7
Spray liquid tank	6
Controls/regulation system	6
Tank content indicator	4
Pressure unbalance	2





# Which measurement techniques are allowed regarding the spray distribution

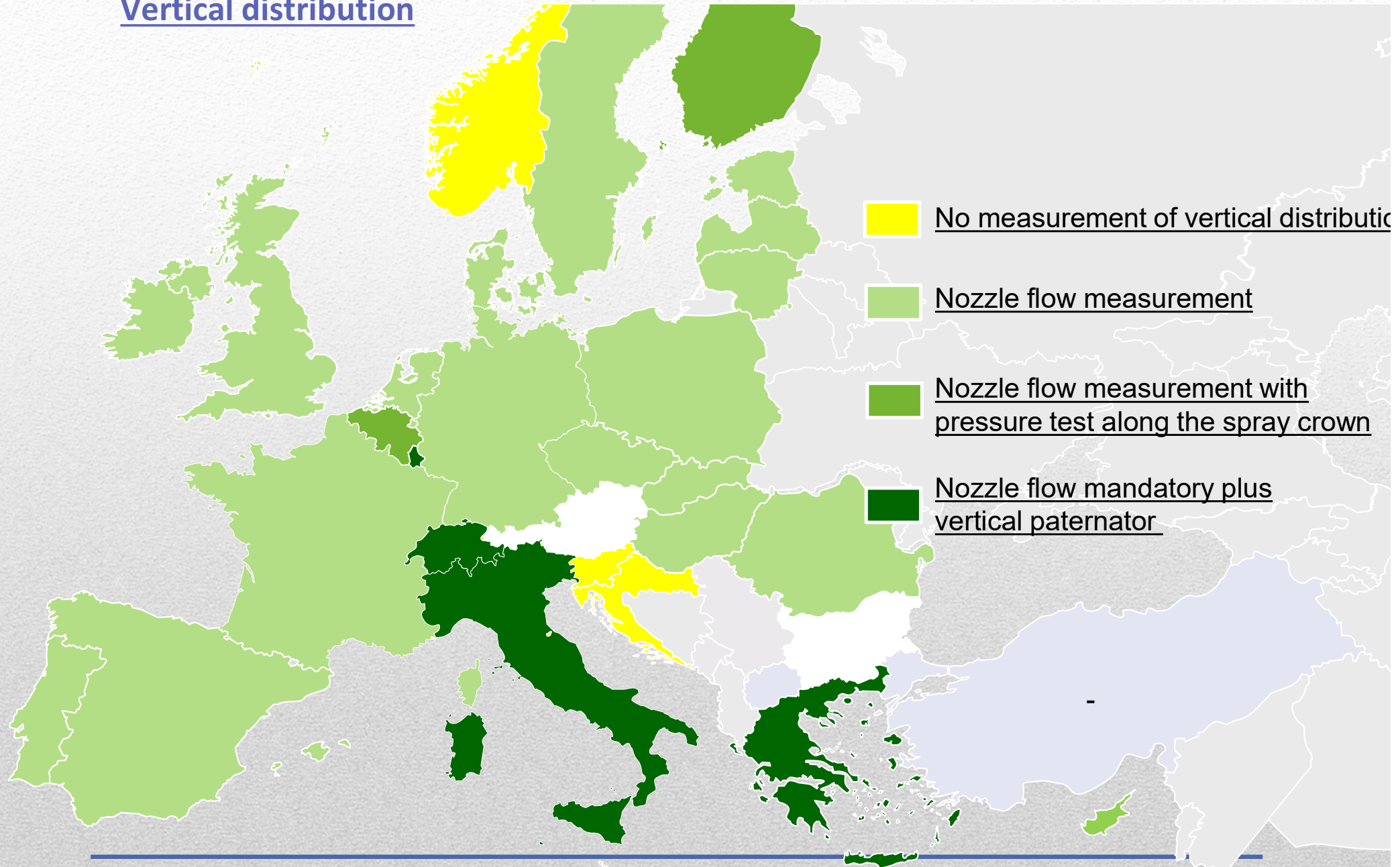
## Horizontal distribution





# Which measurement techniques are allowed regarding the spray distribution

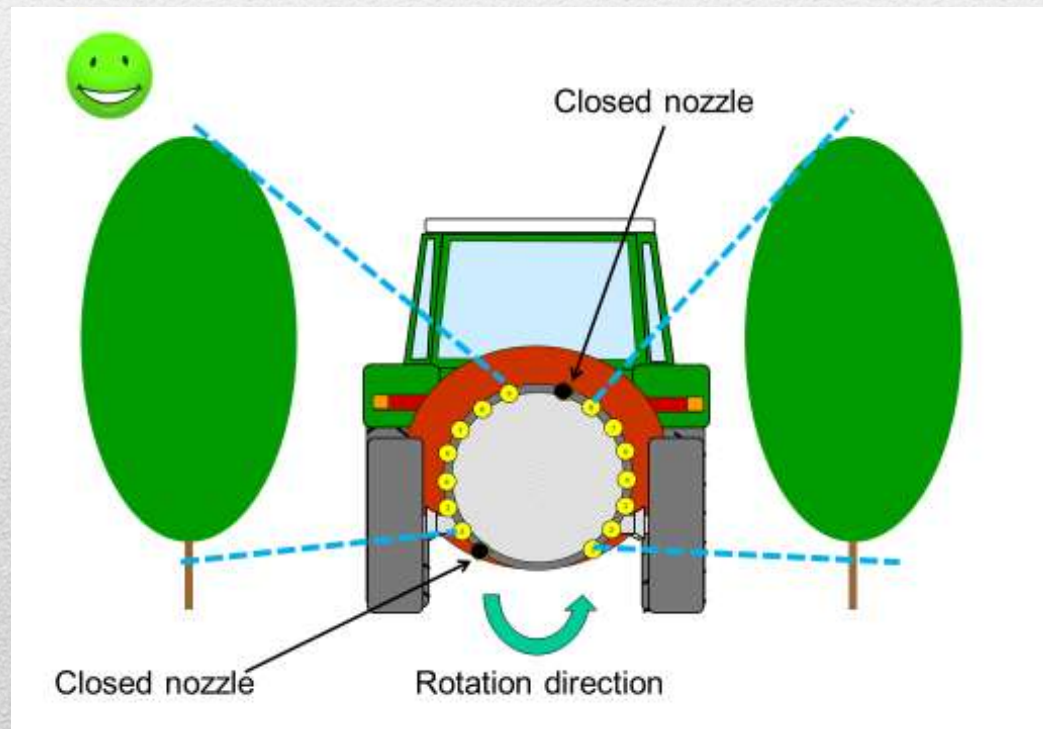
## Vertical distribution





## Are PAE adjustments aspects carried out at the workshop?

- 12 countries do not carry out adjustments
- 13 countries carry out adjustments
- 1 country offers this service optional
- All countries, which offers this, charge an extra fee for this service





## Are repairs carried out at the workshop?

- 13 countries carry out repairs
- 12 countries do not carry out repairs
- 1 country offer this service optional





## Are internal cleaning system part of the inspection?

- 24 countries carry out this inspection  
(21 function tests – 3 only visual tests)
- 2 countries do not consider the internal cleaning system.





## Are there regulations what to do with not repairable PAE?



No official regulations	16 mentions
Proper disposal is demanded by waste management act in general	4
No regulations but changing the PAE must be registered	6

How is the disposal of worn **nozzles** or defect **manometers** regulated at the workshop?

No regulation	18 mentions
Via workshop waste disposal with chemical waste	5
By acknowledged companies	1



# How is the quality control of the inspection managed?



ISO 17020

2 mention

ISO 9001

1 mention

23 countries mention:

Regularly controls/

calibration of testing facilities

Ø 2 years

Regularly refreshing courses of stuff

Ø 5 years

Unannounced visits of the inspection sites and spot tests of test reports are conducted occasion-related. The according SPISE Advice is mentioned by the half of the reporting countries.



## In which way the market surveillance for brand new PAE is arranged?

- **4 countries have no (known) market surveillance**
- **22 countries have a market surveillance, which becomes active if required.**





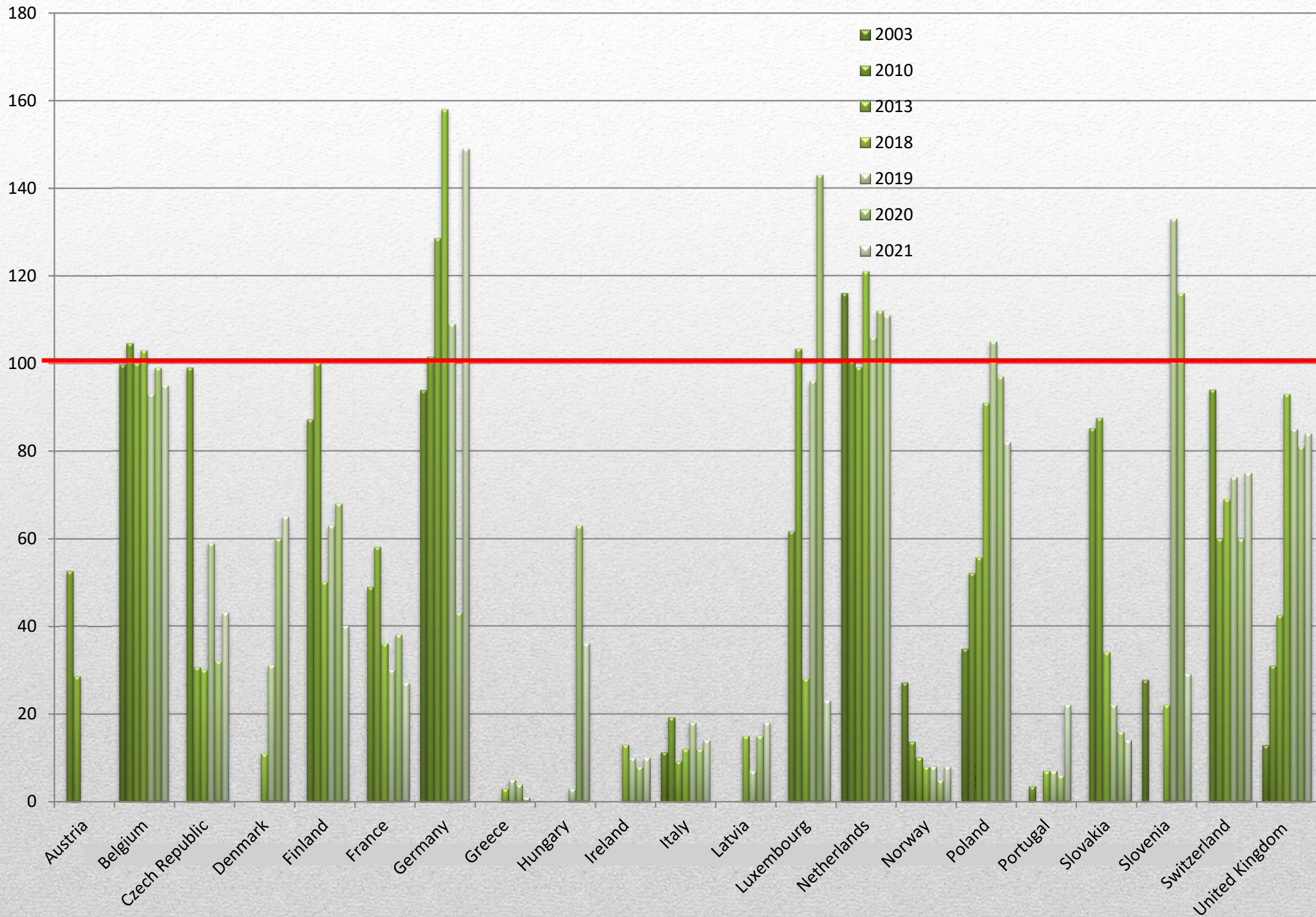
1000%

Inspected PAE



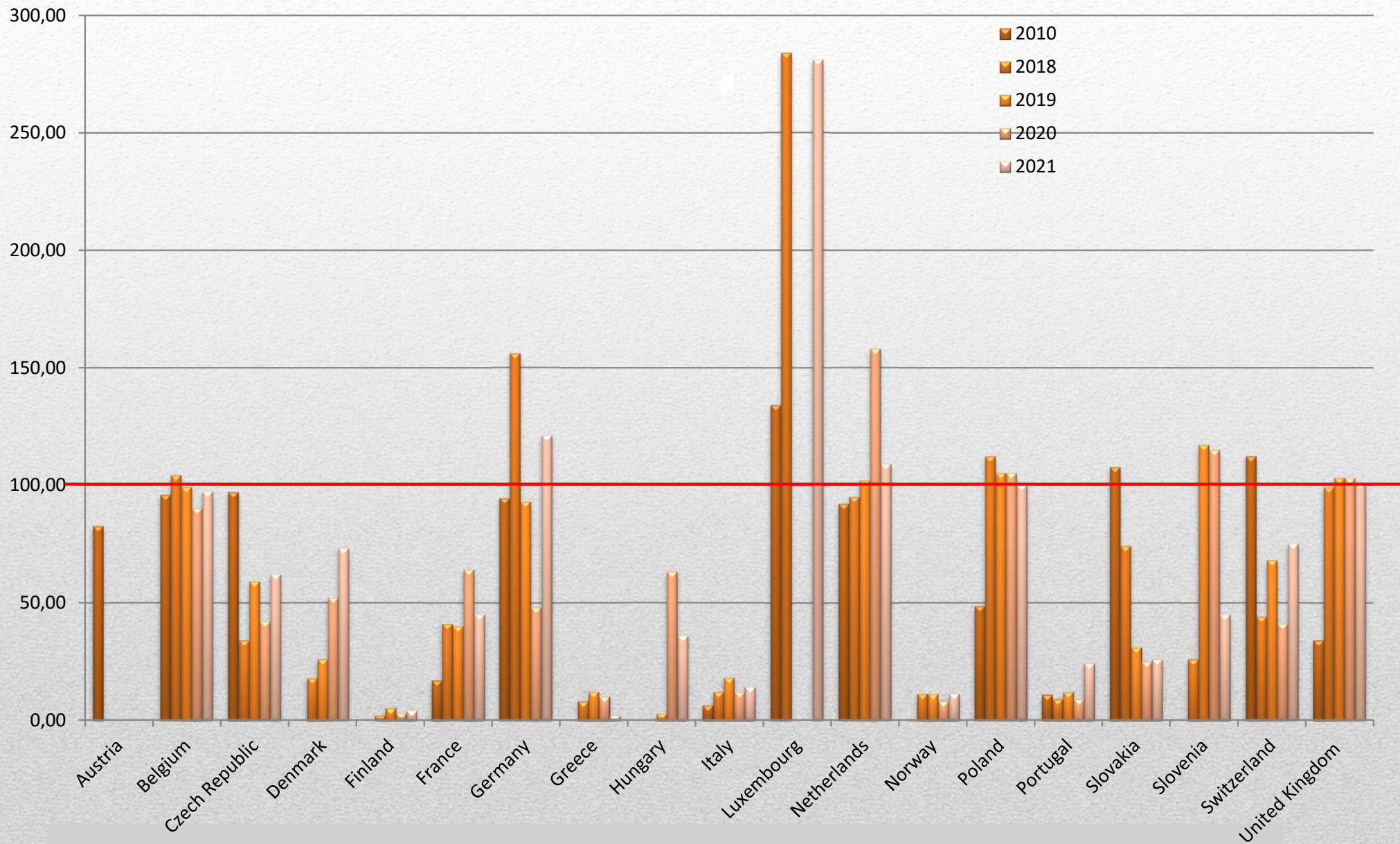


# Yearly inspected field crop sprayers as percentage of yearly necessary inspections





# Yearly inspected air-assisted sprayers as percentage of yearly necessary inspectio





**Many, many thanks to  
all  
the contact persons,  
which applied a lot  
of effort to answer  
all these  
questions!!**





Thank you for your  
attention!

