

Brussels, 27 May 2019



EFSA experience on data support to JRC on candidate priority pests

**Expert Group on Plant Health Legislation,
Discussion of the Delegated Act on Priority Pest**

Tomasz Kaluski

Trusted science for safe food

Methodology Report

- **EFSA Scientific Report**
- Online on the **3rd of June 2019** on the EFSA Journal
<https://efsa.onlinelibrary.wiley.com/journal/18314732/>
- **Peer-reviewed** by 2 external reviewers

Report on the methodology applied by EFSA to provide a quantitative assessment of pest-related criteria required to rank candidate priority pests as defined by Regulation (EU) 2016/2031

European Food Safety Authority (EFSA), Baker R, Gilioli G, Behring C, Candiani D, Gogin A, Kaluski T, Kinkar M, Mosbach-Schulz O, Neri FM, Siligato R, Stancanelli G, and Tramontini S

Abstract

In agreement with Article 6(2) of the Regulation (EU) 2016/2031 on protective measures against pests of plants, the European Commission has been tasked by the Council and European Parliament to establish a list of Union quarantine pests which qualify as priority pests. The prioritisation is based on the severity of the economic, social and environmental impact that these pests can cause in the Union territory. The Commission's Joint Research Centre (JRC) is in charge of developing a methodology based on a multi-criteria decision analysis (MCDA) and composite indicators. In this context EFSA has provided technical and scientific data related to these pests, in particular: i) the potential host range and distribution of each of these pests in the Union territory at the level of NUTS2 regions; ii) parameters quantifying the potential consequences of these pests, e.g. crop losses in terms of yield and quality, rate of spread and time to detection. Expert knowledge elicitation methodology has been applied by EFSA in order to provide those parameters in a consistent and transparent manner.

Table of Contents

Abstract	1
Keywords	1
1. Introduction	4
1.1. Background and Terms of Reference as provided by the requestor.....	4
1.2. Interpretation of the Terms of Reference.....	5
1.2.1. Final outputs	6
1.2.2. Working Group composition.....	6
1.2.2.1. <i>Ad hoc expert groups</i>	6
2. Data and Methodologies.....	7
2.1. Selection of information and data	7
2.2. Structure and content of the Pest Report.....	7
2.2.1. Summary of the biology and taxonomy	8
2.2.2. Host plants	8
2.2.2.1. <i>Natura 2000 sites</i>	9
2.2.3. Area of potential distribution.....	9
2.2.3.1. <i>Area of current distribution</i>	10
2.2.3.2. <i>Area of potential establishment</i>	10
2.2.3.3. <i>Transient populations</i>	11
2.2.4. Expected change in the use of plant protection products	11
2.2.5. Additional potential effects	12
2.3. Finalization of section 2 of the Pest Report	12
2.4. Experts knowledge elicitation	12
2.4.1. Yield and quality losses	14
2.4.1.1. <i>Scenario assumptions</i>	14
2.4.1.2. <i>Yield loss</i>	15
2.4.1.3. <i>Quality loss</i>	16
2.4.1.4. <i>Handling of nurseries</i>	17
2.4.1.5. <i>Translate impacts from NUTS2 to NUTS0 level</i>	17
2.4.2. Spread rate and time to detection.....	17
2.4.2.1. <i>Scenario assumptions</i>	17
2.4.2.2. <i>Spread rate</i>	19

2.4.2.3. <i>Time for detection after entry</i>	19
2.4.3. Compilation of the pest datasheet.....	19
3. Summary of results	20
3.1. Comparison of pests	0
3.1.1. Comparison of yield loss for different host categories	0
3.1.1.1. <i>Cereals</i>	0
3.1.1.2. <i>Potatoes</i>	3
3.1.1.3. <i>Vegetables</i>	5
3.1.1.4. <i>Citrus</i>	7
3.1.1.5. <i>Pome fruits</i>	9
3.1.1.6. <i>Stone fruits</i>	11
3.1.1.7. <i>Grapes</i>	13
3.1.1.8. <i>Other fruits (e.g. exotic, small)</i>	15
3.1.1.9. <i>Forest trees</i>	17
3.1.1.10. <i>Ornamentals and urban plants</i>	19
3.1.2. Comparison of quality loss for different hosts.....	21
3.1.3. Comparison of spread rates	23
3.1.3.1. <i>High spread rate species</i>	23
3.1.3.2. <i>Medium spread rate species</i>	25
3.1.3.3. <i>Low spread rate species</i>	27
3.1.4. Comparison of time to detection.....	29
3.1.4.1. <i>Long time to detection species</i>	29
3.1.4.2. <i>Medium time to detection species</i>	31
3.1.4.3. <i>Short time to detection species</i>	33
4. References.....	0
Appendix A – List of candidate priority pests by categories.....	1
Appendix B – Working Group composition	2
Appendix C – Published Pest Reports and Pest Datasheets	5
Appendix D – Flowchart of the quantitative assessment of pest-related criteria required to rank candidate priority pests.....	7
Appendix E – Summary table on the 28 assessed candidate priority pests	8

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What to find in the Pest Report

2 main sections

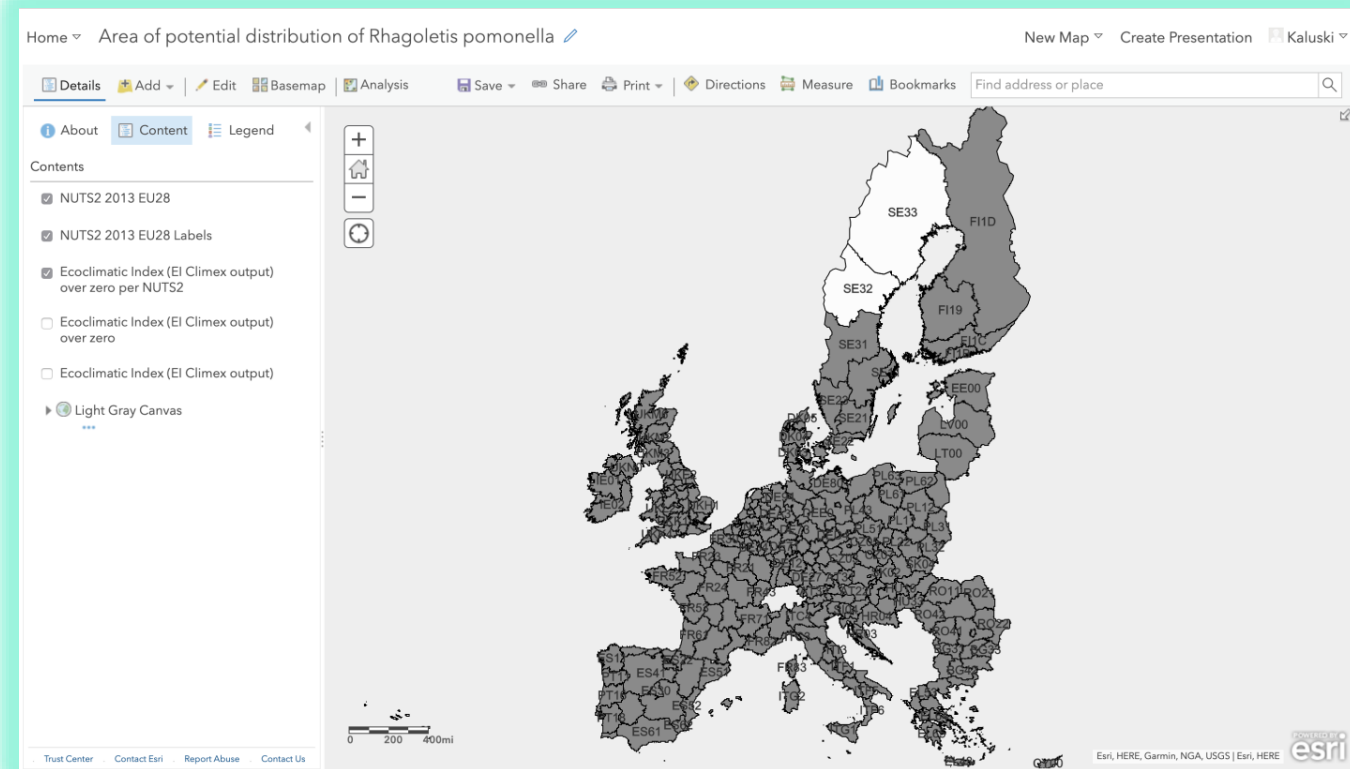
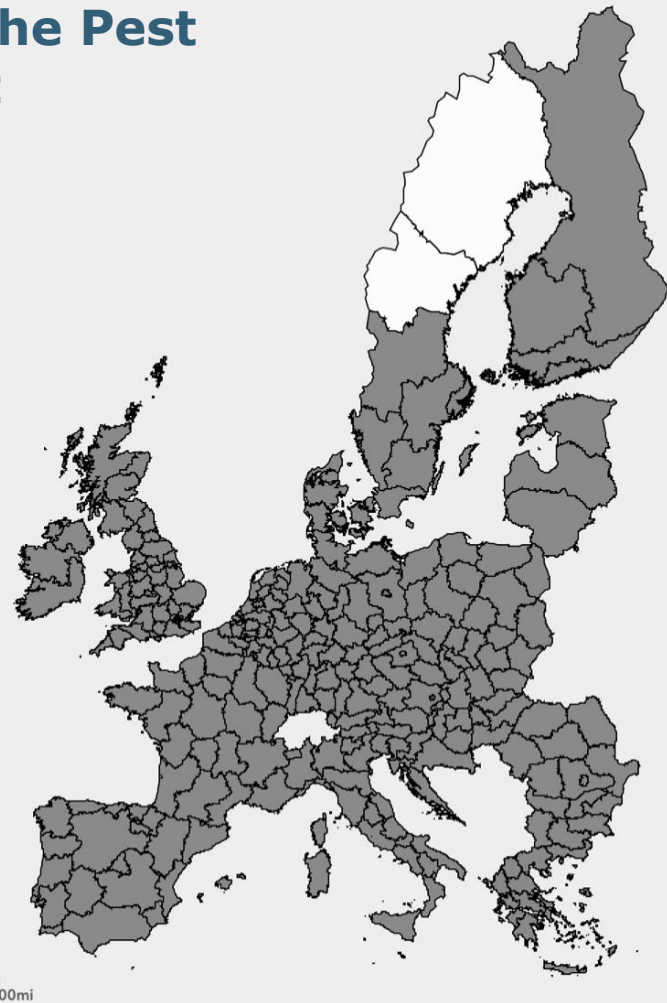
Table of Contents

1.	Introduction to the report	5
2.	The biology, ecology and distribution of the pest	5
2.1.	Summary of the biology and taxonomy	5
2.2.	Host plants	6
2.2.1.	List of hosts	6
2.2.2.	Selection of hosts for the evaluation	6
2.2.3.	Conclusions on the hosts selected for the evaluation	6
2.3.	Area of potential distribution	6
2.3.1.	Area of current distribution	7
2.3.2.	Area of potential establishment	7
2.3.3.	Transient populations	8
2.3.4.	Conclusions on the area of potential distribution.....	9
2.4.	Expected change in the use of plant protection products	9
2.5.	Additional potential effects	9
2.5.1.	Mycotoxins.....	9
2.5.2.	Capacity to transmit pathogens.....	9
3.	Expert Knowledge Elicitation report	10
3.1.	Yield and quality losses	10
3.1.1.	Structured expert judgement	10
3.1.1.1.	Generic scenario assumptions.....	10
3.1.1.2.	Specific scenario assumptions.....	10
3.1.1.3.	Selection of the parameter(s) estimated.....	11
3.1.1.4.	Defined question(s)	11
3.1.1.5.	Evidence selected	11
3.1.1.6.	Uncertainties identified.....	12
3.1.2.	Elicited values for yield losses of hardwood in forest plantations	12
3.1.2.1.	Justification for the elicited values for yield loss of hardwood in forest plantations.....	12
3.1.2.2.	Estimation of the uncertainty distribution for yield loss of hardwood in forest plantations.	13
3.1.3.	Elicited values for losses to ecosystem services in urban and suburban areas	14

3.1.3.1.	Justification for the elicited values for losses to ecosystem services in urban and suburban areas	14
3.1.3.2.	Estimation of the uncertainty distribution for loss in ecosystem services in urban and suburban areas	16
3.1.4.	Elicited values for yield losses on <i>Citrus</i>	17
3.1.4.1.	Justification for the elicited values for yield loss on <i>Citrus</i>	17
3.1.4.2.	Estimation of the uncertainty distribution for yield loss on <i>Citrus</i>	18
3.1.5.	Elicited values for yield losses on <i>Malus</i> , <i>Pyrus</i> , <i>Prunus</i>	19
3.1.5.1.	Justification for the elicited values for yield loss on <i>Malus</i> , <i>Pyrus</i> , <i>Prunus</i>	19
3.1.5.2.	Estimation of the uncertainty distribution for yield loss on <i>Malus</i> , <i>Prunus</i> and <i>Pyrus</i>	20
3.1.6.	Conclusions on yield and quality losses	21
3.2.	Spread rate.....	21
3.2.1.	Structured expert judgement	21
3.2.1.1.	Generic scenario assumptions.....	21
3.2.1.2.	Specific scenario assumptions	21
3.2.1.3.	Selection of the parameter(s) estimated.....	21
3.2.1.4.	Defined question(s)	22
3.2.1.5.	Evidence selected	22
3.2.1.6.	Uncertainties identified.....	22
3.2.2.	Elicited values for the spread rate	22
3.2.2.1.	Justification for the elicited values of the spread rate	22
3.2.2.2.	Estimation of the uncertainty distribution for the spread rate	24
3.2.3.	Conclusions on the spread rate.....	25
3.3.	Time to detection.....	25
3.3.1.	Structured expert judgement	25
3.3.1.1.	Generic scenario assumptions.....	25
3.3.1.2.	Specific scenario assumptions.....	25
3.3.1.3.	Selection of the parameter(s) estimated.....	25
3.3.1.4.	Defined question(s)	25
3.3.1.5.	Evidence selected	25
3.3.1.6.	Uncertainties identified.....	25
3.3.2.	Elicited values for the time to detection in urban areas and orchards.....	26
3.3.2.1.	Justification for the elicited values of the time to detection in urban areas and orchards	26

How to access interactive maps

From the Pest Report



To the online tool
(ESRI)

Figure 2 Area of potential establishment for *R. pomonella* defined on the basis of a CLIMEX model with the Ecoclimatic Index greater than zero (at least one grid per NUTS2) based on Kumar et al. (2016) and climate data from JRC (1998-2017). The link provides an online interactive version of the map that can be used to explore the data further: <https://arcg.is/05i5qX>

Pest Datasheets

Impact results										Yield loss [%]					Quality loss [%]						
Pest (name): <i>Anastrepha ludens</i>																					
Clim. suitability (type, ref): 3 and more generations per year																					
Host (name): Citrus																					
Host distribution (type, ref, evt. Missing): Production area (2015;2016)																					
										2.5th percentile	25th percentile	50th percentile	75th percentile	97.5th percentile	2.5th percentile	25th percentile	50th percentile	75th percentile	97.5th percentile		
										1.20	3.00	4.90	8.10	20.50	0.00	0.00	0.00	0.00	0.00		
1	Impact results																				
2	Pest	(name)																			
3	Clim. suitability	(type, ref)																			
4	Host	(name)																			
5	Host distribution	(type, ref, evt. Missing)																			
6																					
7																					
8																					
9	AT		253.19		253.19	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
10	BE		231.23		231.23	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
11	BG		49.52		49.52	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
12	CY		4.19		4.19	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
13	CZ		132.51		132.51	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
14	DE		961.56		961.56	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
15	DK		30.28		30.28	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
16	EE		1.63		1.63	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
17	EL		286.78		286.78	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
18	ES		603.85		603.85	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
19	FI		6.25		6.25	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
20	FR		1762.32		1762.32	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
21	HR		72.97		72.97	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
22	HU		565.76		565.76	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
23	IE		20.45		20.45	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
24	IT		2355.71		2355.71	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
25	LT		61.26		61.26	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
26	LU		1.88		1.88	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
27	LV		8.68		8.68	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
28	MT		0.02		0.02	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
29	NL		308.33		308.33	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
30	PL		3102.44		3102.44	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
31	PT		295.60		295.60	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
32	RO		448.43		448.43	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
33	SE		25.18		25.18	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
34	SI		52.81		52.81	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
35	SK		36.99		36.99	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
36	UK		424.30		424.30	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
37																					
38	AT1		71.13		71.13	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
39	AT2		78.30		78.30	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
40	AT3		103.77		103.77	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
41	BE1		1.22		1.22	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
42	BE2		102.41		102.41	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
43	BE3		127.59		127.59	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
44	BG1		30.51		30.51	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
45	BG4		19.02		19.02	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
46	CY0		4.19		4.19	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
47	CZ0		132.51		132.51	1.00	Calculated	2.30	14.90	30.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
48	DE1		96.24		96.24	1.00	Calculated	2.30	14.90	30.50	49.50	76.40									
49	DE2		189.93		189.93	1.00	Calculated	2.30	14.90	30.50	49.50	76.40									
50	DE3		2.40		2.40	1.00	Calculated	2.30	14.90	30.50	49.50	76.40									
51	DE4		79.56		79.56	1.00	Calculated	2.30	14.90	30.50	49.50	76.40									
52	DE5		1.13		1.13	1.00	Calculated	2.30	14.90	30.50	49.50	76.40									
53	DE6		2.03		2.03	1.00	Calculated	2.30	14.90	30.50	49.50	76.40									
54	DE7		56.84		56.84	1.00	Calculated	2.30	14.90	30.50	49.50	76.40									
55	DE8		62.47		62.47	1.00	Calculated	2.30	14.90	30.50	49.50	76.40									
56	DE9		128.18		128.18	1.00	Calculated	2.30	14.90	30.50	49.50	76.40									
57	DEA		91.81		91.81	1.00	Calculated	2.30	14.90	30.50	49.50	76.40									
58	DEB		53.32		53.32	1.00	Calculated	2.30	14.90	30.50	49.50	76.40									
59	DEC		6.92		6.92	1.00	Calculated	2.30	14.90	30.50	49.50	76.40									
60	DED		49.59		49.59	1.00	Calculated	2.30	14.90	30.50	49.50	76.40									
61	DEE		55.06		55.06	1.00	Calculated	2.30	14.90	30.50	49.50	76.40									
62	DEF		42.54		42.54	1.00	Calculated	2.30	14.90	30.50	49.50	76.40									
63	DEG		43.55		43.55	1.00	Calculated	2.30	14.90	30.50	49.50	76.40									
64	DK0		30.28		30.28	1.00	Calculated	2.30	14.90	30.50	49.50	76.40									
65	EO0		1.63		1.63	1.00	Calculated	2.3													

Interactive maps

Home ▾ Area of potential distribution of *Rhagoletis pomonella* [↗](#) New Map ▾ Create Presentation [Kaluski ▾](#)

Details Add ▾ Edit Basemap Analysis Save ▾ Share Print ▾ Directions Measure Bookmarks Find address or place

About Content Legend

Contents

- NUTS2 2013 EU28
- NUTS2 2013 EU28 Labels
- Ecoclimatic Index (EI Climex output) over zero per NUTS2
- Ecoclimatic Index (EI Climex output) over zero
- Ecoclimatic Index (EI Climex output)
- Light Gray Canvas

Home ▾ Area of potential distribution of *Agrilus anxius* [↗](#) New Map ▾ Create Presentation [Kaluski ▾](#)

Details Add ▾ Basemap Analysis Save ▾ Share Print ▾ Directions Measure Bookmarks Find address or place

About Content Legend

Contents

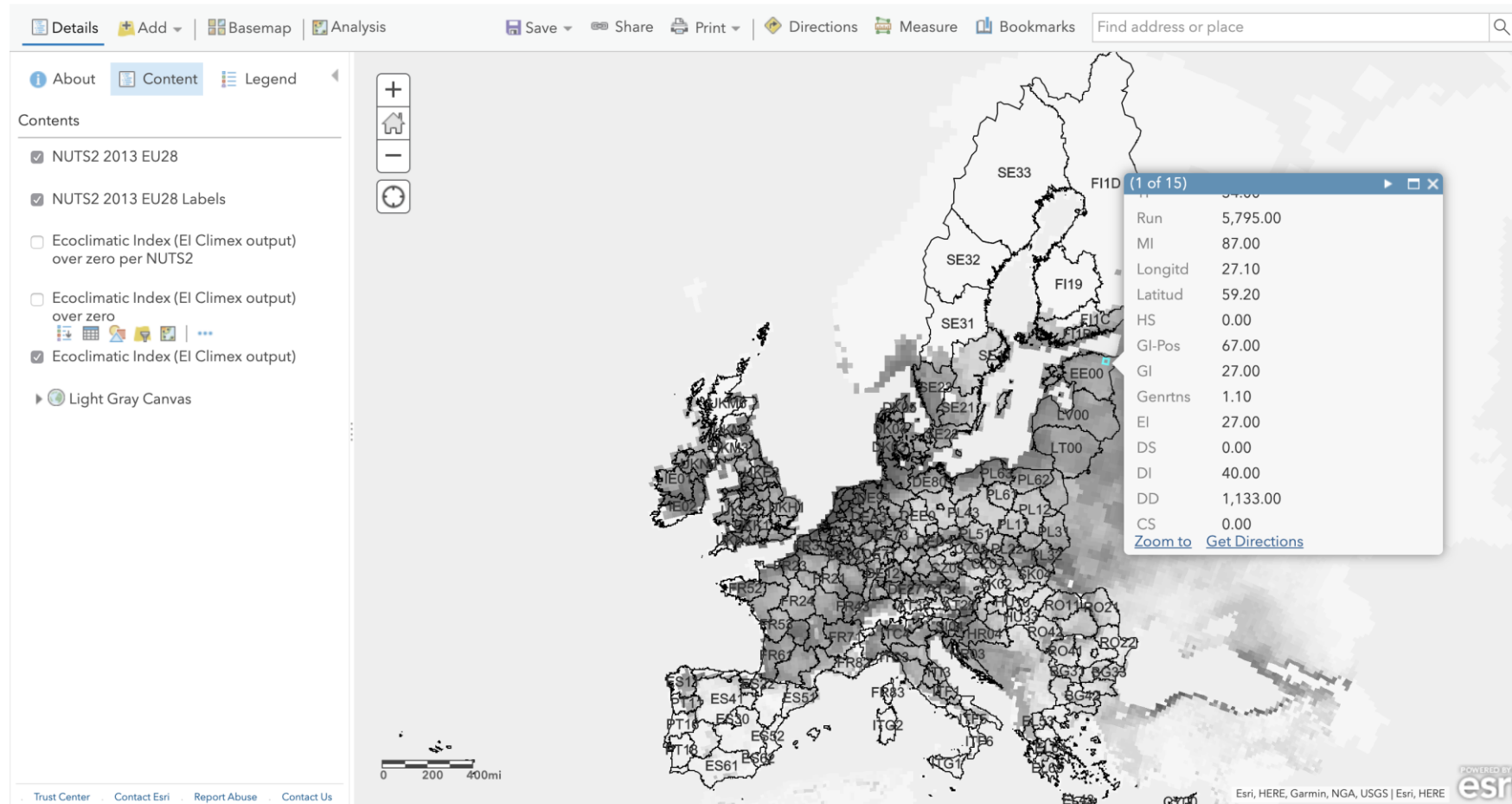
- NUTS2 2013 EU28
- NUTS2 2013 EU28 Labels
- A. anxius* potential distribution
- Light Gray Canvas

...Different number of layers in the interactive maps

Information provided with the interactive maps

Home ▾ Area of potential distribution of *Rhagoletis pomonella* ↗

New Map ▾ Create Presentation ↗ Kaluski ▾



Details Add ▾ Basemap Analysis Save ▾ Share Print ▾ Directions Measure Bookmarks Find address or place 🔍

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Contents

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- Ecoclimatic Index (EI Climex output) over zero
- Ecoclimatic Index (EI Climex output)
- ▶ Light Gray Canvas

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(1 of 15)	
Run	5,795.00
MI	87.00
Longitd	27.10
Latitud	59.20
HS	0.00
GI-Pos	67.00
GI	27.00
Genrtns	1.10
EI	27.00
DS	0.00
DI	40.00
DD	1,133.00
CS	0.00
Zoom to Get Directions	

Goals

- We exploited the quantitative PRA approach to compare impact among species
- We developed a system adaptable to different precision levels
- We constituted a trained pool of experts
- JRC and EFSA collaborated effectively

Future potential:

- Standardisation of the implementation of the methodology
- Improvement of the system of indicators

Experts: BAKER Richard, BALI Elma, BIONDI Antonio, BOSCIA Donato, BOSCO Domenico, BOSIO Giovanni, CIAMPITTI Mariangela, CUBERO Jaime, DALMAU Vicente, DEHNEN-SCHMUTZ Katharina, EVANS Hugh, FACCOLI Massimo, FOISSAC Xavier, GILIOLI Gianni, GREGOIRE Jean Claude, HOPPE Bjoern, HRUSKA Allan, JACQUES Marie Agnes, JEGER Mike, JAQUES MIRET Josep Anton, LOOMANS Antoon, MACLEOD Alan, MACQUARRIE Christian, MAGNUSSON Sven Christer, MALUMPHY Chris, MARZACHI Cristina, MCCULLOUGH Deborah, MENSAH Clement, MERIGGI Pierluigi, MILONAS Panagiotis, PAPADOPOULOS Nikolaos, PAPANASTASSIOU Stella, PARNELL Stephen, POTTING Roel, RAFOSS Trond, RAVN Hans Peter, RUTLEDGE Claire, UREK Gregor, VAN DER GAAG Dirk Jan, VAN DER STRATEN Marja, VERNIERE Christian, VETTRAINO Anna Maria, VICENT Antonio, VILA Lluís, YEMSHANOV Denys, YUEN Jonathan, ZAPPALA' Lucia

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- introduction for the user on the structure of the document
- background information relevant to support the EKE process and its results, in particular
 - biology and taxonomy
 - host plants
 - area of potential distribution
 - expected change in the use of plant protection products
 - additional potential effects
- report of the EKE
 - yield and quality losses: structured expert judgement and elicited values
 - spread rate: structured expert judgement and elicited values
 - time to detection: structured expert judgement and elicited values
- conclusions
- references