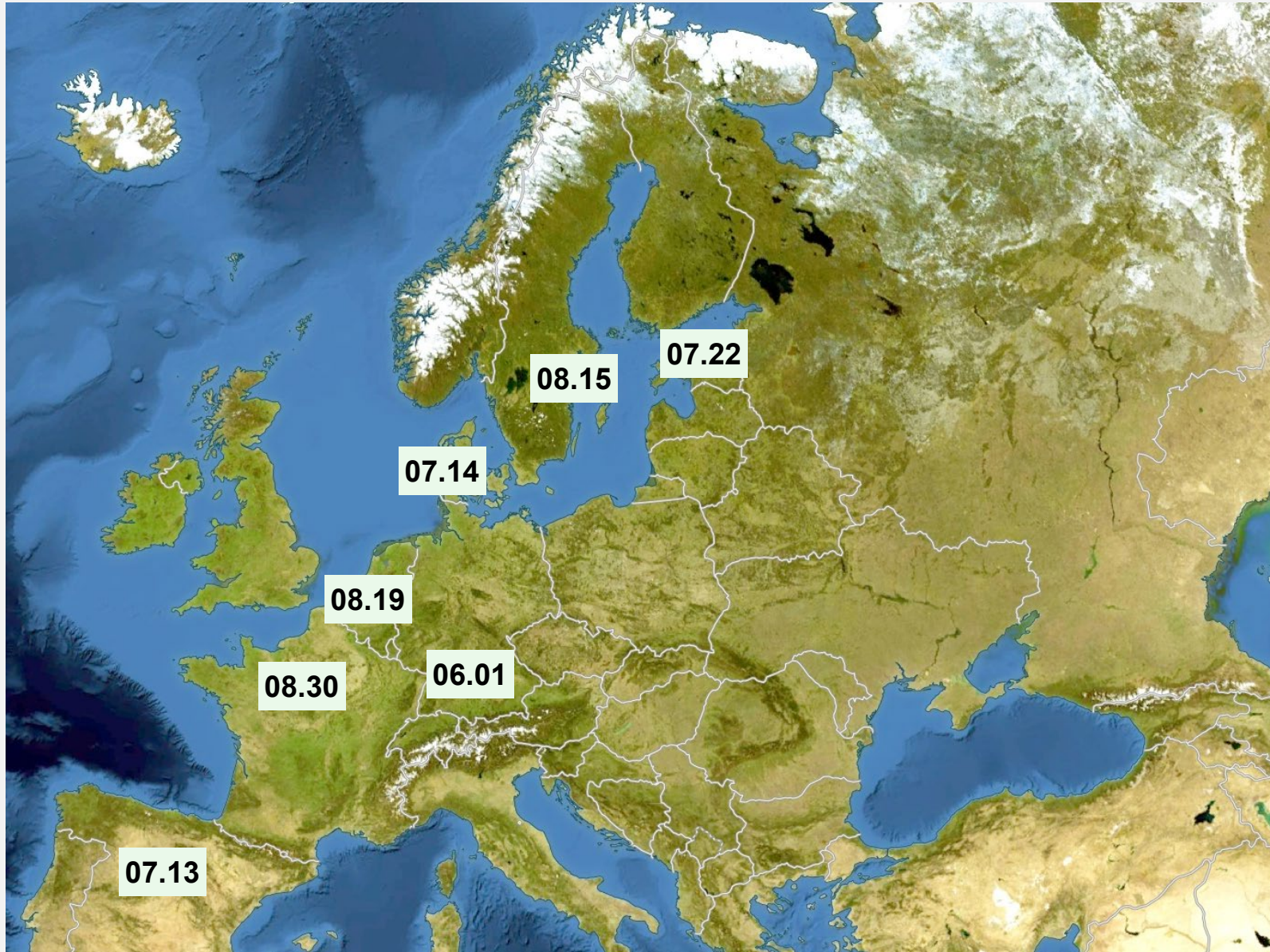




# Epidemics and control of Early Blight, 2019 – 2021 in Europe

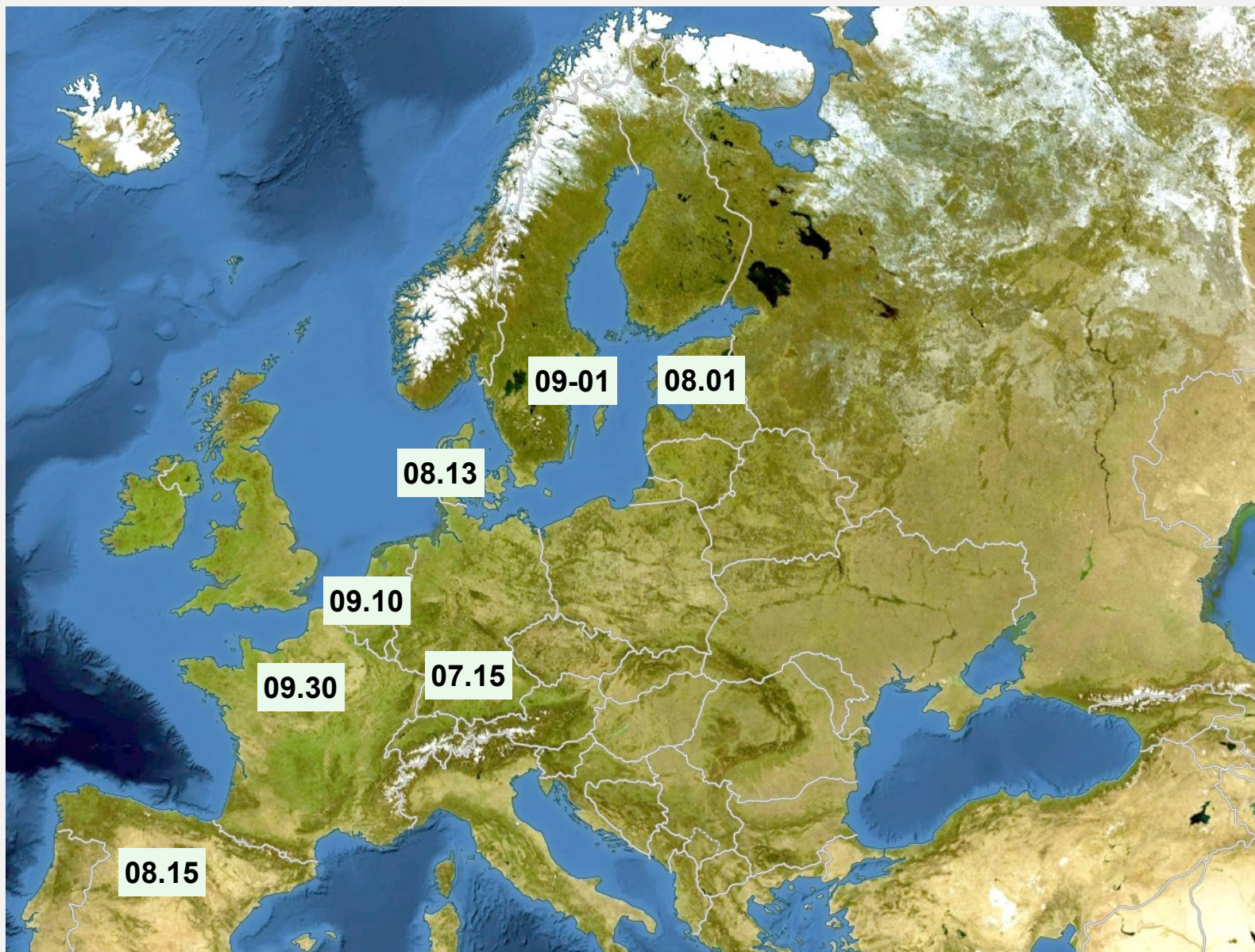


# First observation of Early Blight 2019



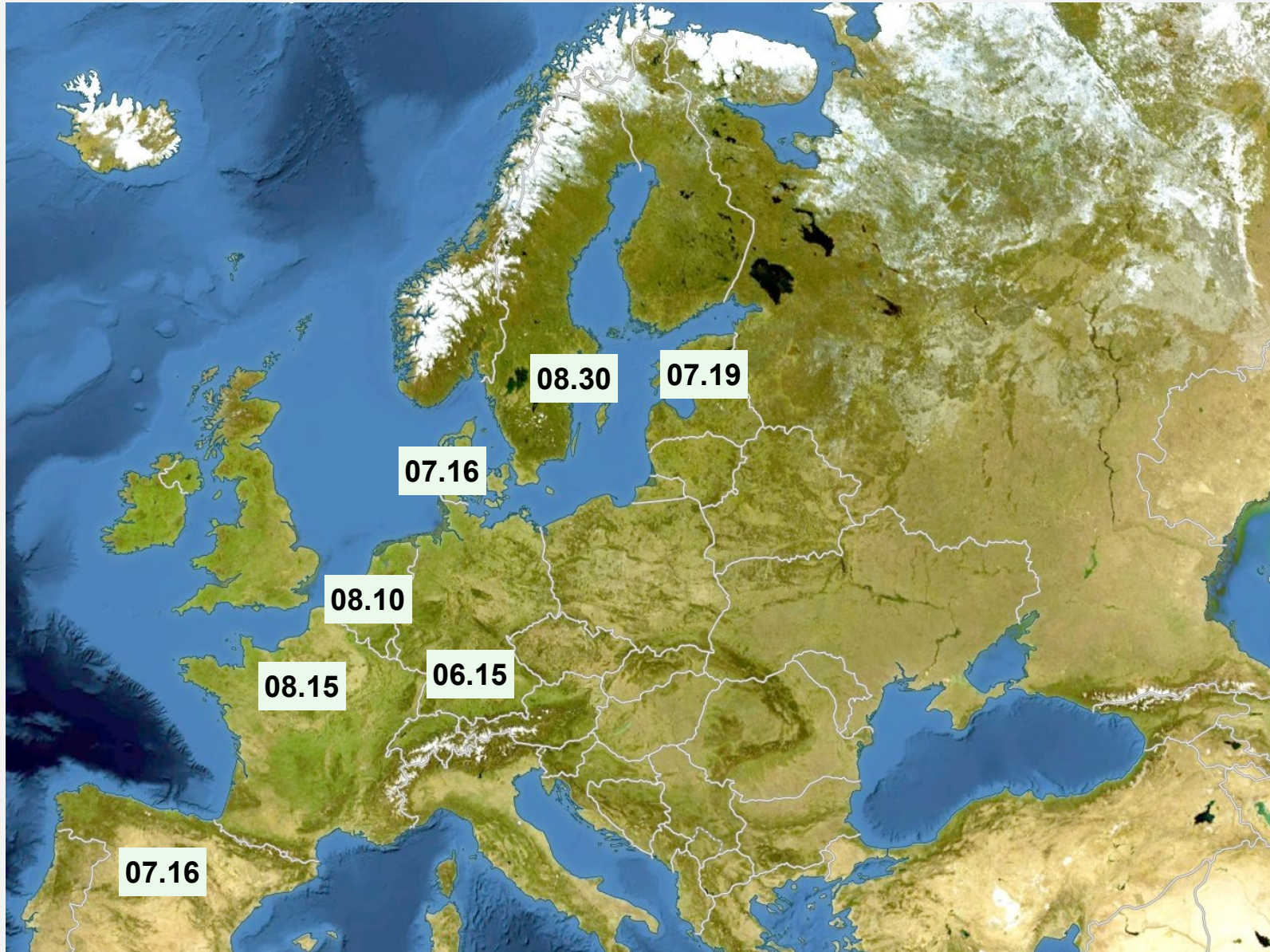


# Disease epidemic of Early Blight 2019



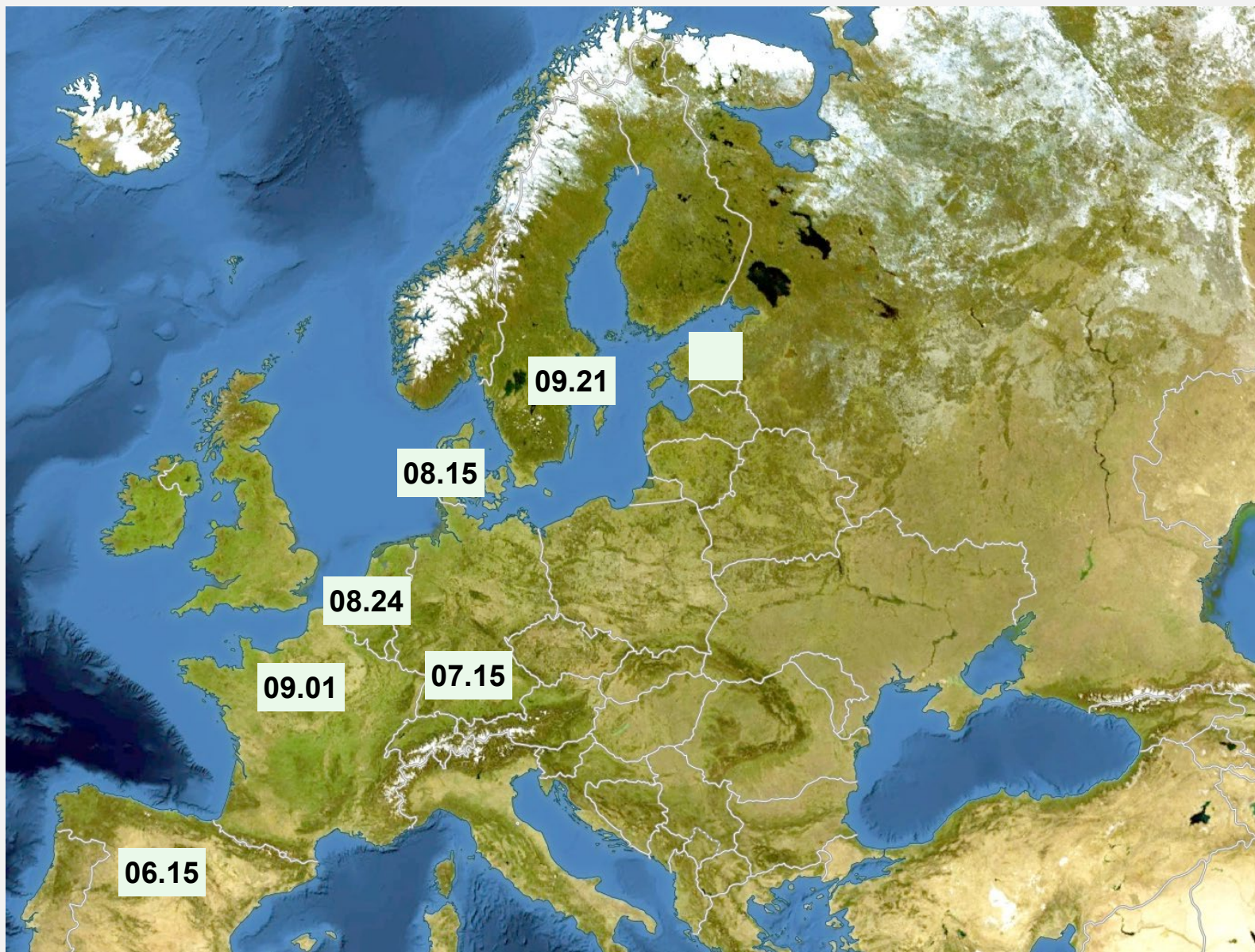


# First observation of Early Blight 2020



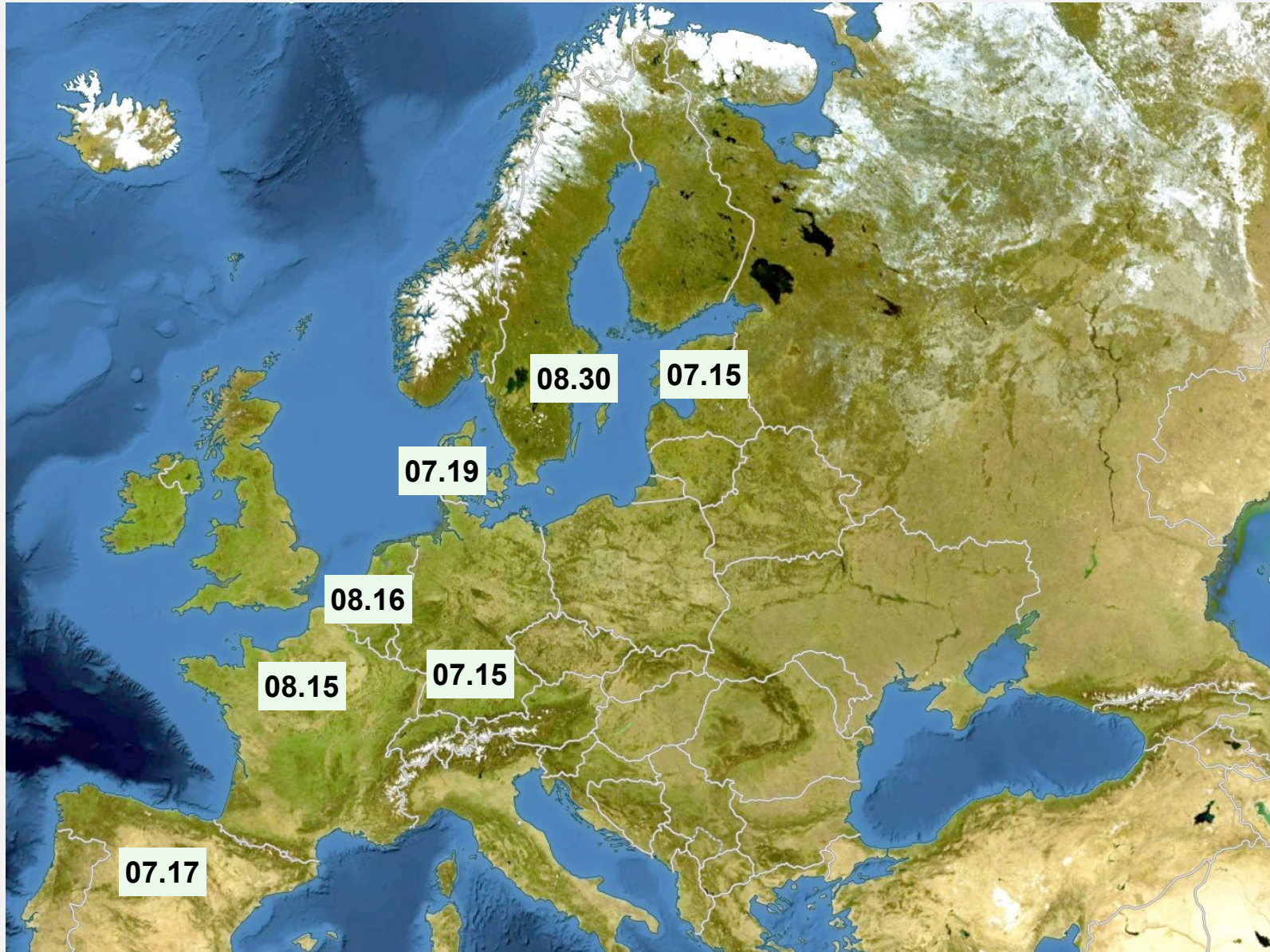


# Disease epidemic of Early Blight 2020



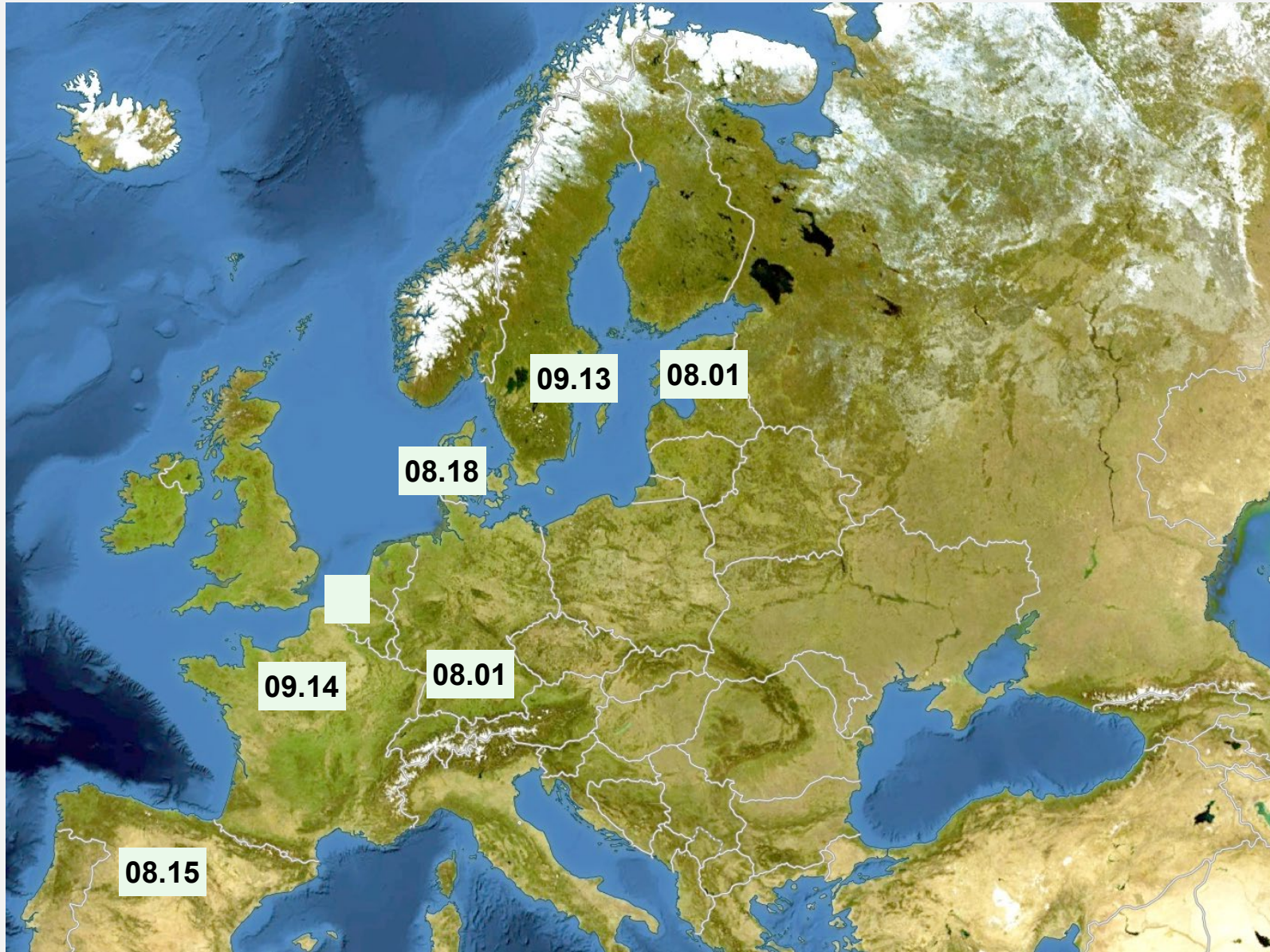


# First observation of Early Blight 2021

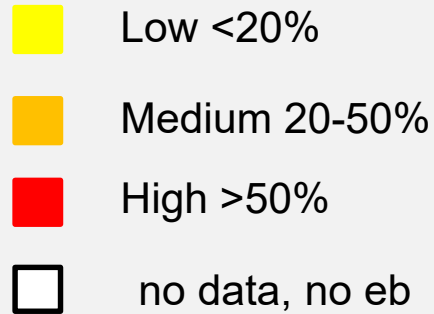




# Disease epidemic of Early Blight 2021



# EB specific disease severity

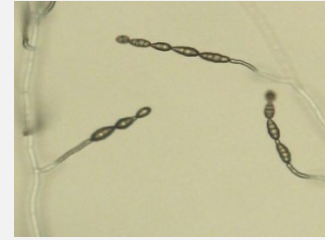


	disease severity				
	May	June	July	August	September
Finland					
Norway					
Sweden			Low <20%	Low <20%	High >50%
Denmark			Low <20%	Medium 20-50%	High >50%
Estonia			Low <20%	Low <20%	
Lithuania					
Scotland					
Northern Ireland					
England and Wales	Low <20%	Low <20%	Low <20%	Low <20%	Low <20%
Belgium	Low <20%	Low <20%	Low <20%	Medium 20-50%	Medium 20-50%
Netherlands					
Germany	Low <20%	Low <20%	Medium 20-50%	High >50%	High >50%
Poland					
Switzerland	Low <20%	Low <20%	Low <20%	Low <20%	
Italy					
Romania					
France	Low <20%	Low <20%	Low <20%	Low <20%	Low <20%
Serbia					
Russia					
Spain			Low <20%	Medium 20-50%	High >50%

Data: 2020



# identified Alternaria species



	A. solani	Jun	Jul	Aug	Sep	A. alternata	Jun	Jul	Aug	Sep
Finland										
Norway										
Sweden	✓			✓	✓	✓			✓	✓
Denmark	✓		✓	✓	✓					
Estonia	✓		✓	✓	✓	✓		✓	✓	✓
Lithuania										
Scotland										
Northern Ireland										
Ireland										
England & Wales										
Belgium	✓			✓	✓					
Netherlands	✓		✓	✓	✓	✓		✓	✓	✓
Germany	✓		✓	✓	✓	✓	✓	✓	✓	✓
Poland	✓		✓	✓	✓	✓	✓	✓	✓	✓
Switzerland										
Italy	✓		✓	✓	✓	✓	✓	✓	✓	✓
France	✓		✓	✓		✓			✓	✓
Serbia	✓	✓	✓	✓	✓					
Russia	✓		✓	✓	✓	✓		✓	✓	✓
Spain	✓		✓	✓	✓	✓		✓	✓	✓

+ *A. infectoria*

Countries marked in yellow: data 2019-2021; other countries: data from previous years



# applied fungicides to control EB

	no specific EB control	mancozeb	azoxystrobin	boscalid + pyraclostrobin	difenoconazole	fluopyram + prothioconazole	fluxapyroxad + difenoconazole	mandipropamid + difenoconazole
<b>Finland</b>								
<b>Norway</b>								
<b>Sweden</b>					√	√		
<b>Denmark</b>					√	√		
<b>Estonia</b>		√						
<b>Lithuania</b>								
<b>Scotland</b>								
<b>Northern Ireland</b>								
<b>Ireland</b>								
<b>England &amp; Wales</b>		√	√	√	√			
<b>Belgium</b>					√			
<b>Netherlands</b>								
<b>Germany</b>		√	√	√	√	√	(√)	√
<b>Poland</b>								
<b>Switzerland</b>		√		√			√	
<b>Italy</b>								
<b>France</b>		√	√	√	√			
<b>Serbia</b>								
<b>Russia</b>								
<b>Spain</b>		√	√		√			

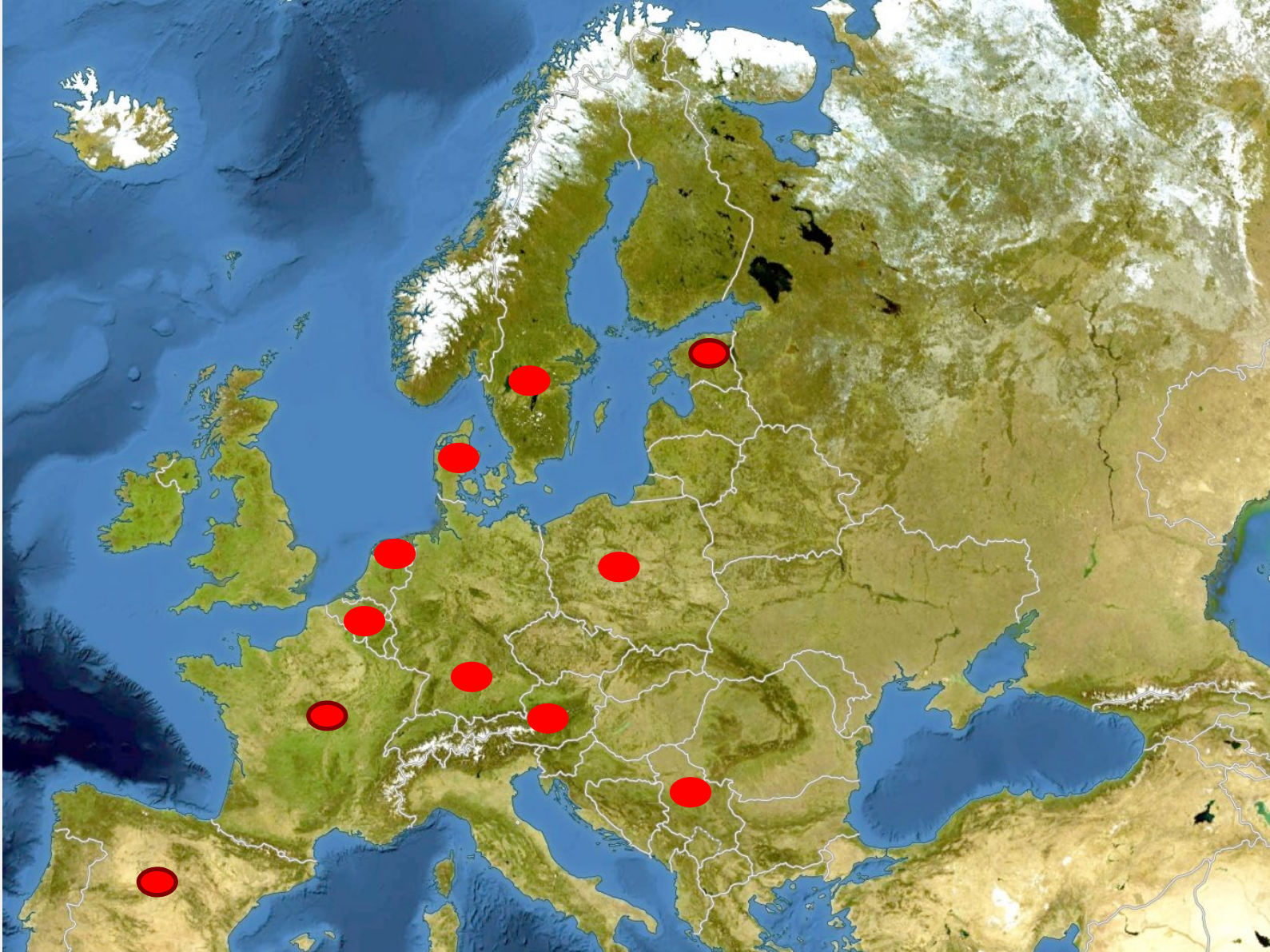


# occurrence of F129L mutants

F129L



Data: 2021 and previous years



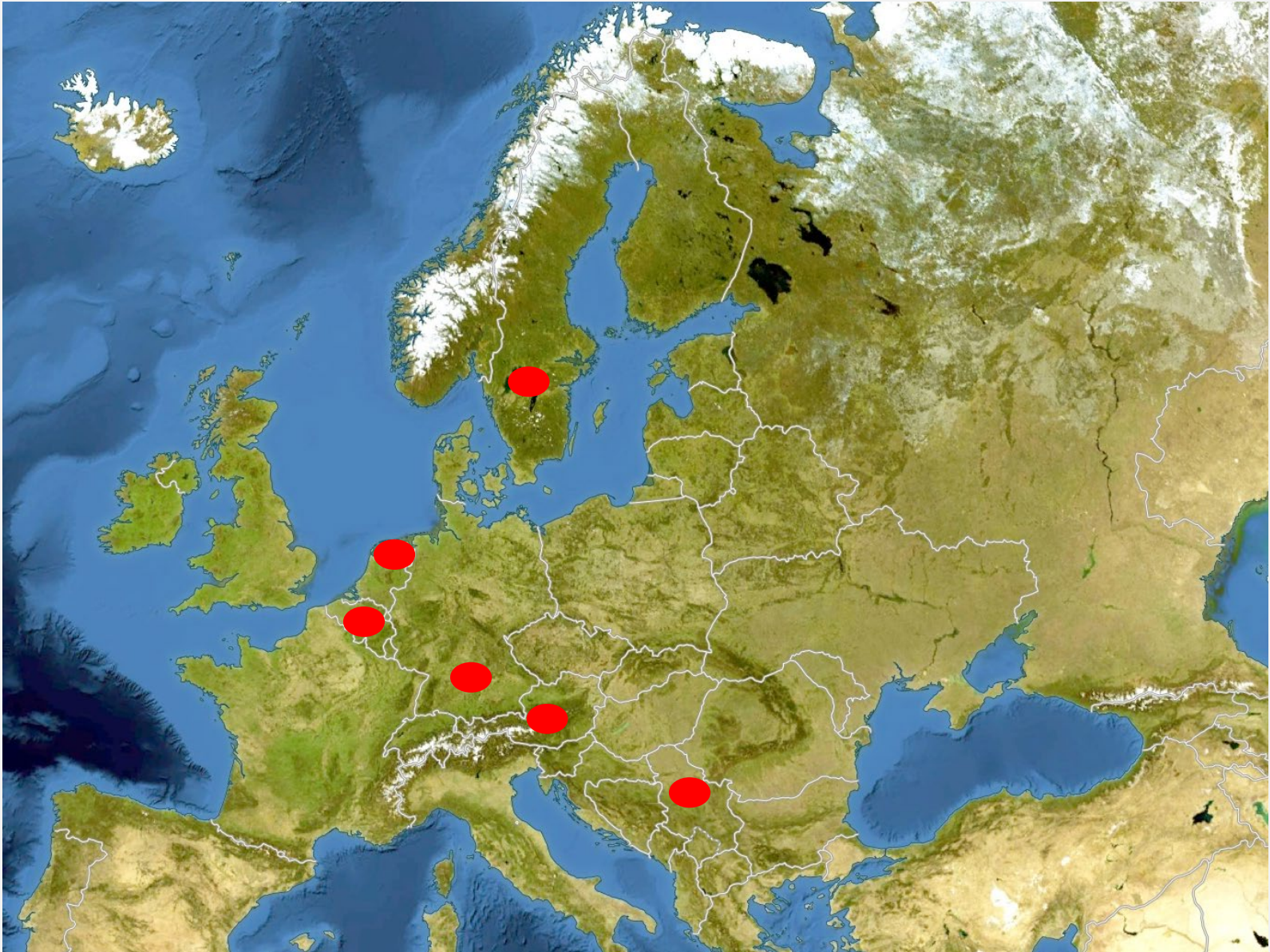


# occurrence of SDHI mutants

SDHI



Data: 2021 and previous years





# use of DSS models to control EB



**Blight Manager**

**Modified  
FAST**

**Phytophthora  
Modell  
Weihenstephan**



# observed EB tuber infections



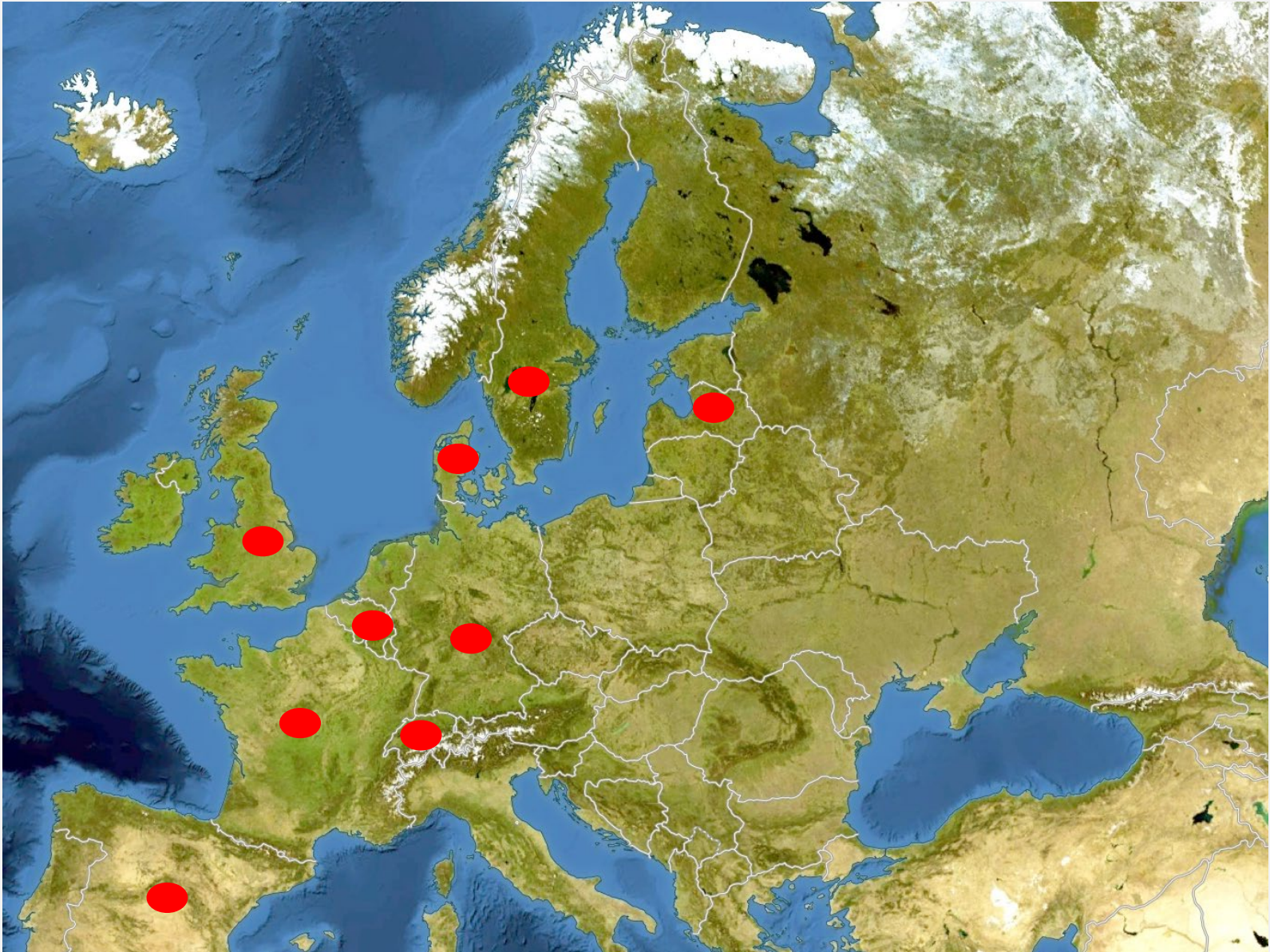


# Yield loss due to EB

yes



no





**Thank you for your attention !  
And thanks to all country editors**

