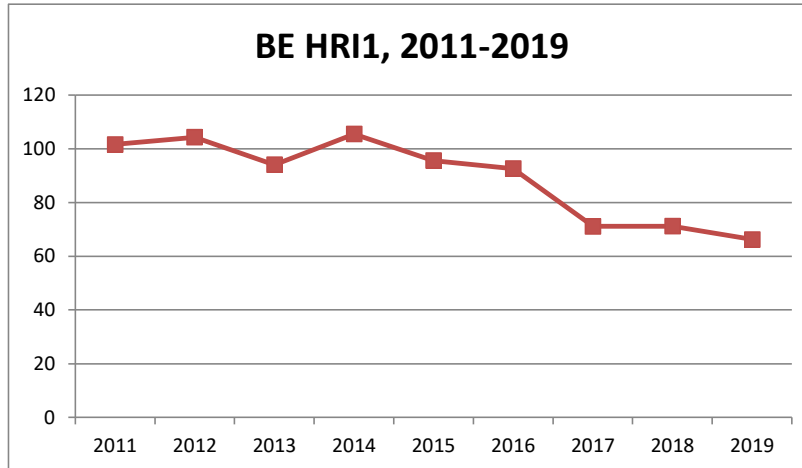


## BE HRI1, 2011-2019

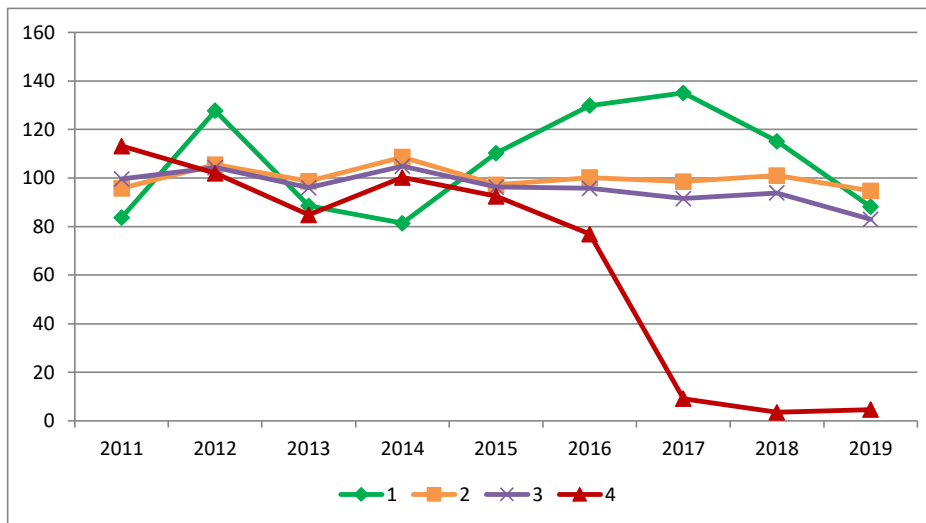
1. Evolution of the overall weighted index, with a baseline of 100, average in 2011-2013

	2011-2013	2011	2012	2013	2014	2015	2016	2017	2018	2019
BE HRI1, 2011-2019	100	102	104	94	106	96	93	71	71	66



2. Evolution of each of the 4 Groups, with a baseline of 100, average in 2011-2013

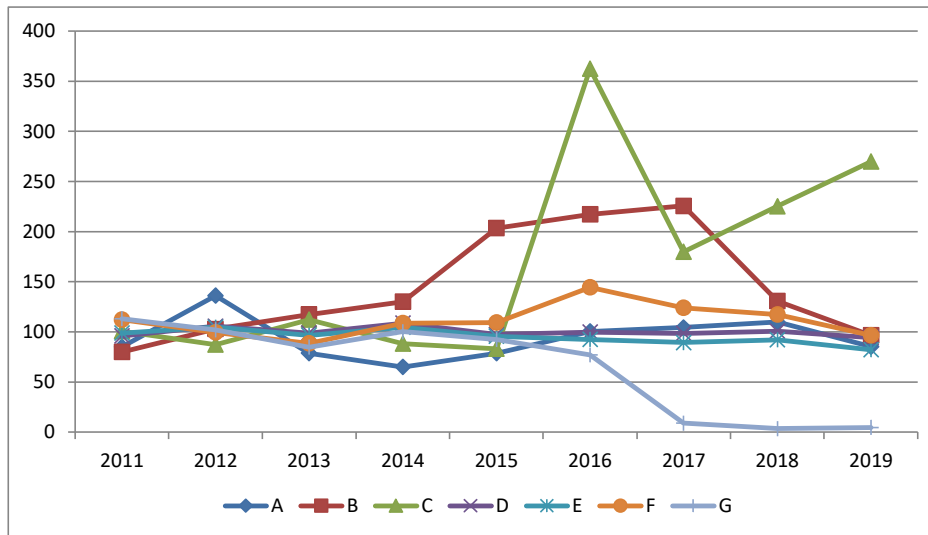
Group	2011-2013	2011	2012	2013	2014	2015	2016	2017	2018	2019
1	100	84	128	89	81	110	130	135	115	88
2	100	96	106	99	109	97	100	99	101	95
3	100	100	104	96	105	96	96	92	94	83
4	100	113	102	85	100	92	77	9	4	5



## BE HRI1, 2011-2019

3. Evolution of each of the 7 Categories, with a baseline of 100, average in 2011-2013

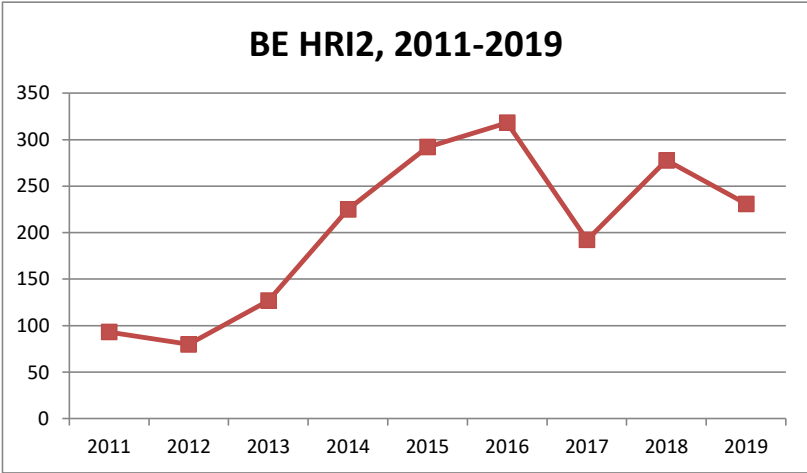
Category	2011-2013	2011	2012	2013	2014	2015	2016	2017	2018	2019
A	100	85	136	79	65	79	100	104	110	85
B	100	80	103	117	130	203	217	226	131	97
C	100	101	87	112	88	83	362	180	225	270
D	100	96	106	99	109	97	100	98	101	94
E	100	99	105	97	105	95	92	89	92	82
F	100	112	99	89	109	109	144	124	117	96
G	100	113	102	85	100	92	77	9	4	5



## BE HRI2, 2011-2019

1. Evolution of the overall weighted index, with a baseline of 100, average in 2011-2013

	2011-2013	2011	2012	2013	2014	2015	2016	2017	2018	2019
BE HRI2, 2011-2019	100	93	80	127	225	292	318	192	278	231



# BE priority items for 2019

Here are, for Belgium, the points of attention noted in 2021 from the available statistics for the period 2011-2019. These are [sales statistics](#) and HRIs as published on Phytoweb. Methodology on HRIs is available [here](#).

## HRI1

Harmonised Risk Indicator 1 (HRI1), is based on the total quantities (kg) of active substances placed on the market in the EU or in a Member State during a reference period as reported under Regulation (EC) No 1185/2009. The HRI1 is presented as an index. The reference years concerned are from 2011 until the last available reference year. HRI1 shall be calculated by multiplying the annual quantities of active substances placed on the market by the relevant weighting, followed by the aggregation of the results of these calculations.

Analysis of the sales statistics for 2019 (Table 1) tells us that half of the sales are based on ten active substances. Analysis of the HRI1 indices shows that half of the national index is based on the sale of eleven substances of which, due to the indicator's weighting factors, two are CfS. Asulam was authorized for 120 days.

Table 1 - *Major contributors (more than 1% of the total) for 2019*

Sales	HRI1
17% MANCOZEB - FU	16% MANCOZEB - FU
7% GLYPHOSATE - HE	6% GLYPHOSATE - HE
4% PROSULFOCARB - HE	4% METAM (INCL. -POTASSIUM AND -SODIUM) - NEFU
4% PARAFFIN OIL - INAC	4% PROSULFOCARB - HE
3% ALUMINIUM SILICATE - AF	3% PARAFFIN OIL - INAC
3% METAMITRON - HE	3% ACLONIFEN - HE
3% CHLOROTHALONIL - FU	3% ALUMINIUM SILICATE - AF
3% PELARGONIC ACID - HEMO	3% METAMITRON - HE
3% DIMETHENAMID-P - HE	3% CHLOROTHALONIL - FU
2% PROPAMOCARB - FU	2% PELARGONIC ACID - HEMO
2% CAPTAN - FU	2% DIMETHENAMID-P - HE
2% METAM (INCL. -POTASSIUM AND -SODIUM) - NEFU	2% FLUFENACET - HE
2% SULFUR - INFU	2% PROPAMOCARB - FU
2% ACLONIFEN - HE	2% CAPTAN - FU
2% MCPA - HE	2% ASULAM - HE
1% SULFUR - FU	2% PENDIMETHALIN - HE
1% FLUFENACET - HE	2% SULFUR - INFU
1% PENDIMETHALIN - HE	1% DIQUAT (DIBROMIDE) - HE

### Sales

1% SULFUR - ACFU  
1% S-METOLACHLOR - HE

### HRI1

1% MCPA - HE  
1% SULFUR - FU  
1% CHLOROTOLURON - HE

Legend : BE type of PPP is indicated after the “-“ for each active substance (AD: additive AF: repulsive; FU : fungicide; GR : growth regulator; HE : herbicide; HEMO : herbicide & moss killer INAC : insecticide & acaricide; INNE : insecticide & nematocide; MO: moss killer; INNEFUHE: insecticide & nematocide & fungicide & herbicide; NEFU: nematocide & fungicide); active substances of the HRI group 3 are in yellow while those of the HRI group 4 are in red; active substance in grey are those not any more approved on 10-01-2021.

Looking for the period from 2011 to 2019, the Belgian HRI1 index falls by 36 %, which should correspond to some extent to a decrease in risks. In the absence of an explanation of the weighting factors of the indicator it is impossible to say more about risk. However, it is obvious that many of the major contributors to the decrease of the BE HRI1 index are substances that have been withdrawn of the EU market in the meanwhile. With this view, HRI1 of BE will surely yet decrease simply with the withdrawal of *mancozeb*, *thiram*, *chlorothalonil* and *diquat* . Those substances make together 19% both for the sales as for the HRI1 for the year 2018 (Table 1).

Table 2 -Major contributors from 2011 to 2019

### Sales (-8%)

14% MANCOZEB - FU  
8% GLYPHOSATE - HE (+)  
5% PARAFFIN OIL - INAC  
4% CAPTAN - FU (+)  
3% METAM (INCL. -K & -Na) - NEFU (+)  
3% PROPAMOCARB - FU  
3% PROSULFOCARB - HE  
2% METAMITRON - HE  
2% THIRAM - FU  
2% SULFUR - FU  
2% CHLOROTHALONIL - FU  
2% ALUMINIUM SILICATE - AF  
2% DIMETHENAMID-P - HE  
2% IRON SULFATE - MO  
2% MCPA - HE  
1% TERBUTHYLAZINE - HE  
1% 1,3-DICHLOROPROPENE - INNE  
1% ACLONIFEN - HE  
1% S-METOLACHLOR - HE  
1% DIQUAT (DIBROMIDE) - HE

### HRI1 (-36%)

10% MANCOZEB - FU  
8% 1,3-DICHLOROPROPENE - INNE (+)  
6% GLYPHOSATE - HE  
5% METAM (INCL. -K & -Na) - NEFU (+)  
4% ISOPROTURON - HE (+)  
4% LINURON - HE (+)  
3% PARAFFIN OIL - INAC  
3% CAPTAN - FU (+)  
2% PROPAMOCARB - FU  
2% PROSULFOCARB - HE  
2% ACLONIFEN - HE  
2% METAMITRON - HE  
2% THIRAM - FU  
1% DIQUAT (DIBROMIDE) - HE  
1% SULFUR - FU  
1% CHLOROTHALONIL - FU  
1% AMITROLE (AMINOTRIAZOLE) - HE  
1% FLUFENACET - HE  
1% ALUMINIUM SILICATE - AF  
1% DIMETHENAMID-P - HE  
1% PENDIMETHALIN - HE  
1% IPRODIONE - FU  
1% AMMONIUM THIOCYANATE - HE  
1% ASULAM - HE  
1% IRON SULFATE - MO  
1% COPPER HYDROXIDE - FU  
1% MCPA - HE

Sales (-8%)

HRI1 (-36%)

| 1% TERBUTHYLAZINE - HE

Legend : BE type of PPP is indicated after the “-“ for each active substance (AD: additive AF: repulsive; FU : fungicide; GR : growth regulator; HE : herbicide; INAC : insecticide & acaricide; INNE : insecticide & nematocide; MO: moss killer; NEFU: nematocide & fungicide); active substances of the HRI group 3 are in yellow while those of the HRI group 4 are in red; (-) or (+) follows if the substance is significantly correlated to the global trend of the index; active substance in grey are those not any more approved on 10-01-2021.

Looking to the 2011-2019 period (table 2), we observe that the active substances that have been banned in the meantime count for 18% of the sales and 23 % of the HRI1.

## HRI2

Harmonised Risk Indicator 2 (HRI2), is based on the number of authorisations granted for plant protection products under Article 53 of Regulation (EC) No 1107/2009 (“emergency authorisations” for 120 days). The HRI2 is presented as an index in % compared to reference years from 2011 up to 2013. The HRI2 is calculated by multiplying the number of authorisations granted for plant protection products under Article 53 of Regulation (EC) No 1107/2009 by the relevant weighting, followed by the aggregation of the results of these calculations.

While the HRI2 for 2019 is 17 % lower than this of 2018, the indicator shows a growth of 231% for the reference period considered. This is a clear increase, to be sure, and it is necessary to look the results in detail to learn from it. Fluctuations in the indicator can be explained in particular when looking at the details of emergency authorisations. There was a very large increase (from 5 to 25) in the number of authorisations for PPPs containing group 2 substances. The raise in number of emergency authorisations can be explained on the one hand by the ever continuing banning of active substances on the EU level for which sometimes no alternatives are (yet) available; hence, emergency authorisations could be needed to keep the banned substances available. On the other hand, those not yet authorised alternatives could need to be made available sooner by means of emergency authorisations, awaiting regular authorisations or extensions of use.

Table 3 - Contributors to HRI2 for the period 2011-2018

HRI2 selected substance (#)	Years									
	2011	2012	2013	2014	2015	2016	2017	2018	2019	
<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>1</b>		
Pepino mosaic virus strain CH2 isolate 1906	1	1	2	1	2					
Trichoderma atroviride strain SC1						2	1	1		
<b>2</b>	<b>6</b>	<b>4</b>	<b>3</b>	<b>8</b>	<b>8</b>	<b>12</b>	<b>13</b>	<b>26</b>	<b>25</b>	
(Z)-9-Tetradecen-1-yl acetate									1	
1-Decanol	1									
Azadirachtin		1								
Benzoic acid	2	2								
Carfentrazone-ethyl								1		1
Chlorantraniliprole			1	1						
Chloridazon	1									

HRI2 selected substance (#)	Years									
	2011	2012	2013	2014	2015	2016	2017	2018	2019	
Chlorpyrifos		1	1	1	1					
Clothianidin								2	2	
Cyantraniliprole					1	1	4	5	4	
Cyazofamid						1				
Emamectin							1	1		
Ethephon	1			1		1				
Ethylene			1	3	3	4		3		
Flonicamid						1	1	1	1	
Fosetyl						1				
Lime sulphur (calcium polysulphid)					1	1	1	2		
Mancozeb								1	1	
Metalaxyl-M				1	2	2	2	2	2	2
Pelargonic acid (CAS 112-05-0)								1		
Penoxsulam							1	1		
Spinetoram							1			
Spinosad				1						
Spirotetramat							2	1	1	
Thiamethoxam								4	4	
Thiram	1									
fluopyram										1
1-Naphthylacetic (1-NAA)										1
(Z)-11-hexadecenal										1
phosmet										1
pelargonic acid										1
sulfuryl fluoride										2
imidacloprid										2
<b>3</b>				<b>1</b>	<b>2</b>	<b>2</b>	<b>4</b>	<b>4</b>	<b>1</b>	
Aclonifen								1		
Dimethoate						1	1			
Epoxiconazole				1	1					
Fludioxonil					1	1	1	1	1	1
Metam (incl. -potassium and -sodium)							2	2		
<b>4</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>1</b>	
1,3-Dichloropropene	1	1	1	1	2	2				
Asulam			1	1	1	1	1	1	1	1
Chloropicrin				1	1	1				
<b>Total</b>	<b>8</b>	<b>6</b>	<b>7</b>	<b>13</b>	<b>16</b>	<b>20</b>	<b>19</b>	<b>32</b>	<b>27</b>	