Bee death incidents and possible reasons in Hungary

2013-2019

Anna RÓNAI

National Food Chain Safety Office

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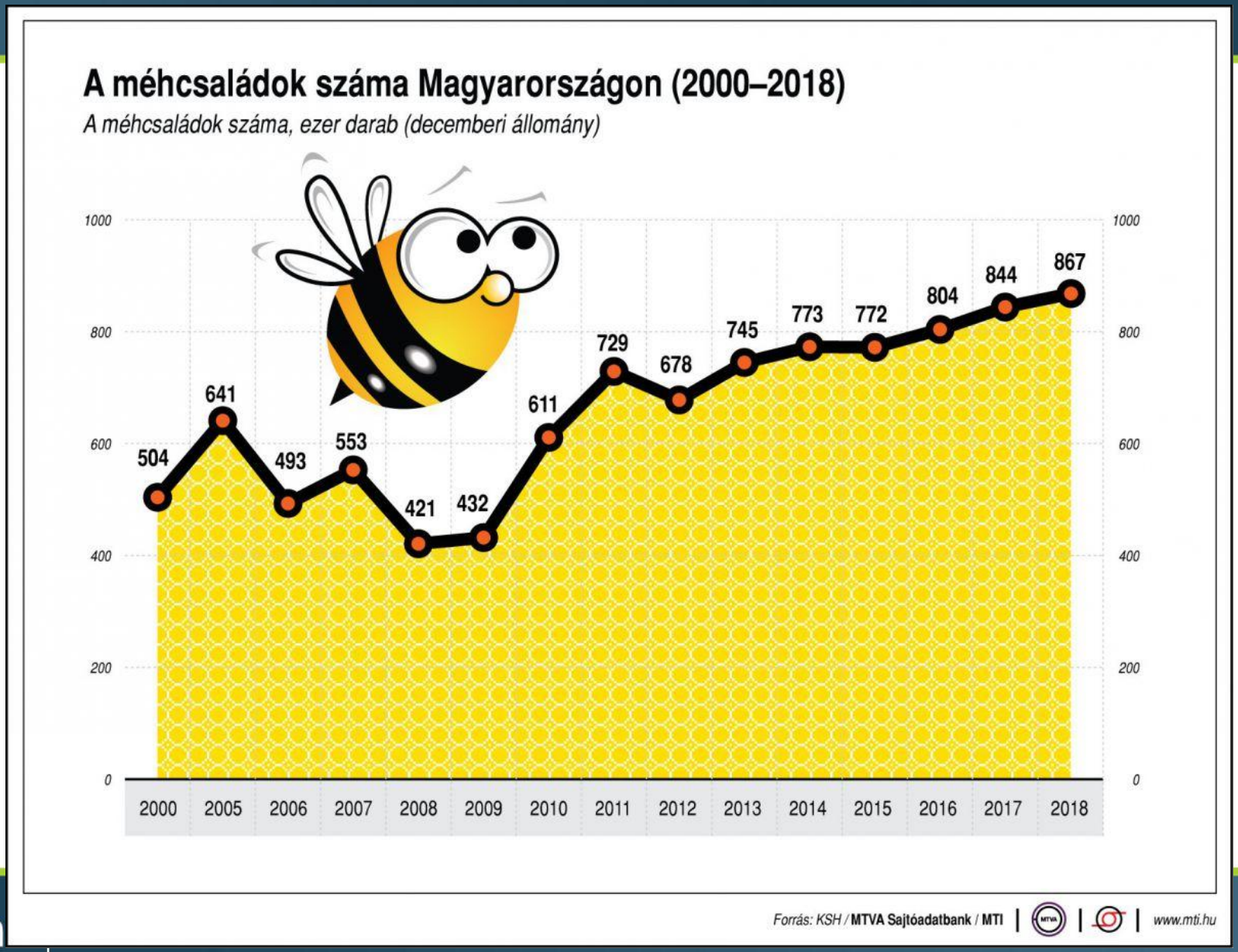
Contents

Importance of beekeeping in Hungary

- **18-20 000** beekeepers - livelihood
- 1 % of agricultural production of Hungary
- **20-25 000** tons of honey - EU **150-200 000** tons
- Hungary: **12** bee colonies/km^2
  - Germany: 1,99 /km2
  - France: 2,99 /km2

Importance of beekeeping in Hungary



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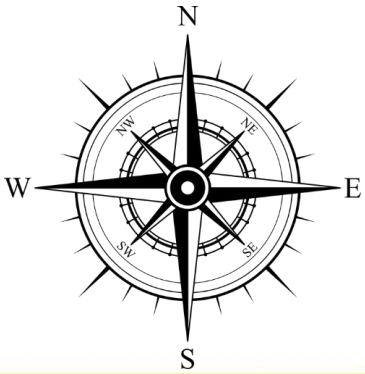
Guidance for the investigation

Method:

- Since 2013 '**Investigation guidance**' - main principles of the investigation (sampling, handling of the samples, handling of the results etc.)
- Samples analyzed for more than 200 active substances
- All bee death/poisoning incidents are evaluated by the veterinary diagnostic laboratory and by the ecotoxicology experts of the **NFCSO**

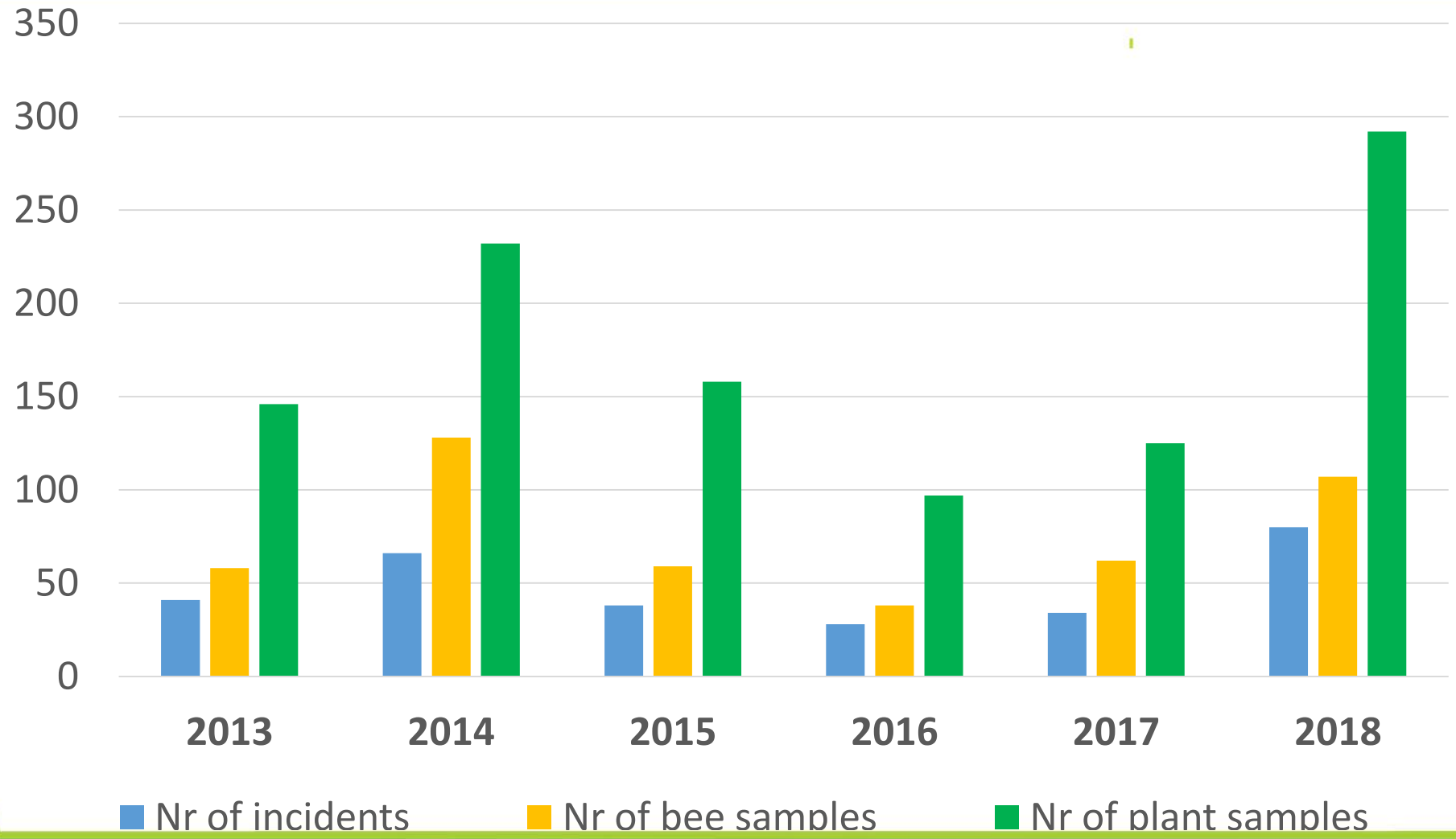
- Summary report



Statistics from 2013 to 2018

	2013	2014	2015	2016	2017	2018
Nr of reported incidents	41	66	38	28	34	80
Nr of bee samples	58	128	59	38	62	107
Nr of plant samples	146	232	158	97	125	292
Nr of bee samples containing insecticide dangerous to bees	23	110	17	13	27	47
Nr of non-complying plant samples	11	62	8	22	24	34
Nr of cases where cause could be established	3	24	3	1	7	7

Statistics from 2013 to 2018



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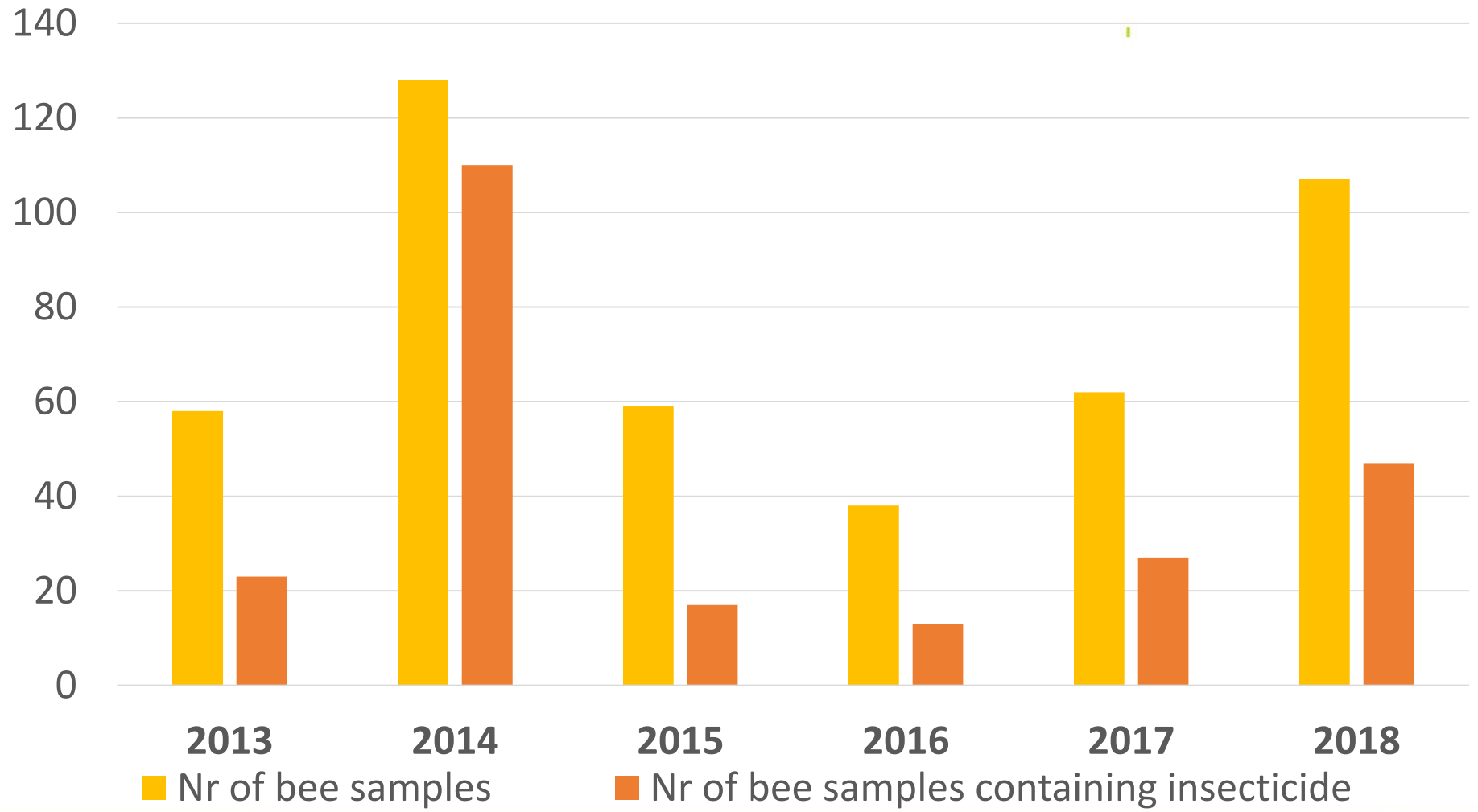
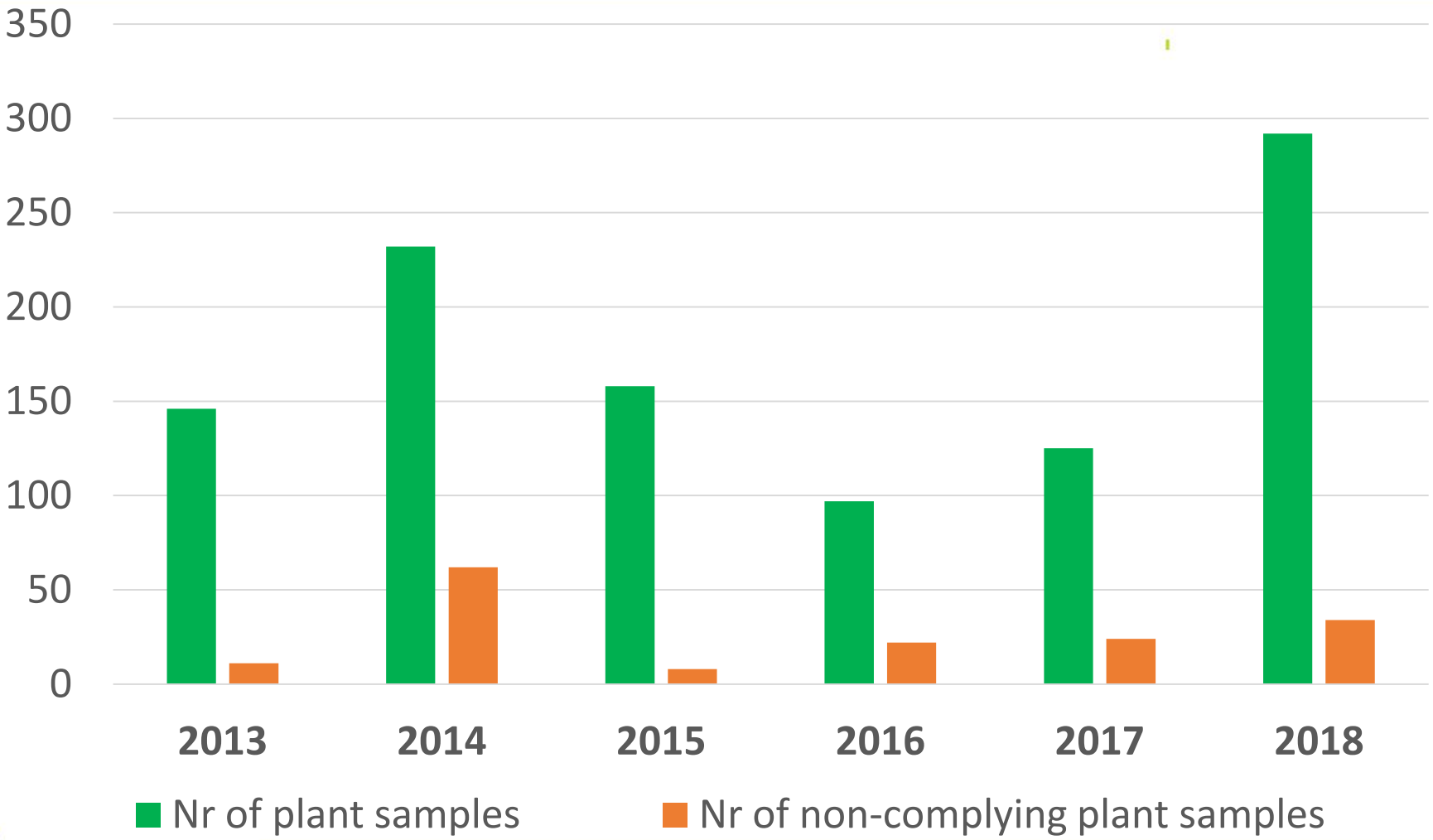


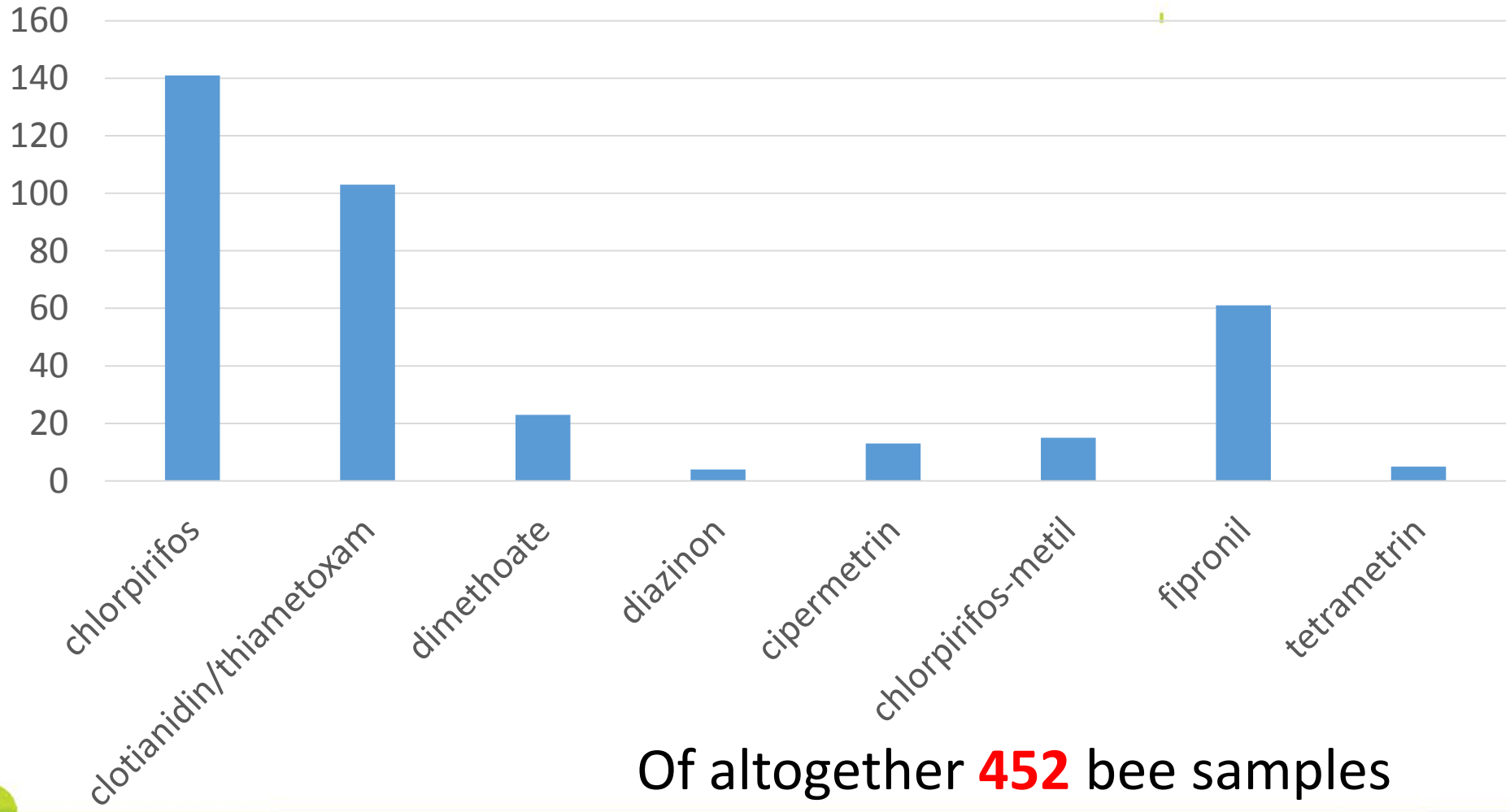
Statistics from 2013 to 2018



Active substances found in bee samples

Nr. of samples						
	2013	**2014**	**2015**	**2016**	**2017**	**2018**
chlorpyrifos	14	80	9	10	10	18
thiamethoxam/ clothianidin	19	30	3	2	18	31
dimethoate	3	14	1	2	2	1
diazinon		3				1
cypermethrin	2	2	1		6	2
chlorpyrifos-methyl		2	1	2	1	9
tefluthrin	1					
fipronyl	1	58	1			1
tetramethrin		1			2	2
sulfotep			1			
endosulfan				1		
dichlorfos				1		
indoxacarb						1
pirimicarb						1

Active substances found in bee samples

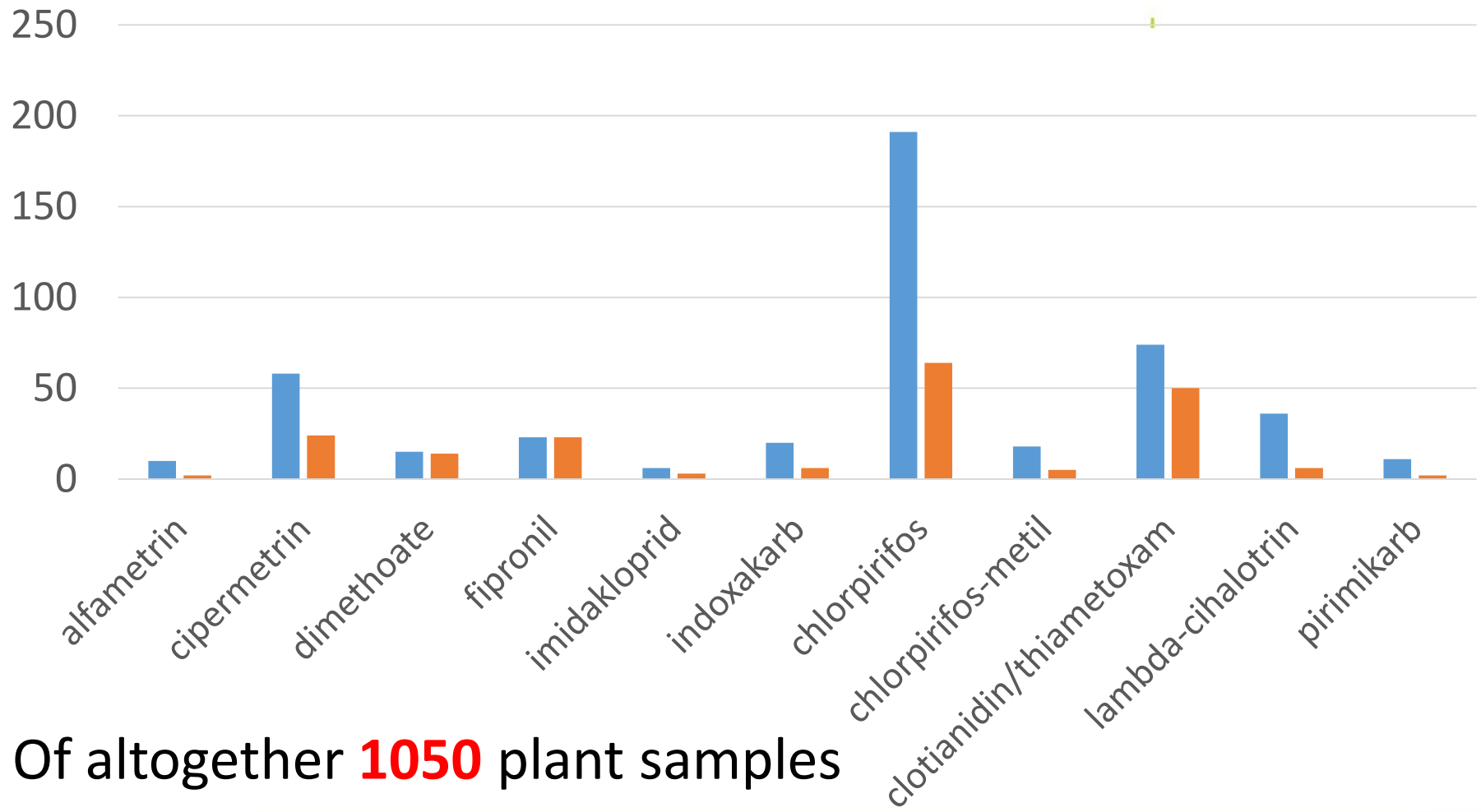


Of altogether **452** bee samples

Active substances found in plant samples

Active substance	2013.		2014.		2015.		2016.		2017.		2018.	
	Nr of samples	Non-complying	Nr of samples	Non-complying	Nr of samples	Non-complying	Nr of samples	Non-complying	Nr of samples	Non-complying	Nr of samples	Non-complying
alfamethrin	0	**0**	4	**0**	0	**0**	2	**2**	4	**0**	0	**0**
bifenthrin	1	**1**	0	**0**	0	**0**	0	**0**	0	**0**	0	**0**
cipermethrin	6	**2**	28	**9**	1	**1**	0	**0**	12	**8**	11	**4**
deltamethrin	0	**0**	1	**0**	2	**0**	1	**1**	1	**0**	5	**1**
diazinon	1	**1**	0	**0**	0	**0**	0	**0**	0	**0**	0	**0**
dimethoate	0	**0**	8	**8**	2	**1**	3	**3**	2	**2**	0	**0**
esfenvalerat	0	**0**	2	**0**	0	**0**	0	**0**	0	**0**	0	**0**
fipronyl	0	**0**	23	**23**	0	**0**	0	**0**	0	**0**	0	**0**
imidakloprid	0	**0**	0	**0**	1	**1**	0	**0**	2	**2**	3	**0**
indoxacarb	3	**0**	3	**0**	3	**1**	2	**0**	3	**1**	6	**4**
chlorpirifos	12	**4**	83	**22**	16	**2**	17	**12**	34	**16**	29	**8**
chlorpirifos-metil	0	**0**	5	**0**	0	**0**	5	**1**	3	**1**	5	**3**
clotianidin/ tiametoxam	10	**5**	23	**21**	5	**4**	0	**0**	8	**5**	28	**15**
lambda-cyhalothrin	6	**0**	7	**0**	5	**0**	6	**1**	7	**5**	5	**0**
pirimicarb	0	**0**	8	**0**	0	**0**	3	**2**	0	**0**	0	**0**

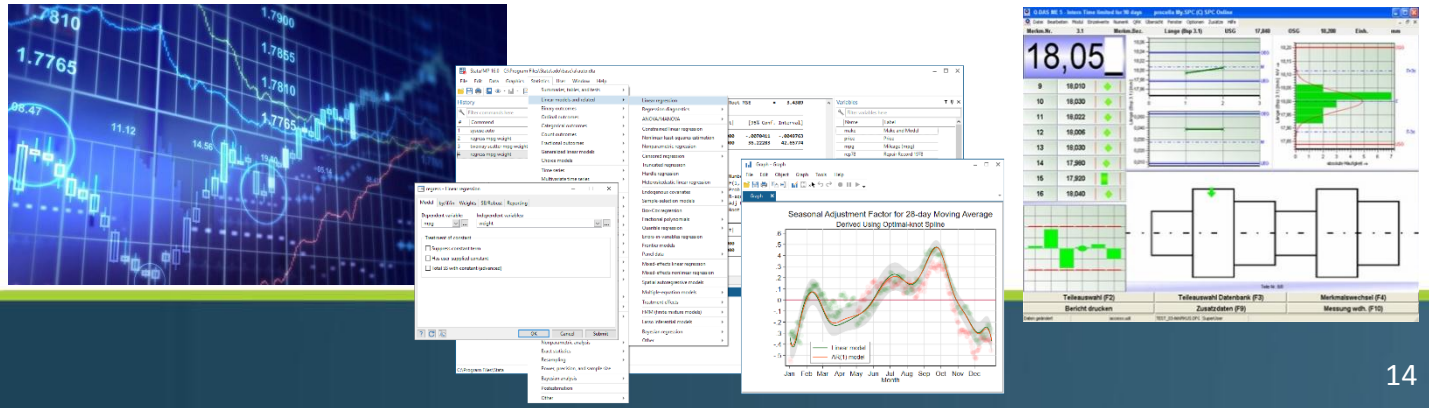
Active substances found in plant samples



Of altogether **1050** plant samples

Bee death incidents 2018

- More than 400 beekeepers reported bee loss
- 160 beekeepers provided information on the bee losses
- More than 12 000 plant growers' spraying logs were collected
- The data is being analyzed by the Agricultural Economics Research Institute
- Results are expected at the end of 2019



Bee death incidents 2019

- Fipronyl contamination in acaricides
  → Serious bee losses in January and February

- According to the Hungarian Beekeeper Association less bee poisoning incidents than in 2018
- However we received more than 80 notification in 2019

- Processing…

Summary

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Summary

☹ Bad news:

- Number of succesful investigations is low
- Many unknown circumstances

☺ Good news:

- The bee losses are still low compared to the entire Hungarian bee population

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termőföldtől
az asztalig

Thank you!