

MINISTRY OF
AGRICULTURE

Neonicotinoid Actualities in Hungary

András Gyeraj

Plant protection expert

Gábor Szalkai – Ministry of Agriculture, Budapest, Hungary
Gábor Tőkés - National Food Chain Safety Office, Budapest, Hungary
József Kiss - Szent István University, Gödöllő, Hungary



MINISTRY OF
AGRICULTURE



Neonicotinoids

The European Commission restricted the use of three neonicotinoids on 24 May 2013 based on the regulation 485/2013/EU.

3 neonicotinoid active substances:

- thiamethoxam (Syngenta)
- clothianidin (Bayer)
- imidacloprid (Syngenta)

- + fipronil /phenylpyrazole/ (not a neonicotinoid)



Main reasons for the restriction

Increased bee mortality in the EU:

- bee disease?
- climate change?
- plant protection products (PPPs) and their residues (neonicotinoids, fipronil)?
- and unknown factors?

EFSA scientific opinion: These neonicotinoids and fipronil pose risk to the bees under certain exposure routes.

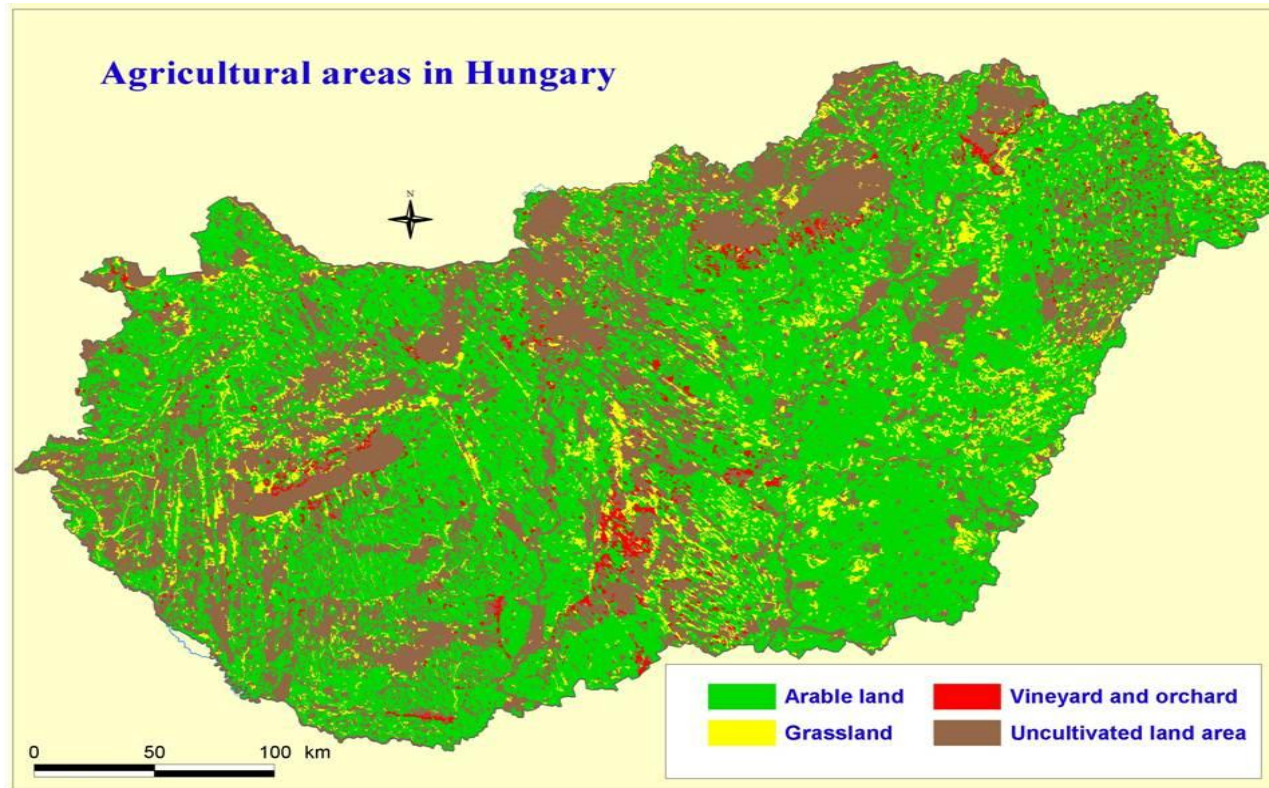
—————> dust drift while sowing

—————> translocation of pesticide active substances (pollen, nectar, guttation)

Further decision on neonicotinoids by the EU is expected in the beginning of 2016.



MINISTRY OF
AGRICULTURE



Total area: 9.3 million ha
Productive land: 7.3 million ha
Utilised Agricultural Area: 5.3 million ha
Arable land: 4.3 million ha



MINISTRY OF
AGRICULTURE



Arable land: 4.3 million ha

Crops attractive to/visited by bees:

- maize: 1.16 million ha
- sunflower: 0.63 million ha
- oil seed rape: 0.23 million ha





Main restrictions in use of the 3 neonicotinoids

Restrictions in crops attractive to/visited by bees:

- banned seed dressing
- banned soil treatment
- foliar application only after flowering of crops attractive to bees

Only with expert use: (in Hungary) category I, II of PPPs

Greenhouse use:

- allowed up to 5 days before flowering, and after
 - not permitted during flowering
-



MINISTRY OF
AGRICULTURE



Dust drift

In 2010 restrictions in the provisions concerning the authorisation documents

- Use of deflector on pneumatic planters channels dust to the soil surface
- Sowing in strong winds banned
- Stronger glue use by the producer

AIM: to minimise dust drift





MINISTRY OF
AGRICULTURE

Difficulties of restrictions

1. *Diabrotica virgifera virgifera* LeConte (WCR):
 - first detection in Mórahalom, Hungary (1995)
 - high infestations
 - large grain/silage and seed maize area
~1.1-1.2 million ha
 - neonicotinoids provided good protection level against WCR

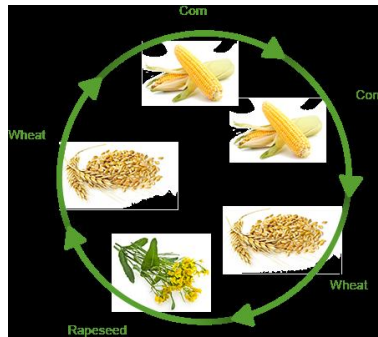




MINISTRY OF
AGRICULTURE

Control options in maize

crop rotation



soil treatment



foliar
application



Under development:
orientation/mating disruption, biocontrol products

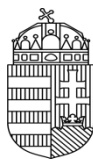




Difficulties of restrictions

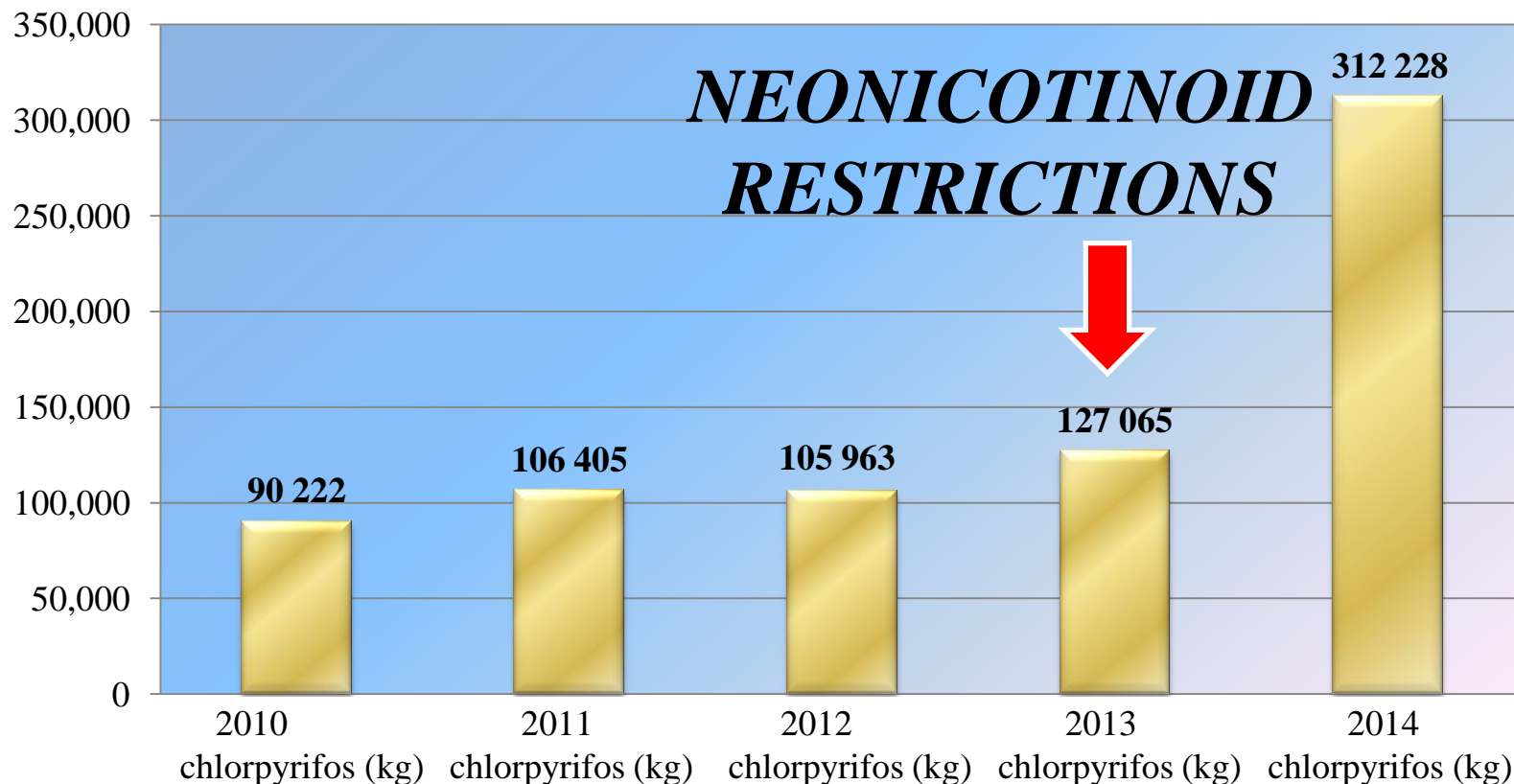
2. Other control options in maize, sunflower and oil seed rape (OSR) are often less effective and/or more expensive or not marketed yet

3. The chlorpyrifos and other PPPs used for foliar application pose higher environmental risk than neonicotinoids.



MINISTRY OF
AGRICULTURE

Use of chlorpyrifos in Hungary



Quantities of chlorpyrifos in plant protection products between 2010-2014

Source : NÉBIH



MINISTRY OF
AGRICULTURE

Honeybee stock and beekeepers in Hungary

Year	Nr. Of beekeepers	Nr. Of bee colonies	Density (colony/km ²)
1991.	19 923	716 394	7,7
1992.	19 013	725 615	7,8
1993.	17 598	674 230	7,2
1994.	16 970	646 826	7,0
1995.	16 887	669 438	7,2
1996.	15 372	604 797	6,5
1997.	15 677	642 078	6,9
1998.	16 672	690 345	7,4
1999.	17 087	806 539	8,7
2000.	16 597	840 235	9,0
2001.	16 325	896 563	9,6
2002.	15 576	881 610	9,5
2003.	15 302	872 650	9,4
2004.	16 371	942 316	10,1
2005.	15 975	910 873	9,8
2006.	15 764	897 670	9,6
2007.	16 083	934 486	10,0
2008.	15 894	868 135	9,3
2009.	16 440	943 824	10,1
2010.	17 541	997 022	10,7
2011.	18 782	1 065 860	11,5
2012.	18 976	1 133 100	12,2
2013.	19 241	1 063 066	11,4





MINISTRY OF
AGRICULTURE



Importance of beekeeping

- 18 - 19000 beekeepers – livelihood
- 18 - 24000 tons of honey
- In Hungary – 12 bee colonies /km²

Year	honey production (tons)
1991.	10 023
1992.	10 742
1993.	15 873
1994.	16 236
1995.	16 050
1996.	15 811
1997.	15 653
1998.	16 739
1999.	16 013
2000.	15 165
2001.	11 337
2002.	15 200
2003.	21 000
2004.	19 504
2005.	19 714
2006.	17 319
2007.	15 996
2008.	22 394
2009.	22 000
2010.	16 500
2011.	24 500
2012.	17 500
2013.	18 500





MINISTRY OF
AGRICULTURE



Bee poisoning incidents 2015

33 bee poisoning incidents were reported

- 54 bee samples and
- 149 plant samples were collected.

**In 12 out of 54 bee samples (8 bee poisoning incidents)
insecticide residue was detected**

Active substances in the bee samples: chlorpyrifos, chlorpyrifos-methyl, thiacloprid, cypermethrin, dimethoate, tau-fluvalinate, piperonyl butoxide



MINISTRY OF
AGRICULTURE

Bee poisoning incidents 2015

149 plant samples

7 sample's residues hazardous to bees

Crop	Active substances
undergrowth - <i>Lamium purpureum</i>	thiamethoxam
OSR	cypermethrin, chlorpyrifos
oil radish	imidacloprid
flowering weeds in pear tree plantation	thiamethoxam
flowering weeds	thiamethoxam
maize	thiamethoxam
sunflower	dimethoate, omethoate



MINISTRY OF
AGRICULTURE

Hungarian Chamber of Professionals and Doctors of Plant Protection

- Over 3000 Plant Protection Experts
- Unique organization in the EU
- 19 county organizations in Hungary

Main tasks:

- Professional advice and consultation with farmers
- Education/training for farmers
- Operation of the Plant Protection Forecasting Network
- Experts involved in official survey and monitoring program against quarantine pests
- Management and control of *Ambrosia artemisiifolia*



MINISTRY OF
AGRICULTURE

Future considerations for the Hungarian plant protection

- Sustainable use of plant protection products is very important
- Professional, reasonable and environmentally friendly plant protection in Hungary
- We fulfill the restrictions: we have not granted any emergency authorisations for neonicotinoids till now but there is a high pressure from the farmers
- We still have reservations about the restrictions
- Farmers are facing with difficulties





MINISTRY OF
AGRICULTURE

***Thank you for your
attention!***



andras.gyeraj@fm.gov.hu