



Swedish bee monitoring programme -findings and scope

Susanne Ekroth 7-8 November Madrid, Spain





Analytical scope in honey 2011-

Veterinary drugs

Heavy metals

Pesticides

Chloramphenicol

Chlortetracycline

Doxycycline

Oxytetracycline

Sulfadiazine

Sulfadimethoxine

Sulfadoxine

Sulfamethazine

Sulfathiazole

Tylosin

Lead

Cadmium

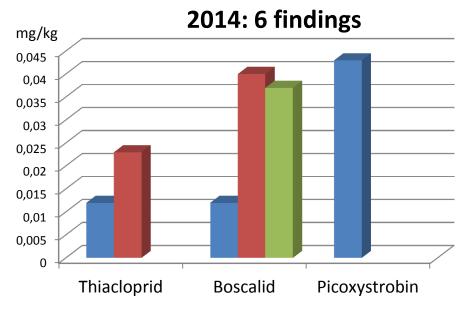
etc

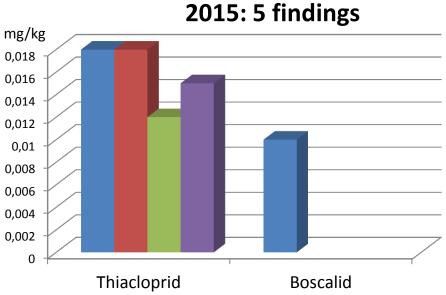
300 LC-MS/MS

150 GC-MS/MS



Pesticides in honey







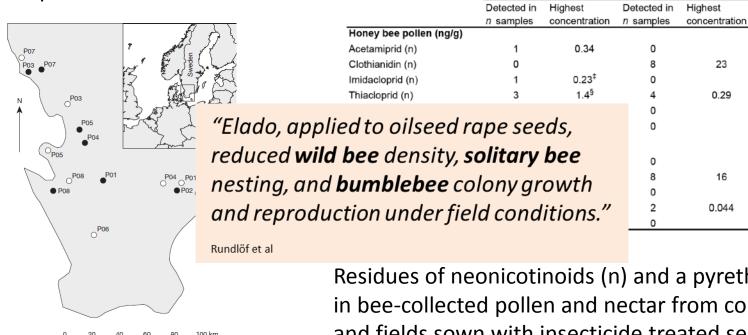
Neonicotinoids – Colony Collapse Disorder (CCD)

- Neonicotinoids nearly 40% of global insecticide market.
- Neuro-active insecticides, chemically similar to nicotine.
- Linked to adverse ecological effects includding CCD
- Acetamiprid
- 2. Clothianidin
- 3. Imidacloprid most widely used insecticide in the world
- 4. Nitenpyram
- 5. Nithiazine
- Thiacloprid
- 7. Thiamethoxam
- 8. Dinetofuran

Elado		Conc (%)
Beta-Cyfluthrin	Systemic Neonicotinoid	6,51
Clothianidin	Non-systemic Pyrethroid	32,5

"Seed coating with a neonicotinoid insecticide negatively affects wild bees

Oilseed rape fields in southern Sweden



Residues of neonicotinoids (n) and a pyrethroid (p) in bee-collected pollen and nectar from control fields and fields sown with insecticide treated seeds.

Control $(n = 8 \text{ fields}^*)$

Insecticide seed coating

(n = 8 fields)

"Our findings have important implications for policies regulating the use of neonicotinoids and risk assessments of pesticides."

LOQ

0.24

1.5

0.90

0.21

0.30

0.10

0.50

0.50

0.10

0.50

0.080

0.50

0.30

0.070

0.10

1.0

0.033

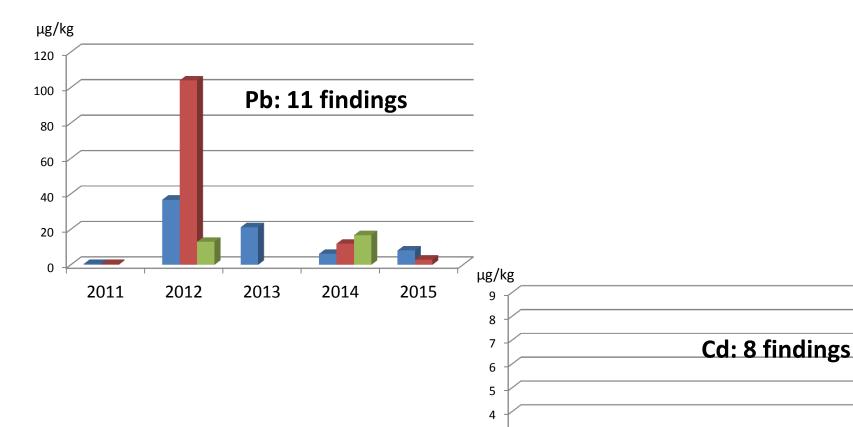
0.17

0.17

0.033

0.17

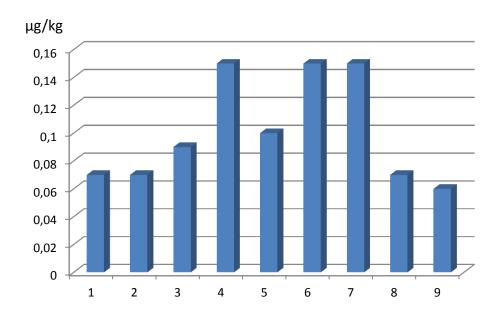
Heavy metals in honey





Chloramphenicol

$$O_2N$$
 O_2N
 O_2N

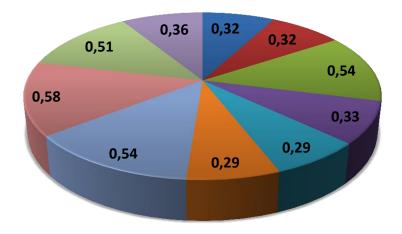


Reported findings of Chloramphenicol from 2011—2014 in honey in Sweden.



Chloramphenicol

$$O_2N$$
 O_2N
 O_2N

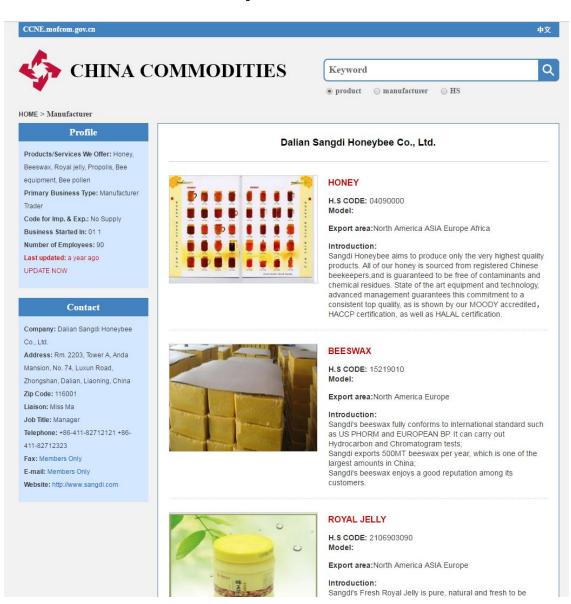


Imported beeswax from China containing Chloramphenicol (ug/kg) 2014. Beeswax to Swedish factory dealing beeswax, candles, wax impregnated cloths.

RASFF 2014.



Import of beewaxes from China



Import of 12 000 kg beewaxes from Dalian Sangdi Honeybee Co, Zhejiang Dalian, China



Beeswax





MS Biredskapsfabriken

Tel 0506-102 73 Fax 0506-100 04 info@biredskapsfabriken.se

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SALE

WE BUY YOUR BEESWAX! 65 SEK/KG, VAT EXCLUDED

Welcome to our shop in Töreboda on 300 m² Opening hours:

Mon 9:00-18:00, Tis-FFre 9:00-16:00 closed for lunch 12:30-13:30

Our range includes more than 4000 items you can have delivered right to you. In our online store, you can shop around the clock, all year round, easily with fast delivery.

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Total: 0 kr

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Glass bottle 500 ml, with 43 mm lid

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Plastic scraper, large

Price 23.00:-



Bucket support, wide

Price 214.00:-



My beekeeping - workbook for study leaders

Price 171.00:-



35.00:-



Beeswax sheets

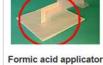
150.00:-

More info



Formic acid evaporator professional

205.00:-



Formic acid applicator

52.00:-More info

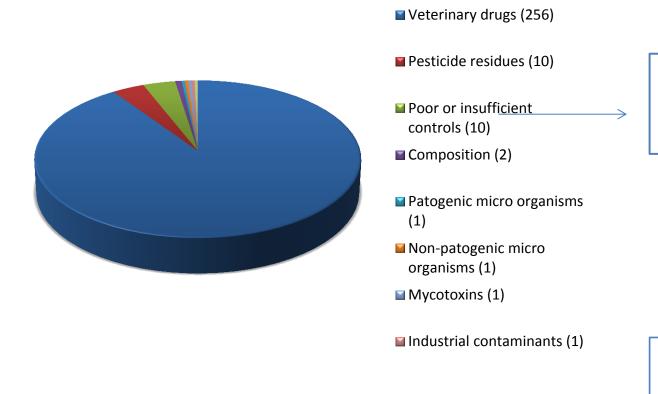
Campaign



300.00:-360.00:-



RASFF notifications 2006—2016 Honey and royal jelly



Rusty barrels
Dead insects in honey
Bad hygiene
Bad preservation

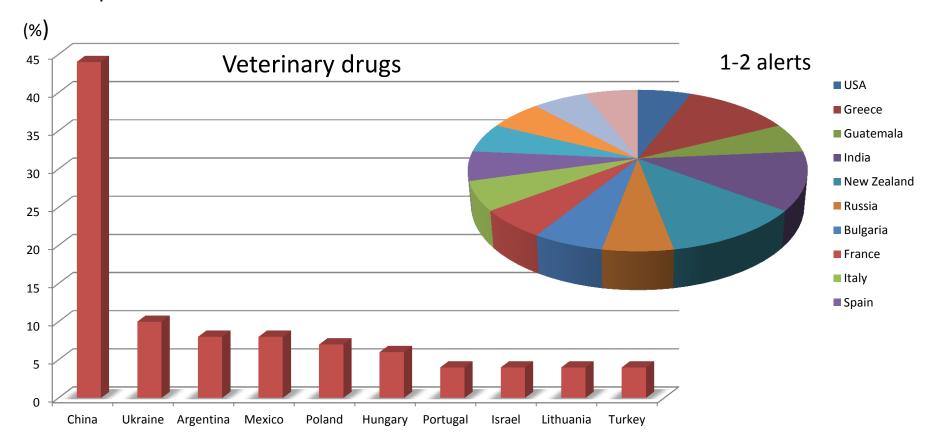
No alerts

Parasitic infestation Heavy metals Chemical contamination Biotoxins



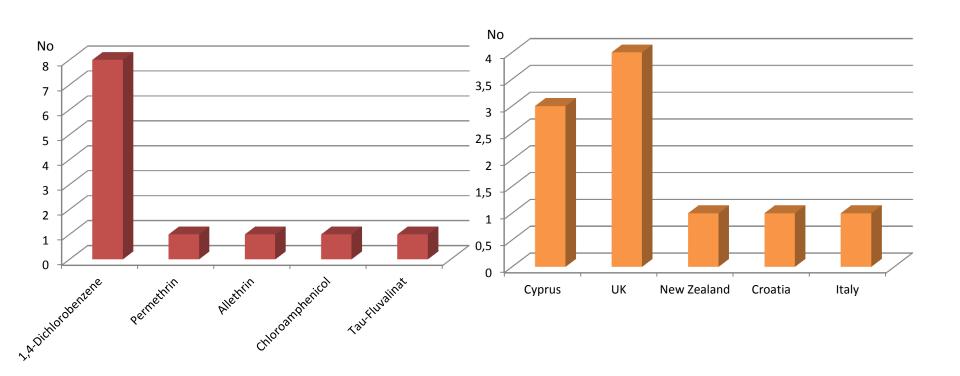
RASFF – produced by

Alert 10 top list





RASFF notifications 2006-2016 for pesticides





Monitoring in Nordic Countries

Analyses of 20-30 samples per year for both antibiotics and pesticides.

- Norway, one finding 2012 with DDT 0,014 mg/kg from Ethiopia
- Denmark, no findings of pesticides over MRL
- Finland, Sulfoamines. Scope for pesticides has increased from <30 (2014) to 120 pesticides (2016). In addition analyses with findings of Dimethoat (200-600 ug/kg), Clothianidine, Thiacloprid, Lamda-Cyhalotrin (low levels but in most sample).



ank you for your attention!

