



Collaborative models: industry engagement

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Industry Bee Health Activities



Stewardship

**Pollinator
habitat,
forage
(biodiversity)**

**Control of
pathogens
and parasites
(inc.
veterinary)**

**R & D
and
Post-
registration**

Awareness raising & outreach

Stakeholder Platform on Bee Health

Industry Participants:

- Individual companies
- National assoc's
- ECPA

Collaboration Stakeholders

- Researchers
- Farmers
- Food Industry
- NGOs

Engagement:

- Local
- National
- Pan-European
- Global

Stewardship

Seed Treatment Stewardship

Individual Companies, ESTA + Farmers

In addition to normal PPP label instructions/guidance on:

- Deflector technology to minimize dust emission at sowing
- Best practice & setting quality standards for seed treatment plants

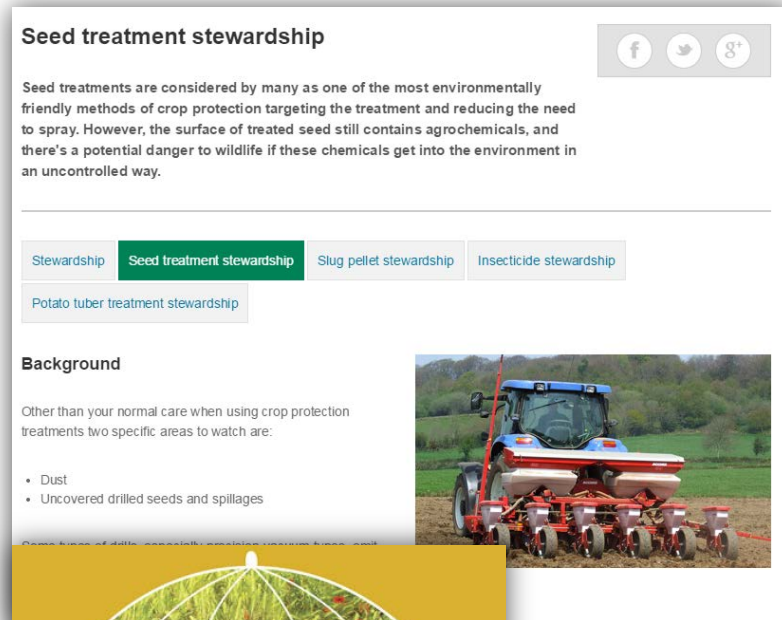
BayerCropScience

- End user support/training, in the seed treatment plant & on the field
- 'Hotlines' & online support

Foliar Spray Stewardship

Industry Companies + farmers

- Pollinator friendly spraying
- Training & promoting Drift Reduction Technology - **Dow AgroSciences – 80% increase in uptake of low drift nozzles in Italy & UK**
- Support & development of Dropleg technology to minimize exposure of bees to foliar sprays e.g. **Syngenta, Bayer**



Seed treatment stewardship

Seed treatments are considered by many as one of the most environmentally friendly methods of crop protection targeting the treatment and reducing the need to spray. However, the surface of treated seed still contains agrochemicals, and there's a potential danger to wildlife if these chemicals get into the environment in an uncontrolled way.


Stewardship **Seed treatment stewardship** Slug pellet stewardship Insecticide stewardship

Potato tuber treatment stewardship

Background

Other than your normal care when using crop protection treatments two specific areas to watch are:

- Dust
- Uncovered drilled seeds and spillages



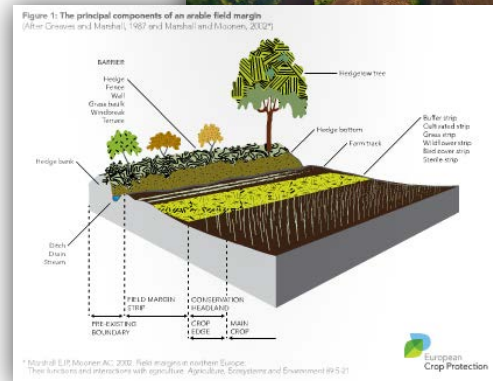
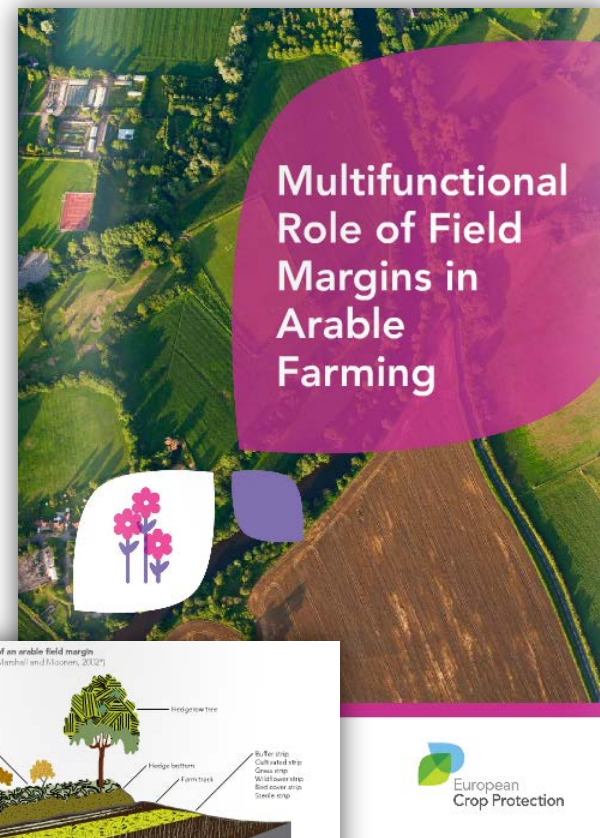
SAY NO TO DRIFT



Habitat, forage (biodiversity)

Multifunctional Role of Field Margins in Arable Farming (ECPA – Providing Information)

- European literature review.
- Descriptions of the different types of field margins (FM).
- How FM implementation can be optimised for different conservation objectives – inc. **honey bee and other pollinators**



Habitat, forage (biodiversity)

Operation Pollinator

(Syngenta + Sainsburys,
Unilever, CEH, DEFRA,
Wildlife Farming Company)

International program to boost
number of pollinating insects on
commercial farms.

Creates specific FM habitats,
tailored to local conditions &
native insects.

- Flowering plant seed mixes
- FM Management advice

Qualifies for Env Subsidies
under e.g. CAP



Scientific Project
2001-2004



- Bee popln up 600%
- Regeneration of rare *Bombus ruderatus*
- Butterflies up 12 fold
- Other pollinating insects rose 10 fold

Roll-out in UK
2005-2008



- 570 Farmers joined
- 1000 ha of margins
- Partner - Sainsbury's
- Link to UK subsidy scheme

Roll-out across Europe
2009 - 2014



- 8 new countries (PT, ES, FR, CH, IT, UK, DE, HU) & USA
- Target 10k ha margins
- Partners - Governments, Univer, Food Chain etc.

Stewardship

Habitat, forage (biodiversity)

INSPIA

(ECPA + ECAF - European
Conservation Agriculture Federation
IAD - Institut de l'Agriculture Durable)

European Index for Sustainable Productive Agriculture

- Provide index of farm sustainability based on a set of verifiable indicators eg:-
 - provision of pollinator habitat and forage
 - optimised use of pesticides
- Demonstrate that BMPs help to achieve sustainability in European agriculture
- Productivity not forgotten – BMPS deliver benefits for productivity and biodiversity
- Validate, demonstrate, communicate BMPs
- 58 project farms in ES, FR, BE & DE



Habitat, forage (biodiversity)

Farm4bio

(Syngenta, BASF, BCS, BASF, Dow, DuPont, BTO, Rothamsted, DEFRA, HGCA, Processors and Growers Research Organisation & The Arable Group.)

- Does pro-active habitat management with advisory back up lead to higher levels of biodiversity?
- Are there relationships between the proportion of uncropped land and levels of biodiversity, and can thresholds be identified?
- How should this land be arranged in the landscape?



The screenshot shows the GWCT website with a navigation menu including Fishing, Farming, Game, Wildlife, Blogs, Research & Surveys, Events, Join, and Donate. The main content area features a 'Latest News' sidebar and a featured article titled 'Hedges, edges and woodland feed the bees' needs' dated 30 April 2015. The article text states: 'A new study published in the science journal Biological Conservation identified that double the amount of uncultivated land currently being devoted to bees and other pollinators on farmland needs to be created to boost declining insects such as bees, butterflies and hoverflies. The five-year study, which formed part of the Farm4bio project, and carried out by entomologists from the Game & Wildlife Conservation Trust (GWCT) and Rothamsted Research, suggests that at least a seven per cent increase in flower-rich habitat is needed in order to double pollinator abundance. The study was carried out in two regions of England - Wessex and East Anglia.'

“Research, suggests that at least a seven per cent increase in flower-rich habitat is needed in order to double pollinator abundance. “

Control of pathogens & parasites (inc. veterinary)

Solutions for the control of the Varroa mite:

Monsanto

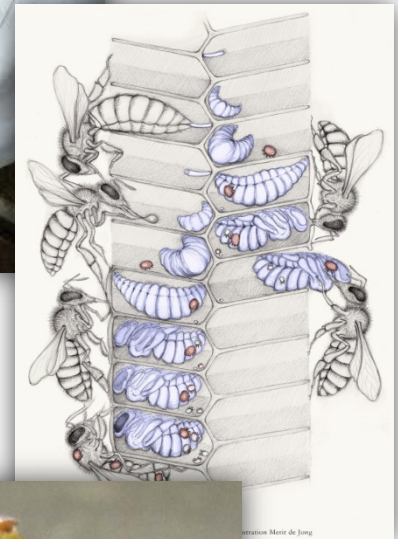
- *BioDirect™* (new technology in R&D)

BASF

- *MAQS™* Beehive Strip (formic acid)

Bayer CropScience

- Supporting Arista foundation Bee Research on Varroa Resistant Honeybees
- VarroaGate (new method of delivery of acaricide)
- Exploration of new varroacidal active ingredients



Post-registration Activities

Monitoring:

Syngenta & BCS funding CEH large-scale monitoring study investigating impact of Neonic-treated oilseed rape on honeybees, bumble bees & solitary bees in UK, Germany & Hungary. Sunflower & Neonic Honeybee monitoring in Spain with INIA & Univ Cordoba.



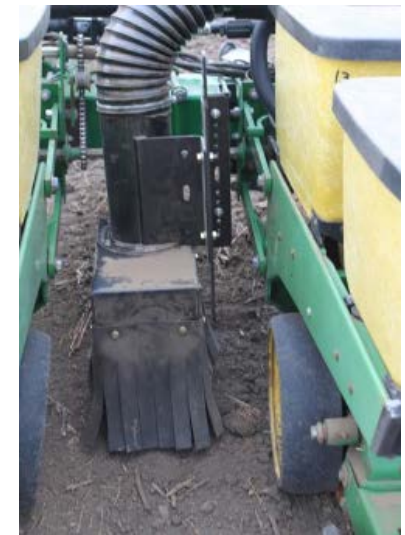
Risk Mitigation:

BCS & Syngenta developing new technology to reduce dust exposure of bees during drilling of neonic treated seeds: i.e. driller deflectors; seed fluency agents; dust removal technology.

Research Projects

Syngenta + Rothamsted, Exeter University, Warwick University, Helmolz University
Developed a Honeybee Colony Population Model

Syngenta + Southampton University developing a honeybee tracking device



Outreach

Pollination Station (ECPA)

www.pollination-station.eu

Providing Publically Available Information

Pollinators & Agriculture (ECPA)

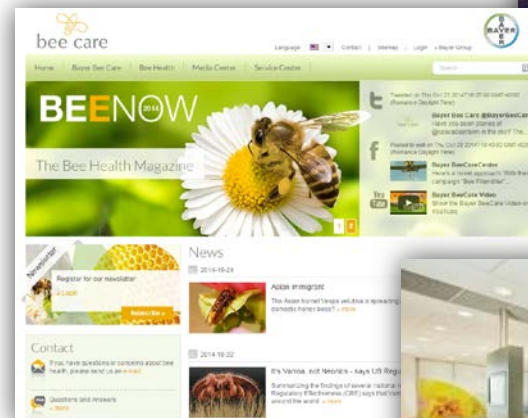
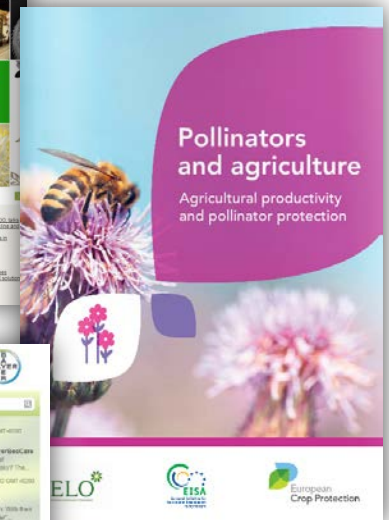
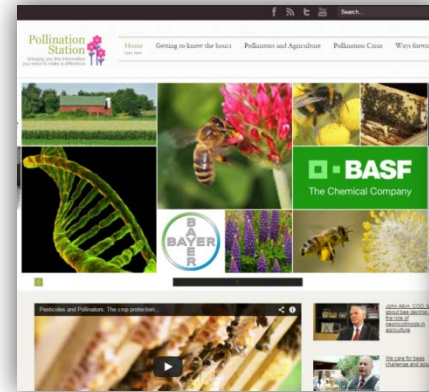
- Report – relationship between pollinators and agricultural production eg describes BMPs for pollinator protection, promotion

Bayer Bee Care Centre(s) (Bayer CropScience)

- Monheim, DE
- North Carolina, USA

Publishing of Company Bee Data

e.g. Maus et al. 2003, Schmuck et al. 2005, Maus 2008; Pilling et al, 2013; Thompson et al 2015; Thompson & Miles, 2015;



Stakeholder Platform on Bee Health

Participants to the platform:

- Academics
- Beekeepers
- ECPA
- European Commission (observer).
- NGOs
- Organic farmers
- PPP Industry
- Veterinary medicine Industry



Objectives of the Platform:

- Collection of existing bee health related projects and activities (i.e. monitoring /surveys in the EU and beyond.
- Organisation of a dedicated workshop to guide next steps- to provide recommendations to contribute to bee health improvement in Europe. (Q2 2016)

Thank you for your attention!