

Field Trial to Measure the Effects of Neonicotinoid Seed Dressings on Honeybees



Site selection criteria

Draft 1.0; 26 June 2014

Selection process

1. Search Bayer/Syngenta/Eurofins databases for growers ≥ 45 ha oilseed rape
2. Telephone interview (points 1-6)
3. Site inspection (points 7-11)
4. Submit site assessment form for approval
5. Contract with grower

Telephone interview (complete attached form – Annex 1)

1. Is the grower interested in participating in the field trial based on the summary description and offer below?

Summary field trial description for grower
<ul style="list-style-type: none">• This is an independent field trial to measure any effects of commercial neonicotinoid (NNI) seed dressings on honeybees.• The trial will involve growing oilseed rape treated with either Cruiser OSR[®] or Modesto[®] seed treatments and comparing this with a rape crop receiving just a fungicide seed treatment (untreated control).• Treated/untreated seed will be supplied free to the grower.• The crop will be grown under a full experimental licence allowing for it to be sold on the open market.• Depending on the size of the farm we may ask you to grow one, two or all three treated rape crops on different parts of your farm.• The crop will be grown using Good Agricultural Practice specified by the project team.• The project team will need to make frequent visits to the crop and place honeybee hives in the centre of the crop.• The location of the field trials will remain anonymous.
Offer to the grower
<ul style="list-style-type: none">• We will provide free seed of the selected study variety (treated with NNI or not treated) to sow 45-75 ha.• [depending on negotiation] we will pay a premium of 5% to 10% of the crop value for the treated and untreated field(s) up to a maximum of 10000 € per treated/untreated crop of 45-75 ha.

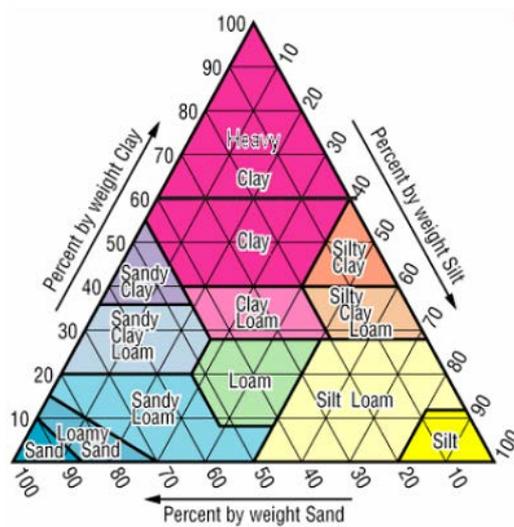
2. Do they grow oilseed rape in **discrete/separate** patches of **45-75ha** (comprising either a single field or group of adjacent fields)?
3. **Agronomic history:** i) have they grown crops treated with Imidacloprid seed dressing (e.g. Tripod PLUS[®] on cereal; Gaucho[®] on sugar beet, Chinook[®] on rape) on this land in the **last three years**? ii) Is the current crop treated with a Clothianidin or Thiamethoxam seed treatment (e.g. Redigo Deter, NipsIT on winter wheat)?

4. Are they prepared to establish and manage the crop variety supplied free according to a **Good Agricultural Practice** protocol. This will include drilling the crop at a specified seed rate, the use of some specified pesticide products, and keeping good records of inputs.
5. Is the grower prepared to have honeybee hives in the middle of the oilseed rape crop? (this may require leaving a central strip through the crop c.3m wide left unsown and cut to allow access). Is there good vehicle access to the study field(s)?
6. Does the grower have a crop plan or good knowledge of what crops that will be grown around the proposed study field(s) next season (approximately 1km radius)? **We need to exclude other oilseed rape crops and crops attractive to bees in spring (e.g. winter beans) from a 1km radius around the study field(s).**

Site inspection (complete attached form – Annex 1)

7. **Description of the study field(s):** number of fields, accurate location (lat. Long. – use Google earth - http://www.google.co.uk/intl/en_uk/earth/) current crop & condition.

Soil type: make a simple field assessment of soil type using the 13 categories below:



Code	Texture
1	clay (heavy)
2	silty clay
3	clay
4	silty clay loam
5	clay loam
6	silt
7	silt loam
8	sandy clay
9	loam
10	sandy clay loam
11	sandy loam
12	loamy sand
13	sand

8. **Soil sample for NNI residue analysis:** take a single bulked soil sample from each of the proposed study fields for analysis of NNI residues.
From each field collect 20 soil samples using a gauge auger (e.g. Pürkhauer) to plough depth (c. 20cm) across the whole field. Place the samples in a labelled bag (site name, co-ordinates, project GTZW20140201-01). Thoroughly mix the soil and reduce to 100 g for analysis (keep the remaining soil in a labelled bag for re-analysis). Within one week send the sample by express air freight to:

SOFIA GmbH
 Rudower Chaussee 29
 D-12489 Berlin

Label each sample as follows:

SOFIA GmbH

Rudower Chaussee 29

D-12489 Berlin

Project: GTZW20140201-01

Test: PSFSF (soil analysis for imidacloprid, thiamethoxam and clothianodin (LOQ 0.005 mg/kg)

Turnaround time: 2-3 days

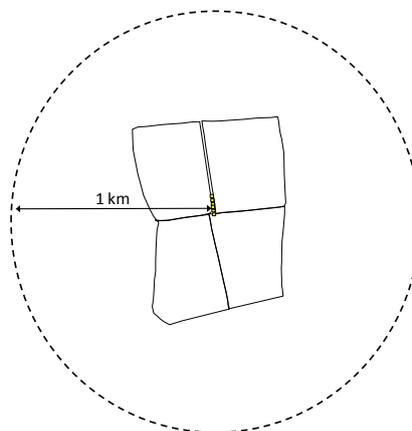
Sponsor contact. [REDACTED] /Eurofins Agroscience Services GmbH

Site name:

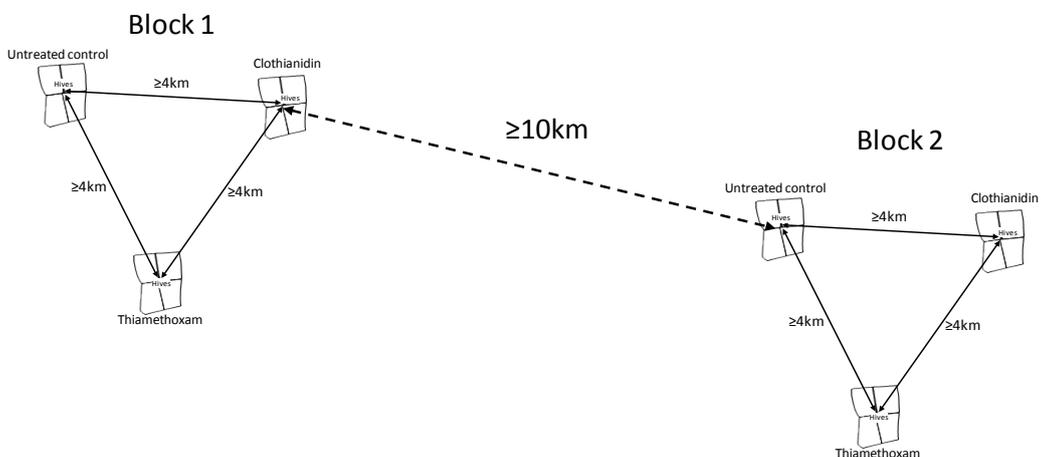
Site coordinates:

9. **Landscape description:** using the categories on the form characterise the surround land use. We are looking for predominantly arable land within each block (>50%).

10. **Surrounding crops.** Please attach a crop plan (autumn 2014 / spring 2015 sowing) for the land surrounding the study field(s). We particularly wish to avoid oilseed rape crops within a 1km radius of centre of study field(s) (hive location):



11. **Separation:** confirm there is sufficient separation ($\geq 4\text{km}$) between treated/untreated study field(s) ('Treatments') and $\geq 10\text{km}$ separation between clusters of three treatments ('Blocks') (see Annex 2 – glossary of terms):



Annex 1: Site assessment record

Telephone interview					
Grower contact details:					
Name:					
Address:					
Telephone:					
E-mail:					
1. Interested in taking part in the trial					
2. Number of discrete/separate patches growing oilseed rape of 45-75ha					
Area of patch(s) (approximately)		Patch	No. fields	Total area (ha)	
3. Agronomic history: i) have they grown crops treated with Imidacloprid seed dressing (e.g. Chinook®) on this land in the <u>last three years</u> ?		If so, what product and when			
ii) Is the current crop treated with a Clothianidin or Thiamethoxam seed treatment (e.g.....).		If so, what product and when			
4. Prepared to establish & manage crop according to a Good Agricultural Practice protocol.		Comments:			
5. i) Prepared to have honeybee hives in the middle of the oilseed rape crop? ii) Prepared to establish/maintain access path in centre of crop		Comments: Comments:			
6. Crops surrounding trial field(s) 2014/15					
Site inspection					
7. Detailed site description:					
Patch identifier	No. fields	Total area (ha)	Location (<i>centre of field(s) Lat. Long.</i>)	Condition (e.g. wheat stubble)	Soil type (categories 1-13)

8. Soil sample(s) taken according to guidelines for NNI residue analysis	Comments:				
9. General landscape description around study field(s) 1-2km	<i>Land use</i>		Approx. %		
	<i>Arable</i>				
	<i>Improved grassland</i>				
	<i>Unimproved grassland</i>				
	<i>Forest</i>				
	<i>Orchards</i>				
	<i>Urban</i>				
	<i>Other (name)</i>				
10. Surrounding crops: Confirm no untreated oilseed rape crops within 1km radius of centre of study field(s) for 2014/15 Mark fields where crop unknown on map Add contact details of neighbouring farmers on map (name, phone number)	Comments:				
11. Separation distances: i) Confirm separation (≥4km) between treated/untreated study field(s) ('Treatments') ii) Confirm separation between blocks (≥4km) (if applicable)	Comments: Comments:				
12. Number of sites approved	Comments:				
13. Proposed compensation	€				
14. Estimated drilling date(s)					
15. Recommendation (to be completed by CEH)					

Please attach site maps / cropping plans etc

E-mail Site Assessment Form to Richard Pywell at Centre for Ecology and Hydrology:

rfp@ceh.ac.uk

Annex 2: Glossary of terms

Treatment = a field or group of fields with a total area of between 45-75ha growing oilseed rape. There are three separated treatments (1. no NNI; 2. Clothianidin; 3. Thiamethoxam). The experiment comprises a total of 36 treated fields/groups of fields.

Block = a replicate of the three treatments situated within a similar landscape. There are FOUR blocks per country (Total = 12)