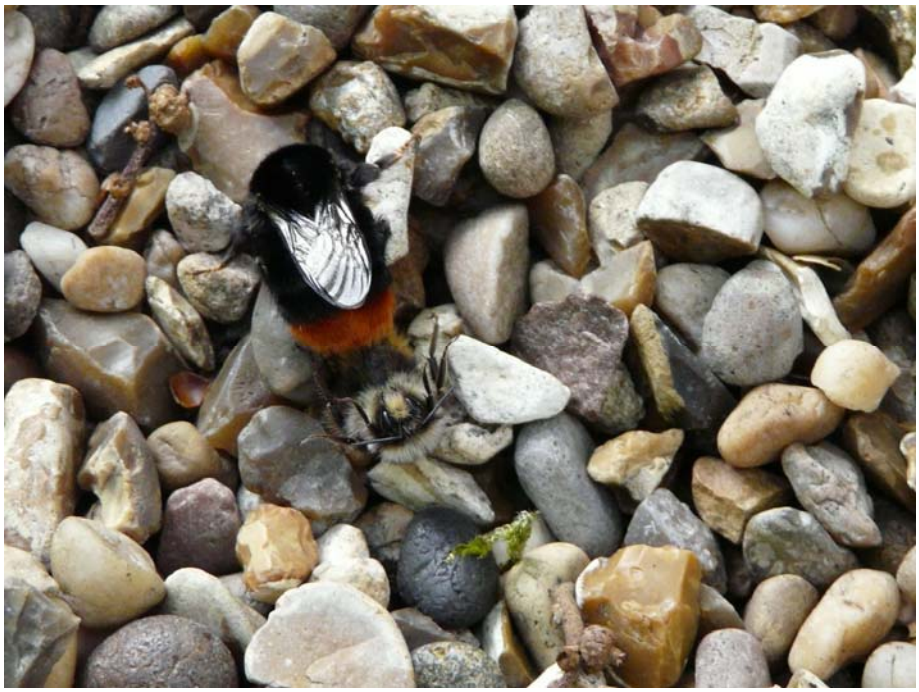
THE ESSEX BEEKEEPER



Bombus Lapidarius mating—photo taken by Geoff Mills

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Essex Beekeeper's Association

The Essex Beekeepers' Association is a registered charity whose object is to further the craft of beekeeping in Essex.

President

Derek Webber

Trustees

Chairman: Ms Pat Allen, 8 Frank's Cottages, St Mary's Lane Upminster, Essex RM14 3NU
Email chair@ebka.org tel. 01708 220897

Secretary: Position vacant

Treasurer: Richard Ridler, Rundle House, High St., Hatfield Broad Oaks, Bishops Stortford, CM22 7HE email treasurer@ebka.org tel. 01279 718111

Divisional Trustees

Richard Alabone, 11 St. James Park, Chelmsford CM1 2JG
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Daphne Wardle, Apton Hall, Canewdon, Rochford SS4 3RH
Mrs Pat Rowland, 29 Mill Lane, Cressing, Braintree, Essex CM77 8HP

Divisional Contacts

To contact a regional division:

Braintree: Nobby Clark, 01277 220561
Colchester: Lydia Geddes, 01206 392226
Southend: Ann Cushion, 07909-965117
Romford: Pat Allen, 01708 220897
Epping Forest: Jenny Johns 07944 755658
Chelmsford: Jean Smye, 07731 856361
DH & Maldon: Jean Smye, 07731 856361
Harlow: Eric Fenner, 01245 420622
Saffron Walden: Jane Ridler, 01279 718111

Essex Beekeeper's Magazine

Editor: Howard Gilbert Glencairn, Eastside Boxted Colchester CO4 5QS
email editor@ebka.org

Advertising, Distribution and Mailing Secretary: Mary Heyes, email advertising@ebka.org
tel. 01702 588009

Web site: Stuart Youngs email webmaster@ebka.org

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Regional Bee Inspector for EBKA

Epping Forest and Romford Divisions (excluding Brentwood):
Alan Byham a.byham@fera.gsi.gov.uk tel. 01306 611016 or 07775 119447
All other Divisions:
Keith Morgan keiith.morgan@fera.gsi.gov.uk tel. 01485 545838 or 07919 004215

December 2009 and January 2010

3 Dec. *Thursday 7.30pm* **Harlow** at Kings Church Red Willow. A talk by Mr C. Wright and organising for the AGM.

4 Dec. *Friday 8.00pm* **Romford** Chadwick Hall, Main Road, Gidea Park. Christmas Social.

9Dec. *Wednesday 7.30pm* **Braintree** Tabor Science College Panfield Lane, Braintree CM7 5XP Microscopy Group Meeting.

11 Dec. *Friday 8.00pm* **Braintree** at the Constitutional Club. A Social evening—please bring some nibbles

17 Dec. *Thursday 7.30pm* **Epping Forest** at Chingford Horticultural Society Hall, Larkshall Road, Chingford. This will be our Christmas Social and all are welcome to attend. Please contact Helen Chadwick by email or telephone so that we know the numbers to cater for.

21 Dec. *Monday 7.30pm* **Chelmsford** at Link Hall, Methodist Church, Rainsford Rd., Chelmsford CM1 2XB. Meet your Mentor. Following on from the beginners theory course, this is an opportunity for the beginners to be paired up with an experienced beekeeper and ask those questions that have been puzzling them. Passing on your knowledge, guiding and encouraging bee-ginners are the most important contributions we can make to ensure the continuation of our craft.
Note:
No meetings in November for Colchester, Southend, Maldon or Saffron Walden.

4 Jan. *Wednesday 7.30pm* **Southend**. AGM for Southend Division followed by a Quiz.

8 Jan. *Friday 8.00pm* **Romford** Chadwick Hall, Main Road, Gidea Park. AGM for Romford Division followed by a debate 'Why take the BBKA Basic Assessment?' chaired by Jim McNeill.

21 Jan. *Thursday 7.30pm* **Epping Forest** at Chingford Horticultural Society Hall. This will be our AGM when the officers will be giving reports about the years events and voting for the officers for 2010 will take place.

22 Jan. *Friday 7.15pm* **Saffron Walden** at Dunmow Day Centre, Gt. Dunmow CM6 1AE. Annual Dinner and AGM

28 Jan. *Thursday 7.30pm* **Colchester** at Langham Community Centre. AGM for Colchester Division.

29 Jan. *Friday 8.00pm* **Braintree** at the Constitutional Club. AGM for Braintree Division.

Report and Results of the National Honey Show
Jim McNeill

Didn't we do well this year in the National Honey Show! Eric Fenner won the Hamlin Cup for 24 jars of honey in the World Class—the first time it has come to an Essex beekeeper. Also Jim McNeill took the Apis Club Commemoration Cup for 12 jars as for sale in the World Class, both were in big classes.

Its a pity we cannot get a bit more support from Essex beekeepers as the show is not that far away; both Eric & I were up against competitors from Poland & Yugoslavia. Out of 500+ members we had 9 members who entered the show. 5 from Romford, 2 from Harlow, 1 from Epping and 1 from Saffron Walden it's not very many is it, especially as I had offered to take entries up to London for you!

There were more exhibitors this year but not so many exhibits, I hope all who went up to see the show had an enjoyable day, and had time to go to some of the excellent lectures and workshops; You could spend all your money at the trade stands. All these make the national such a wonderful show.

I would like to think that a few more members will exhibit next year , you don't even have to have bees or honey to enter some classes so lets try a bit harder in 2010.

Essex Classes

class 181 one shallow comb extracting
1st Pat Allen
3rd Ted Gradosielski

class 182 two jars light honey
1st Ted Gradosielski
2nd Romford Division

class 183 two jars medium honey
1st JimMcNeill
2nd Romford Division
3rd Ted Gradosielski
VHC Michael Barke
C Terence Watson

class 184 two jars dark honey
1st Ted Gradosieslski

class 185 Three jars of different honeys
1st James McNeill
2nd Ted Gradosielski
3rd Eric Fenner

class 186 two jars set honey
1st James McNeill
2nd Eric Fenner
3rd Romford Division

class 189 one jar gift honey
1st Eric Fenner
2nd James McNeill
3rd Ted Gradosielski
VHC Michael Barke
HC Pat Allen
C Romford Division

class 193 one bottle dry mead
1st Eric Fenner
2nd Terence Watson

class194 one bottle sweet mead
1st James McNeill
2nd Eric Fenner
3rd Terence Watson

Open Classes

Eric Fenner	1st	**class 1** 24 jars honey
James McNeill	1st	**class 4** 12 jars honey as for sale
	1st	**class 105** two jars soft set honey
	1st	**class 242** two jars soft set honey
	2nd	**class 241** two jars medium honey
	2nd	**class 76** two jars soft set honey
	VHC	**class 12** wo jars medium honey
	VHC	**class 243** 1 jar liquid honey
Ted Gradosielski	HC	**class104** two jars naturally crystallised honey
Arthur Huggins	HC	**class 59** colour print not close up

Sugar Syrup
Peter Hampson (Shropshire Beekeepers Association)

This article first appeared in the Newsletter of the Shropshire Beekeepers Association October 2009, courtesy of eBEES.

I revisit the issue of the strength of the sugar solution we should feed to bees in autumn. The ideal concentration will be that which give the bees the most sugar for the least amount of work on their part, while remaining in solution when the temperature falls overnight. If the sugar starts to crystallise out of the solution as the temperature drops, then it is likely to block the channels in the feeder that allow the bees to access it, which rather defeats the object of the exercise.
The general advice for winter feeding is that we should feed a 2:1 syrup, which traditionally has meant 2lbs sugar to 1 pint of water. However, in carelessly equating this to a metric alternative of 2 kg sugar to 1 litre water, I have unintentionally created the problem just mentioned. 2 kg to 1 litre is a true 2/1 strength solution by weight, whereas 2lb (32 oz) of sugar in 1 pint (20 oz) water actually only gives a strength of 1.6/1 by weight. This difference is significant as the table below shows.

Table 1 : Solubility of sugar at various temperatures

T in °C	5	10	15	20	25	30	35
Ratio of sugar to water by weight	1.85	1.91	1.97	2.04	2.11	2.19	2.28

At 20°C, 2kg of sugar in 1 litre of water will just about remain in solution, but will start to crystallise out as the temperature goes down so that, by the time it has reached current night-time temperatures, sufficient crystallisation will have occurred to block the feeder. By contrast, a solution comprising 2lbs sugar to 1 pint

water will remain in solution to well below 5°C.

Table 2 (below), which shows the quantities of sugar and water required (metric & imperial) to reach various concentrations for a feeding syrup, would suggest that a figure between these two would give the best compromise. 5kg of sugar dissolved in 2.75 litres of water would produce a concentration that should remain completely solvent to below the temperature where the bees are still likely to be feeding. (I have chosen 5kg as a reference point because sugar is ready obtainable in packages of that size at supermarkets).

Table 2 Metric & Imperial Comparisons of Strength of solution by weight

Concentration by Weight	Kg	Litres	Lbs	Pts
2 to1	5	2.5	2.5	1
1.92 to 1	5	2.6	2.4	1
1.85 to 1	5	2.7	2.3	1
1.81 to 1	**5**	**2.75**	**2.26**	**1**
1.78 to 1	5	2.8	2.22	1
1.72 to 1	5	2.9	2.15	1
1.67 to 1	5	3.0	2.0	1

For those who prefer imperial measures, the same concentration would be achieved by dissolving 2¼ lbs sugar in 1 pint of water, i.e. slightly stronger that the usual recipe.

[N.B. If, like me, you tend to use whichever measuring system is most easily to hand, you will have noticed that 2¼ lbs of sugar is very close to 1 kilo in weight – so I could suggest that a syrup strength of 1 kilo sugar to 1 pint of water will be near enough. How's that for a confusing conclusion!]

BBKA Examination Results
Jenny Johns (Exam Secretary)

Once you have passed the Basic you are now able to take the Module examinations. I am sure that most people, like me, who studied for and took a module exam this year found it a beneficial exercise. It was nice during the winter months, when practical beekeeping was not possible, to concentrate in detail on different aspects of beekeeping. The syllabus for each module is available on the BBKA website and it is also possible to order past exam papers which is essential if you are going to have any idea of the type of questions that can be asked. The BBKA also run correspondence courses where you are allocated a tutor who will set and mark assignments. These are very useful in preparation for the exam.

Working through a module will extend your beekeeping knowledge and benefit your beekeeping in the years to come. Visit the exam. section of the BBKA website for more details.

The Following members were successful in the written module examinations in 2009. Many congratulations to all these successful candidates.

Module 1

Saffron Walden Div:

Robert Egger	Pass
Craig Hirons	Credit
Derek Johnson	Credit
Jane Ridler	Credit
Richard Ridler	Pass

Epping Forest Div:

Jennifer Johns	Credit

Module 2

Saffron Walden Div:

Craig Hirons	Credit

Module 3

Southend Div:

Marlene Harris	Credit

Malden Div:

David McHattie	Credit

Romford Div:

Roger Legg	Credit

Module 5

Romford Div:

Eileen Marrable	Pass

Colchester Div:

Peter Rose	Distinction
Barbara Sharp	Pass

Intermediate Theory Certificate As a result of passing four modules this certificate with credit has been awarded to **Marlene Harris** from the Southend Division..

The Following members were successful in the Basic examination in 2009. Many congratulations to all these successful candidates.

Basic Examination

Saffron Walden Div:
Alison Greig
John Rhodes

Harlow Div:
Edmund Motton
Colin Wright

Romford Div:
Michael Warren

Malden Div:
David Mc Hattie

Southend Div:
Mary Heyes
Jeremy Huband
Daren Mullis
Stephen Pointer

Colchester Div:
Barbara Sharp

The Miss Avey award for 2009 is awarded to **David Mc Hattie** who obtained the highest marks.
Congratulations to these members who have demonstrated their proficiency in beekeeping and are now able to go on to study for the module exams.

The impact of neonicotinoid insecticides on bumblebees, Honey bees and other non-target invertebrates
By Vicky Kindemba

Ed. I would like to thank Buglife - The Invertebrate Conservation Trust for permission to publish the Executive Summary of this article.

The current declines being witnessed in both wild bees and Honey bees have been attributed to a number of possible factors, including: varroa mite infections, habitat loss, mobile phone masts and pesticides. Central to the global debate are neonicotinoid pesticides, banned to different degrees in a number of European countries, these pesticides have been regularly linked to bee declines.

This report reviews existing approvals research and independent research on the effects of neonicotinoid pesticides on Honey bees, bumblebees and other non-target invertebrates, and investigates the current approvals mechanism and its standards.

Findings reveal a disparity between independent research and the research that was undertaken by Bayer, the producer of the neonicotinoid pesticide imidacloprid, for the imidacloprid 'Draft Assessment Report' (DAR), the 2005 report that was the foundation of the EU regulatory approvals process for this pesticide. Independent research found significant negative impacts on bees that were not included in the DAR because the research was invalidated by the DAR. The basis for this invalidation is questionable, but it resulted in key evidence not being considered as part of the approvals process.

Additional research post-dating the DAR has provided more evidence that neonicotinoids may damage populations of bees and other non-target organisms.

These peer reviewed independent research papers show significant negative impacts of imidacloprid on bees and other non-target invertebrate occur at levels predicted to be present in the UK countryside. These predicted levels are based on imidacloprid application rates approved for use in the UK. Similar levels have been found present in hives of other countries when EU approved imidacloprid products were used for example Gregorc & Bozic 2004 found five samples of bees out of 12 hives tested in Slovenia were found to contain imidacloprid above 5 µg/kg and Chauzat et al. 2006 found levels of 5.7 µg/kg in pollen from French hives.

Papers on impacts at predicted environmental concentrations include:- (*Ed. see original article for this list of papers*).

…

Test methods utilised for the approval process of imidacloprid were found to be insufficient for assessing sub-lethal effects and chronic exposure risks to Honey bees from imidacloprid. We found that overall the existing approval mechanisms for crop protection products controlled by Plant Protection Products Directive 91/414 are generally inadequate for assessing the impacts on non-target invertebrates, with no standards for sub-lethal effects and inappropriate assessment methods for systemic pesticides; this means that the product approval decisions which are made in the UK by the UK's Chemicals Regulation Directorate are reliant on inadequate research. There were also a number of exposure routes that had not been properly investigated, such as exposure from dust formed during the sowing of dressed seeds.

There is a lack of independent research into the potential impacts on non-target or-

ganisms from other neonicotinoid pesticides and therefore the respective DAR research cannot be as thoroughly reappraised as has been possible for imidacloprid. It is highly likely that risks posed by imidacloprid will also be posed by other neonicotinoid pesticides that are used in comparable circumstances.

The precautionary principle states that if there are reasonable scientific grounds for believing that a new product may not be safe, it should not be used until there is convincing evidence that the risks are small and outweighed by the benefits. This is enshrined in Directive 91/414 which states that "Member States shall ensure that a plant protection product is not authorized unless.....it has no unacceptable influence on the environment." "Authorizations may be reviewed at any time if there are indications that any of the requirements....are no longer satisfied."

Given the essential nature of pollination services provided by the Honey bee and wild bee populations and the current precarious state of these animals any additional risk to their populations from pesticide use constitutes an unacceptable influence on the environment. In addition we have identified generic key weaknesses in the European approval process in relation to imidacloprid making the approval research not comprehensive enough in regard to risks to bees. Buglife and the organisations that have signed onto this report call for the following action to be taken:

—A review of the inclusion of imidacloprid and other neonicotinoids on the positive list of authorised substances in Annex I of Directive 91/414.

—A review of existing neonicotinoid products authorised for outdoor use in the UK.

—Until the reviews are completed a precautionary suspension of all existing approvals for products containing neonicotinoids where these products have been authorised for outdoor use in the UK.

—The development of international methodologies for assessing the effects of systemic pesticides and sub-lethal impacts on invertebrates.

The full article can be found:

http://www.buglife.org.uk/Resources/Buglife/1%20a%20report.pdf

Technical Topics: Recycling Frames & Rendering Wax
Richard Alabone (Mr Beesy)

Beekeepers with only a few hives soon get a collection of old frames with dirty or damaged wax combs which very often end up in the bin as they don't know what else to do with them. Some cut out the combs and boil up the frames in washing soda, some build or even buy a solar extractor which I consider a messy, cumbersome, eye saw that doesn't work very well unless carefully monitored. Another way is to cut out the comb and boil it up which produces a very dark wax from old brood comb, and is not to be recommended. If there is a lot, it can be put in a sack and boiled with stones to weigh down the sack, allowing clean wax to float to the surface.

A more satisfactory system I have used for several years involves some old bee equipment and a kettle which saves good wax and sterilizes the frames at the same time. It's very well worth doing as wax can be 'converted' to foundation for only 88p a lb; whereas it costs £6.50 to buy 1lb. of foundation. This makes rendered wax worth £5.60 a pound so it's well worth trying to save the wax. Don't be tempted to swap wax for foundation without working out how much less you would get than with the conversion system.

Basically all that is needed is old hive bits and steam. I use old WBC boxes just because I had them; but you use whatever you have. The bottom box is a shallow with a piece of ply nailed on the bottom and some glue to seal it. Make a hole to take a steam pipe, in the side of the box, for a flexible plastic tube to connect to a kettle or a steam generator. I use an old kettle with a copper tube soldered into the spout with the lid held down by a block of wood and with a gasket under the lid. Water and wax collects in the bottom of the super box, sometimes half an inch of wax which can be cut out easily when it has cooled to about blood heat.

On this box goes an old queen excluder that keeps the chrysalis shells and rubbish out of the wax. Then on top of this is the brood box with the frames for recycling, and perhaps several other boxes on top of that with a board on the top. A black bag, wheelie bin size, goes over the whole lot to keep the heat in, which blows up like a balloon when it's all hot. It takes about 40 minutes to melt the wax, depending on how many frames are being heated up, which will take several kettles of water. Find out how long it takes to boil away a kettleful, to avoid damaging the element. When finished remove one frame at a time to clean it up especially the foundation groove, using a small screwdriver with a blade 1/8 wide. I set the whole thing up at a slight angle to stop the wax sitting on the top bars of the lower boxes.

The problem with this system is the mess! Unfortunately, some water and wax doesn't end up in the lower box, but on the floor. Maybe a large tray would help but I always to do it in the garage and have to clear up the mess afterwards; you should be aware that it makes the whole place a bit damp. But you end up with reusable frames, although looking a bit scruffy as the propolis discolours the

wood, and you have also saved the valuable wax.

The rendering of old combs produces wax which is used for many purposes; but making foundation not being the major one. The USA produces an average of 2,000 tons annually but uses less than 500 tons for foundation, the rest being sold to wax merchants in blocks produced by beekeepers. The production of reasonably clean blocks demands a little care but no special know-how or equipmentt. Wax from a solar extractor, cappings, or a steam rendering system needs to be melted over water, then poured into a mould and allowed to cool slowly. I use an old plastic container and make blocks weighing about 5 lbs. To prevent the wax sticking to the mould use a smear of detergent as a release agent and only pour the wax when it is starting to solidify on the top. I use three old saucepans on the cooker with about 1.5 centimetres of water and a small sieve to remove things off the top; dead bees etc.. Heat to melt all the wax, then allow to cool so that all three are showing signs of freezing. Decant into the mould, stopping before mucky wax or water are starting to flow. Cover with plywood and a wad of newspaper to let it cool slowly. When cold a clean block of wax will have been made which should come out easily.

Always, always stand by the cooker when the gas is on. If the water boils, wax may boil over causing a bad fire. Many books say 'always use rainwater' but give no reason as to why. American literature never mentions rainwater which appears to be a British one-upmanship stupidity. I always use plain water! Some say that the temperature of wax should not exceed 185°, or it will discolour, but then they say boil up the wax. When the water starts to boil, then turn the gas very low to allow time for the blocks to melt which keeps the wax temperature low; and that's about all there is to it. When finished, pour all the water and mess, called slumgum, into one pan and allow it to cool slowly so that the block can be removed. Cut off all the rubbish leaving wax to be rendered down next time.

Letter to the Editor … with reply
An amusing aside!

Dear Howard,

I enclose a short note for possible inclusion in the next "Essex Beekeeper." Last year's beginner's course (divided between Romford and Maldon) had provided a fascinating insight into the life cycle and husbandry of, and current problems facing the Western Honey Bee.

We beginners were well-schooled in both theory and practice and received a thorough grounding in the identification and treatment of diseases and parasites found in both brood and adult bees.

It was only when two nucs arrived this summer in my garden that I was able to study my own colonies. I thought myself fortunate that I was unable to detect any of the standard diseases or parasites, though this was probably mainly due to my

great inexperience.

However I was a little concerned that my queens seemed a little reticent to show themselves and it was only after several inspections at the recommended nine-day intervals that both queens were seen. Horror struck immediately at their dreadful appearance and I hastily searched through the relevant books and pamphlets to see what disease their strange symptoms indicated.

Alas I found no details of its aetiology, pathology or epidemiology and it was concluded that a new disease had been found. The major symptom appeared to be a strange growth on the dorsal surface of the thorax in each case.

It is usually the privilege of the discoverer to name new discoveries in science and in this case it is with humble pride that I call this new queen problem - "Green Spot Disease."

Yours sincerely,
Stuart

Dear Stuart,
thank you for your short note. I do not expect to be able to publish your letter for the following reasons:

1 I expect that the discovery of the Green Spot Disease this year will give rise to a new disease next year, which I predict you will name 'Blue Spot Disease' should you be given a new queen from an experienced beekeeper. This, in future years, will be followed respectively by the colours white, yellow and red.

2 I am also surprised that you had not noticed that the wings of your queen might well have been clipped--perhaps this will have resulted in another letter to the editor claiming a discovery of a genetic defect in queen bees.

3 As you have found it so difficult to find a queen with such a distinctive mark, may I suggest that you pay a visit to a local optician. This may result in you being able to find your queen more easily and also identify the standard diseases and parasites found in your colonies. In particular the parasites are smaller than the green spot on your queen!

I hope your colonies remain healthy and provide an abundant honey crop.
Best Howard

Farming and Wildlife Advisory Group
A report of meeting held on 2 September, by Roy Carter

Bumblebees on the Essex Coast, by Ted Benton

Burnham Wick Farm, by kind permission of Martin Smith.

Burnham Wick Farm is situated just east of the riverside town of Burnham-on-Crouch on the Burnham marshes. The farm was judged the winner of the 2007 Essex FWAG Farming and Conservation competition and is considered a hot spot for some of our more uncommon bumblebee species. The farm extends to approximately 220 ha and is mainly down to arable with one field of grass in entry level Stewardship Scheme. The large arable fields have 6m margins sown with pollen and nectar rich species including red clover, field vetch and birds foot trefoil in the seed mix.

On arrival for the meeting we were welcomed by our host with a cup of tea or coffee before being given a brief introduction to the farm. Twenty or so people were in attendance including beekeepers from Southend and Dengie Hundred and Maldon Divisions.

The meeting started outside in the garden but a threatening shower drove us inside where Ted Benton a national bumblebee specialist, naturalist and wildlife photographer gave an overview of the plight of our native bumblebees around the Essex coast. The six common species to be found in S.E. Essex are; Bombus hortorum, B. lapidarius, B. praetorum, B. terrestris, B. lucorum, and B. pascuorum. These, together with the 'wide spread but local' species, which are more thinly distributed, plus the cuckoo bumblebees account for the twenty species to be found. Many of these localised species are considered to be at the northern edge of their range. The rare Shrill Carder bee (B. sylvarum) which was thought extinct in Essex was, in 1993, found at the Wat Tyler Country Park, has since been

moving north in its range being found at Abbots Hall this year and along the sea wall near St Peter's chapel, Dengie.

Ted brought along dried specimens of a few bumblebees showing the size differences between the different castes plus a few live specimens of new seasons queens caught in farm garden just prior to the meeting. For bumblebees to thrive they need suitable habitat which must include a varied nectar / pollen source to feed the colony throughout the season - April until the end of September, and suitable surface nesting sites of open long grass which is left uncut until late autumn. Colony nest size, dependent on specie, averages 20-400 workers.

S.E. Essex is home to five of the Biodiversity Action Plan species which includes the Shrill Carder bee (B.sylvarum), Red Shank Carder bee (B. ruderarius), B.humilis and B. ruderatus.

After the talk, we took a short farm walk, led by Martin Smith and Rebecca Inman of Natural England to inspect a stretch of 6m field margin sown with nectar rich plants. We were extremely fortunate to see a number of the rare bumblebees the farm is noted for. We were able to observe Bombus lapidarius, B.humils, the Shrill Carder bee (B.sylvarum) and the Brown banded bumblebee. It was noticed that although red clover and black horehound (Ballota nigra) were both in flower the black horehound was favoured by both the Shrill Carder bee and the Brown banded bumblebee.

Our visit concluded with refreshments provided by Natural England.

From National Audit Office Department for Environment and Rural Affairs.
The estimated value of honeybees to the UK economy.
From a Report by the Comptroller and Auditor General HC Session 2008-209

Crop	Role of honeybee in pollination (%)	Area Grown ('000 ha.)	Market value (£m)	Value of bee pollination (£m)
Oilseed rape	8	681	404	32.3
Field bean	8	123	65	5.2
Broad bean	8	2	3	0.3
Runner and dwarf beans	40	2	20	7.8
Apple	90		104	93.6
Pear	30	18	8	2.4
Other orchard	15		29	4.4
Raspberry	30		87	26.1
Strawberry	10	9	154	15.4
Other soft fruit	15		29	4.4
Total				**191.8**

NOTE
Updated by the National Audit Office with 2007 provisional figures from Agriculture in the UK 2007 (except for broad, runner and dwarf beans for which original 2001 values have been used), based on methodology employed by ADAS.

Beat the VAT increase

ON-LINE

Our 2010 January Sale starts at 9.00 am on December 29th!

After 1st. January we will have to charge 17.5% VAT On items ordered.

(orders will be despatched from 6th January, when we re-open after the Christmas and New Year holidays. NB. Sale Stock is not available direct from the branches but can be ordered from Wragby for branch collection).

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More photos of Bombus Lapidarius mating,
taken by Howard Gilbert. When one of this series of photos was originally published the front page of the magazine was in black and white. Now that the covers are in colour I thought that they should be seen in all their glory!