

# Buzzword

## Ayr and District Beekeepers Association Newsletter



July 2012

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**W**e must be mad. Beekeeping in the West of Scotland? Trying to get our queens mated is difficult when we have two days of sunshine followed by five of rain. And yet we struggle on, hoping that this year things will be better; once bitten by the beekeeping bug we are hooked. Having had some pleasant weather late May and early June, which produced a good nectar flow, we are now back to grey skies, cold weather and rain. Any stocks the bees have been gathering may now be used by them for survival, and if this weather continues, we may be in the situation of having to feed them. Each year is a new learning experience for beginners and old hands alike, and with recent press reports about a new outbreak of AFB in the Inverness area, please be vigilant as to where any new bees you require to buy may be from.

Please also be vigilant about suiting up properly. I had a nasty surprise this week when I felt something crawling up my cheek, and this was towards the end of an afternoon of checking nucs and hives. I had a gap at the bottom of my hood and was being invaded by bees crawling over my face. Fortunately I was only stung twice. If you are working in pairs it is a good idea to check each other to make sure your zips are done up properly!

## *IS THE COMMITTEE STILL BUSY?*

We certainly are! In beekeeping, this time of year is probably the most hectic between checking bees for swarming, catching swarms, making sure we have enough equipment to hand at the right time, attending the Association Apiary and manning stands at shows. Many of our Committee members work full-time so it's even more difficult for them to juggle everything.

At the start of May Neilston Show was a successful day out for the team of volunteers who manned the stall, did candle making with the children and generally raised the profile of Ayr and District Beekeepers Association.

A more local event was held the following weekend with Ayr Agricultural Show this year being on the Friday and Saturday instead of the Saturday and Sunday as previously. Everyone enjoyed themselves with Friday being the quieter day.

At the beginning of June Gardening Scotland at Ingliston, Edinburgh was a three-day big event and those who switched on the television at the right time would see Phil MacAnespie, Scottish Beekeepers' Association President and past-President of our Association giving an interview standing beside a Drystane Dyke with bee boles complete with skeps.

In addition to these events committee members also attended Centenary celebrations at St. Ninian's Church in Troon, had a stand at Celebrate Ayrshire at Culzean and Bill and Suzanne took an observation hive to Ochiltree Gala Day.

How do we get time to check our bees??!

As we all know the weather is a major factor in beekeeping but we were fortunate that the first few meetings at the Association Apiary took place in good weather. At the time of writing the Apiary has grown in size to include several nucs and a couple of swarms plus splits of the original hives.

The next out-apiary meeting is at Vince Hepburn and Davy Gordon's apiary – Lindsay will send details of how to get there. Should be an enjoyable and fun outing!

The committee have been planning a display for the Scottish Beekeepers' Centenary Celebrations in September which will involve learning new techniques on making a wax model, dipped candles, using appliqué wax and other tricky things! Ayr Flower Show will take place on the 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> August. This is our biggest event of the year and this year we have a very large space to fill. Crucial to the success of the Flower Show is having volunteers willing to give their time and this year, as some members are off to the Olympics, every bit of help you can give would be most welcome.

Look out for the next report in Buzzword when there will be information on events planned for next year.

Meantime here is the Winter Programme.

Happy beekeeping!

Joyce Duncan, President Ayr and District Beekeepers Association.

## AYR AND DISTRICT BEEKEEPERS ASSOCIATION

### WINTER PROGRAMME 2012/2013

Meetings in Belmont Academy, Ayr starting at 7.30pm

#### 2012

- 10 Oct. IAN CRAIG – ‘From Autumn into Spring’
- 24 Oct. FAYE GIBBINS – Making mead
- 7 Nov. PETER STROMBERG – Biology and reproduction of varroa mites
- 21 Nov. AGM and Cheese and Wine
- 8 Dec. Christmas Social Night

#### 2013

- 9 Jan. ‘THE BEEMAN’ – Michael Waite from Corsock
- 23 Jan. CO-OP – ‘update on Plan ‘B’ and latest developments’
- 6 Feb. JEANNE ROBINSON – ‘Bumble bees and Solitary bees’

20 Feb. – 27 March Beginners Course

#### Contact telephone numbers

*Joyce Duncan. President.....01290 550 132*

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### JOHN MELLIS APIARY VISIT. SATURDAY 9TH JUNE

Those of us able to make the journey into deepest Dumfriesshire gained a fascinating insight into what is involved in successfully running a large scale commercial enterprise. John and his wife have together been managing in excess of 400 hives on some 20 sites spread over a wide geographical area, a truly astonishing achievement to those of us who have all their time cut out trying to cope with a mere 2 or 3 hives at the bottom of the garden. It says a lot for both of them that they were prepared to find the time to host the club and lay on hospitality keeping us well supplied with tea and biscuits throughout.

John took us through some 8 hives in the home apiary demonstrating aspects of swarm control based on his brood and a half system and fortuitously was able to show us the effect on the laying pattern in a hive produced by a drone laying queen. He also shared with us his wide experience of swarm retrieval and demonstrated an elegant suction system for use in the less accessible situation.

The extensive outbuildings adjacent to their cottage have been adapted for maximum efficiency as a store and honey retrieval unit with up to date equipment allowing them to jar their honey automatically on a large scale. A tip to those of us wishing to sell our own honey is to take care choosing a label. An upmarket, 'Harrods's style', unadorned label did wonders for their own sales.

After the demonstration was completed we were treated to a tasting session which went down very well and the visit was rounded off by Iain Jamieson proposing a heartfelt vote of thanks.

Alan Forster.

## THE ROYAL HIGHLAND EDUCATION TRUST AT THE AYR AGRICULTURAL SHOW.

**For** members of the Ayr and District Beekeepers Association involved with the Royal Highland Education Trust, Friday was an extremely busy morning with many Ayrshire Schools attending the event focusing on the theme “From Field to Table” This resulted in almost 500 children and their teachers passing through the RHET stands which included the observation hive, virtual hive and a display showing a variety of fruit and vegetables which are pollinated by honeybees. Schools were involved in making scare-crows, the winner being Patna Primary. Three Association beekeepers are involved with RHET i.e. Ian Stirling and Bill and Suzanne Clark.



Ian, Suzanne and Bill



the Scarecrows...or is it the other way round?



## Ochiltree Gala Day.

It was another day of rain which greeted the festivities of the Ochiltree Gala Day. Nothing daunted, the event was held inside the Primary School with many activities taking place, including a small contingent from the Ayr and District Beekeepers Association demonstrating an observation hive and hive products.

The Gala King and Queen were duly crowned, primary school children sang and danced in their honour and stalls were set out to tempt us to buy their wares of cakes, ice-cream and plants etc. Raffles were held for good causes and prizes were duly given out.

Congratulations to the organisers who managed to create a cheerful event out of what could have been a non event.



I see the Queen mum!



Supporting good causes.

**If anyone has anything they would like to contribute to Buzzword please email to [bees5@btinternet.com](mailto:bees5@btinternet.com)**

**We have had several great articles this month thanks to Alan, Jane, Rosie and Joyce. Thanks to all contributors. Suzanne Clark.**

### **Multiple Factors Responsible for Honeybee Decline**

Despite a growing worldwide clamour to ban pesticides linked to honey bee deaths, multiple factors contribute to the declining honey bee population, not just one class of insecticides, says Extension Apiculturist and noted honey bee expert Eric Mussen of the UC Davis Department of Entomology.

Speaking on honey bee health at the 51st annual meeting of the international Society of Toxicology and Tox Expo, held recently in San Francisco, Mussen said “no specific culprit” causes colony collapse disorder (CCD), a mysterious malady characterized by adult bees abandoning the hive, leaving behind the queen, her brood, and honey and pollen stores.

Multiple factors affecting colony health include “pathogens, parasites, pesticides and malnutrition,” he told the society, which is comprised of 7, [500](#) scientists from academia, government, and industry from various countries around the globe.

“Pesticide residues have been found in beeswax, stored pollens and adult bees,” Mussen said in his abstract. Bee scientists are “also looking at the synergistic interactions among pesticides, including adjuvants mixed into the pesticides and investigating everything from bacteria, fungi, viruses, malnutrition, transportation of migratory bees, impact of pollen from genetically modified plants, and effects of exposure to irradiation.”

“None of these factors explains why 25 percent of beekeepers [continue](#) to lose 40 to 100 percent of their colonies annually,” Mussen declared.

Banned in some European countries is the class of insecticides known as *neonicotinoids*, which act on the central nervous system of insects, Mussen said, but scientific studies show that despite the ban, the bee population continues to suffer significant annual losses.

*Neonicotinoids*, or systematic pesticides, are applied as seed or soil treatments, and also directly to the foliage of vegetable, orchard, field, turf and ornamental crops.

According to Mussen, colony losses are not new. Prior to the arrival of tracheal (*Acarapis woodi*) in 1984 and varroa (*Varroa destructor*) mites in 1987, annual colony losses averaged around 5 to 10 percent, he said. “To control mites, most beekeepers place acaricides in their hives. Since then, queen longevity, colony health and vigour have declined in many operations and colony losses increased to about 15 to 20 percent.”

CCD, so-named in 2006, first surfaced in 2004 when approximately 25 percent of the nation’s beekeepers noted that apparently healthy colonies very quickly lost all adult bees, except the queen and a few newly emerged workers that soon perished, Mussen said.

“All stages of brood were present, and stores of honey and pollens were abundant,” he said. “In the few remaining adult bee specimens, titers of the fungus (*Nosema ceranae*) and one or more RNA viruses were very high. While appearing similar to losses induced by extremely heavy varroa mite infestations, neither bees with shrivelled wings nor copious varroa faecal spots were observed.”

The resulting media attention prompted governmental agencies to provide extra funding for honey bee research. “That research provided a greater insight into the parameters of honey bee health,” he said.

The honey bee’s immune system is “meagre” compared to that of a fruit fly or mosquito, he said.

Mussen, in a recent talk at a UC Cooperative Extension seminar in Woodland, advocated that the bee toxicity tests conducted by the Environmental Protection Agency (EPA) and the California Department of Pesticide Regulation (DPR) “be of a longer time frame.” Current regulations “specify that they be completed in 96 hours, which is too short of a time period to see what happens to the bees.”

“Sublethal effects are not required, chronic exposure to sublethal effects is not required and synergism is not studied,” he said.

“Synergies easily could be the biggest problem,” Mussen said. “Coumaphos (an acaricide used for mite control) knocks the daylight out of queens when it’s in the pollen. “Fluvalinate (synthetic pyrethroid commonly used to control varroa mites) synergizes Coumaphos, and vice versa.”

Mussen cautioned that adjuvants can be toxic. “Adjuvants seem to make non-toxic fungicides toxic to honey bee brood, especially the organosilicone ‘superspreaders,’” he said. “The superspreader can penetrate the waxy cuticle of leaves, such as Eucalyptus leaves. And the waxy cuticle is the No. 1 bee protection.”

Also at the Cooperative Extension seminar, Mussen called for greater genetic diversity in the honey bee and a loosening of the “genetic bottleneck” in the United States. “Unlike dogs and horses, there are no pedigree bees and no papers, he said. “There are few true breeding lines, but they include the New World Carniolans (developed by bee breeder-geneticist Susan Cobey of UC Davis), Russians, Minnesota Hygienic, and the Varroa Sensitive Hygiene.”

“Most breeders simply select from last season’s best performing stock,” he said. They breed for certain company traits, such as colour, gentleness and brood pattern.”

Mussen pointed out that in 1922 the United States closed the door to live bees entering our country” due to fears of an incoming pest, the tracheal mite.

The tracheal mite eventually found its way to the United States in 1984, he said. “We couldn’t prevent it from coming in forever. It killed half of our nation’s bees in five years as it expanded across the country. Then the varroa mite arrived in 1987, and killed half of the remaining colonies in five years as it expanded across the country. This one practically killed all of our feral colonies in 1995-1996. It made a really big dent in our gene pool.”

Mussen described the varroa mite as “Beekeeping Enemy No. 1.” Mite feeding lowers the pupal blood protein, resulting in underweight bees and a shortened life span, he said. It suppresses the honey bee immune system. And third, the mite is a vector for RNA virus diseases.

Of the viral diseases affecting the honey bee, RNA viruses are the most prevalent. “We have 20 known and named viruses, and more are coming,” Mussen said. Some of the viral diseases are shared with bumble bees, wasps, ants, other native bees and other unrelated species of insects.

Asked what the average person can do to help the bees, Mussen said that a wide mix of pollen is essential for honey bee nutrition, and “they’re not getting that any more. Plant bee attractive plants. Each colony needs the equivalent of one acre of bloom every day to survive.”

What about the role of genetically modified plants in bee health, he was asked. “They don’t appear to be a problem. One modified corn variety seemed to affect honey bees in lab studies, but it’s not being grown anymore. The honey bees don’t care if it’s genetically modified or not.”

As for viruses, “The harder we look, the more we find,” Mussen said.

**By Kathy Kealkey Garvey Catch the Buzz March 2012**

## A Useful Recipe From Joyce Duncan

If anyone fancies trying out the beeswax polish here's the recipe I got from an old beekeeper. Shred 4oz. beeswax into an old pan and add half a pint of turpentine (turps substitute nowadays/white spirit). Place pan in another pan of boiling water and heat till wax melts. Stir thoroughly and store in jars or tins.

Makes good polish – only problem is trying to source reasonably priced tins to put it in!!

Joyce.



## How hidden flower features are crucial for bees

As gardeners get busy filling tubs and borders with colourful bedding plants, scientists at the Universities of Cambridge and Bristol have discovered more about what makes flowers attractive to bees rather than humans. Published today in the British Ecological Society's journal *Functional Ecology*, their research reveals that Velcro-like cells on plant petals play a crucial role in helping bees grip flowers – especially when the wind gets up.

The study focuses on special cells found on the surface of petals, whose stunning structure is best seen under an electron [microscope](#). According to lead author, Dr Beverley Glover:

"Many of our common garden flowers have beautiful conical cells if you look closely – roses have rounded conical petal cells while petunias have really long cells, giving petunia flowers an almost velvety appearance, particularly visible in the dark-coloured varieties."

Glover's group previously discovered that when offered snapdragons with conical cells and a mutant variety without these cells, bees prefer the former because the conical cells [help](#) them grip the flower. "It's a bit like Velcro, with the bee claws locking into the gaps between the cells," she explains.

Compared with many garden flowers, however, snapdragons have very complicated flowers; bees have to land on a vertical face and pull open a heavy lip to reach the nectar so Glover was not surprised that grip helps. But she wanted to discover how conical cells help bees visiting much simpler flowers.

"Many of our garden flowers like petunias, roses and poppies are very simple saucers with nectar in the bottom, so we wanted to find out why having conical cells to provide grip would be useful for bees landing on these flowers. We hypothesised that maybe the grip helped when the flowers blow in the wind."

Using two types of petunia, one with conical cells and a mutant line with flat cells, Glover let a group of bumblebees that had never seen petunias before forage in a large box containing both types of flower, and discovered they too preferred the conical-celled flowers.

They then devised a way of mimicking the way flowers move in the wind. "We used a lab shaking platform that we normally use to mix liquids, and put the flowers on that. As we increased the speed of shaking, mimicking increased wind speed, the bees increased their preference for the conical-celled flowers," she says.

The results, Glover says, give ecologists a deeper insight into the extraordinarily subtle interaction between plant and pollinator. "Nobody knew what these cells were for, and now we have a good answer that works for pretty much all flowers," she concludes. "It's too easy to look at flowers from a human perspective, but when you put yourself into the bee's shoes you find hidden features of flowers can be crucial to foraging success."

Catch the Buzz May 2012



## Part of the "Microbial Home" concept by Philips design



The exterior side of the device.



### urban beehive

The 'urban beehive' is designed to facilitate domestic beekeeping. Installed into an exterior wall, one side of the device offers an integrated flowerpot below an entry tunnel for the bees. As the

creatures fly into the main hive, they find a pre existing honeycomb structure on which they can build their wax cells. The glass shell permits the entry of orange light, which bees use for sight, while rendering visible the interior structure and work of the bees.

A futuristic concept of beekeeping supplied by Jane Sik.



### *Bumblebee Nest Boxes and Nest Sites.*

An interesting article sent in by Rosie on how we can help Bumblebees. The piece describes how to attract bumblebees to your garden, how to make bumblebee nest boxes and the type of food bumblebees prefer. Also the predators they suffer from.

Go to [www.bumblebee.org/nest\\_boxes.htm](http://www.bumblebee.org/nest_boxes.htm)

Thanks to Rosie for this as bumblebees need lots of help as we all know.

## **Beginners often ask: what should I do if I have lost a swarm?**

If your best efforts to prevent a colony swarming fail, what is the best thing to do? The first step is to make sure you lose nothing else.

Firstly, what makes you think your bees have swarmed? Look out for the following clues:

- The presence of more than just one or two sealed queen cells-there will be only a few eggs in worker cells and, particularly if there are none at all, that confirms that the queen (and the swarm) has gone.
- The bees are often more bad-tempered without their queen.
- On inspection you find all the queen cells are sealed. That means the swarm left days ago. You need to reduce the queen cells to just one large one.
- There are both sealed and unsealed queen cells-remove all the sealed ones and return one week later to reduce the remaining queen cells to just one.

Don't shake the frame which contains your chosen queen cell or you may damage the developing pupa. Just brush the bees off the comb so that you can see if there are any others on the frame. If there are, remove them. You can shake the bees off all the other combs to get a clear view of the whole surface in order to make sure that you have removed all the queen cells.

To shake bees off a comb, hold it firmly by the lugs. If you have a gap in the frames in the brood box, hold it down inside. If not, hold it over the brood box. Lift it up slightly and then jerk down sharply, not forgetting the sudden stop which will shake the bees off. You may have to repeat the action. You have to remove only enough bees to see what you want to see.

It may well be that the swarm left a week prior to your inspection of the colony. You might find one or more queen cells open at the tip-with no occupant. In other words, the bees have started to produce casts as the virgin queens have hatched. The thing to do in this situation is to examine all the queen cells. Some will be ripe and the wax will have been removed from their tips revealing the brown parchment-like cocoon. This means that a virgin queen is ready to emerge, maybe quite soon. There may also be a virgin queen already running loose in the colony.

Using the corner of your hive tool or a penknife, start to open the tip of the queen cell. Sooner or later you will find one with a living queen inside. Remove the tip and release her. Then you must remove all the other queen cells. Surprisingly, you can actually release more virgin queens into the colony if you wish. What makes a colony produce casts is plenty of bees, a free-running virgin queen and occupied queen cells. If there are no queen cells, there will be no casts.. The other things that will prevent casts are the absence of flying bees or the fact that the colony is weak.

Don't leave two queen cells "just in case". Do release one young queen and you should be fine. Check the brood nest two weeks later to make sure that your virgin has mated and is beginning to lay. Then your colony is back to normal.

Teach yourself Beekeeping. Adrian and Clare Waring 2006.