



Happy New Year



With the presents opened, the Christmas tree past its best and the wine cupboard empty it's now time to look forward to the New Year.

2017 will be, without doubt, the BEST beekeeping year yet, with strong, healthy colonies, prolific (but not too prolific) queens, a surplus of honey and the absence of swarms!

Ever the optimist I'm already getting impatient to renew my relationship with the bees, and it will be only a few short weeks before the season will again be in full swing.

We have much to look forward to; the Annual Convention in February; the Divisions starting their new training courses for beginners and those wishing to improve their skills in March and the Bee Market and Auction in April.

A **Very Happy New Year & Happy Beekeeping** to all members of West Sussex BKA and to those of you reading this newsletter from outside of the county.

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120 Years of Beekeeping !

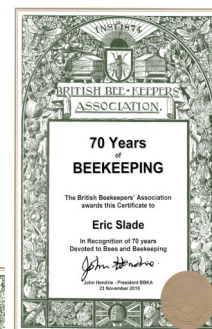
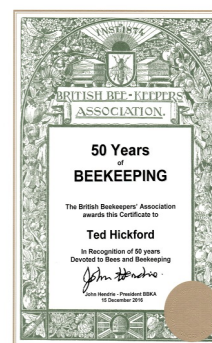
Congratulations

to two members of WSBKA who between them have amassed an impressive 120 years of beekeeping experience. **Eric Slade from the Wisborough Green Division** has been keeping bees for 70 years while **Ted Hickford from Chichester Division** has been wielding a smoker for 50 years.

Eric was introduced to beekeeping in 1946 by his father who was a member of Reigate Beekeepers' Association and his father had been a beekeeper before him in the Horsham area. Eric is delighted that his daughter has taken up beekeeping in East Sussex, making her the fourth generation of the family to do so.

He started with two hives and became a member of WGBKA and was fortunate to have George Wakeford as his mentor and advisor. George was President and ran the teaching apiary on Dounhurst Farm in Wisborough Green. With George's help and encouragement his hives increased to thirteen! Eric is now 81 years young and has reduced the number of hives to six. He has helped many others to take up beekeeping during his 70 years practicing the craft.

He has in recent years been awarded the Lady Denman Trophy at the National Honey Show of which he is very proud. He repeated this achievement by again winning the Lady Denman Trophy at this year's NHS.



Ted Hickford started his beekeeping in 1964 or 5 and was teaching in a school in Wiltshire. He started a beekeeping club which became very popular with 20 members after just one year. Winters were spent making beehives and each year as students left they took a beehive away with them and their space was taken by students on the waiting list!

Ted then took his bees to each of the schools he moved to. As a biology teacher he found his interest in bees invaluable. For the last few years he has been taking an observation hive to primary schools in Sussex and has thoroughly enjoyed 'talking bees' and raising the importance of bees in our environment.

The BBKA will recognise these achievements at the Annual Delegates Meeting this month. We wish Eric and Ted many more years of Happy Beekeeping.

WSBKA Annual Convention - Saturday 25th February



Lodge Hill Centre, Watersfield, Pulborough is again the venue for our Annual Convention. West Sussex Beekeepers' Association is pleased to invite beekeepers and those interested in bees and beekeeping to the event. It is designed to suit beekeepers of all standards.

As well as the main lectures, the seminars offer a choice of more specialised topics:

The three main lectures are:

- ♦ An update on the DWV story by Professor Steve Martin
- ♦ Bees, Pesticides & Politics by Professor Dave Goulson and
- ♦ Use of Pollen in Forensic Science presented by Dr Michael Keith-Lucas

In addition there is a choice of seminars:

Seminar 1 (You can attend one of these)

- 1) Chemical Communication in the Beehive – Professor Steve Martin
- 2) Swarm Control – Daisy Day
- 3) Trading Standards, Honey and Hive Products – Jo Walden

Seminar 2 (You can attend one of these)

- 4) Saving our Bumblebees – Professor Dave Goulson
- 5) Successful Comb Change – Tom Moore
- 6) Remote Hive Monitoring – Arnia – Wilma Markellie

Diane Steele, Regional Bee Inspector, South East England, is planning to attend.

*For all your beekeeping needs, **Paynes Southdown Bee Farms** will also be present at the Convention.*

Advance booking per person, WSBKA members £20

Members of other Associations and non-members £25

On the day if space allows £25

The Speakers' Profiles and Booking Form are available to download from the website:

www.westsussexbeekeepers.org.uk/convention.html

And further details are available from Gordon Allan on 01798 343470 or email:

wsbkaconvention@gmail.com

Local Training Courses

All Divisions start their training courses for new beekeepers and those wishing to improve their skills early in the New Year.

Wisborough Green kicks off on 11th March with a one-day event on the theory of beekeeping. This is followed by practical sessions at the teaching apiary when the season resumes after the winter break.



Chichester also starts its training in March as does Worthing at the end of the month.

Central Sussex's course starts on 8th April spread over two weekends comprising both theory and practical sessions.

Full details are available on the Divisions' respective websites with links from the WSBKA website:

www.westsussexbeekeepers.org.uk/divisions.html

Around the Divisions

All Members are welcome to attend any Divisional meeting, but please advise the organiser if you plan to attend.

Central Sussex Division

Wednesday 11th January - 'Bumblebees', a talk by Nikki Gammans from the Bumblebee Conservation Trust at the Roffey Millennium Hall, Horsham. 7:30pm.

Details from Melvyn Essen: chairman@centralsussexbka.org.uk

or website: www.centralsussexbka.org.uk

Chichester Division

Tuesday 10th January - 'How Was Your Year?' at the Fishbourne Centre, Blackboy Lane, Fishbourne, Chichester, PO18 8BE at 7:30pm.

Details from: secretary@chichesterbeekeepers.co.uk or website: www.chichesterbeekeepers.co.uk

***'Share your Division's
activities with readers of the
County News'***

Wisborough Green Division

Saturday 28th January - 'Honey from Bucket to Jar'. A workshop by Tom Moore from 2 - 5pm at the Hampers Green Community Centre, Petworth, GU28 9NL. Details from Sue Elliott:

secretary@wgbka.org.uk or website: www.wgbka.org.uk

Worthing Division

Thursday 12th January - Monthly Meeting at the Ferring Village Hall, Ferring Street, Ferring, BN12 5JP at 7:30pm.

Further details from Phil Carter: philange5180@btinternet.com or the Division's website: www.worthingbeekeepers.org.uk

... and Dates for your Diary



Saturday 18th February 2017 - Surrey BKA 12th Bee Day. Cobham Village Hall, Lushington Drive, Cobham KT11 2LU from 9.30am to 5pm. See article in last month's newsletter.

Saturday 25th February 2017 - WSBKA Annual Convention, Lodge Hill Centre, Watersfield, Pulborough, RH20 1LZ. Details in this newsletter and on the website.

Saturday 11th March - WGBKA Beginners' & Improvers' Day. Pulborough Village Hall. Full details on the Division's website: www.wgbka.org.uk/Beginners_Day.html

Saturday 22nd April 2017 - WSBKA Annual Bee Market & Auction. Chichester College's Brinsbury Campus, Pulborough, RH20 1DL. Details available shortly in this newsletter and on the website.



Happy New Year. Looking back we should all have treated our colonies to a dose of oxalic acid by now, that is if we chose to. There is possibly just time if for some reason you have been delayed. I think it is probably the best anti-*Varroa* chemical we have. So why oxalic acid? Someone somewhere, or maybe a series of people in different places, must have had that eureka moment and then worked out how much to use and the best way to use it. How have we ended up where we are today with people poking hot bits of metal into bee hives to release toxic oxalic acid vapour and why is it such a good treatment?

Antonio Nannetti, one of the pioneers of oxalic acid use for *Varroa* in Western Europe reviewed the early work in an article written in 2003 with other leading workers in the field. They cite trials in Japan and Eastern Europe in the 1980s as the likely origin of the use of oxalic acid in beehives, a time long before *Varroa* had even reached our shores. Japan was one of the first countries where *Varroa* jumped species from *Apis cerana* to *Apis mellifera* and Eastern Europe was in the front line after *Varroa* was moved by beekeepers in Vladivostok to Ukraine.



Other organic acids such as lactic, citric and formic all kill *Varroa*. The most important thing with a miticide is a large difference between a therapeutic dose, which kills the mites, and a lethal dose for the bees. Lethal doses are determined as LD50, the dose that kills half of the animals tested in a time period. Milani did a series of bioassays on *Varroa* using oxalic acid and found that coating surfaces with as little as 1.49 micrograms per cm² could kill 50% of mites in 24 hours, the LD50. Aliano *et al* 2006, found an even lower figure of 0.26 micrograms per cm². In contrast, the LD50 for bees and oxalic acid is around 1,575 micrograms per bee. Putting this in context, a typical dose of 2g of vaporised oxalic acid

works out at around 200 microgram per bee, assuming 10,000 bees per hive but it is also spread over the inside of the hive on the frames and walls at a dose of around 100 micrograms per cm² for a single National brood chamber. Some oxalic acid will be on the bees but most condenses on surfaces in the hive, so an individual bee will receive a much lower dose. Bees are much less sensitive to oxalic acid, which explains why vaporising a few grams of oxalic acid is safe for bees.

What about trickling? The current recommendation using Api-Bioxal, is 5ml per seam of 4.2% oxalic acid up to a maximum of 50 ml per hive. So assuming 10,000 bees occupy perhaps 5 seams that should be 25ml, which would contain about 1g of oxalic acid. That gives an average dose of 100 micrograms per bee, which should be safe. The problem is the dose is not spread evenly with some bees coated in syrupy oxalic acid and others untouched. Aliano showed that it was bee-to-bee contact which affects *Varroa* and that the oxalic acid does not need to be ingested. However, some must be taken in as the bees clean themselves up. Hasan Al Toufailia at LASI showed that trickled colonies had less brood in May compared to those treated by vapourisation. The dose per bee is likely to be higher in trickling and some bees will receive very high doses. Schneider *et al.* found that trickling oxalic acid produced behavioural changes in workers, including effects on nursing behaviour and longevity. There is another point, and that is that currently, we are probably overdosing our bees when trickling. Looking back at that original work, the dose rate of 5ml per frame was developed for Dadant frames, which are nearly twice as large as our Nationals. Furthermore the original dose was 3.2%, not the



4.2 % of Api-Bioxal. If we applied 3ml per frame at 3.2%, then our theoretical 10,000 bees on 5 frames would only get around 50 micrograms per bee.

I am currently working back through my earlier data. We had a marked reduction in brood in May after using Api-Bioxal at Aldingbourne as well as in my apiary, compared to the earlier homemade 3.2% solution. It's a trade off; higher dose, more mites killed but more bees damaged. I am inclined to opt for a lower 3ml per seam if trickling. Fortunately, Oxuvar will be available as a solution in 2017 at a strength of 3.2% oxalic acid and a dose rate of 3 to 4 ml per seam of bees so maybe trickling will find more favour.

If you look it up, it isn't known how oxalic acid works. Neither for that matter do we know how thymol works, but it does. Trickled and sprayed oxalic acid will result in the *Varroa* being exposed to a solution, so maybe the mite exoskeleton is attacked by the acid, but the bees are tougher. Vaporised oxalic acid condenses as hydrated oxalic acid crystals. I don't believe the vaporised oxalic acid dissolves to make an acid solution, since fine crystals continue to fall on the *Varroa* boards for several days after treatment. Maybe the fine crystals coat everything, bees, comb and even mites and in contact with the mite cause damage to the thinner parts of their cuticle but the bees having a thicker cuticle are protected.

We have come through trickling to vaporisation as being the best way to apply oxalic acid, but there are two developments in the pipeline. One is a product already available. Aluen Cap has been developed by beekeepers in Argentina. This is a clever product. It has been known for some time that glycerine added to oxalic acid solution makes it more toxic. The trick was to impregnate cellulose strips with glycerine and oxalic acid. Trials reported recently by Maggi *et al.* show that not only is the formulation effective but as a single strip lasts for over 6 weeks, it can be used when brood is present since any mites which emerge are killed and it is therefore a year round treatment, even useable with honey supers on. It also appears to be very much safer for the beekeepers than trickling or vapourisation and can be produced cheaply from simple ingredients. Hopefully it will be fast tracked into Europe and thence to the UK within the next few years. Meanwhile others have been trying to improve icing sugar dusting by adding a bit of oxalic acid powder. This raises the kill rate of icing sugar dusting up above 90% of phoretic mites, close to that of a vaporiser and while you would still be well advised to wear a face mask, it would save lugging a battery and buying a vaporiser. This is still at the experimental stage but shows that there is still a lot more to come from oxalic acid. It's a pity it takes so long to get to the beekeepers on the front line.

Happy Beekeeping

References:

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Schneider, S., Eisenhardt, D. and Rademacher, R. (2012) Sublethal effects of oxalic acid on *Apis mellifera* (Hymenoptera: Apidae): changes in behaviour and longevity. *Apidologie* 43(2012) 218–225

Jim

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...and finally

BBKA Modules in March

A new year of BBKA Modules Examinations and Assessments is starting for 2017.

For those members studying for the March Modules, a reminder that applications should be with us no later than **3rd February**, countersigned by your Division and with the appropriate cheque.

Thank you.

Roger & Marion Brooks

WSBKA Examination Secretaries

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We're on the web:

www.westsussexbeekeepers.org.uk

MEMBERS' COUNTY NEWSLETTER

Thanks to all this month's contributors. If you don't have access to the internet and want further details of anything in this newsletter, please contact the Editor & County Secretary. Likewise, if you would like to contribute to future newsletters please send articles and photographs to:

Graham Elliott, Editor & County Secretary, no later than the 20th of the preceding month.

secretary@westsussexbeekeepers.org.uk

Previous newsletters from the last 12 months are available on the website.

