

LUNE VALLEY COMMUNITY BEEKEEPERS NEWSLETTER OCTOBER 2018

Club News

Due to the weather, September has not been a good month for the Club!

New Members

The good news is that we welcome another new member, Ann Gore.

September meeting

Unfortunately, heavy rain prevented us from accessing the bees.

Apiary Working Parties

During the month, Community Payback Teams took on the daunting challenge of clearing the bindweed and ragwort from the hedges and rescuing the whips. They have made a great impression and we are very grateful for their continuing support.

The working party planned for 16th September to strim the meadow and rake off the strimmings, had to be cancelled due to heavy rain. However, these are tasks that we need to complete before the winter so if anyone can spare a couple of hours whenever the weather is suitable, please let me know.



Glenis and I have spent a number of afternoons tackling the weeds that had covered the apiary base. They are under control at the moment but the sooner we can get a solid surface to prevent this from happening again, the better.

Scything Course

The scything course was another casualty of the month and had to be cancelled.

BBC Radio Lancashire



We were delighted to welcome Maria Felix Vas of BBC Radio Lancashire to the apiary to learn more about the Club and our activities. Her interviews will be broadcast on Sunday,



30th September, on "Lancashire Outdoors with Stephen Lowe".

Club Meeting Programme 2018 – 2019

Wed 10th Oct **Speaker meeting** **Scarthwaite Hotel, 7-30pm**
Topic: Keeping bees in long hives **Speaker: John Vandy**

John took up beekeeping in 2009 and since then has become a regarded expert in natural beekeeping. He was a speaker at the "National Natural Beekeeping unConference" in 2013, the "Northern Natural Beekeeper's Gathering" in 2014, 2015 and 2016 and has occasionally worked alongside Phil Chandler (The Barefoot Beekeeper) during his training courses at Brinscall Hall.

Wed 14th Nov **Open Speaker meeting** **Scarthwaite Hotel, 7-30pm**
Topic: Gardening for Bees **Speaker: Dr Julia Piggot**

Julia is our Seasonal Bee Inspector. She also runs the Brigsteer Bee Reserve, a private wildlife reserve in the Lyth Valley, Cumbria. The 17.5 acre reserve is made up of limestone pasture, meadow and woods. The woodland is planted with trees used by bees for nectar, honeydew and resin for propolis and the grassland is managed to favour a flower rich flora and to provide nest sites for bumble bees and solitary bees.

2019

Wed 9th Jan **Social Evening** **Scarthwaite Hotel, 7-30pm**

Wine and cheese evening. We shall also be showing *More than Honey*, a documentary film made in 2013 by the Swiss filmmaker Marcus Imhoof, which looks into the fascinating world of bees, and showing small family beekeepers and industrialised honey farms. *More than Honey* is a film on the relationship between mankind and honey bees, about nature and about our future.

Wed 13th Feb **Speaker meeting** **Scarthwaite Hotel, 7-30pm**
Topic: Trees for Bees **Speaker: Dr Phillip Donkersley**

Phillip achieved his doctorate from Lancaster University three years ago after carrying out his research in the hives of local beekeepers! He is now a post-doctoral research assistant at the University and has published a number of academic papers on bees. His talk will outline some of his research findings and may even contain some data gained from the research project started at the meadow at our club apiary.

Wed 13th Mar **Speaker meeting** **Scarthwaite Hotel, 7-30pm**
Topic: The hive as a processing centre **Speaker: Pete Sutcliffe**

Pete has been keeping bees for over thirty years, is a "Master Beekeeper", has held a number of senior positions with BBKA and Cheshire BKA.

To ensure the colony survives in a healthy state, honey bees collect everything they need from the surrounding area in the form of relatively simple, readily available, natural products. They then process these in sophisticated ways into such diverse items as building materials, miracle foods, antiseptic paints, and store them where necessary for future use. The abilities required for these processes have evolved over millennia to a level of amazing sophistication, but how do they do it? This lecture will describe those processes in a way that helps beekeepers understand the requirements of their colonies better.

More Asian Hornet Sightings



The hornet hovers outside of hives and attacks and eats the bee

Defra has confirmed new sightings of Asian Hornets in Liskeard, Cornwall and Hull in East Yorkshire. Earlier this month a nest was removed after a sighting in the Fowey area of south Cornwall and a second Asian hornet nest has just been found and destroyed in Fowey, close to the 1st nest site. In April a single Asian Hornet was found in Bury, Lancashire. Asian Hornets have also been sighted in Jersey, Guernsey, Alderney and Sark in the Channel Islands.

The Asian hornet is smaller than the native hornet and poses a significant risk to honey bees. The hornets feed by hovering in front of bee hives. They intercept returning bees, bite their heads off and then eat the rest.

Nicola Spence, Defra deputy director for plant and bee health, said: "These sightings in Liskeard and Hull underline the need to remain vigilant. I want to encourage people to look out for any Asian hornet nests and if you think you've spotted one, please report your sighting through the Asian hornet app or online."

Mine's bigger than yours!



A comb taken from a colony of *Apis dorsata* in the forests of Western Ghats in India.

Credit: Bees for Development Journal

Treating Your Bees with Natural Sources of Oxalic Acid

I have not treated my colonies with any form of chemicals for 10 years now as I believe they probably cause more harm than they do good. However, whilst talking to an American beekeeper recently, he explained a sort of half-way house approach. Basically, he finely shreds thyme or rhubarb leaves, scatters them across the tops of the frames, then closes up the hive. As bees tend to dislike anything foreign in the hive, the colony will drag the shredded leaves through the hive to the entrance in an attempt to remove them. Moisture and oils from the plant containing oxalic acid is spread throughout the hive during the cleaning out process.



Thyme



Rhubarb

It is very important to remember that with natural sources of varroa mite treatments, the objective is not to kill the mites but to create a level of irritation to the mites that makes them drop off without having an adverse effect on the bee's health. The concept of this natural treatment is to help the colony manage a tolerable level of mite population themselves. I have not tried this approach and cannot vouch for its efficacy. If anyone does, please let me know what happens.

Some years ago, I met with a high-level delegation to the UK of Baltic State beekeepers which included Latvia's Chief Veterinary Officer. She told me that their principal remedy against varroa is Bog Myrtle. Unfortunately, this is a fairly rare plant in the UK outside of Scotland where oil extracted from its leaves is regarded as effective in warding off flies, midges and ferocious clegs.



Bog Myrtle

Insectageddon

As beekeepers our interest, not unnaturally, tends to be mainly focused on honey bees and, as we are all very well aware, honey bee numbers have been declining steadily for some time. So, it is believed, are most other insects. Unfortunately, unlike birds and mammals, there is very little data available to give comparisons between current and past insect populations. Whilst some species, such as bees and butterflies, have consistently topped the public's insect popularity charts, most insects are actively disliked by the public and largely go unstudied. Yet insects are vital to our world!

Edward Wilson, a famous Harvard biologist wrote: "*if humans were to disappear the world would regenerate back to the rich state of equilibrium that existed ten thousand years ago but if insects were to vanish, the environment would collapse into chaos.*" Why? Because insects and other arthropods, in addition to pollination, play a vital role in the recycling of animal carcasses and rotting vegetation and are an important part of the food chain for birds, mammals, fish and reptiles.

What few studies have been carried out consistently show a severe, year on year decline in all insect populations. Whilst there is no single causal factor, climate change, extensive use of pesticides and changing farming practices have been identified as major factors.

As holistic beekeepers, we can play a role in helping the insect population to recover by helping to recover and restore as much natural habitat as possible and by encouraging others to abandon, or at least reduce, their use of pesticides and herbicides.

Wax Foundation

We have always recommended members to avoid the use of wax foundation and allow the bees to create their own comb from their own wax. Our reasons for this are twofold. Firstly, if left to draw out their own comb, the bees create a number of different sized cells. Whilst the reasons for this are not clear, there is a growing body of evidence to show that this is done deliberately and is not just a random act. The second is that much of the commercially available wax contains a varying degree of contamination from pesticides, herbicides and other undesirable substances.

Fresh, naturally drawn comb, is white and transparent. It develops a yellow colour by absorbing natural colours (carotenoids) from pollen, which gradually gets deeper with bees crawling over it. The wax also gets darker with each breeding cycle until it ends up a very dark shade of brown.

According to Dr Wolfgang Ritter, who has extensively researched this area, wax readily absorbs odours, including those from biocides used in the warehouses in which commercial wax is stored, as well as lipophilic substances (soluble fats) which include a number of varroacides.

The increasing worldwide demand for wax, for many purposes other than beekeeping, is resulting in the adulteration of pure wax with synthetic waxes such as paraffin and stearin. Foundation adulterated with paraffin has a lower melting point than pure bees wax and can melt in summer heat. That adulterated with stearin can become so hard that brood cannot emerge. There is also firm evidence to show that adulterated bees wax causes severe brood damage.

Whilst there is no doubt that commercially produced, wired foundation is much easier to handle, the needs of the bees suggest that letting them produce their own wax is a far healthier option.

2018-19 Courses and Open Meetings

Gardening for Bees by Dr Julia Piggot

Wednesday, 14th November 2018, Scarthwaite Hotel, 7-30pm

In addition to being our Seasonal Bee Inspector, Julia runs the Brigsteer Bee Reserve, a private wildlife reserve in the Lyth Valley, Cumbria. The 17.5 acre reserve is made up of limestone pasture, meadow and woods. The woodland is planted with trees used by bees for nectar, honeydew and resin for propolis and the grassland is managed to favour a flower rich flora and to provide nest sites for bumble bees and solitary bees.

Alternative Beekeeping for Beginners

If you have ever thought of owning a colony of honey bees then this two-part course is for you!

Part 1: Sunday, March 10th 2019, Scarthwaite Hotel, 9-30am to 4-00pm

This inter-active workshop focuses on responsible, low intervention, bee-centric approaches to beekeeping and will cover everything you need to know and consider **before** taking up beekeeping. Comprehensive notes, refreshments and lunch are included.

Part 2: Sunday, 5th May 2019, Club Apiary, Ashton Road, Lancaster, 10-00am to 3-00pm

Meet the bees! This practical session will introduce you to active colonies of bees housed in a variety of different types of long hive and provide you with the opportunity to handle bees for yourself under expert guidance. Refreshments and full protective equipment will be provided, although you will have to provide your own wellies.

Our Green Deserts

Imagine living in a desert with barely any food, water or shelter. This is how the typical lawn seems to most wild pollinators! Attempts to get people to convert their lawns to areas of wildflowers regularly fall on deaf ears because the British have an unshakeable passion for closely mown lawns, especially those with stripes!



The Middle English word *launde* originally referred to a glade or opening in the woods, but was later designated to artificial stretches of land that resembled such glades. Some of the earliest lawns were the grasslands around medieval castles, kept clear of trees so guards had an unobstructed view of approaching, perhaps hostile, visitors.

Closely shorn grass lawns first emerged in 17th century England at the homes of large, wealthy landowners. While sheep were still grazed on park-lands, wealthy landowners increasingly depended on human labour to tend the grass closest to their homes. By the end of this period, the English lawn was a symbol of status of the aristocracy and gentry as it showed that the owner could afford to keep land that was not being used for a building, or for food production.

This all changed on 31st August 1830 when Edwin Beard Budding was granted a British patent for the very first mechanical lawn mower, which came into commercial production in 1832. However, his model had two crucial drawbacks. It was immensely heavy (being made of cast iron) and difficult to manoeuvre in the garden, and did not cut the grass very well.

BY ROYAL WARRANT MAKERS TO HER MAJESTY THE QUEEN.

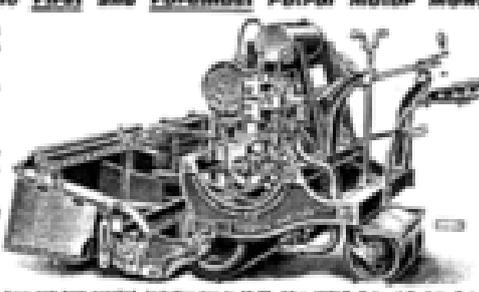
RANSOMES' MOTOR LAWN MOWERS.

The *Elce* and *Exonest* Petrol Motor Mowers.

Royal Botanic Society, 1904 and 1905. Gold Medals.

R.A.S.E., London, 1904. Silver Medal.

Made in three sizes, 24 in., 30 in., and 42 in. wide.



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Over 100 Medals for and lost, including one to R.A.S.E., 1904, 1905, 1906, 1907, 1908, 1909, 1910, 1911, 1912, 1913, 1914, 1915, 1916, 1917, 1918, 1919, 1920, 1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928, 1929, 1930, 1931, 1932, 1933, 1934, 1935, 1936, 1937, 1938, 1939, 1940, 1941, 1942, 1943, 1944, 1945, 1946, 1947, 1948, 1949, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025.

HAND POWER and HORSE and PONY MACHINES. In all sizes to suit every requirement.

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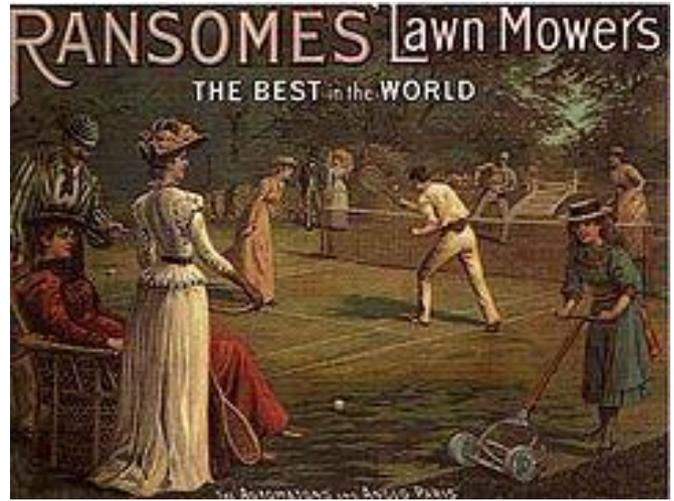
RANSOMES, SIMS & JEFFERIES, LTD., IPSWICH.

In the 1850s, Thomas Green of Leeds introduced a revolutionary mower design called the Silens Messor (meaning silent cutter), which used a chain to transmit power from the rear roller to the cutting cylinder. The machine was much lighter and quieter than the gear driven machines that preceded them, and won first prize at the first lawn mower trial at the London Horticultural Gardens. Thus began a great expansion in the lawn mower production in the 1860s. James Sumner of Lancashire patented the first steam-powered lawn mower in 1893. Around 1900, Ransomes' Automaton, available in chain or gear-

driven models, dominated the British market. In 1902, Ransomes produced the first commercially available mower powered by an internal combustion gasoline engine. JP Engineering of Leicester, founded after World War I, invented the first sit-on mower.

Middle-class families across the country, in imitation of aristocratic landscape gardens, began to grow finely trimmed lawns in their back gardens. From the 1860s, the cultivation of lawns, especially for sports, became a middle-class obsession in England.

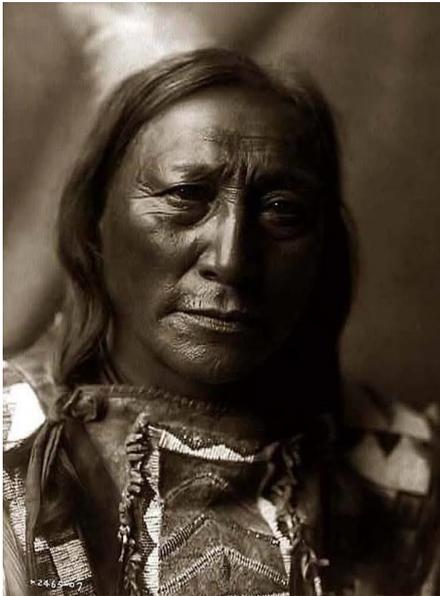
With the increasing popularity of sports in the mid-Victorian period, the lawn mower was used to craft modern-style sporting ovals, playing fields, pitches and grass courts for the nascent sports of football, lawn bowls, lawn tennis and others. The rise of Suburbanisation in the interwar period was heavily influenced by the garden city movement of Ebenezer Howard and the creation of the first garden suburbs at the turn of the 20th century. The garden suburb, developed through the efforts of social reformer, Henrietta Barnett, and her husband, exemplified the incorporation of the well-manicured lawn into suburban life.



Suburbs dramatically increased in size and during the 1930s, over 4 million new suburban houses were built and the 'suburban revolution' had made England the most heavily suburbanised country in the world by a considerable margin.

But this passion for closely-mown grass did not end with domestic lawns! As we look around today we see local authorities mowing vast acres of land, at public expense, for no other reason than having closely mown grass. Mile after mile of roadside verges are regularly cut, even along straight roads where the height of the vegetation has no impact on the line of vision of traffic. Business parks and other industrial sites often follow the same pattern.

The amount of potential forage lost for pollinators is vast and we are paying the bill both in terms of cash and reduction in pollinators. Perhaps the time has come to ask "why?".



"Someday the earth will weep, she will beg for her life, she will cry with tears of blood. You will make a choice, if you will help her or let her die, and when she dies, you too will die."

Hollow Horn Bear - Lakota 1850 - 1913

Diet Switches Honey Bee Larvae from Queen Pathway to Worker Development



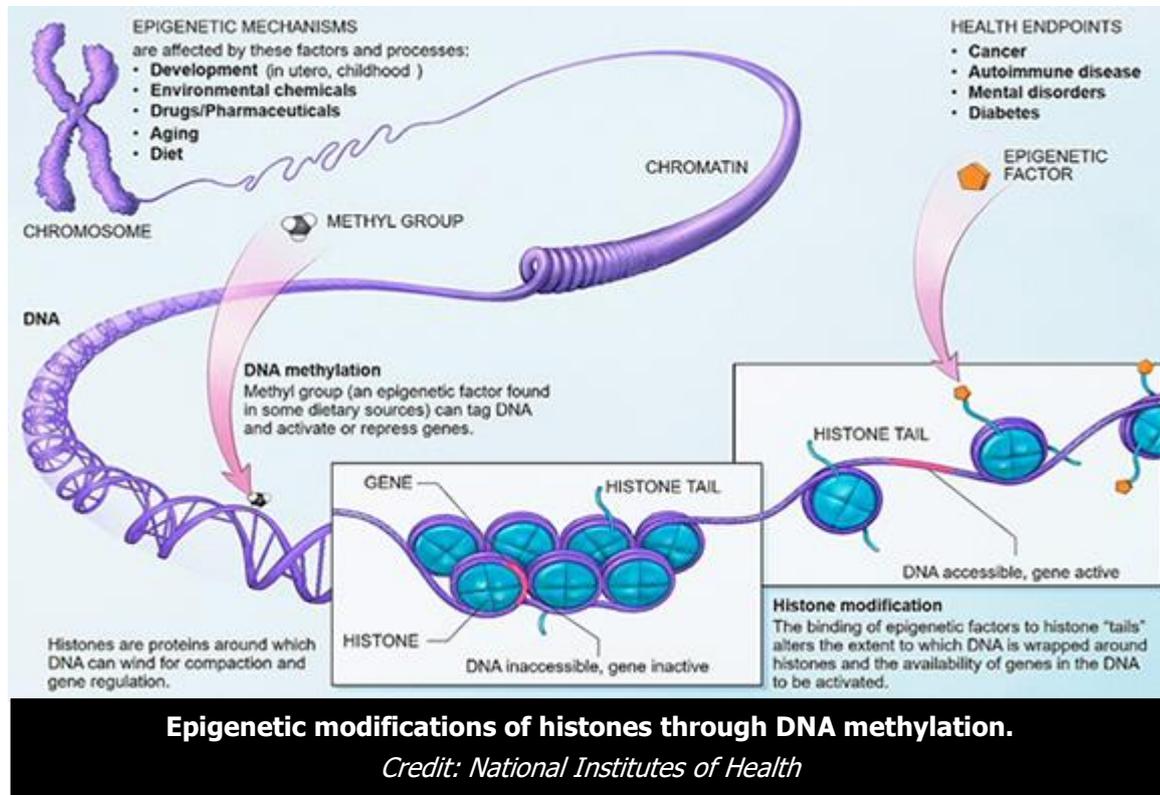
Late stage honey bee larvae: Credit Ryszard Maleszka

Scientists at Queen Mary University of London and Australian National University have unravelled how changes in nutrition in the early development of honey bees can result in vastly different adult characteristics.

Queen and worker honey bees are almost genetically identical, but receive a different diet as larvae. The researchers have found that specific protein patterns on their genome play an important role in determining which one they develop into. These proteins, known as histones, act as switches that control how the larvae develop. Diet determines which switches are activated. They found that the queen develops faster and the worker developmental pathway is actively switched on from a default queen developmental programme. This change is caused by epigenetics - a dynamic set of instructions that exist 'on top' of the genetic information. Epigenetic modifications encode and direct the programme of events that leads to differential gene expression and worker or queen developmental outcome. The study, published in *Genome Research*, describes the first genome wide map of histone patterns in the honey bee and the first between any organism of the same sex that differs in reproductive division of labour.

Bees are also very important pollinators - so it is crucial to understand their molecular biology, how they develop and the mechanisms that regulate this. Lead author Dr Paul Hurd, from Queen Mary University of London, said: "The ability of an individual larva to become a worker or a queen is due to the way genes are switched on or off in response to the specific diet; this determines such differing outcomes from the same genome." "We show that queens and workers have specific histone patterns even though their DNAs are the same. These proteins control both structural and functional aspects of the organism's genetic material and have the capacity to determine which part of the genome, and when, has to be activated to respond to both internal and external stimuli."

The histones have small chemical tags, or epigenetic modifications, that allow them to act differently to those that do not, usually by allowing access to the DNA and genes. The histones act a bit like cogs, allowing stretches of DNA to be densely rolled up. Epigenetic modifications of histones enable identical DNA to behave in different ways, because it causes the histones to unravel stretches of DNA making them accessible. These stretches of DNA can then be transcribed and translated into proteins.



Co-author Professor Ryszard Maleszka, from Australian National University, added: "The extent of histone modifications uncovered by this study was remarkable and exceeded our expectations. We were able to identify where the important differences are in the genomes of workers and queens." Epigenetic information can be altered by environmental factors, including diet. In the case of the honey bee, the queen larvae are fed a diet of royal jelly, a potent substance capable of changing developmental instructions. Dr. Hurd said: "Think of the genome as the instruction book of everything that is possible, but the epigenetics is the way in which those instructions are read. Epigenetics is about interpretation and of course there are many different ways to interpret these instructions and when and in response to what."

The authors found that some of the most important epigenetic differences are in regions of the honey bee genome that are not part of genes. For the first time, these caste-specific regulatory DNA regions that are so important in making a queen or a worker, have been identified.

Professor Maleszka said: "Our findings are important because a high level of similarity of epigenetic tool kits between honey bees and mammals makes this familiar insect an invaluable system to investigate the sophistications of epigenetic regulation that cannot be addressed in humans or other mammals."

To read the paper abstract: <https://genome.cshlp.org/content/early/2018/08/20/gr.236497.118>

Fred Ayres, Editor & Chairman, October 2018



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- Is manufactured locally, especially for LVCB
- Is constructed from pine wood to reduce the cost but will need an external preservative
- Despite its high specification, it is economically priced whilst offering exceptional value for money.

Open Meetings and Courses Programme 2018-19

It would be very helpful if members could print off the following notices and put them on local notice boards.



Gardening for Bees

by Dr Julia Piggot

7-30 pm, Wednesday, 14th November
Scarthwaite Country House Hotel
Crook O'Lune, Lancaster LA2 9HR

Whether you have a small patio, or a large garden, growing flowering plants is an effective way to help Britain's bees and other pollinating insects, such as butterflies, hoverflies etc. Pollinating insects need food, water and shelter. They love plants which are rich in nectar and pollen. Nectar contains sugar for energy, whilst pollen contains protein and oils – forming a balanced diet.

Cost £7 including refreshments.



For further details or to book a place visit
www.lunevalleybeekeepers.co.uk

Charity No: 1167725

ALTERNATIVE BEEKEEPING FOR BEGINNERS

**Part 1, Sunday, 10th March, 2019
9-30am to 4-00pm**

**Scarthwaite Country House Hotel
Crook O'Lune, Lancaster LA2 9HR**

If you have ever thought of owning a colony of honey bees but have been deterred by not knowing exactly what is involved, or how much time it might take, then this course is for you! This inter-active workshop focuses on responsible, low intervention, bee-centric approaches to beekeeping and will cover all you need to know to start keeping bees.



**Part 2: Sunday, 5th May 2019, 10-00am to 2-00pm
The Apiary, Nazareth House, Ashton Road, Lancaster LA1 5AQ**



Meet the bees! This practical session will introduce you to active colonies of bees housed in a variety of different types of long hive and provide you with the opportunity to handle bees for yourself under expert guidance. Full protective equipment will be provided, although you will have to provide your own wellies.



**For further details or to book a place visit
www.lunevalleybeekeepers.co.uk**

Charity No: 11677250