



Dr. Peter Stöfen

Autumn Letter 2018

Dear fellow bee-keepers, dear customers, dear friends,

The final touches on the bees are still pending. But this year I have decided to make sure that the autumn letter really is sent out in the autumn. This is also because, for the first time in 2019, we will place a drone lineage with pre-tested hygienic behaviour on the mating station in Friedrichskoog and our previous breeding philosophy will change or be somewhat supplemented. In this context, Detlev Biel, who is a member of the Buckfast breeding community Friedrichskoog, will explain below the new queens behavior in detail. From this it should become clear what can be expected from these queens and what not. Stay tuned for more!

On behalf of Jens Steinfeld and our entire team,

I would like to express my sincere thanks for the trust you have placed in us and for the many nice encounters over the past months. We hope very much that you were satisfied with our service, that we were able to fulfill the many special requests to our best of our

ability and that you received the queens in good condition on the date you requested. This logistical process alone is always a mammoth task and I am grateful to have found someone in Jens who can give me the support necessary to allow me to focus on the important task of bee-keeping. He has built up an expert and detailed level of knowledge of the pitfalls of shipping live animals and of course he has gained more and more insight of your wishes and needs. I am sure that this has not gone unnoticed! The use of only express shipping within Germany has

And you suddenly realise: it is time to start something new and to trust in the magic of new beginnings.

Meister Eckhart (1260 - 1327 Mystic und Provincial of the Dominican Order

proven to be the correct decision. We have suffered next to no losses in the past year. The distribution abroad has proven to be challenging in respect of certain countries due to long transit times, but also here the number of total losses remained within the expected limits and was overall manageable. Regrettably, express service providers do not transport queens by airplane, but we are in close contact with the service providers and constantly trying to find a solution that facilitates shipping within the EU.

Having almost not seen the sun in 2017 and experienced 1400mm of precipitation that really tested the resolve of our bees, of us bee-keepers but particularly of the farmers, this

year we experienced a once-in-a-lifetime summer, which was followed by a long and mild autumn. The abundance of light, continental dry air, the lack of wet and depressing cold were a blessing for the bees and for the people living hereabout. The

warmth resulted in a consistently good nectar flow:

The white clover (*Trifolium repens*) on the dikes and the endless sea aster areas (*Tripolium pannonicum*), which are spreading more and more in the foreland.

The infrastructure of the Friedrichskoog mating station has continued to improve considerably in recent years. We now have 2 remaining courtyard areas at our disposal, both of which are characterised by dense tree cover - untypi-

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cal of the marsh. This results in a much warmer and wind-protected microclimate than in the surrounding area - just perfect for a mating station. Even during longer periods of bad weather the mating results are relatively consistent. The mating seems to take place independently of drone gathering sites in the immediate vicinity or directly at the mating site. Our breeding community, consisting of Friederike Brondke, Peter Arndt, Detlev Biel and myself, has also grown together this year to a unit with an almost family-like character. We can only master the plethora of tasks together. Each of us stands in for the other without question when there is need - always with the goal in mind: to guarantee an optimal supply of drones both in terms of quality and quantity.

In June I attended, together with my partner Friederike Brondke, a breeding course organised by Lutz Eggert in Jena. We were able to take a closer look at his breeding work, especially at his queens selected on the basis of hygiene as a primary criterion. Until now, I had assumed that a bee selected on VSH and hygiene would not be in accordance with our breeding philosophy, namely to produce a well-bred typical Buckfast bee. This assumption turned out to be wrong! The colonies shown to us with a 100 % hygienic behaviour had a clear Buckfast character. Sisters and daughters of these queens are integrated largely within the colonies of our partner beekeepers and these have proven their practical suitability there with further demonstrating their hygienic behaviour.

As a consequence, the drone mother for 2019 in Friedrichskoog will be B15(LE) from Lutz Eggert. I am pleased to have been able to acquire this queen from him for a reasonable price, particularly in light of the high costs of breeding such a queen.

We have a sufficient number of daughters of B15 so that we can make our selection on the basis of hygiene criteria in the spring. This will enable us to place colonies with a hygienic behaviour of more than 85% in the mating station.

Our breeding lines in 2019:

Drone mother 2019 :

B15 (LE) = .16 –GR 65(LE) mrk B59 (MKN)
.15.- B103(IC) ilv mrk GR53(MKK)

A detailed description (in the form of an evaluation) will be provided in the Spring Letter 2019.

Breed mother 2019

B???? (BZF) = .17-B92(DB) frkg144(HS)

As in previous years, we will select and graft 4-5 colonies from the approximately 35 remaining drone colonies in the spring. As a result it is not possible to provide a pedigree number at this time.

This is where my breeding work as a multiplier lies. It is in creating a thoroughly bred bee that meets all the criteria of a Buckfast bee and was described in detail in our spring letter this year. The names Detlev Biel and Stefan Holmer speak for themselves!

You will be able to order as usual Buckfast queens mated at the mating station as well as selected queens from these breed mothers. In addition, we will also be delivery our economy queens. The prices for the economy queens have not been increased, however, due to the considerable increases in costs related to the mating station the prices for the queens mated in Friedrichskoog have been adjusted accordingly.

As in previous years, we will be making available a number of this year's overwintered daughters of the line B37(BZF) = .16 - B144(HSt) frkg B27(ABg). This was the leading drone colony of 2017 and has also shown their quality in 2018. The daughters of B37 has been paired with this year's drone line B92(DB). Shipping will begin at the earliest in the beginning of May, depending on the prevailing temperatures.

These will be available for sale shortly. Please order by email (EUR 189,-/each plus shipping)

NEW: "Hygiene"-Buckfast Queens

In addition, we will be able to offer a limited amount of daughters from breeding mothers with a pronounced hygienic behaviour. This breeding work will continue in parallel to the ordinary breeding activities and will be coordinated by Detlev Biel, who will describe in the following sections the conceptual basics and the planned procedure of our breeding community for the production of bees with extraordinary hygiene behaviour or with VSH characteristics:

Hygiene behaviour contra Varroa losses

Detlev Biel: Dear bee-keeping colleagues, many a beekeeper is currently looking to his colonies and is quietly praying that his bees will survive the winter and not succumb to the Varroa. We can fully understand this, although death is usually not caused directly by the mites but rather the bees tend to die from the secondary consequences of the Varroa mites. Let's begin by first considering what happens when Varroa mites are present in the colony:

In principle, it should be noted that our colonies are exposed to a constant danger from viruses and bacteria. These are ubiquitous (present) in many places, sometimes by chance or reinforced by neighbouring colonies. They can also have a seasonal effect. One only has to think of the American or European foulbrood, lime, stone or non-pit brood, Nosema, dysentery, amoebic disease, although the viruses with 18 different types clearly stand out. Having said that, all viruses and bacteria have one thing in common, they must manage to get into the body of bees. This can happen via food, amoebae, *Nosema apis* or Varroa. These viruses and bacteria multiply in the bee and the diseased bee then becomes the "vector" of the further infection chain. As a result, these events can lead to the demise of the entire colony.

Dr. Christoph Otten from the Centre for Bees and Beekeeping in Mayen, for example, has

clearly established this with the help of bee monitoring. The more mites there are in the colony, the higher the probability that the colony will be lost, since the Varroa, when it sucks at the haemolymph (the bee blood), introduces the viruses that are present into the bee and provides for the further distribution among the colony. These viruses then damage the colonies to such an extent that they often die before winter from the wing deformation virus or the acute bee paralysis virus.

If one considers this statement further, one inevitably concludes that a clear reduction of the number of afflicted bees within the colony significantly increases the chances of survival of the colony as a whole! In addition, this is exactly where we come in and where we would like to help you in the future! Our drone line in 2019 is characterised by a special characteristic. Our drone line has a particular, pronounced hygiene behaviour of at least 85%. What does this mean? The bees of the drone line recognise in at least 85% of the cases, if in a cell the brood is sick and/or dead. This behaviour is crucial when considering the health of a bee colony. The earlier a dead larva is detected and removed, the less likely it is that the viruses or bacteria present in the dead larva will develop further. Thus, the viruses no longer reach the stage of spore formation, since they were already removed from the colony before the transformation process.

This hygiene behaviour should be a central breeding goal of all further beekeeping efforts, in particular when one considers the situation of the American foulbrood with the pathogen Eric II, which spreads in many areas in Germany. If bees with a particularly developed hygiene behaviour remove large parts of the dead brood before the viruses spread further, then it is conceivable that colony losses and the imposition of exclusion zones can be avoided.

In addition, the drone line 2019 also shows that bees recognise Varroa-infected cells and often remove them. We see this repeatedly when we look at brood nests and come across open

combs when bees that have not yet reached hatching maturity confront us. The bees have recognised the mites in the comb and opened the cell. This behaviour is sufficient to prevent the mites from developing further in the cell and thus not becoming sexually mature. Some of the bees have then been known to remove the brood from the comb, but this is not decisive. The critical factor is the opening of the comb, since the metamorphosis of the mite can only be completed in the sealed comb. We are always happy to see such behaviour, which is referred to as VSH behaviour. Having said that, this behaviour should be viewed as a possible additional characteristic/performance of our patients, because in order to evaluate it and quantify this activity, all drone colonies would have to be infected with a standardised number of mites at a certain point in time and later brood combs would have to be opened and evaluated on a large scale. It is simply not practical to realise this kind of work given the large number of drone colonies that are to be found in the mating station and in the protectorate band. It is, however, possible to observe the hygiene behaviour of all drone colonies and only select colonies with at least 85% hygiene behaviour.

Since this behaviour is an additional behaviour, we only pick queens with a maternal hygiene behaviour of at least 85% when we are choosing queens to be subsequently offered to you as "hygienic sensitive" queens. For all other queen offspring, the mothers come from our tried and tested Buckfast breeding, but were not further selected based on their hygienic behaviour. Thus, the behaviour can be acquired by the pairing, but does not have to be.

Once you acquire our hygiene queens, then you have laid the foundation stone for successful beekeeping in future generations, which can prevent the described disastrous collapse. It is then up to you to preserve these properties. In future, use only queens as breeding mothers with the highest hygiene behaviour. Make sure that there are as many daughters as possible on your stands and that the probability increases

that your F1 offspring will also acquire this behaviour. If you decide to pursue this course of action, it is recommended that you test your colonies as follows: Identify 100 cells with covered brood, which will hatch shortly and stab through the cell cover with a very thin needle, thereby killing the brood.

It would be even better to remove a piece of covered brood from the colony, to freeze this and later to return a specific, defined piece of the brood back into the colony. Then check how many cells have been opened and cleaned out by the bees after 12 and 24 hours. This figure is to be put in relation to the overall number of brood cells, thereby allowing you to identify the percentage of cleaning behaviour of your colonies. This test should be repeated in autumn, spring and summer as the hygiene behaviour of the colonies can vary depending on the season. It is highest in spring. Once you have found your "pearl", then make every effort to mate this specimen with drones that demonstrate this hygiene behaviour, too.

We believe this to be a practicable way that should be feasible for any truly interested beekeepers. Of course, our mating station remains at your disposal for your chosen "pearls" so that you have the highest possible chance of ensuring the pairing of your queens.

Orders/Shipping

You can place your order as of now as always either online or by using the order form. There you will also find the new prices and shipping dates. The first shipping date for our economy queens will be 11.06.2019; for queens mated in Friedrichskoog, we will start shipping one week later. Please ask questions, place orders etc. primarily by e-mail as it is often difficult to reach us by phone during the season.

As usual, detailed information on the loading of our mating station will be made available on our homepage at the beginning of the year. Thereafter, pre-registrations are possible within

the framework of the expected drone availability. Unfortunately, due to long delivery times and uncertainties caused by difficulties with the postal service, we can only send queens to the following countries once payment has already been received and at the buyer's risk: Romania,

Bulgaria, Greece, Spain and Portugal. In general, we ship exclusively within the European Union, as we cannot influence the processing times at customs.

Allow me to conclude as always with some words by Theodor Storm:

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*And the woods and moors aglow,
That one can fervently believe,
After every sorrow of winter
There lies a distant spring day.*

Just before that distant spring day, I will get back to you and tell you all about the hygiene behaviour of our drone populations. Until then, all the best and well-being for you and your bees.

Warm regards



Dr. Peter Stöfen

Special thanks to Killian O'Brian who did a really good job translating the autumn letter into English.



Order 2019	Quantity	Item	Price in EUR (incl. VAT)
		Package of 3 economy queens subject to availability, shipment from 10 June	114,-
		Buckfast breeding queen, from mating station mated at the mating station Friedrichskoog subject to availability, shipment from 17 June to end of August	65,-
		Buckfast breeding queen, selected from mating station mated at the mating station Friedrichskoog, selected subject to availability, shipment from 17 June to end of August	109,-
		"Hygienic sensitive" Buckfast breeding queen, from mating station mated at the mating station Friedrichskoog, subject to availability, shipment from 17 June to end of August	169,-
Preferred shipping date:			
Shipping options	<input type="checkbox"/> Germany, Express EUR 18,- per delivery of up to 7 queens <input type="checkbox"/> Overseas, Standard.....EUR 20,00 Warenbrief International, priorité, with RFID tracking per delivery of up to 7 queens, islands might be more expensive Due to long shipping times we deliver to Romania, Bulgaria, Greece, Spain and Portugal only at the buyer's risk and after having received the payment. Please keep in mind that RFID tracking is not available in all regions of Europe.		
Contact details	Family name Mr / Mrs		First name
	Company		
	Address		
	Postcode	City	
	Country		
	Telephone number		
	Email address		
	Payment: You will have received your invoice with your order confirmation. You are kindly asked to settle the invoice not later than 2 weeks prior to shipping. Shipping: approximately one week prior to shipping, you will receive an email to ensure that the queens can be received safely.		

(Date / Signature)

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