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The Buckfast Breeding Program - Past, Present & Future

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Buckfast breeding program is breeding principles developed at Buckfast Abbey by the Benedictinian monk Brother Adam. Buckfast is a small place in southwestern England where there have been a monastery in very old times which was restored in the 19th century. In the beginning of the 20th century the young boy Karl Kerhle arrived there from southern Germany. He became Brother Adam and devoted his life not only to the monastery life of the Benedictinian vows of prayer and work but also to be a tool to give us in first place a good breeding program, but also a good bee.

There is nothing complicated or mysterious about the Buckfast breeding principles. They come from common sense without prejudices. They use 'natural selection' where you let the best possible genes that can contribute, do it. To your help you have the bees themselves. Brother Adam often gave the advice: *Let the bees tell you!*

There are two key words for Buckfast breeding, *cooperation* and *effectiveness*. The goal is the highest effectiveness: *Best result with least possible input*. To achieve this goal all involved components have to cooperate, from genes from different sources to people from different places. In the bees the genes cooperate and the beekeepers who breed them do it also. Without these guidelines there wouldn't have been any Buckfast bee and without them the Buckfast bees will cease to be. Also, most important, to achieve such a goal is an effective and integrated management system, adapted also to the environment and different nectar flows. Such a management system is though not the issue of this lecture, but can be learned from Brother Adams books and from other experienced beekeepers. Key principles here are generous amount of space for egg laying, the bees themselves and for storage of food in appropriate timing with the development of the bees.

Brother Adam was led into combination breeding, a kind of crossbreeding or hybridbreeding, but not of the kind you most often think of when you hear these words. When the tracheal mite and the acarine disease almost devastated the British beekeeping in the beginning of this century, Brother Adam found that the darker brown North Italian bee and its crosses was resistant to the effects of this internal mite.

Brother Adam was led into looking for good traits in different

strains and races of bees and combine them and refine the combinations in selecting the most desirable combinations for further breeding. Today the main Buckfast varieties have influences mostly from *A.m. ligustica* (North Italian), *A.m. mellifera* (English), *A.m. mellifera* (French), *A.m. anatolica* (Turkish) and *A.m. cecropia* (Greece).

For this purpose he understood that control also of the male side of the combination was of vital importance. A mating station, which you provide with drones from sister queens was his way. And it has worked very well. If you look at the whole colony as an individual and you want to combine two good individuals, which means traits from two good bee colonies into new colonies, you have to use virgins from one of them and drones from daughter queens of the other one.

Brother Adam could not have reached such a standard of his work without the help of other people. Many have they been, both known and unknown for the 'public'. The first you think of are of course the monastery where he lived. Many has helped around the world with supply of knowledge and practical help finding interesting strains of bees and transportation help. When more and more Buckfast beekeeping 'centers' have been established in various parts of the world, they also have helped in different ways.

Today the same principals described above have to be followed, if you want to keep and develop a Buckfast type of breeding system and bee. It is important to understand that Brother Adam never tried to *preserve* a strain or a good individual colony, or to find out a way to make the same successful combination again. He knew that this is impossible, to keep an high and totally even level of the quality. You will end up downwards with such a goal. Instead he aimed upwards, for a steady progress. Each generation was the take-off for the possibly even more succesful coming generations.

You follow the Buckfast principles when you combine different established Buckfast varieties, for further stability and progress. You also follow the Buckfast principles when you try out new strains in combinations with the main Buckfast strain, like is done in for example Luxemburg, Denmark and Sweden as well as of course at Buckfast Abbey. Today, strains with possible varroa resistant traits are of special interest. Strains that at the same time are possible to make combination bees from that are easy to handle. Under trial today among Buckfast breeders are *A.m. monticola* (East African mountains), *A.m. sahariensis* (Marockoan oases), *A.m. meda* (Iran) and *A.m. lamarckii* (Egypt). One maybe interesting strain that has not been tried out yet is the mountain variety of *A.m. unicolor* (Madagaskar). The possible *A.m. mellifera* strain(s) in eastern Russia and northern China are other possible interesting strains for combination breeding.

You follow the Buckfast principles when you cooperate with

other breeders and generously share breeding material with them. Why should you do that? Because it is likely there will rise very good combination at these other Buckfast breeding centers, combinations you can bring back breeding from in your turn. And the more centers of breeding there are, with related bees, the more do you avoid the biggest enemy, inbreeding. Inbreeding makes you loose important genes and it makes your bees less effective, as they among other things will be more susceptible to diseases when the inbreeding goes to far. But you need some kind of inbreeding though to make your combinations stable enough for acceptable even results. Therefore different breeding centers that regularly exchange material for tests is of vital need. And to be remembered are these words of Brother Adam to make us understand that 100% stability is not the aim: *Without variation there is no possibility for further progress.*

What is a Buckfast bee? Well, strictly spoken, it is a strain of bee that is bred at the place of Buckfast in England, and bee colonies that are headed by honey bee queens from Buckfast. Those queens should be bred from colonies that have reached a minimum standard for what can be labeled Buckfast. But words are the means by which we communicate. And they mean what we put into them. A Xerox copy became a substitute for a photocopy. Filofax is becoming a substitute for a time calendar. Thus Buckfast can be a substitute for a bee bred according to the Buckfast principals. Or maybe not. If different Buckfast breeding centers are differing too much from each other, maybe the resulting bee is too different to be called Buckfast. Or does that matter? Just think of all the different so called Italian bees around the world. Anyhow, if you today sell queens under the name of Buckfast, you have to have an agreement with Buckfast Abbey, to be able to get breeding material from there. And because my own strain of bees at the moment differ substantially from the main Buckfast strain, anyway if you look at the pedigree, even if it is bred according to Buckfast principals, I call it Elgon instead of Buckfast. Elgon, as my bee has a lot of influence from *A.m. monticola*.

What makes *you* a Buckfast breeder? The basic is that you have to be able to listen to what your bees tell you. Which bee colonies are giving the result you want? Or are closest to it? If you can discern differences between your bee colonies, you can become, not only a Buckfast breeder, but also a successful bee breeder. Actually it is a necessity.

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