ORGANIC BEEKEEPING – A DISCUSSION

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In March 2010, Mr Ian Staples of the company Rio San Pedro in Chile contacted B/D. Ian is a commercial beekeeper working to achieve organic beekeeping. This article presents his comments concerning the difficulties of meeting organic standards, and his frustration on being faced with many different sets of standards. As a honey exporter, Rio San Pedro must endeavour to meet the standards which apply in the country where their honey is to be sold, and different markets have different demands.

The article includes also comments from Mr Ulrich Broker, an organic beekeeping certifier based in Germany, and lastly from B/D.

Ian Staples, from Chile

For beekeepers to gain organic status, one might expect there to be international guidelines and rules, administered by the organic accreditation agencies. However, this is not the case. As Chilean beekeepers, determined to work to European organic standards, we find that there are 30 different, wide-ranging certification standards for organic honey. The differences can be big. Let us compare two of these sets of rules: those applied in Canada and the USA, with those applied in Europe. These rules differ on many aspects of beekeeping such as what hives should be made of, how hives can be treated, the origin of queens, location of apiaries, winter feeding and disease and pest control. On all these points there are marked differences between the two sets of rules. The European rules are the most strict and difficult to achieve for a commercial beekeeper, which might be admirable in some cases, but some of the standards, in my view, are impractical while others appear nonsensical. We shall examine two points of difference: origin of queens and control of Nosema ceranae.

Origin of queens

According to European organic standards, at least 90% of new queens must come from a certified organic beekeeper. According to Canadian and USA standards, queens can come from non-organic queen producers. If Canadian beekeepers do not buy in queens, they do not have a business. This is because in Canada the productive season is so short, that unless they introduce a queen “ready to go” they have no business. If beekeepers must produce their own queens, this means that the season is nearly finished before a colony has time to develop.

The best, specialised queen breeders are focused on selecting improved bees. If we take a closer look at Chile, there are no organic producers geared to sell queens. One of the best queen breeders in Chile is a company called Pacific Queens, who export many queens to Canada and the rest of the world. For 15 years this company has concentrated on selecting queens with an increasing ability to minimise Varroa damage. Pacific Queens is not certified as an organic producer and under European rules, the organic beekeeper should not be buying from them. However, their queen breeding programme is developing a bee that can live with Varroa, exactly the thing that organic standards see as desirable. Pacific Queens probably offer the best solution in Chile to reduce the impact of Varroa. Unless the European standard can show that honey produced from a colony from a non-organic queen is contaminated, the reason for this rule is not clear.

Control of Nosema ceranae

This is the areas in which European and Canadian/USA standards differ most. Nosema ceranae is a very serious disease of bees, widespread in both Europe and Chile. At Rio San Pedro, we have been rigorous about using no form of pharmaceutical product to control Nosema, although each winter the level of infection has risen and we have suffered heavy losses, especially in early spring. We have had to work hard to recover lost colony numbers. When we discussed this with IMO Switzerland, one of the most respected organic accreditation agencies in Chile, they gave us good advice but we were already following most of their recommendations which included not keeping hives on the ground, frequent removal of old comb, not unifying weak colonies with strong colonies, and ensuring strong nuclei when forming new colonies.

In June to September 2009, with strong and apparently healthy bee colonies that we had moved to the Mediterranean climate in the central region of Chile, we started to see huge bee losses with up to 50 colonies dying each day. Analysis showed we had a high level of Nosema infection. In the summer the level of infection had been low and we thought we were on top of the problem. Despite these losses I refused to use any product until one block of 600 bee colonies had been reduced to 100. I then instructed that we should use the pharmaceutical product Fumagillin or we would have lost every single bee.
Although some experiments have been done on plant extracts such as achillea, basil, dandelion and thyme, and there is some evidence that these can be effective, none are nearly as effective as Fumagillin. We do not apply Fumagillin in the winter feed, but spray it on the bees in the autumn using a sugar mix. The bees ingest this mix as they clean each other but they do not have sufficient to store. Post application analysis shows no residue of Fumagillin in the honey or the wax after treatment.

This is where the European standards and the Canadian/USA standards are very different. The European organic standards do not permit the use of Fumagillin, whereas the Canadian/USA standards recognise that bees should be healthy and be helped to survive: Fumagillin is a recommended product.

In conclusion, I would urge a revision of the European standards, with input from skilled commercial beekeepers, instead of relying on bureaucrats. The risk is that if we ignore these questions, many unscrupulous producers will simply cheat, undermining the whole concept of organic and responsible apiculture. This is unacceptable.

From Ulrich Bröker, Germany

It would be excellent if there were one, world-wide unifying set of standards. However, a world-wide consent covering all aspects and interests of participating parties, considering all differences in beekeeping economy, structural conditions, natural resources, availability of equipment, access to markets and so on, seems to be difficult and unlikely to be achieved. IFOAM1 and FAO2 have set overarching frameworks for organic certification in an attempt to create a common base and understanding for what can be defined as organic. However these are not binding for any individual nation or region.

National legislation can set organic rules according to their estimation about what is appropriate and realistic for their own circumstances. European standards may appear strict, but under European conditions organic apiculture seems to work. Here the majority of beekeepers are hobbyists having less than 30 colonies and their main motivation is pleasure and a concern for ecological relations. The European standards and organic legislation were not written for nations in the sub-tropics with large-scale apiculture and very different conditions and situations. However, the fact remains that for any honey to be sold as organic in the EU it must be produced under the EU guidelines, or the exporting state’s organic legislation must be approved as equivalent to the EU standards.

Origin of queens

This is not a problem in Europe, where most of the beekeepers raise queens from their own stock, and where there are a number of organic breeders. This rule is not written to reduce honey contamination, but to enhance organic production in general, across the whole of the beekeeping sector. Nobody suggests that honey quality is associated with the queen’s origin. However, the global trade with queens has another aspect: distributing queens - or even colonies - across climate zones and hemispheres, risks spreading honey bee diseases. There are enough examples of disastrous effects, for example Varroa, small hive beetle and Nosema. For good reasons, the European organic standard demands locally, well-adapted strains of bees. Perhaps the solution is to set up an organic queen breeding scheme in Chile.

**Nosema ceranae**

The occurrence and cause of Nosema ceranae on Apis mellifera is still discussed and remains controversial. There is no organic patent medicine for control. Infestation seems to be related to colonies with poor performance of vitality, nevertheless strong colonies are under threat and far from being safe. It is hard to suggest how your good practice can be further improved. Part of your problems must be related to the structure of commercial apiculture, with a considerable concentration of colonies which does not occur naturally. The difference between the European and Canadian/USA standards is in part one of philosophy. In general, European standards are predominantly based upon fundamental assumptions, while American standards focus on pragmatism and feasibility.

Another pressing issue within the organic apiculture debate is that of inspection. How can the application of organic rules be verified during an inspection of two hours or even one day? How to deal with risks from untrue documentation, which is at the same time understandable? I am concerned with these questions.

At the end of August 2010 Apimondia’s 1st International Conference on Organic Beekeeping will be held in Bulgaria (see Look Ahead). It will provide a chance to address many issues which have arisen since certification of bee products began. There is considerable scope for revision, adaptation and harmonisation of international guidelines and it is hoped this process will gain momentum with the Apimondia Conference in Bulgaria.

From Bees for Development

It is difficult to see how one set of rules can apply globally. In sub-Saharan Africa, for example, beekeeping is very different from Chile and Europe. Many beekeepers in Africa practise what might be called wild or natural beekeeping, and hives are distributed throughout vast natural forests. Producing a map of the apiary (a requirement for certification schemes) is impossible. Furthermore in Africa, beekeepers obtain new colonies through natural colonisation by wild bees. They cannot produce any documentation to prove that these colonising swarms have been "organically reared". Bringing African beekeeping into the debate about organic apiculture raises additional questions for organic certification, not just because of challenges of the audit trail, but because B/D would argue that wild or natural beekeeping, as practised in many countries, is more ecological and organic than the strictest, organically-certified bee farm.

1 International Federation of Organic Agricultural Movements
2 Food and Agriculture Organization of the United Nations

Further reading

CONRAD, R. (2007) Natural beekeeping - organic approaches to modern apiculture
SCHACKER, M (2008) A spring without bees - how CCD has endangered our food supply
*available from the BfD online store
** www.beesfordevelopment.org/portal/index.php