

Varroa Resistance Breeding in Practise

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Starting point 2001

- Reports of mites resistant to Apistan
- The idea of Bond –testing was discussed
- Varroa was The Biggest Thread
- Daughters of B14 woke up curiosity
- Mite levels (infestation) were varying a lot (found 1996 -> 1999 mites in all beeyards)
- Honey was still needed...

The decision

- Program with two parts: The big hives and nucs
- The big hives: August treatments were immediately stopped, the only treatment was oxalic acid dropping in late October and the amount of the treatment was to be diminished each year by 5 ml (starting with 38ml 2001)
- Nucs: 70 St. 6(12) frame nucs were established and left without treatments right away

Why?

- It would have been too risky to stop all treatments at once
- Economical losses
- Wrong hives would survive (nucs, swarms etc.)
- 5 ml diminishing/year was only a guess
- There was no knowledge of the efficiency of smaller amounts of OA

What happened?

- The estimated efficiency of OA droppings (bee samples):
- 28 ml = 90% of the mites(2003)
- 23 ml => 80% (2004)
- 18 ml => 50- 70% (2005)
- 13 ml => 50% (2006)
- 8ml << 30% (2007)
- 3ml 10% (2008)

Mites dropping...

- 2003 110
- 2004 100
- 2005 200
- 2006 300 some hives die in summer
- 2007 430 big losses start
- 2008 80 all colonies divided to 3-4 nucs
- 2009 ?? Bee samples(7 hives): 8%
infestation

1ml oxalic acid(3%) affects about 500 bees

Untreated nucs 2001- 2006



- No bees or brood was taken out or in
- Queens were laying all summer
- New nucs were made to compensate losses
- Last was dead in winter 2005-2006
- Dronelines 2003,2004 and 2005 were from the surviving nucs

Situation now

- Autumn 2009 bees looked better than one year before
- 50 queens were sent to 8 beekeepers in Finland and Europe (Austria, Luxembourg and Germany) in August 2009
- All were put into hives, that are not treated
- Bees behaviour has changed (sense of smell especially good?)

Future

- Criteria for selection will be changed?
- So far surviving and low mite counts have been almost the only criteria
- Now the emphasis has to be put also on other qualities: gentleness, calmness etc.

Thank you!

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