Risk factors of honeybee colony winter losses in Estonia

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Background

Honeybee colony losses – a global concern

2012-2014 EU concerted action EPILOBEE
A pan-European epidemiological study on honeybee colony losses including Estonia

Main pan-European finding: honeybee colony survival depends on beekeeper education and disease control
(Antoine Jacques et al 2017)

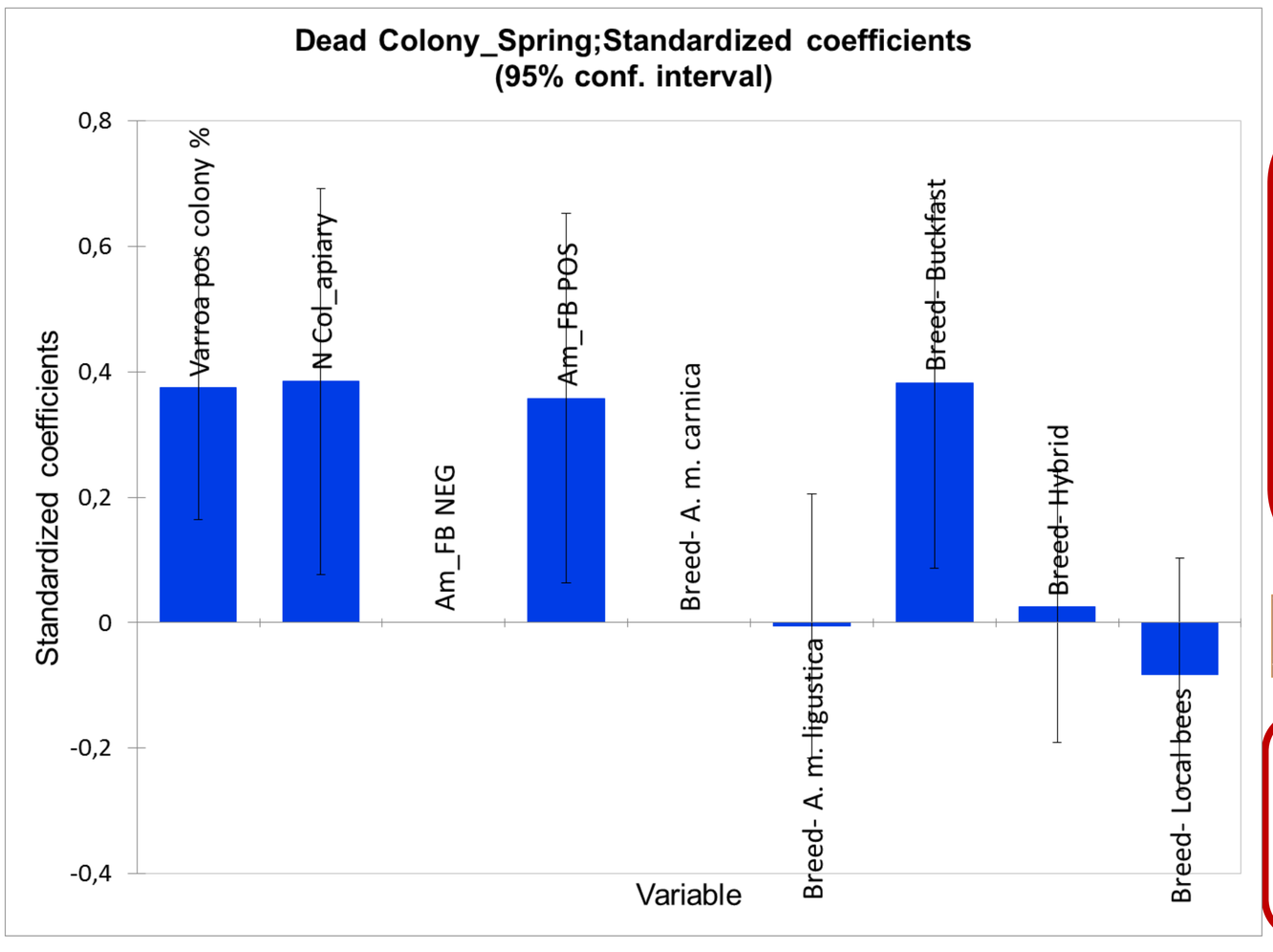
The question

What about Estonia?

Action

- Analysis of data collected in Estonia
- Sampling, sample analysis and data collection: autumn 2012 till summer 2013
- SAMPLE: 196 apiaries; 2332 colonies

- Data analysis: multivariable logistic regression
- Outcome variable:
  at least one colony loss (excl. predation) in apiary – yes/no



Results

Univariable analysis: p<0.05

- Breed (Buckfast) ↑
- Varroa affected colonies % ↑
- Environment – agricult. lands ↓
- Nr of colonies in apiary ↑
- Keeper > 5 years ↑

p<0.2

- Nosema pos apiary ↑
- Am. foulbrood pos apiary ↑
- Environment – woods ↓
- Environment - town/city ↑

Final multivariable model: p<0.05

- Breed (Buckfast) ↑
- Varroa affected colonies % ↑
- Am. foulbrood pos apiary ↑
- No of colonies in apiary ↑

Conclusions

- Yes, diseases are most important
- Agriculture has no (negative) effect

Reference: Jacques, Antoine et al. “A pan-European epidemiological study reveals honey bee colony survival depends on beekeeper education and disease control.” PloS one vol. 12,3 e0172591. 9 Mar. 2017, doi:10.1371/journal.pone.0172591:

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