



Action FA0803

Winter bee losses data collection in Italy

F. Mutinelli, L. Barzon, A. Baggio, G. Formato*

IZS delle Venezie, *IZS Lazio e Toscana

COLOSS Work Shop
Standards on monitoring & positive feed-back loops between scientists and beekeepers



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Honey bee losses in Italy

- ✓ Italy accounts for 1,150,000 honey bee colonies (Commission Regulation (EC) No 939/2007) and 75,000 beekeepers.
- ✓ Reports of losses from Italian beekeepers lead to two main scenarios:
- ✓ spring and summer losses, mostly caused by incorrect use or abuse of agrochemicals;
- ✓ late summer and winter losses caused by *Varroa destructor* and associated diseases; inappropriate beekeeping practices.



Italy - Winter mortality in 2007

- Honeybee colonies losses recorded in Italy in Winter 2007 accounted for 30-40% of the hive population in the northern part of the country and for 10-30% in the central-southern one.
- These losses were mainly attributed to insufficient and/or improper control of varroa infestation and partially to inadequate apicultural techniques, i.e. poor wintering, poor feeding, etc.

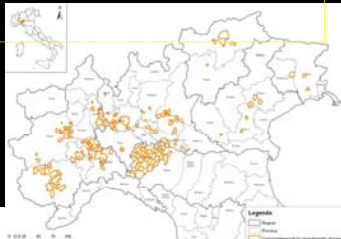


Italy - Spring mortality in 2008

➢ Severe weakening/mortality of bee colonies were recorded in Spring 2008 (March-June) in northern Italy.

➢ These episodes were associated with the presence of corn cultivation (>80% in northern Italy) and corn sowing procedure.

➢ Furthermore, more than 50% of analysed dead bees was positive to neonicotinoids.



Official reporting system



Spring losses 2008

Bee mortality related to:

- Corn cultivation (>80% in northern Italy)
- Corn sowing practice (March-June)
- Dead bees positive to neonicotinoids (>50% of the samples)
- Used also on fruit trees

➢ Precautionary ban of neonicotinoids:

September 2008 - September 2010



Monitoring by questionnaires in 2007/08 – 2008/09



COLOSS questionnaire

Other questionnaires



Monitoring by questionnaires in 2007/08 – 2008/09

| Year | Region | No. of beekeepers | No. of colonies | No. of colonies with winter losses | % of colonies with winter losses | No. of colonies with winter losses | % of colonies with winter losses |
|-----------|---------------------|-------------------|-----------------|------------------------------------|----------------------------------|------------------------------------|----------------------------------|
| 2007-2008 | Italy (all regions) | 35 | 280 | 11 | 3.9% | 11 | 3.9% |
| | North-West | 10 | 80 | 4 | 5.0% | 4 | 5.0% |
| | North-East | 25 | 200 | 7 | 3.5% | 7 | 3.5% |
| 2008-2009 | Italy (all regions) | 122 | 1,000 | 240 | 24.0% | 240 | 24.0% |
| | North-West | 35 | 280 | 55 | 19.6% | 55 | 19.6% |
| | North-East | 87 | 720 | 185 | 25.8% | 185 | 25.8% |

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* The used questionnaire was developed in the framework of COST Action FA0803 "COLOSS"



2007/08 – 2008/09 Winter losses

- ✓ Winter mortality recorded in Italy in 2007/08 and 2008/09 accounted on average to **37%** and from **11 to 24%**, respectively



COST questionnaire – Veneto region - Winter 2009/10

- ✓ Losses were recorded through the COST questionnaire applied in Veneto region (northeastern Italy) with approximately 58,000 hives officially registered
- ✓ 153 returned questionnaires representative of 4,885 beehives
- ✓ Winter losses of **23%** (0-100%) = 1,113 colonies



COST questionnaire – Lazio region - Winter 2009/10

- ✓ The same questionnaire was applied by telephone calls in Lazio region (central Italy with approximately 60,000 hives officially registered)
- ✓ Winter colony losses of **17%** (0-85%) (38 responders with 7,939 hives) = 1,324



COST questionnaire – All data - Winter 2009/10

- ✓ Winter colony losses of **19%** (0-100%) (182 returned questionnaires) = 2,487 (13,324-10,387)



Apenet network - Winter 2009/10

- Based on the Italian monitoring network "APENET", 2009/10 winter losses accounted to **17.6%** (113 dead hives/753 hives)
- The network is composed of approx. 1,000 beehives involving 19 of 20 regions
- One monitoring unit composed of 50 beehives located in 5 apiaries





- ✓ The main cause reported by beekeepers to explain winter bee losses was the difficulty encountered to carry out an appropriate control of Varroa mite infestation
- ✓ This was mainly linked to the limited effectiveness of thymol-based medicines and, in general, to the limited availability of medicines for the control of varroaosis
- ✓ Inappropriate beekeeping practice is also considered (feeding, wintering, etc.)



Comments

- ✓ The questionnaire seems able to provide relevant information on colony losses despite its application on the national territory is still very limited
- ✓ Beekeepers and their associations need to be sensitized to an active participation for an appropriate data collection



Franco Mutinelli
Istituto Zooprofilattico Sperimentale delle Venezie
fmutinelli@izsvenezie.it

