

# Estimation of honeybee colony losses within professional beekeepers in France during winter 2007/2008

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In recent years, professional french beekeepers have found an increase in winter honeybee colony losses (mortality, weakness, diseased or queenless). At the moment in France, neither monitoring nor survey was released in order to assess bee losses. That is why the Health Committee of the CNDA (Centre National du Développement Apicole) has undertaken an investigation into this issue during the winter 2007-2008 with a sampling of professional beekeepers.

168 professional french beekeepers (more than 150 hives) were randomly selected out of 782 beekeeping farms. Therefore, this survey includes 1358 apiaries and 62400 colonies. A questionnaire was sent to beekeepers. An average of 29.3% (IC95% = [26% - 32%]) of losses was recorded, ranging from 21 to 62%.

The beekeepers estimated the mortality rates of colony during the winter 2005-2006 and 2006-2007 being 16.8% and 17.3 % respectively. Some regions (North-East of France) were more affected than others.

Dead colonies represented 50% of the losses, when queenless and diseased colonies were 14% and 8% respectively. The rest (28%) was weak colonies.

Preliminary results for possible causes show that availability of food, strength of the colonies and varroa pressure could explain partly the losses.

A further analysis will give us results about the correlation between bee colony losses and the different variables studied, in which we find beekeeping practices for wintering preparation (varroa treatment), colony background during the season, environment of apiary and colony poisoning due to pesticides (acute poisoning or depopulation).

We intend to extend this national survey over several years to get a close monitoring of loss rate. We'll be able, next September 2009, to show the first figures on bee colony losses during winter 2008/2009.