**COLOSS: Honey Bee Colony Loss/Survival Survey 2018/2019**

Dear Beekeeper,

Your contribution to this annual survey on colony losses is much appreciated. At various points in the questionnaire below, there are points of Information marked in RED. Hopefully these will explain the logic of the questions that follow. Please try to complete all the questions as this will allow not only the number of winter colony losses to be calculated, but will also contribute to identifying the possible causes for these losses.

Please send completed questionnaires to:

Dr Mary F Coffey, Teagasc, Oakpark Research Centre, Carlow

All completed surveys should be returned by 1 June 2019.

The questionnaire will also be available online from May 1st on the National Apiculture Programme website (www.nationalapicultureprogramme.info) and the webpages of FIBKA, NIHBS and IBA CLG. It is important that each beekeeper only completes the survey once.

Thank you
Mary F

**Information:** Completing your personal details (name, address and contact details) is optional but details of the town/county closest to apiary is essential. Please note that any personal information provided will be removed from the file used for processing the data and kept confidential.

First name ___________________________________________________
Last name ___________________________________________________
Address ___________________________________________________
City ___________________________________________________
Postal code ___________________________________________________
Email ___________________________________________________
County ___________________________________________________
Country Ireland

1. To describe the location of your main apiary or operation, please state
   a) the name of a city/town/village near to your apiary?
   b) and the postal code of the apiary (or a postal code nearby) __________

2. How many apiaries do you have?

3. If you have more than one apiary, are all your apiaries within a distance of about 15 km of each other? If you have only one apiary, please answer yes.
   O Yes  O No  O Don’t know
Information: Numbers of colonies, losses and status of the colony post-winter.
Please consider winter as the period between the moment that you finished the pre-winter preparations for your colonies and the start of the new foraging season.
In this questionnaire we try to gather information about production colonies. A production colony is a colony which is queen right and is strong enough to produce honey.

4 How many production colonies did you have before winter 2018-2019?

Information: In the next questions you are asked for numbers of colonies lost.
Please consider a colony as lost if it:
1. died out (or reduced to a few hundred bees) during winter
2. died due to natural disaster
3. was still alive post winter, but had queen problems you couldn’t solve (drone laying queens or no queen at all)

Each colony LOST should be attributed to one of these three categories.

5 How many of these (4) colonies did you lose that were alive but had unsolvable queen problems. If none, please answer 0.

6 How many of these (4) colonies did you lose, because of natural disaster (flooding, storm, fallen tree, cattle/sheep, vandalism, theft, rodents)?

7 How many of these (4) colonies did you lose, because they were dead?

8 How many of the dead colonies (7)
   a) ... had many dead bees in or in front of the hive?
   b) ... had no or only a few dead bees in or in front of the empty hive?
   c) ... had dead workers in cells and no food present in the hive
      (signs of starvation)?
   d) ... had dead workers in cells while food was present in the hive?
   e) ... had none of the above or unknown symptoms?

Note: Each individual dead colony should be categorized into only one of the Groups marked a) to e). The total number of dead colonies in Q7 should be equal to sum of colonies in Q8

9 How many of the wintered colonies (4) were weak but queenright after winter 2018-2019?

Information: We would like to calculate increases and decreases in the number of colonies, so if you had colonies in spring 2018 and remember how many you had, please answer the following two questions, considering spring as the start of the foraging season:

10 How many production colonies did you have in
   a) spring 2018 (last year)?
   b) spring 2019?

Information: Conditions in the colonies, the environment around the apiary, and management:

11 How many of the wintered colonies had a new queen in 2018? Don't know
12. To what extent did you observe queen problems in your colonies during the foraging season of 2018 compared to what you usually have?
   - More
   - Normal
   - Less
   - Don’t know

13. Compared with your colonies with old queens, have your colonies with young queens survived winter?
   - Better
   - No differently
   - Worse
   - Don’t know / not applicable

14. How many of your surviving colonies had a large amount of faeces inside the hive after winter?
   - Don’t know

15. Did you migrate any of your colonies at least once for honey production or pollination in 2018?
   - Yes
   - No
   - Don’t know

16. Approximately what proportion of brood combs did you replace with comb foundation per colony in 2018?
   - 0%
   - 1-30%
   - 31-50%
   - more than 50%

17. Did the majority of your bee colonies have a significant flow on one or more of the following plants in 2018?
   a) Orchards
   b) Oil seed rape
   c) Maize
   d) Sunflower
   e) Heather
   f) Autumn forage plant

   (Autumn forage plants = nectar plants growing in land lying fallow: eg mustard)

18. Have you monitored your colonies for Varroa during the period April 2018 - April 2019?
   - Yes
   - No
   - Don’t know / not applicable

19. Have you treated your colonies against Varroa during the period April 2018 - April 2019?
   - Yes
   - No
   - Don’t know / not applicable

20. Could you please indicate the months when you monitored your production colonies for Varroa AND also indicate when you STARTED a Varroa treatment or management plan during the period April 2018 - April 2019?

<table>
<thead>
<tr>
<th>Method / Product:</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitoring of Varroa infestation level (e.g. counting mite fall)</td>
<td>April</td>
<td>May</td>
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<tr>
<td>Drone brood removal</td>
<td></td>
<td></td>
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<tr>
<td>Hyperthermia (heat treatment of brood/bees)</td>
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<tr>
<td>Other biotechnical method (as e.g. trapping comb, complete brood removal, queen confinement)</td>
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<tr>
<td>Formic acid - short term</td>
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<tr>
<td>Formic acid - long term (e.g. MAQS)</td>
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<tr>
<td>Lactic acid</td>
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<td></td>
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<tr>
<td>Oxalic acid (Apibioxal) - trickling</td>
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<td></td>
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<tr>
<td>Oxalic acid (Apibioxal) - sublimation (evaporation)</td>
<td></td>
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<tr>
<td>Hiveclean/Bienenwohl/Beevital</td>
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<tr>
<td>Thymol (e.g. Apiguard, ApilifeVar)</td>
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<tr>
<td>Tau-fluvalinate (e.g. Apistan)</td>
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<tr>
<td>Flumethrin (e.g. Bayvarol)</td>
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<tr>
<td>Amitraz (in strips, e.g. Apivar, Apitraz)</td>
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<tr>
<td>Amitraz (fumigation/aerosol)</td>
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<tr>
<td>Coumaphos (e.g. Perizin)</td>
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<tr>
<td>Coumaphos (in strips, e.g. Checkmite+)</td>
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<tr>
<td>Another chemical product</td>
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<tr>
<td>Another method</td>
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</tbody>
</table>
If you gave your colonies a supplemental sugar feed (sugar solution or inverted sugar) last year to prepare for winter, how many kg of sugar (dry matter) did you give on average per production colony?

Do you keep your bees in an area where Varroa has still not been detected?
- Yes
- No
- Don’t know

Have you noticed bees with crippled/deformed wings in your colonies (during the summer season)? (These are signs of the presence of Deformed Wing Virus, which is spread by Varroa mites).
- Not at all
- To a limited extent
- To a large extent
- Don’t know

What particular measures apply for the majority of your beekeeping:

a) Screened (mesh) bottom board in Winter
- Yes
- No
- Don’t know

b) Insulated hives in Winter (incl. double walled hives)
- Yes
- No
- Don’t know

c) Hives made from synthetic materials
- Yes
- No
- Don’t know

d) Certified organic beekeeping
- Yes
- No
- Don’t know

e) Queens bred from Varroa tolerant/resistant stock
- Yes
- No
- Don’t know

f) Small brood cell size (5.1 mm or less)
- Yes
- No
- Don’t know

g) Natural comb (without foundation)
- Yes
- No
- Don’t know

h) Purchase wax from outside own operation
- Yes
- No
- Don’t know

i) Non-wax foundation in brood chamber
- Yes
- No
- Don’t know

Did you observe Vespa velutina (Asian hornet) foraging for honey bees in your apiary/apiaries?
- Yes
- No
- Don’t know

How much in Euros (€) do you estimate your costs to be per colony for Varroa treatment in the period April 2018 to April 2019.

On behalf of the National Apiculture Programme sincere thanks for completing this annual survey. We appreciate the time you have put into completing the Survey.

Mary Frances Coffey
April 2019